

## Product Catalog

- **Energy Controls**
- **Surge Protection**
- **Weatherproof**
- **Professional Lighting**
- **Pool & Spa Controls**



**GRÄSSLIN™**  
by **INTERMATIC®**



Since 1940, Intermatic has been focused on developing and manufacturing products that save energy. Known for the “yellow dial timer,” still popular after many years as well as our multi-voltage, high performance, programmable systems, we are dedicated to providing energy conscious solutions for today’s demanding needs for energy use.

In this catalog, you will find new energy saving controls and a wide range of complementary electrical products that are designed to solve field application issues, while offering savings and convenience to the installer, and the ultimate end user. Our “Contractor Friendly” approach is evident in products like our Grässlin branded GM40 Auto-Voltage time switch series and LightMaster light sensing controls. These two product categories not only offer energy savings, but offer installation efficiencies that save time and money. Our new MultiWave Wireless 2 speed pump control offers a cost effective, Title 20 solution for the pool and spa market.

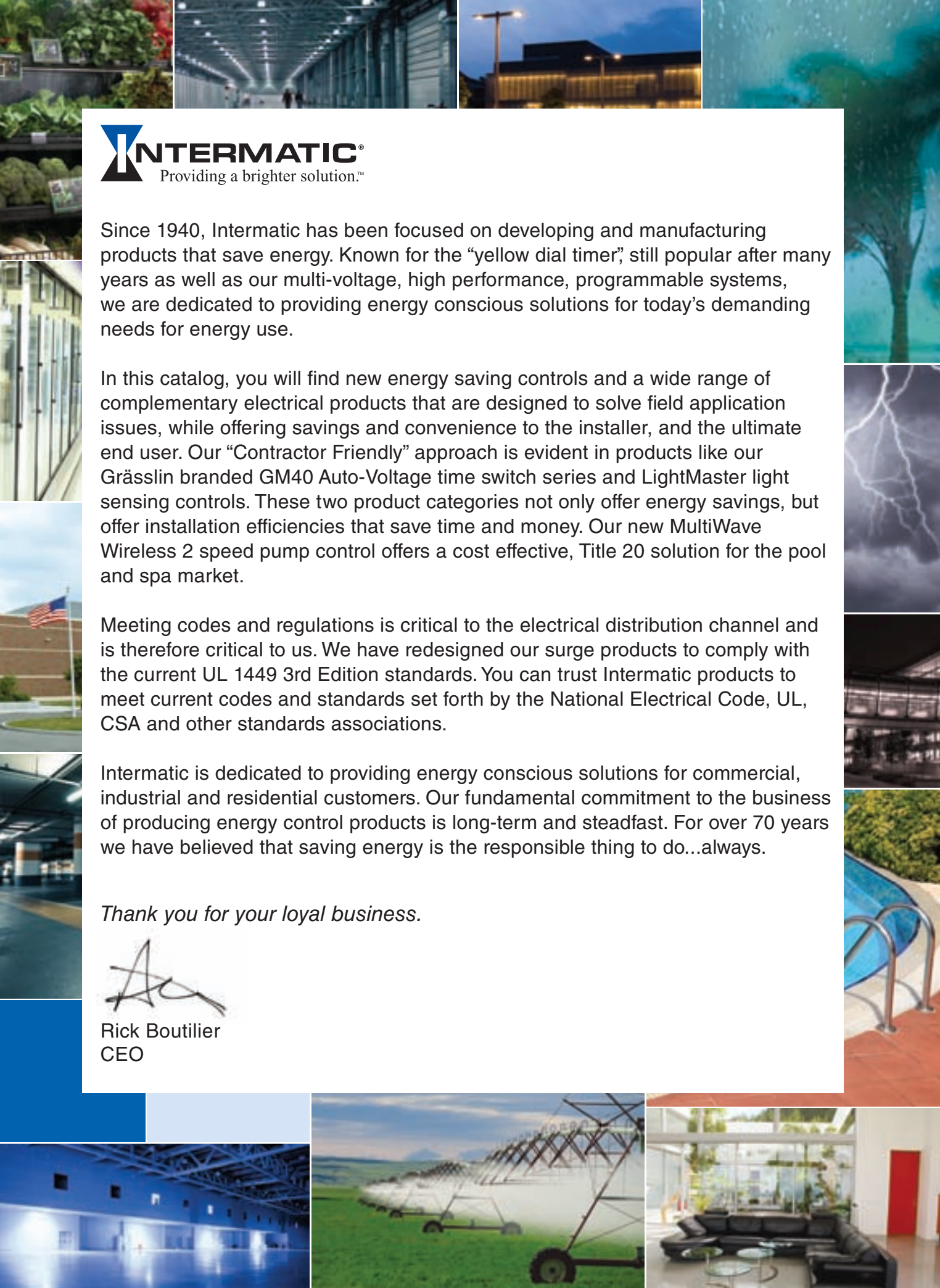
Meeting codes and regulations is critical to the electrical distribution channel and is therefore critical to us. We have redesigned our surge products to comply with the current UL 1449 3rd Edition standards. You can trust Intermatic products to meet current codes and standards set forth by the National Electrical Code, UL, CSA and other standards associations.

Intermatic is dedicated to providing energy conscious solutions for commercial, industrial and residential customers. Our fundamental commitment to the business of producing energy control products is long-term and steadfast. For over 70 years we have believed that saving energy is the responsible thing to do...always.

*Thank you for your loyal business.*

A handwritten signature in black ink, appearing to read 'Rick Boutillier'.

Rick Boutillier  
CEO



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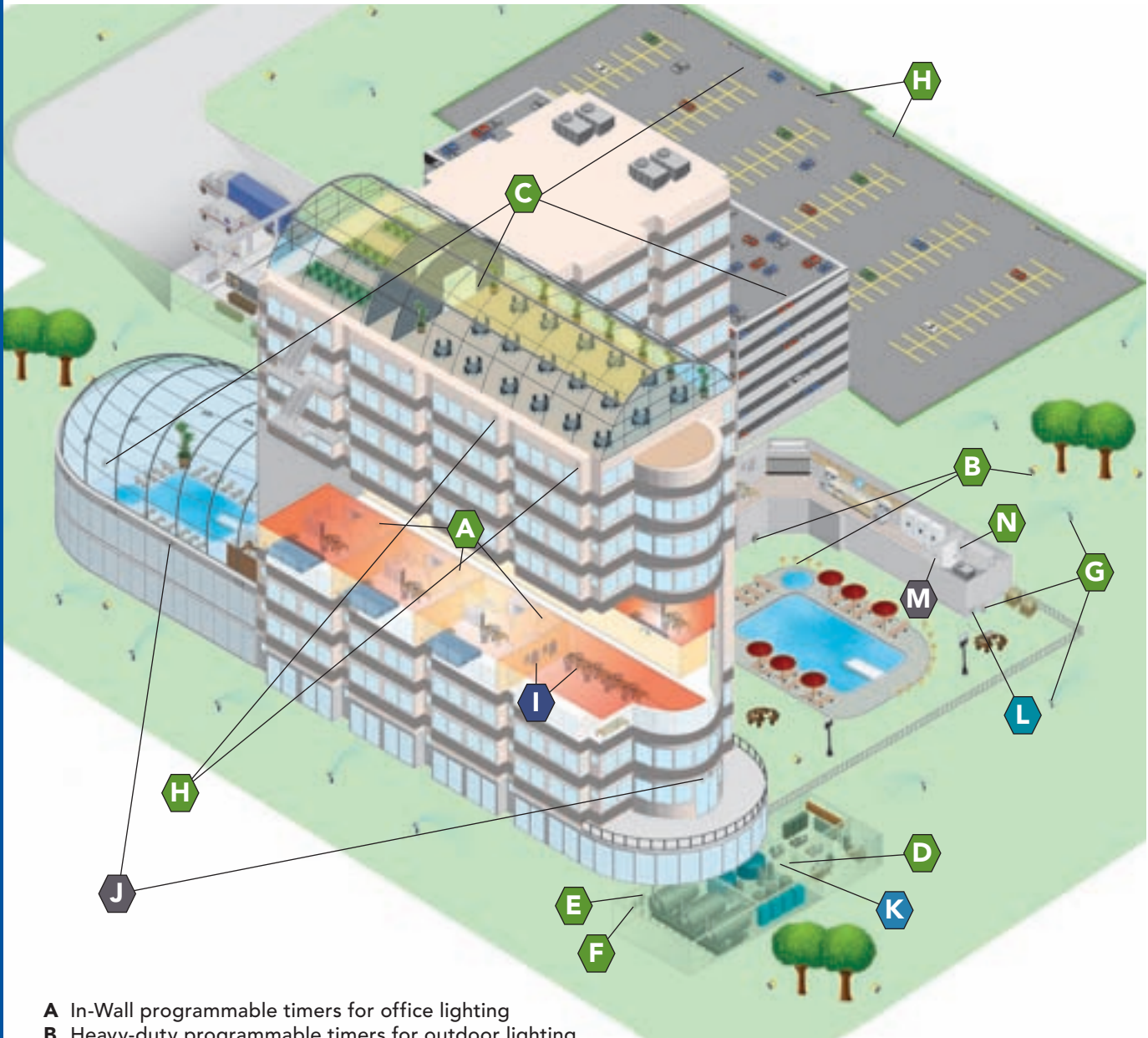
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**INTERMATIC®**  
 Providing a brighter solution.™



# Commercial Applications



- A** In-Wall programmable timers for office lighting
- B** Heavy-duty programmable timers for outdoor lighting
- C** Lighting controls for daylight harvesting and parking deck security
- D** Count-down timers for low usage areas like store rooms and closets
- E** Hot water heater timers
- F** Cycle timers for pumps, fans, misters
- G** Irrigation timers
- H** Photo controls for parking lot and building lighting
- I** Point-of-use surge protection for computers and peripherals
- J** Wall-pack HID and Floodlight fixtures
- K** Pool and Spa controls
- L** Weatherproof covers
- M** Vapor Tight fixtures
- N** Defrost Timer

Energy Controls

Surge Protection

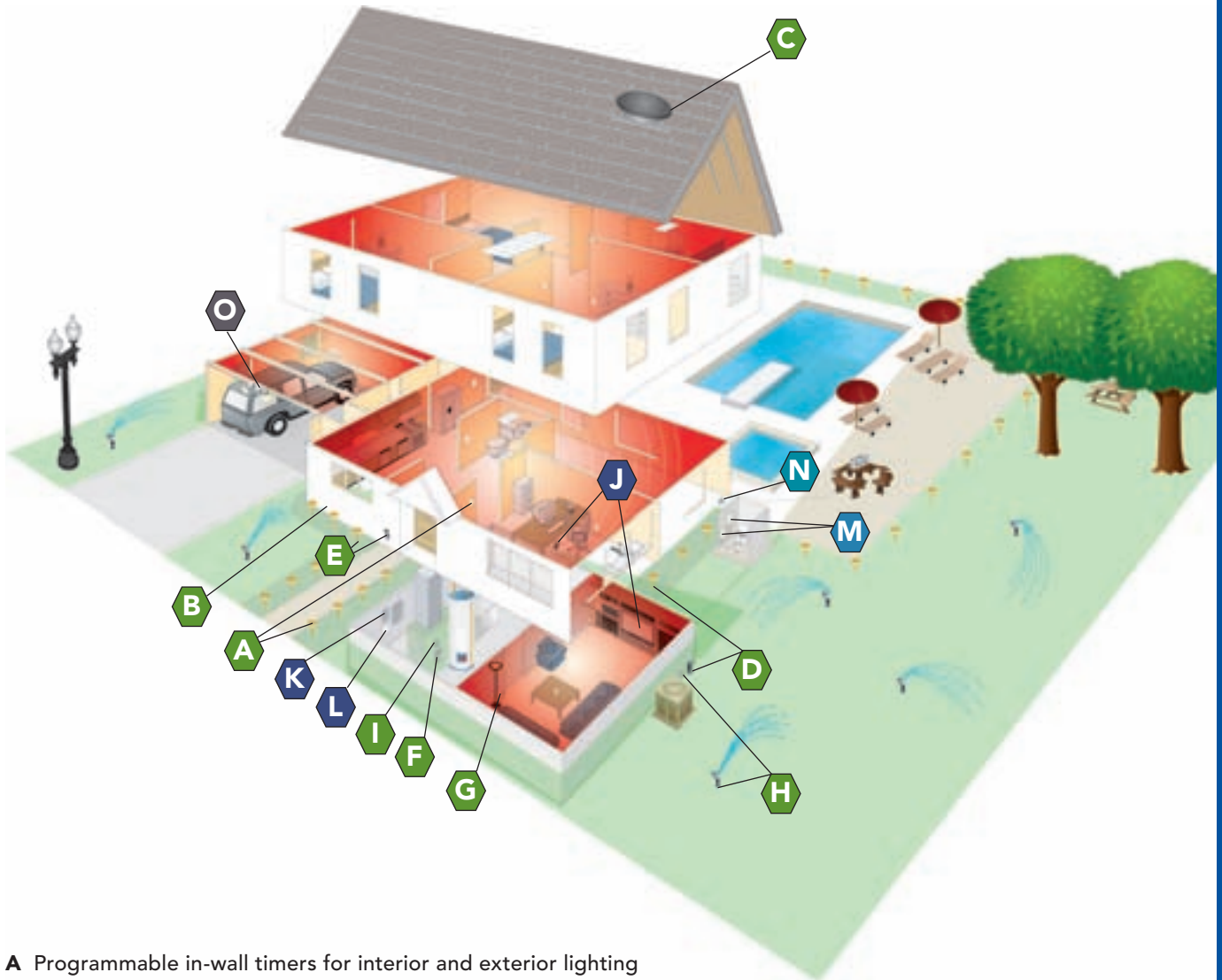
Weatherproof

Professional  
Lighting

Pool & Spa



# Residential Applications



- A Programmable in-wall timers for interior and exterior lighting
- B Photo-controls for exterior lighting
- C Count-down timers for attic fans, exhaust fans, heat-a-vents, storage areas
- D Low-Voltage transformers and timers for landscape lighting
- E Timers for exterior lighting
- F Water heater timers
- G Plug-in timers for appliance and lamps
- H Irrigation timers for outdoor sprinklers
- I Cycle timers for misters, pumps
- J Point-of-use surge protection for home electronics
- K Surge protection (before and after electrical panel applications)
- L Surge protection for air conditioning units
- M Pool and spa controls - wireless and hardwired options
- N Weatherproof outlet covers in a variety of formats: recessed, wall mount, post-top
- O Wall mounted floodlights and HID fixtures

Energy Controls

Surge Protection

Weatherproof

Professional  
Lighting

Pool & Spa

## Icon Legend:



Heating, Ventilation,  
Air Conditioning &  
Refrigeration



Underwriters  
Laboratories Listed



UL Component  
Recognized



UL Component  
Recognized  
US & Canada



CSA Tested to  
UL Standards



CSA Tested to Both  
CSA & UL Standards



Canadian Standards  
Association  
Approved



UL Tested to Both  
UL & CSA Standards



European  
Conformity



Operating  
Temperature  
Range



Shipping Weight



Warranty Period



California Title 20  
Compliant



California Title 24  
Compliant



Contractor  
Friendly  
Products

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PJB4175	148	T101R	12	T175	13	T8805P101C	27	V45472R42	30	WLFC175MH	99
PX100	142	T101R201	131	T176	13	T8845PV	27	VPKG-11-CGI*	102	WP1000C	90
PX100S	142	T101R3	131	T1871BR	13	TALENTO121-120	25	VPXG-11-CGI*	102	WP1000GC	90
PX300	142	T102*	12	T1905	14	TALENTO121-240	25	VWG-01-CGI*	102	WP1000HC	90
PX300S	142	T102M	130	T1905E	14	TALENTO471-120plus	38	WG1570-10D	150	WP1000HFIN	158-159
PX600	142	T102P	12	T1906	14	TALENTO472-120plus	38	WG1571-10D	158-159	WP1000HGC	90
PX600S	142	T102R	12	T1975	14	TALENTO891-120	39	WG1573-10D	150	WP1000RC	91
R8806P101C	27	T103*	12	T1975E	14	TALENTO891-24	39	WG1576-10D	158-159	WP1000HRC	91
R8815P101C	27	T103M	12, 130	T1975ER	14	TALENTO892-120	39	WG190-15D	158-159	WP101	93
R8816P101C	27	T103P	12	T1975R	14	TALENTO892-24	39	WG430-20D	158-159	WP1010C	90
RC117	137	T103PCD82	12, 131	T1976	14	TALENTO894-120	39	WG433-20D	158-159	WP1010HC	90
RC122B	137	T103R	12	T1976R	14	TALENTO894-24	39	WG630D	158-159	WP1010HMC	92
RC127B	137	T104*	12	T20004R	133	Talento-TAXXI	39	WH40*	28	WP1010MC	92
RC150	137	T10404R	132	T2005	16	TN111RM40	69	WHQ4	29	WP102	93
RC2103S	137	T104-20	28	T2006	16	TN311C*	69	WHQ7	29	WP1020C	90
RC2123PT	138	T104M	12, 130	T21000R	47, 133	UWZ48-120U	56	WL035HPS	98	WP1030C	90
RC2163BE	139	T104M201	130	T21001R	133	UWZ48-220/50U	56	WL050HPS	98	WP1030MC	92
RC2163BFE	139	T104P	12	T21004R	133	UWZ48-240U	56	WL050MH	98	WP1050	90
RC2343PT	138	T104P201	131	T30000R5	134	UWZ48-24U	56	WL070HPS	98	WP107	93
RC4G	137	T104P3	131	T30004R	134	UWZ48A-120U	56	WL070HPSPC	101	WP1100WC	89
RC510	137	T104PCD82	12, 131	T30401R	134	UWZ48A-24U	56	WL070MH	98	WP1110C	89
RC613	136	T104R	12	T30404R	134	UWZ48E-120U	57	WL100HPS	98	WP1150C	89
RC613L	136	T104R201	131	T30604R	134	UWZ48E-220/50U	57	WL100MH	98	WP1220C	89
RC613R	136	T104R3	131	T32404R	134	UWZ48E-240U	57	WL150HPS	98	WP1230C	89
RC615	136	T105	12	T40000R	47, 135	UWZ48E-24U	57	WL150MH	98	WP1250C	89
RC6F	137	T106	12	T40000R4	135	UWZ48E-24/50U	57	WL150MH-PS	98	WP17	93
RC939	136	T10604R	132	T40003RT3	143	UWZ48V-120U	57	WL250HPS	98	WP2000	91
RZ52DHU	59	T106M	12, 130	T40004R	135	UWZ48V-24U	57	WL250MH	98	WP213	93
RZ52HU	59	T106R	12	T40004R5	135	UWZ52E-120U	57	WL250MH-PS	98	WP217	93
RZ52VU	59	T1205R	158-159	T40004R5S	135	V45471CR	30	WL400HPS	98	WP3100C	89
ST01AC	67	T12404R	132	T40004RT1	143	V45471CR30	30	WL400MH	98	WP3103C	89
ST01C	67	T1471BCR	13	T40004RT3	143	V45471CR34	30	WL400MH-PS	98		

\* Product suggestions for the HVAC/R market



## POPULAR HVAC/R PRODUCTS

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# Timer Selection Chart

Mechanical/ Electronic	Time Switch Type	24 HOUR, 7-Day or 365 DAY	# OF CIRCUITS	AMP RATING	SWITCH RATING	
Mechanical	Auto-Voltage or Multi-Voltage	24-Hour or 7-Day	1	40	SPDT, DPDT	
Mechanical	General Purpose	24	1	40	SPST, SPDT, DPDT	
Mechanical	24 Hour with Skipper	24	1	40	SPST, SPDT, DPDT, 4PST	
Mechanical	24 Hour with Skipper	24	1	20	SPDT	
Mechanical	Short Range Cycle Timer	10, 30 Minutes; 1, 4 Hours	1	20	SPDT	
Mechanical	Percentage Cycle Timer	1, 3, 5, 10, 30 Minutes 1, 4 Hours <i>(CT1000 does not have a 4 Hour Increment)</i>	1	20	SPST	
Mechanical	Irrigation/Sprinkler	24	1	15-25	SPDT	
Mechanical	7-Day with Photo Control	7	1, 2, & 3	15	SPDT	
Mechanical	Compact 7-Day	7	1	20	SPDT	
Mechanical	7-Day Dial With/Without Carryover	7	1	40	4PST	
Mechanical	Water Heater	24	1	40	DPST	
Mechanical	Astronomic Dial with Skipper	7	1	40	3PST	
Mechanical	Defrost Timer	N/A	1	40	N/A	
Mechanical	In-Wall Spring Wound	Decorator and Commercial Style	1	15	Varies	
Mechanical	In-Wall Mechanical	24-Hour	1	20	SPST	
Electronic	Auto-Voltage 120-277 VAC	24-Hour or 7-Day	1	40	SPDT, DPDT	
Electronic	24-Hour Electronic Multi-Voltage	24	1 & 2	30	SPST, DPST	
Electronic	7-Day (Weekly) Electronic Multi-Voltage	7	1 & 2	30	SPST, SPDT, DPST	
Electronic	7-Day Astronomic Multi-Voltage	7	1 & 2	30	SPST, SPDT, DPST	
Electronic	Next Generation	365-Day	1, 2, 4, 8 & 16	20	SPDT, DPST	
Electronic	Water Heater	7	1	30	SPST, DPST	
Electronic	In-Wall	Count down timers in various increments	1	15	SPST	
Electronic	In-Wall	Programmable Countdown Timer 24-Hour	1	20	Single Pole/Three Way	
Electronic	In-Wall	Programmable 7-Day	1	15	Single Pole	
Electronic	In-Wall	Programmable 7-Day with Astro	1	15/20	Single Pole/Three Way	



	TOTAL ON/OFF EVENTS	Minimum ON/OFF Time	Skip-A-Day	CARRYOVER	ASTRO	DAYLIGHT SAVINGS TIME	PRODUCT SERIES	CATALOG PAGE(S)
	96 Events for 24 Hours/48 Events for Weekly with Captive Trippers	15 Minutes for 24 Hours/48 Events for Weekly with Captive Trippers	Yes	Optional	No	No	GM40	19
	12	1 Hour	No	No	No	No	T100	12
	10	1 Hour	Yes	Optional	No	No	T170	13
	96	15 Minutes	Yes	Optional	No	No	T1900	14
	10	5 Seconds	No	No	No	No	C88	27
	3% to 97% Cycle Duration	1 Second	Hr 52 M	No	No	No	CT	26
	60	12 Minute	Yes	No	No	No	R88/T88	27
	1 per Circuit	N/A	No	Yes	No	No	T51	15
	84	2 Hours	No	No	No	No	T2000	16
	Different ON/OFF Program for Each Day of the Week	3.5 Hours	No	Optional	No	No	T74/T78	16
	T104-20 (2 ON/OFF per Day) WH (1 ON/OFF per Day)	1 Hour	No	Yes	No	No	T104-20/ WH	28-29
	N/A	N/A	Yes	Yes	Yes	No	V	30
	1 to 24/24 Hour Period	15 Minutes Minimum ON/OFF Time – 23 Hours 45 Minutes Max Off Time	No	NO	No	No	DTMV40	20
	Various increments with/without "HOLD"	Varies	N/A	N/A	N/A	N/A	FD & FF	60-61
	36 (72 Captive Trippers in 20 Minute Increments)	20 Minute	N/A	N/A	N/A	N/A	KM2	62
	96	1 Minute	Yes	Yes	No	No	GM40AVE	31
	28	1 Minute	No	Yes	No	Yes	ET1100	32
	28	1 Minute	Yes	Yes	No	Yes	ET1700	33
	28	1 Minute	Yes	Yes	Yes	Yes	ET8000	34
	1000+	1 Minute	Yes	Yes	Yes	Yes	ET70000	40-43
	42	1 Minute	Yes	Yes	No	No	EH	28
	N/A	Varies	N/A	N/A	N/A	N/A	EI200	63
	1	1 Second	N/A	N/A	No	No	E400	64
	7	1 Minute	N/A	N/A	No	No	EI500	65
	40/Week	1 Minute	N/A	N/A	Yes	Yes	STO1C/ EI600	66-67



# Mechanical Time Switches



T101M



T101



T101R



T101PCD82



C22.2-177 2.75 lbs -40°F  
 LR3730 1.25 kg (-40°C)  
 UL917 to  
 130°F  
 (54°C)

## T100 Series 24-Hour Timers

- Electrical loads up to 40 Amps
- Provides direct 24 hour control of most loads
- 1 to 12 ON/OFF operations each day with minimum ON/OFF times of 1 hour
- Manual override
- All models equipped with one ON and one OFF tripper

### Applications — Commercial, Industrial, Residential:

- Indoor/Outdoor Lighting
- Pool Heaters
- Air Conditioning
- Pumps
- Music and Signal Systems
- Post Lanterns
- Filters
- Blowers
- Heating/Ventilating Systems
- Poultry Foggers
- Signs
- Hydro Chlorinators
- Electric Fences
- Fans
- Conveyors

### Specifications:

**Enclosure:** See table below

**Optional Enclosures:** See pages 46 and 47

**Replacement Motors:** See page 158 for available clock motors.

**Switch Rating:** Each Pole; 40 Amp Resistive, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty, 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC single phase.

### Model Specifier Tables

Model # (With or Without Enclosure Suffix)	Switch	Clock Motor Volts AC 60 Hz	AMPS per pole	HP Rating
T101	SPST	125	40	2
T102	SPST	208-277	40	5
T103	DPST	125	40	2
T104	DPST	208-277	40	5
T101B*	SPST	125	40	2
T105	1NO/1NC**	125	40	2
T106	1NO/1NC**	208-277	40	5

Model # Mechanism Only	Model # Indoor Enclosure A†	Model # Steel Indoor/Outdoor Enclosure B†	Model # Plastic Indoor/Outdoor Enclosure C†	Model # w/See-Thru Indoor/Outdoor Enclosure C†
T101M	T101	T101R	T101P	T101PCD82
—	T102	T102R	T102P	—
T103M	T103	T103R	T103P	T103PCD82
T104M	T104	T104R	T104P	T104PCD82
—	T101B*	—	—	—
—	T105	—	—	—
T106M	T106	T106R	—	—

\* Separate clock motor terminals for switching circuits not on line voltage.

\*\* Can be wired as SPDT.

Note: For additional trippers (1 ON/1 OFF per pack), order No. 156T1978A.

† See pages 46 and 47 for details.

**Upgrade to an electronic 24 hour time switch on pages 31-32**



# Mechanical Time Switches

## T170, T1400 and T1800 Series 24-Hour Timers w/Skipper™ and with Skipper and Carryover



### Features:

- Designed for commercial, industrial and residential applications
- Loads up to 40 Amps per pole
- Providing direct 24 hour control of most loads
- 1 to 10 ON/OFF operations each day with minimum ON/OFF times of 1 hour
- Manual override
- All models equipped with one CUTOUT (ON), one OFF tripper and three day-skipper screws
- Day-skipper screws in skipper dial to omit operation on selected days of the week

### Models with Carryover (Suffix C)

- Minimum of 16 hours carryover operation for maintaining preset schedules during power failures
- Carryover automatically rewinds when power resumes; only one hour of rewinding time required for every two hours of power outage.
- 4PST models are ideal for 3-phase load control

### Specifications:

**Enclosure:** See table below

**Optional Enclosures:** See pages 46 and 47

*Note: 4 pole models will not fit in standard or plastic enclosure; only in NEMA 3R steel enclosure. T170CR series only available in NEMA 3R steel enclosure.*

**Replacement Motors:** See page 158 for available clock motors.

**Switch Rating:** Same as T100 Series. 4PST models also rated 7.5 HP (28 FLA) 208 VAC; 10 HP (28 FLA) 240 VAC **3-phase**.

Model # Indoor Enclosure A†	Model # Outdoor Enclosure B†	Switch	Clock Motor Volts AC 60 Hz	Shipping Weight lb./Kg
T171		SPST	125	3.0/1.36
T172		SPST	208-277	3.0/1.36
T173	T173R	DPST	125	3.0/1.36
T174	T174R	DPST	208-277	3.0/1.36
T175		1NO/1NC**	125	3.0/1.36
T176		1NO/1NC**	208-277	3.0/1.36
	T1471BR*	4PST	125	4.0/1.81
	T1472BR*	4PST	208-277	4.0/1.81
	T1475BR*	4PST	480	4.0/1.81
	T1871BR*	2NO/2NC***	125	4.0/1.81
	T171CR	SPST	125	5.0/2.27
	T173CR	DPST	125	5.0/2.27
	T174CR	DPST	208-277	5.0/2.27
	T1471BCR*	4PST	125	5.0/2.27

\* Separate clock motor terminals for switching circuits not on line voltage.

\*\* Can be wired as SPDT.

\*\*\* Can be wired as DPDT.

For additional trippers (one each ON, CUTOUT (ON), OFF per pack), order No. 156T1948A.




For additional skipper screws (3 skipper screws per pack), order No. 156T3085A.

† See pages 46 and 47 for details.



T171

T1471BCR



  
 C22.2-177 LR3730 UL916 See Table -40°F (-40°C) to 130°F (54°C)



# Mechanical Time Switches



**T1905  
T1906**



**T1975**



**T1976R**



C22.2-177 2.75 lbs -40°F  
LR3730 1.25 kg (-40°C)  
UL917 to  
130°F  
(54°C)

## T1900 Series 24-Hour Timers

## T1970 Series 24-Hour Timers with Skipper™

- Provides up to 96 operations (48 ON/48 OFF) every 24 hours
- Skipper models provide 80 operations daily, can be omitted on selected day(s) of the week
- Minimum ON/OFF time 15 minutes
- Trippers slide in and out of dial for fast, accurate setting

### Applications:

- Oil Well Pumps
- Poultry Feeders
- Recorded Music
- Silo Unloaders
- Filters
- Heaters
- Dairy Equipment
- Poultry Foggers
- Blowers
- Process Equipment
- Fans

### Specifications:

**Enclosure:** See table below

**Optional Enclosures:** See pages 46 and 47

**Replacement Motors:** See page 158 for available clock motors.

**Switch Rating:** 20 Amp, 125, 208-277 and 480 VAC; ½ HP, 125 VAC; 1 HP, 250 VAC

**Power Input:** 5 Watts maximum.

Model # Indoor Enclosure A†	Model # Steel Indoor/Outdoor Enclosure B†	Switch	Clock Motor Volts AC 60 Hz	Skipper Wheel
T1905*		SPDT	125	No
T1905E*		SPDT	480	No
T1906*		SPDT	208-277	No
T1975**	T1975R	SPDT	125	Yes
T1976**	T1976R	SPDT	208-277	Yes
T1975E**	T1975ER	SPDT	480	Yes

For additional trippers (12 per pack), order No. 156T1950A.

\* For Replacement Snap Switch order No. 133T701A.

\*\* For Replacement Snap Switch order No. 133T698A.

† See pages 46 and 47 for details.

# Mechanical Time Switches

## T50000 Series 7-Day Timing Control Centers with Carryover

- Provides photo control initiated/time switch terminated control
- Provides control of 1, 2, or 3 circuits
- Provide different ON/OFF program each day of the week and a spring wound carryover
- Recommended for applications where you need to turn a load ON at dusk and OFF at a preset time
- Spring wound carryover provides a carryover of 16 hours maximum to maintain accurate load control even during power failure
- Carryover automatically rewinds itself when power resumes
- Only 1 hour is required to rewind the carryover for each 2 hours of outage
- Light level adjustment is provided on the photo control
- All models have single pole double throw switches and manual circuit by-pass switches
- Unit is designed to control the contactor coil circuit only
- Not recommended for direct switching of tungsten, mercury vapor or similar loads

### Applications:

- Parking Lot Lighting • Landscape Lighting • Billboard Lighting • Entryway Lighting
- Storefront Lighting • Stairway Lighting • Car Lot Lighting • Security Lighting

### Specifications:

**Enclosure:** NEMA 1 Rated Indoor Steel

12½ in. H x 8¼ in. W x 3⅞ in. D

**Optional Enclosures:** None available

**Contact Rating:** 15 Amp, ½ HP, 125-250 VAC; 420 VA Pilot Duty; 150 W Tungsten, 125 VAC (May also be used with 24 volt systems if wired in accordance with National Electrical Code Regulations.)

Model #	Description	Clock Motor Volts AC 60 Hz
T51211BC	Circuit A — Sunset, Photo Control ON – Preset Time Switch OFF	120
	Circuit B — Sunset, Photo Control ON – Sunrise, Photo Control OFF	—
T51311BC	Circuit A — Sunset, Photo Control ON – Preset Time Switch OFF	120
	Circuit B — Sunset, Photo Control ON – Sunrise, Photo Control OFF	—
	Circuit C — Preset Time Switch ON – Preset Time Switch OFF	—

All models have separate clock motor terminals for switching circuits not on line voltage. For additional trippers (7 ON/7 OFF per pack), order No. 156T2548A.

**Upgrade solution – see also Next Generation Electronic Time Switches with Astronomic Feature on pages 40-43**



**T51211BC**



**T51311BC**



**K4121C**  
(Included)



C22.2-177 10.5 lbs -40°F  
LR3730 4.8 kg (-40°C)  
UL917 to  
130°F  
(54°C)





# Mechanical Time Switches



T7401B



T7401BR



T2005



C22.2-177 Models without carryover  
 LR3730 Models with carryover  
 UL917 Models with carryover  
 8 lbs 3.6 kg 9 lbs 4.1 kg  
 -40°F (-40°C) to 130°F (54°C)

## T7000B Series 7-Day Timers with and without Carryover

- Provide different ON/OFF program each day of the week
- Provides true 7-day load control with minimum ON/OFF time of 3½ hours
- Provide for 4 pole single throw and 4 pole (2NO/2NC) switching
- Separate clock motor terminals for switching loads not on-line voltage

### Applications:

- Heating
- Outdoor Lighting
- Ventilating Systems
- Air Conditioning
- Motors
- Fans
- Pumps
- Signs
- Filters
- Indoor Lighting
- Billboards
- 3 Phase Loads

### Specifications:

**Enclosure:** NEMA 1 Rated Indoor steel in gray finish w/separate grounding terminal. 12½ in. (31.7 cm) H x 8¼ in. (21.0 cm) W x 4 in. (10.2 cm) D  
**Knockouts:** Combination ½ – ¾ in. nominal knockouts, two on back, one on each side and two on bottom. Also one 1 in. nominal on bottom center.  
**Outdoor Enclosure:** Same as above with gaskets  
**Replacement Motors:** See page 158 for available clock motors.  
**Switch Rating:** Each Pole 40 Amp Resistive, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty, 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC single phase; 7½ HP (28 FLA) 208 VAC 3-phase; 10 HP (28 FLA) 240 VAC 3-phase.  
**Carryover:** Models with BC suffix only. Minimum time – mechanical operation: 16 hours. Carryover accuracy +/-2%.

Model# Steel Indoor Enclosure	Model # Steel Outdoor Enclosure B †	Model with Carryover	Switch	Clock Motor Volts AC 60 Hz	Amps (per pole)
T7401B	T7401BR	T7401BC	4PST	125	40
T7402B		T7402BC	4PST	208, 277	40
T7801B		T7801BC	2NO/2NC	125	40
T7802B			2NO/2NC	208, 277	40

\* All models (suffix B) have separate clock motor terminals for switching circuits not on line voltage.

For additional trippers (7 ON/7 OFF per pack), order No. 156T2548A.

† See pages 46 and 47 for details.

## T2000 Series

### Compact 7-Day Timers

#### Features:

- Minimum ON/OFF time 2 hours
- Up to 84 (42 ON/OFF) operations each week

#### Specifications:

**Enclosure:** NEMA 1 Indoor steel; see page 46  
**Replacement Motors:** See page 158 for available clock motors.  
**Switch Rating:** 20 Amp Resistive, 120 and 208-277 VAC; ½ HP, 120 VAC; 1 HP, 240 VAC

Model #	Switch	Clock Motor Volts AC 60 Hz	Amps
T2005	SPDT	120	20
T2006	SPDT	208, 277	20

For additional trippers (12 per pack), order No. 156T1950A.

For replacement Snap Switch order No. 133T701A.

# Mechanical Time Switches

## GM40 Series (24-Hour/7-Day) Multi-Voltage General Purpose Time Switch

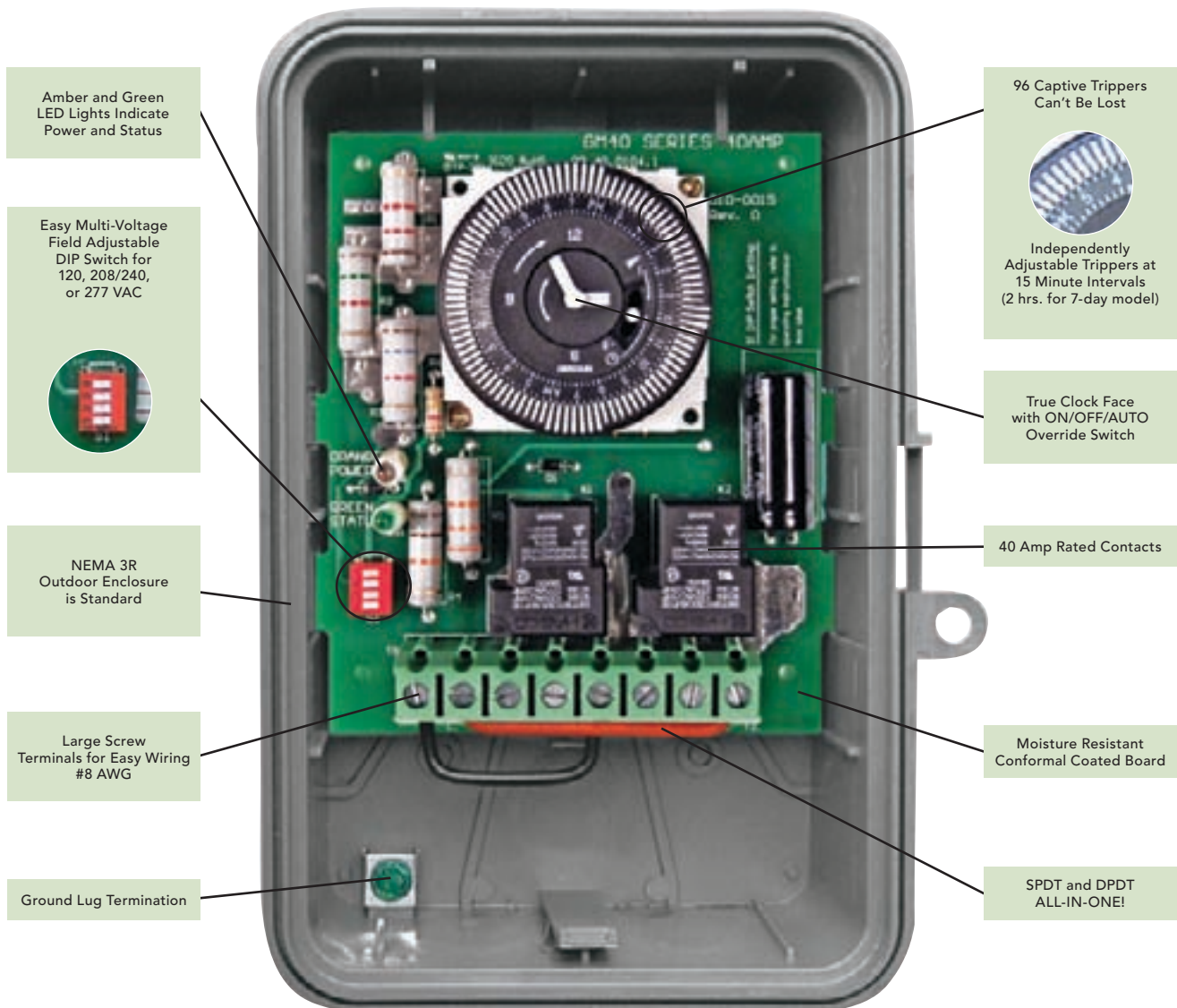


### Features:

- Universal, mechanical time switches that can be field configured for various power supply voltages; includes 120 VAC, 208/240 VAC, and 277 VAC all within the same unit.
- Selection of the desired supply voltage is easily achieved by selecting the DIP switch to the corresponding input voltage.
- Mechanism mounted in compact NEMA 3R outdoor enclosure and features a DPDT switching configuration standard (i.e. two normally open and two normally closed contacts)
- Available as "Mechanism Only" (-M) for installation in other enclosures or control panels.
- Available with Quartz battery backup.

The GM40 is a robust time switch capable of switching high amperage. Below are samples of the many applications where the GM40 can be used:

- Lighting Control
- Access Control
- HVAC/R
- Agricultural Facilities
- Pumps/Motors/Fan Controls
- General Purpose Electrical Circuits





# Mechanical Time Switches

**GRÄSSLIN™**  
by **INTERMATIC®**



**GM40**



**GM40-M**








E10694      3 lbs      -40°F  
1.36 kg      (-40°C)  
to  
131°F  
(55°C)

## Multi-Voltage 24-Hour and 7-Day

**Features:**

- Screw box lug terminals

**Specifications:**

**N.O. Contacts:**

- 40 Amp Resistive, 120-277 VAC
- 1 HP (16 FLA, 90 LRA), 120 VAC
- 2 HP (12 FLA, 52 LRA), 208-277 VAC
- 30 Amp Ballast, 120 VAC
- 20 Amp Ballast, 277 VAC
- 15 Amp Tungsten, 120 VAC
- 300 VA Pilot Duty, 120-240 VAC

**N.C. Contacts:**

- 30 Amp Resistive, 120-277 VAC
- 1 HP (12 FLA, 30 LRA), 120 VAC
- 2 HP (10 FLA, 30 LRA), 240 VAC
- 2 Amp Tungsten, 120 VAC
- 10 Amp Ballast, 277 VAC

**Enclosures:** NEMA 3R Indoor/Outdoor, see page 48, Model No. E300

**Operating Temperature Range:** -40°F to 131°F (-40°C to 55°C)

**Operating Humidity:** 0 to 95% non-condensing

**Size:** 8.795 in. H x 6.631 in. W x 2.935 in. D

**Weight:** 3 lbs.

Model Number	Description	Volts AC	Switch Configuration	Amp rating	Min. ON/OFF Time	Battery Back up
GM40	24-Hour mechanical time switch	120, 208/240, 277	SPDT/DPDT	40/30	15 minutes	No
GM40-M	24-Hour mechanism only	120, 208/240, 277	SPDT/DPDT	40/30	15 minutes	No
GM40Q	24-Hour mechanical time switch	120, 208/240, 277	SPDT/DPDT	40/30	15 minutes	Yes
GM40W*	7-Day mechanical time switch	120, 208/240, 277	SPDT/DPDT	40/30	2 Hours	No
GM40QW*	7-Day mechanical time switch	120, 208/240, 277	SPDT/DPDT	40/30	2 Hours	Yes

\* Has 7-Day/Weekly/Skip-A-Day Functionality.



# Mechanical Time Switches

## GM40AV Auto-Voltage Mechanical Time Switch

The GM40AV auto-voltage time switch is a universal, mechanical clock which automatically detects input voltage. No more dip switch. It is as simple as "wire the clock and go". The clock understands the corresponding input voltage automatically. No need to worry any longer if the correct voltage was set before wiring.

### Features:

- Automatically detects input voltage without the use of dip switch or selector pins
- Can operate at any voltage between 120 and 277 VAC
- Mounted in a compact NEMA 3R outdoor enclosure
- Features a DPDT switching configuration (two normally open and two normally closed contacts)
- Manual override switch allows for ON/OFF/AUTO functionality

### Applications:

- Lighting Control
- HVAC/R
- Pumps/Motors/Fan Controls
- Access Control
- Agricultural Facilities
- General Purpose Electrical Circuits

### Specifications:

#### Normally Open Contacts:

- 40 Amp Resistive, 120 VAC, 120-277 VAC
- 1 HP (16 FLA, 90 LRA), 120 VAC
- 2 HP (12 FLA, 52 LRA), 208-277 VAC
- 30 Amp Ballast, 120 VAC
- 20 Amp Ballast, 277 VAC
- 15 Amp Tungsten, 120 VAC
- 300 VA Pilot Duty, 120-240 VAC

#### Normally Closed Contacts

- 30 Amp Resistive, 120-277 VAC
- 1 HP (12 FLA, 30 LRA), 120 VAC
- 2 HP (10 FLA, 30 LRA), 240 VAC
- 10 Amp Ballast, 277 VAC
- 2 Amp Tungsten, 120 VAC
- Operating Temperature: -40°C to 55°C (-40°F to 131°F)

**Enclosures:** NEMA 3R Indoor/Outdoor, see page 48, Model No. E300

Model #	Volts AC	Switch Configuration	Amp Rating	Minimum ON/OFF Time
GM40AV	120-277	DPDT	40/30	15 Minutes





**GM40AV**











E10694    2 lbs    -40°F  
0.9 kg    (-40°C)  
to  
131°F  
(55°C)

# HVAC/R Multi-Voltage Defrost Controls

**GRASSLIN™**  
by **INTERMATIC®**



**DTMV40**

**DTMV40-M**



Mechanism Only

**DTMV40-B**



Bracket Mount

**RoHS  
Compliant**



-40°F  
(-40°C)  
to  
155°F  
(68°C)



E10694



UL916  
E76987



## DTMV40 Series Multi-Voltage Time Switch

Mechanical time switches designed for defrost control of refrigeration equipment, stand-up coolers and freezer cases.

Multi-voltage feature reduces the need to stock additional SKUs. Simply snaps into existing enclosures. Replaces over 40 competitive SKUs.

### Product Features:

- 40 Amp rated contacts
- Captive trippers are independently adjustable for full or partial defrost cycles in 15 minute intervals
- Time initiated, temperature, pressure or time-terminated
- "Real time" clock face for quick, easy and accurate setting
- Field adjustable multi-voltage DIP switch for 120, 208, 240 Volts
- Multi-voltage feature reduces the need to stock additional SKUs
- Red and green LED lights indicate defrost or refrigeration cycle
- Available in a Quartz model with 7-day battery back-up (DTQMV)
- NEMA 3R standard outdoor enclosure (*DTMV40 ONLY*)
- All-in-one assembly
- UL94HB Flame Class Rated
- Electrically isolated

### Applications:

- Restaurants
- Stand-up Coolers
- Schools, Universities
- Convenience Stores
- Refrigeration Equipment
- Bars
- Food Industry Refrigeration
- Hospitals
- Supermarkets
- Freezer Cases
- Hotels

### Specifications:

**Indoor/Outdoor Enclosure:** NEMA 3R raintight enclosure, Gray with lockable hasp 8.8 in. (22.0 cm) H x 6.6 in. (16.5 cm) W x 2.9 in. (7.3 cm) D

**Battery Back-Up:** Quartz drive model allows for 7 day battery back-up

**Temperature Range:** -40°F (-40°C) to 131°F (55°C)

**Min ON/OFF Time:** 15 minutes

**Max ON/OFF Time:** 23 hours 45 minutes

**Wiring Connections:** Large screw terminals and ground lug termination

**Wire Size:** AWG #8

**Shipping Weight:** 3.0 lbs (1.36 kg)

### ELECTRICAL RATINGS:

- 40 Amp Resistive, 120, 208, 240 VAC
- 1 HP (16 FLA, 90 LRA) 120 VAC; 2 HP (12 FLA, 52 LRA) 240 VAC
- "F" Terminal: 30 Amp Resistive, 120/240 VAC; 1 HP, 120 VAC; 2 HP, 240 VAC



Model #	Voltage	Enclosure	Battery Backup	Defrost Frequency No./Day	Defrost Duration
DTMV40	120, 208, 240 VAC, 60 Hz	NEMA 3R	No	1 to 24	15 – 180 Minutes
DTMV40-M	120, 208, 240 VAC, 60 Hz	Mechanism only	No	1 to 24	15 – 180 Minutes
DTMV40-B	120, 208, 240 VAC, 60 Hz	Bracket Mount	No	1 to 24	15 – 180 Minutes
DTQMV40	120, 208, 240 VAC, 60 Hz	NEMA 3R	Yes	1 to 24	15 – 180 Minutes
DTQMV40-M	120, 208, 240 VAC, 60 Hz	Mechanism only	Yes	1 to 24	15 – 180 Minutes
DTQMV40-B	120, 208, 240 VAC, 60 Hz	Bracket Mount	Yes	1 to 24	15 – 180 Minutes

# Mechanical Timer Modules

## FM/1 Series 24-Hour, 7-Day

### Applications:

The FM/1 series mechanical timer modules are designed to be placed inside a machine control panel, circuit board, or other equipment. It offers up to 21 Amp switching designed for control of heating, ventilating, air conditioning, refrigeration, lighting, security, circulating pumps, spas or any electrical load requiring 24-hour or 7-day scheduling.

### Specifications:

**Size:** 3.25 in. H x 3.25 in. W x 2.25 in. D

**Supply Voltage:** 24, 120, 240 VAC

**Power Consumption:** 1 VA

**Switch Rating:** SPDT

**Resistive:** 21 Amp

**Tungsten:** 1350 W

**Inductive:** 1 HP, 125 VAC; 2 HP, 240 VAC

**Wiring Connections:** ¼ in. quick-connect terminals

**Operating Temperature Range:** "S" models -40°F to 185°F (-40°C to 85°C)  
"Q" models -20°F to 131°F (-20°C to 55°C)

**Installation:** Stand alone or with Indoor/Outdoor enclosure

**Panel:** Surface mounting

Model Number	Override	Switch Program	Battery Backup	Min ON/OFF Time	Volts AC	Switch Output Type/Amps
FM1STUZ-120U	No	24 Hr.	No	15 Minutes	120	SPDT/21
FM1STUZ-24U	No	24 Hr.	No	15 Minutes	24	SPDT/21
FM1STUZ-240U	No	24 Hr.	No	15 Minutes	240	SPDT/21
FM1SWUZ-120U	No	7 Day	No	2 Hours	120	SPDT/21
FM1SWUZ-24U	No	7 Day	No	2 Hours	24	SPDT/21
FM1SWUZ-240U	No	7 Day	No	2 Hours	240	SPDT/21
FM1STUZH-120U	Yes	24 Hr.	No	15 Minutes	120	SPDT/21
FM1STUZH-24U	Yes	24 Hr.	No	15 Minutes	24	SPDT/21
FM1STUZH-240U	Yes	24 Hr.	No	15 Minutes	240	SPDT/21
FM1SWUZH-120U	Yes	7 Day	No	2 Hours	120	SPDT/21
FM1SWUZH-24U	Yes	7 Day	No	2 Hours	24	SPDT/21
FM1SWUZH-240U	Yes	7 Day	No	2 Hours	240	SPDT/21
FM1QTUZH-120U	Yes	24 Hr.	Yes	15 Minutes	120	SPDT/21
FM1QTUZH-24U	Yes	24 Hr.	Yes	15 Minutes	24	SPDT/21
FM1QTUZ-120U	No	24 Hr.	Yes	15 Minutes	120	SPDT/21
FM1QTUZ-24U	No	24 Hr.	Yes	15 Minutes	24	SPDT/21
FM1QTUZ-240U	No	24 Hr.	Yes	15 Minutes	240	SPDT/21
FM1QWUZ-120U	No	7 day	Yes	2 Hours	120	SPDT/21
FM1QWUZ-240U	No	7 day	Yes	2 Hours	240	SPDT/21
FM1QWUZH-120U	Yes	7 Day	Yes	2 Hours	120	SPDT/21
FM1QWUZH-240U	Yes	7 day	Yes	2 Hours	240	SPDT/21
FM1QWUZH-BW-24U	Yes	7 day	Yes	2 Hours	24	SPDT/21
FM1STUZH220/50	Yes	24 Hr.	No	15 Minutes	220	SPDT/21
					(50 Hz)	
FM1STUZ220/50	No	24 Hr.	No	15 Minutes	220	SPDT/21
					(50 Hz)	

**Upgrade to Electronic Timer Modules  
See pages 35-41**

**GRÄSSLIN™**  
by **INTERMATIC®**



**FM1STUZ-120U**

### Features:

- 21A SPDT switch
- 96 Captive Trippers
- ¼ in. quick-connect terminals
- Noise Immune—Ideal for robust applications



C22.2-177  
LR3730  
UL917

0.25 lbs  
.01 kg



# Modules Mechanical Timer Switches

**GRÄSSLIN™**  
by **INTERMATIC®**

**MIL72A**  
(Surface Mounting)



**MIL72E**  
(Flush Mounting)

**Applications:**

The MIL72 Series is a light duty commercial time switch ideal for 24, 120, or 277 VAC single phase applications such as:

- Lighting Control
- Heating, Air-Conditioning
- Access Control
- Agricultural Facilities
- Pumps/Motors/Fan Control
- General Purpose Electrical Circuits



C22.2-177  
LR3730  
UL917

0.5 lbs  
0.23 kg

## MIL72 Series 24-Hour

The MIL72 Series time switches are designed to be mounted inside a control panel and can accommodate surface/DIN rail or flush/panel mounting.

**Features:**

- Synchronous drive or quartz drive with battery backup
- 21 Amp SPDT switch
- Captive trippers with 15 minute intervals, 2 hours for 7 days
- With or without 3-way override
- True clock face
- Surface, flush, or DIN rail mount

**Specifications:**

**Size:** 4.75 in. H x 3.25 in. W x 3.25 in. D

**Supply Voltage:** 24, 120, 240 VAC

**Power Consumption:** 1 VA

**Switch Rating:** SPDT

**Resistive:** 21 Amp

**Tungsten:** 1350 W

**Inductive:** 1 HP, 125 VAC  
2 HP, 240 VAC

**Wiring Connections:** ¼ in. quick-connect terminals

**Operating Temperature Range:** "S" models -40°F to 185°F (-40°C to 85°C)  
"Q" models -20°F to 131°F (-20°C to 55°C)

**Installation:** Stand alone or with Indoor/Outdoor enclosure

**Panel:** Surface mounting



Model Number	Override	Mounting Style	Battery Backup	Volts AC	Switch Rating	Min ON/OFF Time
MIL72AQTUZ-120	No	Surface	Yes	120	SPDT, 21 Amp	15 Min
MIL72AQTUZ-240	No	Surface	Yes	240	SPDT, 21 Amp	15 Min
MIL72AQTUZH-24	Yes	Surface	Yes*	24	SPDT 21 Amp	15 Min
MIL72AQTUZH-120	Yes	Surface	Yes	120	SPDT 21 Amp	15 Min
MIL72ASTUZ-24	No	Surface	No	24	SPDT 21 Amp	15 Min
MIL72ASTUZ-120	No	Surface	No	120	SPDT 21 Amp	15 Min
MIL72ASTUZ-240	No	Surface	No	208, 240	SPDT 21 Amp	15 Min
MIL72ASTUZH-24	Yes	Surface	No	24	SPDT 21 Amp	15 Min
MIL72ASTUZH-120	Yes	Surface	No	120	SPDT 21 Amp	15 Min
MIL72ASTUZH-240	Yes	Surface	No	208, 240	SPDT 21 Amp	15 Min
MIL72ASTUZH220	Yes	Surface	No	220 VAC (50 Hz)	SPDT, 21 Amp	15 Min
MIL72EQTUZ-24	No	Flush	Yes*	24	SPDT, 21 Amp	15 Min
MIL72EQTUZ-120	No	Flush	Yes	120	SPDT, 21 Amp	15 Min
MIL72EQTUZ-240	No	Flush	Yes	240	SPDT, 21 Amp	15 Min
MIL72EQTUZH-24	Yes	Flush	Yes*	24	SPDT 21 Amp	15 Min
MIL72EQTUZH-120	Yes	Flush	Yes	120	SPDT 21 Amp	15 Min
MIL72ESTUZ-24	No	Flush	No	24	SPDT 21 Amp	15 Min
MIL72ESTUZ-120	No	Flush	No	120	SPDT 21 Amp	15 Min
MIL72ESTUZ-240	No	Flush	No	208, 240	SPDT 21 Amp	15 Min
MIL72ESTUZH-24	Yes	Flush	No	24	SPDT 21 Amp	15 Min
MIL72ESTUZH-120	Yes	Flush	No	120	SPDT 21 Amp	15 Min
MIL72ESTUZH-240	Yes	Flush	No	208, 240	SPDT 21 Amp	15 Min

\* Battery back-up models of 24 VAC will also operate on 12 – 24 VDC.

**Upgrade to Electronic Timer Modules**  
See pages 35-37



# Modules Mechanical Timer Switches

## MIL72 Series 7-Day

The MIL72 Series time switches are designed to be mounted inside a control panel and can accommodate surface/DIN rail or flush/panel mounting.

### Features:

- Synchronous drive or quartz drive with battery backup
- 21 Amp SPDT switch
- Captive trippers with 15 minute intervals, 2 hours for 7 days
- With or without 3-way override
- True clock face
- Surface, flush, or DIN rail mount

### Specifications:

**Size:** 4.75 in. H x 3.25 in. W x 3.25 in. D

**Supply Voltage:** 24, 120, 240 VAC

**Power Consumption:** 1 VA

**Switch Rating:** SPDT

**Resistive:** 21 Amp

**Tungsten:** 1350 W

**Inductive:** 1 HP, 125 VAC

2 HP, 240 VAC

**Wiring Connections:** ¼ in. quick-connect terminals

**Operating Temperature Range:** "S" models -40°F to 185°F (-40°C to 85°C)  
"Q" models -20°F to 131°F (-20°C to 55°C)

**Installation:** Stand alone or with Indoor/Outdoor enclosure

**Panel:** Surface mounting

Model Number	Override	Mounting Style	Battery Backup	Volts AC	Switch Rating	Min ON/OFF Time
MIL72AQWUZ-120	No	Surface	Yes	120 VAC	SPDT, 21 Amp	2 Hour
MIL72AQWUZ-240	No	Surface	Yes	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72AQWUZH-24	Yes	Surface	Yes*	24 VAC	SPDT, 21 Amp	2 Hour
MIL72AQWUZH-120	Yes	Surface	Yes	120 VAC	SPDT, 21 Amp	2 Hour
MIL72AQWUZH-240	Yes	Surface	Yes	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZ-24	No	Surface	No	24 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZ-120	No	Surface	No	120 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZ-240	No	Surface	No	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZH-24	Yes	Surface	No	24 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZH-120	Yes	Surface	No	120 VAC	SPDT, 21 Amp	2 Hour
MIL72ASWUZH-240	Yes	Surface	No	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72EQWUZ-120	No	Flush	Yes	120 VAC	SPDT, 21 Amp	2 Hour
MIL72EQWUZH-24	Yes	Flush	Yes*	24 VAC	SPDT, 21 Amp	2 Hour
MIL72EQWUZH-120	Yes	Flush	Yes	120 VAC	SPDT, 21 Amp	2 Hour
MIL72EQWUZH-240	Yes	Flush	Yes	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72ESTUZH220	Yes	Flush	No	220 VAC (50 Hz)	SPDT, 21 Amp	2 Hour
MIL72ESWUZ-24	No	Flush	No	24 VAC	SPDT, 21 Amp	2 Hour
MIL72ESWUZ-120	No	Flush	No	120 VAC	SPDT, 21 Amp	2 Hour
MIL72ESWUZ-240	No	Flush	No	208/240 VAC	SPDT, 21 Amp	2 Hour
MIL72ESWUZH-24	Yes	Flush	No	24 VAC	SPDT, 21 Amp	2 Hour
MIL72ESWUZH-120	Yes	Flush	No	120 VAC	SPDT, 21 Amp	2 Hour
MIL72ESWUZH-240	Yes	Flush	No	208/240 VAC	SPDT, 21 Amp	2 Hour

\* Battery back-up models of 24 VAC will also operate on 12 – 24 VDC.



**GRÄSSLIN™**  
by **INTERMATIC®**

**MIL72A**  
(Surface Mounting)



**MIL72E**  
(Flush Mounting)

### Applications:

The MIL72 Series is a light duty commercial time switch ideal for 24, 120, or 277 VAC single phase applications such as:

- Lighting Control
- Heating, Air-Conditioning
- Access Control
- Agricultural Facilities
- Pumps/Motors/Fan Control
- General Purpose Electrical Circuits



C22.2-177  
LR3730  
UL917



0.5 lbs  
0.23 kg

**Upgrade to Electronic Timer Modules**  
See pages 35-36



# Modular Mechanical Timer Switches

**GRÄSSLIN™**  
by **INTERMATIC®**



**GMXST-I-120**

## GMX Series

### 24-Hour/7-Day General Purpose Time Switch



**Features:**

- Universal, mechanical time switches
- Low cost alternative for applications that do not require more than 21 Amp or 2 HP, 240 VAC
- NEMA 1 Indoor or NEMA 3R Outdoor enclosure
- 21 Amp Rating
- NEMA 1 Indoor or 3R Outdoor enclosure
- SPDT Switch
- Captive trippers with intervals of 15 minutes on 24-hour models (2 hours on 7-day models)
- True clock face, easy to set
- Finger safe terminals
- Enclosure provides space for field added contactor or other accessories

**Applications:**

The GMX is a light duty commercial time switch ideal for 24, 120, or 240 VAC single phase applications such as:

- Lighting Control
- Heating, Air-Conditioning
- Pumps/Motors/Fan Controls
- Access Control
- Agricultural Facilities
- General Purpose Electrical Circuits

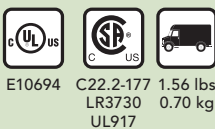
**Specifications:**

**Operating Temperature Range:** "S" models -40°F to 185°F (-40°C to 85°C)  
"Q" models -20°F to 131°F (-20°C to 55°C)

Enclosure: NEMA 1 or 3R, see page 48, Model No. E150

Model Number	Enclosure	Volts AC	Battery Backup	Switch Rating	Min On/Off Time
<b>24-Hour</b>					
GMXQT-I-120	NEMA 1 Indoor	120	Yes	SPDT, 21 Amp	15 minutes
GMXQT-O-120	NEMA 3R Outdoor	120	Yes	SPDT, 21 Amp	15 minutes
GMXST-I-120	NEMA 1 Indoor	120	No	SPDT, 21 Amp	15 minutes
GMXST-I-240	NEMA 1 Indoor	240	No	SPDT, 21 Amp	15 minutes
GMXST-O-120	NEMA 3R Outdoor	120	No	SPDT, 21 Amp	15 minutes
GMXST-O-24	NEMA 3R Outdoor	24	No	SPDT, 21 Amp	15 minutes
GMXST-O-240	NEMA 3R Outdoor	240	No	SPDT, 21 Amp	15 minutes
<b>7-Day</b>					
GMXQW-I-24	NEMA 1 Indoor	24	Yes	SPDT, 21 Amp	2 hours
GMXQW-I-240	NEMA 1 Indoor	240	Yes	SPDT, 21 Amp	2 hours
GMXQW-O-120	NEMA 3R Outdoor	120	Yes	SPDT, 21 Amp	2 hours
GMXSW-I-120	NEMA 1 Indoor	120	No	SPDT, 21 Amp	2 hours
GMXSW-O-24	NEMA 3R Outdoor	24	No	SPDT, 21 Amp	2 hours
GMXSW-O-120	NEMA 3R Outdoor	120	No	SPDT, 21 Amp	2 hours
GMXSW-O-240	NEMA 3R Outdoor	240	No	SPDT, 21 Amp	2 hours

**Upgrade to Electronic Timer Modules  
See pages 37**



# Mechanical Cycle Time Switches

## Talento 121 One-Hour Repeat Cycle Time Switch



### Features:

- Synchronous motor driven mechanical one hour time switch
- Low cost repeat cycle timer for industrial processes and other applications
- Provides continuous ON and OFF cycling of a load in a pattern which will repeat every hour
- Captive trippers allow setting up to 24 ON and 24 OFF times in 1.25 minute increments over a one hour period
- May be used in conjunction with an Intermatic 24-hour or 7-day time switch to provide repeat cycle timed switching only during selected periods of the day or week
- May be surface or DIN rail mounted with panels, or may be mounted in an Intermatic indoor or outdoor enclosure
- Available with or without 3-way override
- True clock face

**Switch Rating:** Each Pole; 40 Amp Resistive, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty, 120-277 VAC; 2 HP (24 FLA), 120 VAC; 5 HP (28 FLA), 240 VAC single phase.

### Specifications:

**Size:** 3.31 in. H x 2.13 in. W x 2.56 in. D

**Switch Output:** SPDT isolated contacts

16 Amp Resistive, 125-250 VAC

4 Amp Inductive, 125-250 VAC

1350 W Tungsten, 240 V

**Minimum Switching Time:** 1.25 Minutes

**Operating Temperature:** -40°F to 131°F

**Operating Humidity:** 0 to 95% RH

non-condensing

**Wiring Connections:** Screw terminals for up to #12AWG wire

## FM1S12HU-120U 12-Hour Repeat Cycle Time Switch

The FM1S12HU-120U is a synchronous motor driven mechanical 12-hour time switch intended as a low cost repeat cycle timer for industrial processes and other applications. It provides continuous on and off cycling in a pattern which will repeat every 12 hours.

### Features:

- 12-hour cycle
- SPDT 21A switch
- Flush, surface or DIN rail mounting
- Captive trippers allow setting up to 48 ON and 48 OFF times in 7.5 minute increments

### Specifications:

**Size:** 3.25 in. H x 3.50 in. W x 2.25 in. D

**Supply Voltage:** 120 VAC

**Power Consumption:** 1 VA

**Switch Rating:** SPDT

**Resistive:** 21 Amp, 250 VAC

**Inductive:** 1 HP, 125 VAC; 2 HP, 240 VAC

**Wiring Connections:** ¼ in. quick-connects

Model Number	Volts AC	Total Cycle Time	Min. ON/ OFF Time	Switch Output
TALENTO121-120	120	1 Hour	1.25 Minutes	SPDT, 16 Amp
TALENTO121-240	208-240	1 Hour	1.25 Minutes	SPDT, 16 Amp
GMX121-O-120 (in NEMA 3R enclosure)	120	1 Hour	1.25 Minutes	SPDT, 16 Amp
FM1S12HU-120U	120	12 Hour	7.5 Minutes	SPDT, 21 Amp

**GRÄSSLIN™**  
by INTERMATIC®



Talento 121



0.35 lbs  
0.16 kg  
-40°F  
(-40°C)  
to  
131°F  
(55°C)



FM1S12HU-120U



C22.2-177  
LR3730  
UL917

0.25 lbs  
0.11 kg  
-40°F  
(-40°C)  
to  
131°F  
(55°C)



# Cycle Timer Switches



CT1000



UL916  
E76987



CT2000



C22.2-177 2.75 lbs -40°F  
LR3730 1.25 kg (-40°C)  
UL917 to  
129°F  
(54°C)

## Percentage Cycle Timers

### Common Applications:

- Poultry Houses
- Foggers
- Nurseries
- Fans
- Feeders
- Pumps
- Misters
- Irrigation

### Common Specifications:

**Voltage/Frequency:** 120-240 VAC, 60 Hz

**Switch:** SPST

**Resistive:** 20 Amp

**Motor:** 2 HP, 240 VAC; 1 HP, 120 VAC

**General Purpose:** 20 Amp, 240 VAC

**Tungsten (incandescent):** 5 Amp, 240 VAC

**Pilot Duty:** 470 VA, 240 VAC

**Ballast (fluorescent):** 10 Amp, 277 VAC

**Operating Ambient Temperature Range:** -10°C (14°F) to +54°C (129°F)

**Surge Protection:** Up to 6000 VAC

## CT1000 Percentage Cycle Timer

Field selectable cycle durations and up front user selection of percentage cycle time provide the ultimate in flexibility in repetitive cycling control.

### Features:

- Dip switch provides 6 field selectable timer durations
  - 30 seconds
  - 1 minute
  - 3 minutes
  - 5 minutes
  - 10 minutes
  - 30 minutes
- Cycling pattern can be selected from 3% to 97% of total cycle duration
- Aluminum, sealed enclosure handles dusty, ammonia rich, or wash down environments
- LED indicators provide constant operational feedback
- Manual ON/OFF override allows users to bypass cycling pattern when required

## CT2000 Percentage Cycle Timer

Field selectable via upfront push button control offering true flexibility for repetitive cycle times.

### Features:

- Provides 8 field selectable timer durations
  - 30 Seconds
  - 1 Minute
  - 3 Minute
  - 5 Minutes
  - 10 Minutes
  - 30 Minutes
  - 1 Hour
  - 4 Hours
- Push button control on front of timer. No more DIP switches to program cycle time
- Upfront instructions give you constant direction on programming
- Manual ON/OFF control allows for temporary or permanent override

For Modular Cycle Timers see page 25



# Mechanical Cycle & Irrigation Timer Switches

## C8800 Series Short Range Cycle Timers

- Short Range Cycle Timers provide repeat cycling for ON times
- Ten combination ON/OFF trippers supplied with each switch

### Applications:

- Ventilating Fans
- Spraying Equipment
- Livestock Feeders
- Poultry Fans
- Fogging Equipment
- Poultry Feeders
- Bulk Milk Coolers
- Pumps
- Process Equipment

### Specifications:

**Enclosure:** NEMA 1 Rated Indoor steel, see page 46 for details. For optional enclosures see pages 46-47

**Switch Rating:** 20 Amp Resistive, 125, 208-277 VAC; ½ HP, 125 VAC; 1 HP, 250 VAC

Model #	Switch	Clock Motor Volts AC 60 Hz	Dial Cycle	Tripper Actuating Time
C8815	SPDT	125	10 Min.	5 Sec.
C8835	SPDT	125	30 Min.	15 Sec.
C8865	SPDT	125	1 Hr.	30 Sec.
C8845	SPDT	125	4 Hr.	120 Sec.
C8866	SPDT	208-277	1 Hr.	30 Sec.

Note: The life of the switch contacts is affected by the size and type of the controlled load. The expected minimum life at 20 amps (resistive) load is 100,000 cycles.

For Replacement Snap Switch order No. 133T773A.

For additional trippers (12 trippers per pack), order No. 156T1950A.

## R8800 and T8800 Series Sprinkler/Irrigation Timers with 14-Day Skipper™

- 1 to 60 ON operations every 24 hours
- Designed for water metering in increments of 12 minutes to 20 hours and 45 minutes for maximum conservation of water resources
- 14-day skipper feature permits irrigation to be omitted on selected day(s)
- 14-day skipper feature provides for "every other" day operation
- ON/OFF/AUTOMATIC switch allows shutdown during rainy days or extended watering during dry periods without disturbing the automatic cycle set on dial
- Rain sensor enabled

### Applications:

- Multi-Station Hydro Indexing Valves
- Greenhouses
- Lawn Sprinkling
- Pumps
- Irrigation Control
- Feeders
- Drip Irrigation Systems

### Specifications:

**Enclosure:** NEMA 3R Rated Plastic Indoor/Outdoor Enclosure. See pages 46-47

**Switch Rating:** See table below

Model #	Switch	Motor Volts AC 60 Hz	Output Volts AC 60 Hz	AMPS (per pole)	HP Rating
T8805P101C	SPST	125	120	15	½
R8806P101C	DPST	208-277	240	25	2
R8815P101C*	DPST	120	120	25	1½
R8816P101C*	DPST	208-277	240	25	3
T8845PV**	SPST	125	24	20 VA	—

\* Includes rain sensor input terminals — rain sensor not supplied.

\*\* Includes 24 volt – 20 VA transformer.

For replacement Snap Switch order No. 133T700A.

For additional trippers (12 per pack), order No. 156T1950A.

For additional skipper pins (14 per pack), order No. 156T1954A.



C8845



C8865



C22.2-177 2.75 lbs -40°F  
LR3730 1.25 kg (-40°C)  
UL917 to  
130°F  
(54°C)



R8816P101C



T8805P101C



C22.2-177 3.75 lbs -40°F  
LR3730 1.7 kg (-40°C)  
UL917 to  
130°F  
(54°C)



# Water Heater Time Switches



T104-20



WH40

The "LITTLE GRAY BOX"®



C22.2-177 2.75 lbs -40°F  
LR3730 1.25 kg (-40°C)  
UL917 to 130°F (54°C)



EH10  
EH40



## Mechanical Water Heater Timers

Utilities in many areas of the country offer two electric rates for residential or commercial customers. One rate has the regular daytime electrical rate, the other is the "off-peak" rate. The "off-peak" rate provides customers with "lower-priced" electricity during the nighttime and weekend periods. These time switches allow the customer to shift electricity use into these "off-peak" time periods in an attempt to save utility costs.

### Features

- Convenient external override switch (WH40 only)

### Applications

Water Heater Control for:

- Residential
- Commercial
- Industrial
- Institutional/Schools
- Military Facilities

### Specifications:

**Enclosure:** NEMA 1 Rated Indoor steel in gray finish.

Spring hasp, with hole for lock, holds permanently attached, side hinged door closed.

Three mounting holes on back plus handy box mounting holes.

7¾ in. (19.7 cm) H x 5 in. (12.7 cm) W x 3 in. (7.6 cm) D

**Knockouts:** Combination ½ – ¾ in. nominal knockouts, one on back and each side of enclosure and two on bottom.

**Replacement Motors:** See page 158 for available clock motors.

**Switch Rating:** 10,000 W (40 amp) Max 250 volt, 60 Hz.

Model #	Switch	Clock Supply Volts AC 60 Hz	Watts	External Switch	Amps/Pole
T104-20	DPST	208, 240	10000	No	40
WH40	DPST	240	10000	Yes	40

For additional trippers (1 ON/1 OFF per pack), order No. 156T1978A.

## Electronic Water Heater Timers

These time switches provide automatic control for electric water heaters. They provide to-the-minute accuracy in programming and time keeping. The time switches can be programmed for repeat daily scheduling, 5-day working week scheduling, weekend scheduling or any individual day scheduling. Timers can be scheduled for operation during the lowest time-of-day rates or to switch off the electric heater during period of utilities peak power usage. The time switches can be set to operate for up to 6 ON/OFF operations daily for a maximum of 42 ON/OFF operations weekly. Both models provide a convenient external override switch and LED load indicator for ease in scheduling hot water as required for extra hot water demands. The timers include a "AA" alkaline battery carryover which protects both time keeping and program information for a minimum of 3 years.

### Specifications:

**Switch Rating:** 30 Amp Resistive or Inductive 120-240 VAC; 1 HP, 120 VAC; 1½ HP, 240 VAC; 5 Amp Tungsten, 120-240 VAC.

**Enclosure:** Same as T104-20 above.

Model #	Switch	Clock Supply Volts AC 50/60 Hz Operation	Watts	External Switch	Amps/Pole
EH10	SPST	120	3600	Yes	30
EH40	DPST	240	7200	Yes	30

# Water Heater Time Switches

## WHQ Series 24-Hour/7-Day Water Heater Timers With Battery Backup



### Mechanical Time Controls

#### Features:

- Designed for control of commercial, industrial or residential electric water heaters up to 10,000 Watts capacity running at 208-240 VAC
- NEMA 3R outdoor enclosure can be placed in basements or mechanical rooms

#### Applications:

This unit is designed to save energy and maximize hot water usage throughout the day. For example, the unit could be programmed to turn ON during periods of high usage such as in the early morning hours and OFF during low demand periods such as late evenings.

#### Specifications:

##### N.O. Contacts:

- 40 Amp Resistive, 250 VAC
- 10,000 W
- 1 HP (16 FLA, 90 LRA), 120 VAC
- 2 HP (12 FLA, 52 LRA), 208-277 VAC

##### N.C. Contacts:

- 30 Amp Resistive, 120-277 VAC
- 7,500 W
- 1 HP (12 FLA, 30 LRA), 120 VAC
- 2HP (10 FLA, 30 LRA), 240 VAC

**Wiring Connections:** Screw box lug terminals

**Operating Temperature Range:** -40°F to 131°F (-40°C to 55°C)

**Operating Humidity:** 0 to 95% non-condensing

**Enclosure Dimensions:** 8.795 in. H x 6.631 in. W x 2.935 in. D

**Shipping Weight:** 3 lbs.

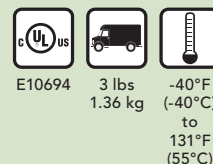
**Switch Configuration:** DPDT (2-N.O. and 2-N.C. Contacts)

**Battery Backup:** Rechargeable Quartz battery with 7 days minimum backup life standard



WHQ Series

Model Number	Description	Volts AC	Switch Configuration	Amp rating	Minimum ON/OFF Time
WHQ4	24-hour water heater time switch	120/208/240/277	DPDT	40/30	15 minutes
WHQ7	7-Day water heater time switch	120/208/240/277	DPDT	40/30	2 Hours



# Mechanical Astronomic Time Switches



V46471CR

## V45000 Series Astronomic Dial Timers With Skipper™ & Carryover

- Adjusts for seasonal changes
- Astronomic dial automatically adjusts as days grow shorter or longer
- Skipper provides lighting control to be omitted on selected day(s) of the week
- Three Skipper screws furnished
- Independent clock motor terminals
- 3PST switch configuration provides control of 3-phase lighting
- Spring wound carryover provides a carryover of 16 hours minimum to maintain accurate load control even during power failure
- Carryover automatically rewinds itself when power resumes
- Only 1 hour is required to rewind the carryover for each 2 hours of outage

### Applications:

- Parking Lots
- Landscape Lights
- Stairways
- Billboards
- Entryways
- Security
- Storefronts
- Car Lots

### Specifications:

**Enclosure:** Steel, NEMA 3R Rated; Gray finish with hasp, with hole for lock, holds permanently attached, side hinged door closed. Mounting bracket plus two holes below switch on back for mounting. Separate grounding terminal.

8¼ in. (20.95 cm) H x 5¼ in. (13.34 cm) W x 4¾ in. (12.07 cm) D

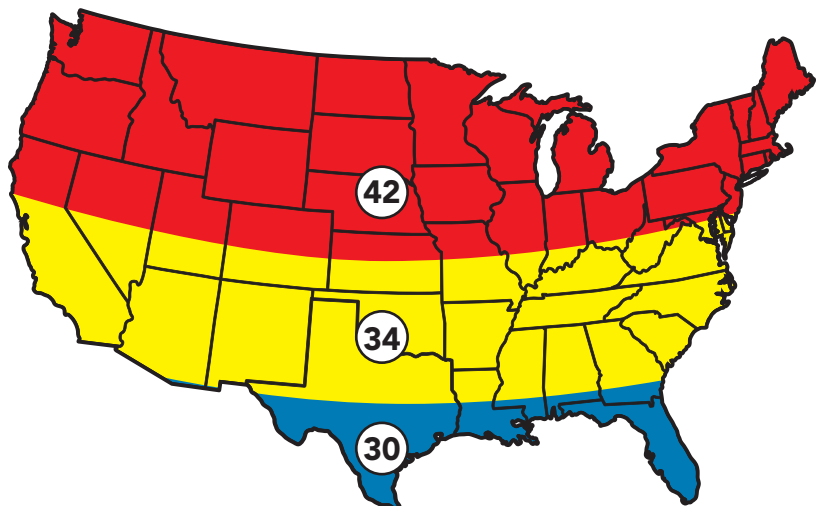
**Knockouts:** Combination ½ – ¾ in. nominal knockouts, one on back and each side of enclosure and two on bottom.

**Optional Enclosures:** None.

**Switch Rating:** Each pole; 40 Amp Tungsten up to 277 VAC; 1 HP, 120-277 VAC, 690 VA Pilot Duty.

Model # + Zone	Latitude	Switch	Carry Over	Clock Motor Volts AC 60 Hz
V45471CR —	30°, 34°, 42°	3PST	Yes	120
V45472CR —	30°, 34°, 42°	3PST	Yes	208-277
V45471R —	30°, 34°, 42°	3PST	No	120
V45472R —	30°, 34°, 42°	3PST	No	208-277

Please refer to the Latitude Map below to identify which zone the product will be installed in. Simply add the zone to the end of the model number when ordering. For example: If you're installing the product in Zone 42 (Red) the order number would be V4571CR42



UL917 C22.2-177 Models Other -40°F  
E10694 LR3730 V45471CR Models (-40°C)  
& 5 lbs to  
V45472CR 2.3 kg 130°F  
9 lbs (54°C)  
4.1 kg

**For Electronic Time Switches which offer an Astronomic Feature please see pages 34, 39-43, 50, 66-69**



# Auto Voltage Electronic Time Switch

## GM40AVE

### 24-Hour/7-Day Auto-Voltage Electronic Time Switch

The GM40AVE auto-voltage time switch is a universal, electronic clock which automatically detects voltage input. It is as simple as "wire the clock and go". The clock detects the corresponding input voltage automatically. No need to worry any longer if the correct voltage was set before wiring.

- Automatically detects the voltage input without the use of DIP switches or selector pins
- Operates at any voltage between 120-277 VAC
- Clock is mounted in a compact NEMA 3R outdoor enclosure
- Features a DPDT switching configuration (two normally open and two normally closed contacts)
- Override Switch allows for manual operation until the next timed event
- 20 events can be programmed in either a daily or weekly schedule format

#### Applications

Robust time switch capable of controlling many applications:

- Lighting Controls
- HVAC/R
- Pumps/Motors/Fans
- Agricultural Facilities
- General Purpose Electrical Circuits

#### Specifications:

##### N.O. Contacts:

- 40 Amp Resistive, 120-277 VAC
- 1 HP (16 FLA, 90 LRA) 120 VAC
- 2 HP (12FLA, 52 LRA) 208-277 VAC
- 30 Amp Ballast, 120 VAC
- 20 Amp Ballast, 277 VAC
- 15 Amp Tungsten, 120 VAC
- 300 VA Pilot Duty, 120-240 VAC

##### N.C. Contacts:

- 30 Amp Resistive, 120-277 VAC
- 1 HP (12 FLA, 30 LRA) 120 VAC
- 2 HP (10 FLA, 30 LRA) 240 VAC
- 10 Amp Ballast, 277 VAC
- 2 Amp Tungsten, 120 VAC

**Operating Temperature:** -40°C to 55°C (-40°F to 131°F)

**Enclosure:** NEMA 3R Outdoor enclosure, see page 48, Model No. E300

Model #	Volts AC	Switch Configuration	Amp Rating	Minimum ON/OFF Rating	Time
GM40AVE	120-277	DPDT	40/30		1 minute

Note: See page 19 for Mechanical Auto Voltage Timer GM40AV.




**GM40AVE**







UL917 2.5 lbs -40°F  
C22.2-177 1.1 kg (-40°C)  
LR3730 to 155°F  
(68°C)



# 24-Hour Electronic Time Switches



**ET1100 Series**

- Auto Daylight Saving Time Adjustment
- Multi-Volt 120, 208, 240 & 277 VAC
- Pulsed Contact Feature






UL917 2.5 lbs -40°F  
 C22.2-177 1.1 kg (-40°C)  
 LR3730 to 155°F  
 (68°C)



**CPD82**  
NEMA 3R with clear cover

**ET100 SKU Conversion Chart:**

Delisted Part.....	Recommended Cross
ET100C .....	ET1105C
ET101C .....	ET1105C
ET102C .....	ET1105C
ET103C .....	ET1125C
ET104C .....	ET1125CR
ET104CP .....	ET1125CPD82
ET105C .....	ET1115C

**ET1100 Series**

**24-Hour Time Switch (Same Operation Each Day)**

Upgrading to an electronic time switch has never been easier with the ET1100 series. This series replaces our popular ET100 series.

**Features:**

- Program can be repeated on a daily basis
- Multi-volt operation from 120-277 VAC, 50/60 Hz
- To-the-minute programming for accurate load control and reduced energy costs
- Up to 28 set points or events (14 ON/14 OFF per channel) can be preset to automatically repeat on a daily basis
- Automatic Daylight Saving Time adjustment (Factory Enabled)
- Non-volatile EEPROM memory protects programming indefinitely
- Temporary override or permanent manual override available via push buttons

**Specifications:**

**Enclosure Options:** Standard: NEMA 1 Gray Painted Drawn Steel (see page 46 "A") 'R' Option: NEMA 3R Gray Painted Drawn Steel (see page 46 "B")

'PD82' Option: NEMA 3R Gray High-Impact UV Resistant Polycarbonate Plastic with Clear Cover (see page 46 "C")

**Knockouts:** Combination 1/2 – 3/4 in. nominal knockouts, one on back and each side of enclosure and two on bottom

**Optional Enclosures:** See pages 46-47 for optional enclosures.

Note: The electronic mechanism snaps into the standard Intermatic time switch enclosure, replacing mechanical mechanisms, if desired.

**Cycle:** ALL models 50/60 Hz.

**Switch Rating:** 30 Amp Inductive/Resistive, 24, 120, 240, 277 VAC, 60 Hz; 20 Amp Resistive, 28 VDC; 1 HP, 120 VAC, 60 Hz; 2 HP, 240 VAC, 60 Hz; 5 Amp Tungsten, 120-240 VAC, 60 Hz; 20 Amp Ballast, 120-277 VAC, 60 Hz.

**ET1115 models Normally Open (NO), Normally Closed (NC) contact ratings:** 20 Amp (NO), 10 Amp (NC) Resistive/Inductive, 120, 240 VAC; 1 HP (NO), 1/4 HP (NC), 120 VAC; 2 HP (NO), 1/2 HP (NC), 240 VAC; 5 Amp Tungsten, 120, 240 VAC; 20 Amp (NO), 3 Amp (NC) Ballast, 120-277 VAC

**Pulse Feature:** 2-Circuit models feature 2-Second pulse option for contactor and bell ringing applications

**Auto DST:** Automatic Adjustment for Daylight Saving Time (DST)

**Battery Backup:** Field replaceable "AAA" batteries maintain date and accurate time keeping for 3 years minimum. Up front replacement does not require removal of mechanism

**Wiring Terminals:** #18 to #10 AWG wire

**Minimum ON/OFF Times:** 1 minute

**Maximum ON/OFF Times:** 23 hours 59 minutes

Model #	Circuits	Switch	Clock Volts AC	Amp Rating	HP Rating	Enclosure
ET1105C	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET1105CPD82 <sub>1</sub>	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1105CR	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1115C	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 1
ET1115CPD82 <sub>1</sub>	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET1115CR	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET1125C <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET1125CPD82 <sub>1 2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1125CR <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R

- 1 CPD82 Models feature NEMA 3R high impact polycarbonate plastic enclosure with clear cover for easy viewing of time switch mode and current status.
- 2 ET1125 Models feature contacts that can be field configured to act as two independently operated SPST, one simultaneously operated DPST, or independently pulsed SPST for contactor and bell ringing applications.

# 7-Day Electronic Time Switches

## ET1700 Series

### 7-Day Time Switch (Permits Different Operation Each Day)

Upgrading to an electronic time switch has never been easier with the ET1700 series. This series replaces our ET170 series.

#### Features include:

- Permits different operation each day
- Multi-volt operation from 120 to 277 VAC, 50/60 Hz
- To-the-minute programming for accurate load control and reduced energy costs
- Up to 28 set points or events (14 ON/14 OFF per channel) can be distributed throughout the days of the week
- Automatic Daylight Saving Time adjustment (Factory Enabled)
- Non-volatile EEPROM memory protects programming indefinitely
- Temporary override or permanent manual override available via push buttons

#### Specifications:

**Enclosure Options:** Standard: NEMA 1 Gray Painted Drawn Steel (see page 46 "A")

'R' Option: NEMA 3R Gray Painted Drawn Steel (see page 46 "B")

'PD82' Option: NEMA 3R Gray High-Impact UV Resistant Polycarbonate Plastic with Clear Cover (see page 46 "C")

**Knockouts:** Combination 1/2 – 3/4 in. nominal knockouts, one on back and each side of enclosure and two on bottom

**Optional Enclosures:** See page 46-47 for optional enclosures.

*Note: The electronic mechanism snaps into the standard Intermatic time switch enclosure, replacing mechanical mechanisms, if desired.*

**Cycle:** ALL models 50/60 Hz.

**Switch Rating:** 30 Amp Inductive/Resistive, 24, 120, 240, 277 VAC, 60 Hz; 20 Amp Resistive, 28 VDC; 1 HP, 120 VAC, 60 Hz; 2 HP, 240 VAC, 60 Hz; 5 Amp Tungsten, 120-240 VAC, 60 Hz; 20 Amp Ballast, 120-277 VAC, 60 Hz.

#### ET1715 models Normally Open (NO), Normally Closed (NC) contact ratings:

20 Amp (NO), 10 Amp (NC) Resistive/Inductive, 120, 240 VAC; 1 HP (NO), 1/4 HP (NC), 120 VAC; 2 HP (NO), 1/2 HP (NC), 240 VAC; 5 Amp Tungsten, 120, 240 VAC; 20 Amp (NO), 3 Amp (NC) Ballast, 120-277 VAC

**Pulse Feature:** 2-Circuit models feature 2-Second pulse option for contactor and bell ringing applications

**Auto DST:** Automatic Adjustment for Daylight Saving Time (DST)

**Battery Backup:** Field replaceable "AAA" batteries maintain date and accurate time keeping for 3 years minimum. Up front replacement does not require removal of mechanism

**Wiring Terminals:** #18 to #10 AWG wire

**Minimum ON/OFF Times:** 1 minute

**Maximum ON/OFF Times:** 6 days 23 hours 59 minutes

Model #	Circuits	Switch	Clock Volts AC	Amp Rating	HP Rating	Enclosure
ET1705C	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET1705CPD82 <sub>1</sub>	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1705CR	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1715C	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 1
ET1715CPD82 <sub>1</sub>	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET1715CR	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET1725C <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET1725CPD82 <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET1725CR <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R

1 CPD82 Models feature NEMA 3R high impact polycarbonate plastic enclosure with clear cover for easy viewing of time switch mode and current status.

2 ET1725 Models feature contacts that can be field configured to act as two independently operated SPST, one simultaneously operated DPST, or independently pulsed SPST for contactor and bell ringing applications.



### ET1700 Series

- Auto Daylight Saving Time Adjustment
- Multi-Volt 120, 208, 240 & 277 VAC
- Pulsed Contact Feature



UL917 2.5 lbs  
C22.2-177 1.1 kg  
LR3730  
-40°F (-40°C)  
to  
155°F (68°C)



### CPD82

NEMA 3R with clear cover

#### ET100 SKU Conversion Chart:

Delisted Part.....	Recommended Cross
ET171C .....	ET1705C
ET171CR .....	ET1705CR
ET173C .....	ET1725C
ET174C .....	ET1725C
ET175C .....	ET1715C
ET279C .....	ET1725C







# 7-Day Electronic Astronomic Time Switches



**ET8000 Series**

- Auto Daylight Saving Time Adjustment  
(Factory Enabled)
- Multi-Volt 120, 208, 240 & 277 VAC
- Pulsed Contact Feature

UL917 2.5 lbs -40°F  
 C22.2-177 1.1 kg (-40°C)  
 LR3730 to 155°F  
 (68°C)



**CPD82**  
NEMA 3R with clear cover

## ET8000 Series

### 7-Day Astronomic Time Switch (Tracks Sunrise & Sunset)

Independent 7-day programming provides flexibility for applications where load switching differs each day of the week.

- Automatically switches loads according to a preset weekly schedule
- Multi-volt operation from 120-277 VAC, 50/60 Hz
- To-the-minute programming for accurate load control and reduced energy costs
- Astronomic feature provides sunset ON and sunrise OFF settings to eliminate the need for separate photo control devices
- Astronomic programming can be combined with independent programs to provide a sunset ON and timed OFF program
- Up to 28 set points or events (14 ON/14 OFF per channel)
- Non-volatile EEPROM memory protects programming indefinitely
- Temporary override or permanent manual override available via push buttons

#### Specifications:

**Enclosure Options:** Standard: NEMA 1 Gray Painted Drawn Steel (see page 46 "A")

'R' Option: NEMA 3R Gray Painted Drawn Steel (see page 46 "B")

'PD82' Option: NEMA 3R Gray High-Impact UV Resistant Polycarbonate Plastic with Clear Cover (see page 46 "C")

**Knockouts:** Combination 1/2 - 3/4 in. nominal knockouts, one on back and each side of enclosure and two on bottom.

**Optional Enclosures:** See page 46-47 for optional enclosures.

*Note: The electronic mechanism snaps into the standard Intermatic time switch enclosure, replacing mechanical mechanisms, if desired.*

**Special Voltages and Cycles:** ALL models 50/60 Hz.

**Switch Rating:** 30 Amp Inductive/Resistive, 24, 120, 240, 277 VAC, 60 Hz; 20 Amp Resistive, 28 VDC; 1 HP, 120 VAC, 60 Hz; 2 HP, 240 VAC, 60 Hz; 5 Amp Tungsten, 120-240 VAC, 60 Hz; 20 Amp Ballast, 120-277 VAC, 60 Hz.

**ET8115 models Normally Open (NO), Normally Closed (NC) contact ratings:**

20 Amp (NO), 10 Amp (NC) Resistive/Inductive, 120, 240 VAC; 1 HP (NO), 1/4 HP (NC), 120 VAC; 2 HP (NO), 1/2 HP (NC), 240 VAC; 5 Amp Tungsten, 120, 240 VAC; 20 Amp (NO), 3 Amp (NC) Ballast, 120-277 VAC

**Pulse Feature:** 2-Circuit models feature 2-Second pulse option for contactor and bell ringing applications

**Auto DST:** Automatic Adjustment for Daylight Saving Time (DST)

**Battery Backup:** Field replaceable "AAA" batteries maintain date and accurate time keeping for 3 years minimum. Up front replacement does not require removal of mechanism

**Wiring Terminals:** #18 to #10 AWG wire

**Minimum ON/OFF Times:** 1 minute

**Maximum ON/OFF Times:** 6 days 23 hours 59 minutes

Model #	Circuits	Switch	Clock Volts AC	Amp Rating	HP Rating	Enclosure
ET8015C	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET8015CPD82 <sub>1</sub>	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET8015CR	1	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET8115C	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 1
ET8115CPD82 <sub>1</sub>	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET8115CR	1	SPDT	120, 208, 240, 277	20/10	1HP/2HP	NEMA 3R
ET8215C <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 1
ET8215CPD82 <sub>1,2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R
ET8215CR <sub>2</sub>	2	SPST	120, 208, 240, 277	30	1HP/2HP	NEMA 3R

- 1 CPD82 Models feature NEMA 3R high impact polycarbonate plastic enclosure with clear cover for easy viewing of time switch mode and current status.
- 2 ET8215 Models feature contacts that can be field configured to act as two independently operated SPST, one simultaneous operated DPST, or independently pulsed SPST for contactor and bell ringing applications.



# Modular Electronic Time Controls

## FMD Series 24-Hour/7-Day Electronic Time Switches

These timer modules offer versatile programming for either 24-hour or 7-day applications.

### Features:

- 24-Hour or 7-day applications
- 24, 120 and 240 VAC input
- 12V and 24V single channel models can operate on either AC or DC voltage
- Easy to follow menu-led programming (available in 7 languages, English is default)
- All programming stored in non-volatile memory
- Various mounting types provide complete versatility for all applications
- Minimum ON/OFF 1 minute
- Manual override: Switch allows for manual operation until next programmed event
- Battery backup: Lithium battery included provides minimum 3-year date and time protection
- Large LCD display
- FM1D20: 20 programs, up to 140 events per week
- FM1D50: 50 programs, up to 350 events per week

### Specifications:

Product ratings at 24, 120 and 240 VAC Input –

#### N.O. contact

16 Amp, 277 Resistive

**Ballast:** 12 Amp, 120 VAC;

8 Amp, 240 VAC

**Tungsten:** 1000 W, 240 VAC;

600 W, 120 VAC;

½ HP, 120 VAC; 1 HP, 240 VAC

**Pilot Duty:** 720 VA, 240 VAC;

360 VA, 120 VAC

#### N.C. Contact

16 Amp, 277 VAC Resistive;

¾ HP, 120 VAC; ¾ HP, 240 VAC

**Pilot Duty:** 720 VA – 240 VAC;

360 VA – 120 VAC



**GRÄSSLIN™**

by **INTERMATIC®**



**FM1D20**



**FM1D50**

Product ratings at 12/24 VAC/VDC Input –

#### N.O. Contact

16 Amp, 277 VAC Resistive

**Ballast:** 12 Amp, 120 VAC;

8 Amp, 240 VAC

**Tungsten:** 1000 W – 240 VAC;

600 W, 120 VAC; ½ HP, 120 VAC;

1 HP, 240 VAC

**Pilot Duty:** 720 VA, 240 VAC;

360 VA, 120 VAC

#### N.C. Contact

16 Amp, 277 Resistive

**Ballast:** 4 Amp, 240-120 VAC;

¾ HP, 120 VAC; ¾ HP, 240 VAC

**Pilot Duty:** 720 VA, 240 VAC;

360 VA, 120 VAC

Model #	Voltage	# of Circuits	Switch Rating	Programs
FM1D20-120U	120 VAC	1	SPDT, 16 Amp	20
FM1D20-24U	24 VAC/VDC	1	SPDT, 16 Amp	20
FM1D20-240U	240 VAC	1	SPDT, 16 Amp	20
FM1D50-12U	12 VAC/VDC	1	SPDT, 16 Amp	50
FM1D50-120U	120 VAC	1	SPDT, 16 Amp	50
FM1D50-24U	24 VAC/VDC	1	SPDT, 16 Amp	50
FM1D50-240U	240 VAC	1	SPDT, 16 Amp	50



0.1 lbs  
0.05 kg

-14°F  
(-10°C)  
to  
131°F  
(55°C)



# Modular Electronic Time Controls



**FM1D20A**



**FM1D20E**



**FM2D50**



0.1 lbs  
0.05 kg  
-14°F  
(-40°C)  
to  
131°F  
(68°C)

## FM1D – A and E Series 24-hour and/or 7-Day

### Wiring connections:

- "A" Models: screw terminals for #10 to #24 AWG wire
- "E" Models: ¼ in. quick connects

Model #	Voltage	# of Circuits	Switch Rating	Programs	Mounting
FM1D20A-120	120 VAC	1	SPDT, 16 Amp	20	Surface/DIN Rail
FM1D20A-24	24 VAC/VDC	1	SPDT, 16 Amp	20	Surface/DIN Rail
FM1D20A-240	240 VAC	1	SPDT, 16 Amp	20	Surface/DIN Rail
FM1D20E-120	120 VAC	1	SPDT, 16 Amp	20	Flush
FM1D20E-24	24 VAC/VDC	1	SPDT, 16 Amp	20	Flush
FM1D20E-240	240 VAC	1	SPDT, 16 Amp	20	Flush
FM1D50A-12	12 VAC/VDC	1	SPDT, 16 Amp	50	Surface/DIN Rail
FM1D50A-120	120 VAC	1	SPDT, 16 Amp	50	Surface/DIN Rail
FM1D50A-24	24 VAC/VDC	1	SPDT, 16 Amp	50	Surface/DIN Rail
FM1D50A-240	240 VAC	1	SPDT, 16 Amp	50	Surface/DIN Rail
FM1D50E-12	12 VAC/VDC	1	SPDT, 16 Amp	50	Flush
FM1D50E-120	120 VAC	1	SPDT, 16 Amp	50	Flush
FM1D50E-24	24 VAC/VDC	1	SPDT, 16 Amp	50	Flush
FM1D50E-240	240 VAC	1	SPDT, 16 Amp	50	Flush

## FM2D50 Series 24-hour and/or 7-day

Dual circuit timer allows for each circuit to be programmed separately or together

Model #	Volts AC	# of Circuits	Switch Rating	Programs	Mounting
FM2D50-120*	120	2	SPDT, 16 Amp	50	Flush or surface
FM2D50-24*	24	2	SPDT, 16 Amp	50	Flush or surface
FM2D50-240*	240	2	SPDT, 16 Amp	50	Flush or surface

\* For DIN rail Mounting, order accessory, MB-DIN (DIN Rail Mounting Base).

# Modular Electronic Time Controls

## 24-Hour/7-Day General Purpose Time Switch

### Applications:

- Lighting Controls
- HVAC/R
- Pumps, motors, fan controls
- Access control
- Agricultural facilities
- General electrical circuits

### Features:

- Available in a variety of enclosures
- Enclosure provides space for field added contactor or other accessories

### Specifications:

Model #	Voltage	# of Circuits	Switch Rating	Programs	Enclosure †
GMXFM1D20-I-120	120	1	SPDT, 16 Amp	20	NEMA 1, Indoor Enclosure
GMXFM1D20-I-24	24	1	SPDT, 16 Amp	20	NEMA 1, Indoor Enclosure
GMXFM1D20-I-240	240	1	SPDT, 16 Amp	20	NEMA 1, Indoor Enclosure
GMXFM1D20-O-120	120	1	SPDT, 16 Amp	20	NEMA 3R, Outdoor Enclosure
GMXFM1D20-O-24	24	1	SPDT, 16 Amp	20	NEMA 3R, Outdoor Enclosure
GMXFM1D20-O-240	240	1	SPDT, 16 Amp	20	NEMA 3R, Outdoor Enclosure
GMXFM1D50-I-12	12	1	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMXFM1D50-I-120	120	1	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMXFM1D50-I-24	24	1	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMXFM1D50-I-240	240	1	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMXFM1D50-O-12	12	1	SPDT, 16 Amp	50	NEMA 3R, Outdoor Enclosure
GMXFM1D50-O-120	120	1	SPDT, 16 Amp	50	NEMA 3R, Outdoor Enclosure
GMX2FM2D50I-120	120	2	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMX2FM2D50I-24	24	2	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMX2FM2D50I-240	240	2	SPDT, 16 Amp	50	NEMA 1, Indoor Enclosure
GMX2FM2D50O-120	120	2	SPDT, 16 Amp	50	NEMA 3R, Outdoor Enclosure

† See page 48 for details.



**GRÄSSLIN™**  
by INTERMATIC®



**GMX2FM2D50-I-120**



1.6 lbs  
0.73 kg

-14°F  
(-10°C)  
to  
131°F  
(55°C)

# Advanced Electronic Time Controls 1 & 2 Circuits



**Talento472-120plus**

**NEW PRODUCT**

## Talento 400 Plus 24-Hour/7-Day, Multi-Function Time Controls

The Talento 400 Plus series of electronic time switches provide 24-hour or 7-day control.



### Features:

- Offers automatic leap year and Daylight Saving Time adjustment once user enters current date and respective Daylight Saving Time change-over dates
- LCD display indicates load status, time of day, and week day
- In addition to the standard ON/OFF programming format, these units offer both pulse and cycle functions
- Pulse events are programmable to one or more seconds of duration
- Cycle function is programmable for both total cycle duration and ON duration in minutes or seconds
- Cycle function can be set to repeat indefinitely or to occur within a time and/or date range
- Programming is stored in non-volatile memory while a Lithium battery will keep the date and time for a minimum of 3 years
- Talento 400 plus comes in one or two circuits
- Two circuit models can be programmed for independent or simultaneous operation
- Manual override allows for Fixed ON or Fixed OFF operation
- Minimum ON Time: One second

### Applications:

- Billboards
- Automatic Shutters/Awnings
- Lighting Controls
- HVAC/R
- Pumps/Motors/Fans
- General Purpose Electrical Circuits

### Specifications:

Model #	Circuits	Volts AC	Switch Rating	Programs	Mounting †
Talento471-120plus*	1	120	SPDT, 16 Amp	50	DIN Rail
Talento472-120plus*	2	120	SPDT, 16 Amp	50	DIN Rail
GMX471-I-120plus	1	120	SPDT, 16 Amp	50	NEMA 1, Indoor enclosure
GMX472-I-120plus	2	120	SPDT, 16 Amp	50	NEMA 1, Indoor enclosure
GMX471-O-120plus	1	120	SPDT, 16 Amp	50	NEMA 3R, Outdoor enclosure
GMX472-O-120plus	2	120	SPDT, 16 Amp	50	NEMA 3R, Outdoor enclosure

\* Mechanism only.

† See page 48 for enclosure options and details.



-13°F  
(-25°C)  
to  
131°F  
(55°C)



# Advanced Electronic Time Controls 1, 2, and 4 Circuits

## Talento 800 Series 365 Day Multi-Function Astronomic Clock



### Features:

- Automatic leap year and Daylight Saving Time adjustment once user enters current date and respective Daylight Saving Time change-over dates
- LCD display indicates load status, time of day, week day, and date
- Units come DIN-rail mountable or already mounted in indoor or outdoor NEMA enclosures
- Pulse events are programmable to one or more seconds in duration
- Cycle function is programmable for both total cycle duration and ON duration in minutes or seconds
- In addition, the cycle function can be set to repeat indefinitely or to occur within a time and/or date range
- Programming is stored in non-volatile memory while a Lithium battery will keep the date and time for a minimum of 3 years
- Multiple circuit models can be programmed for independent or simultaneous operation
- Manual override allows for Fixed ON or Fixed OFF operation
- Minimum ON time is one second

### Applications:

- Automatic Shutters/Awnings
- Billboards
- HVAC/R
- General Purpose Electrical Circuits
- Pumps/Motors/Fans
- Lighting Controls

### Specifications:

Model #	Circuits	Volts AC	Switch Rating	Programs	Mounting
Talento891-120*	1	120	SPDT, 16 Amp	400	DIN Rail
Talento891-24*	1	24	SPDT, 16 Amp	400	DIN Rail
Talento892-120*	2	120	SPDT, 16 Amp	400	DIN Rail
Talento892-24*	2	24	SPDT, 16 Amp	400	DIN Rail
Talento894-120*	4	120	SPDT, 16 Amp	400	DIN Rail
Talento894-24*	4	24	SPDT, 16 Amp	400	DIN Rail
GMX891-O-120	1	120	SPDT, 16 Amp	400	NEMA 3R, Outdoor Enclosure †
GMX891-O-24	1	24	SPDT, 16 Amp	400	NEMA 3R, Outdoor Enclosure †
GMX894-I-120	4	120	SPDT, 16 Amp	400	NEMA 1, Indoor Enclosure †
GMX894-O-120	4	120	SPDT, 16 Amp	400	NEMA 3R, Outdoor Enclosure †

\* Mechanism Only. † See page 48 for enclosure options and details.

### Remote PC Programming

The Talento 800 series can be programmed from a PC utilizing the optional Talento dialog set. The set includes Windows®-based software, the Taxxi hand-held programmer, CD-ROM, interconnect cable and instructions.

The software contains a schedule of fixed and floating holidays that can be selected, as required, for the particular application. Floating holidays will automatically repeat on the correct date, year after year. Thus, all fixed and floating holidays need only be programmed once. In addition, an astronomical program is included which will automatically adjust the program schedule to follow the changing sunrise and sunset times.

Once the programming is completed on the PC, it is transferred to the Taxxi hand-held programmer from which programs are downloaded into one or more installed Talento 800 series time controls. The Taxxi can store up to four independent programs and can also upload a program from the Talento into a PC for review or editing.



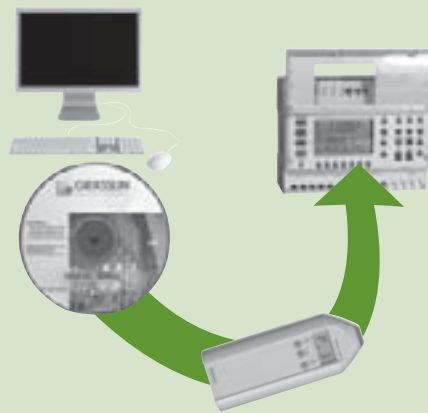
Talento892-120



0.8 lbs  
0.36 kg  
-13°F  
(-25°C)  
to  
131°F  
(55°C)

Talento 800 series can be used with the Talento Taxxi remote programming unit

### Talento-Taxxi



# Next Generation Electronic Astronomic Time Switches



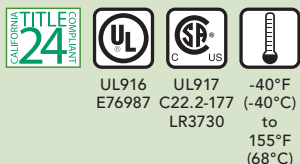
ET70115C



ET70215CR



ET70415CR



## ET70000 Series 365-Day Time Switch (1, 2, & 4 Circuit Models)

- To-the-minute programming for 7-day or full year load control
- Includes 7-day repeat feature for simplifying programming of identical set points
- 12/24 Hour clock format
- 1,000 + ON/OFF events, 99 holiday schedules
- Automatic Daylight Saving Time adjustment (Factory Enabled)
- Flexible load control is enhanced by Astro, Variable Pulse, and Interval options as required for outdoor lighting control, bell ringing, and after hour temporary override, respectively
- Non-volatile memory maintains all programmed switching times for the life of the time switch
- Manual override: Program can be overridden at any time by placing the load switch in the Disable position and pressing the ON/OFF button

### Specifications:

**Enclosure:** ET70115 & ET70215 Models: NEMA 1 – Drawn steel in gray finish

7¾ in. (19.7 cm) H x 5 in. (12.7 cm) W x 3 in. (7.6 cm) D

NEMA 3R – Drawn steel in gray finish

9⅜ in. (23.8 cm) H x 5½ in. (14.0 cm) W x 3⅝ in. (9.0 cm) D

ET70415 Model: NEMA 3R – Heavy duty .047 in. 18 gauge steel in gray finish

12½ in. (31.7 cm) H x 8¼ in. (21.0 cm) W x 4 in. (10.2 cm) D

**ON/OFF Events:** 1,000+ Events

**Knockouts:** Combination ½ – ¾ in. nominal knockouts, one on back and each side of enclosure and two on bottom

**Optional Enclosures:** See page 46-47 for optional enclosures.

**Cycle:** Line voltage models 50 or 60 Hz; Low voltage models 60 Hz, 24 Volts

**Switch Rating:** Each Pole; 20 Amp Resistive/General Purpose, 12-277 VAC

**Normally Open (NO), Normally Closed (NC) contact ratings:**

20 Amp (NO), 10 Amp (NC) Resistive/General Purpose, 120, 240 VAC; 1 HP (NO), ½ HP (NC), 120 VAC; 2 HP (NO), ½ HP (NC), 240 VAC; 5 Amp Tungsten, 120, 240 VAC; 470 VA (NO), 275 VA (NC) Pilot Duty; 20 Amp (NO) 3 Amp (NC) Ballast, 120-277 VAC

**Battery Backup:** Non-volatile memory requires no backup. Time keeping and calendar data maintained within 0.01% accuracy for minimum of 8 years with one factory installed, field replaceable Lithium coin cell

**Wiring Terminals:** #18 to #10 AWG wire

**Minimum ON/OFF Times:** 1 minute

**Maximum ON/OFF Times:** 6 days 23 hours 59 minutes

**Shipping Weights:** ET70115C - 4.65 lbs (2.11 kg), ET70115CR - 5.55 lbs (2.52 kg),

ET70215C - 4.75 lbs (2.15 kg), ET70215CR - 5.85 lbs (2.65 kg),

ET70415CR - 10.01 lbs (4.54 kg)

Model #	Circuits	Switch	Clock Volts AC	Amp Rating	HP Rating	Enclosure
ET70115C	1	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 1
ET70115CR	1	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 3R
ET70215C <sub>1</sub>	2	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 1
ET70215CR <sub>1</sub>	2	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 3R
ET70215CR24 <sub>1</sub>	2	SPDT	24	20	1 HP/2 HP	NEMA 3R
ET70415CR <sub>1</sub>	4	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 3R
ET70415CR24 <sub>1</sub>	4	SPDT	24	20	1 HP/2 HP	NEMA 3R

<sup>1</sup> Multi-Circuit Models feature contacts that can be field configured to act as independently operated SPDT, or independently pulsed SPDT for contactor and bell ringing applications.

# Next Generation Electronic Astronomic Time Switches

## ET70000 Series 365-Day Time Switch (8 & 16 Circuit Models)

- To-the-minute programming for 7-day or full year load control
- 12/24 Hour clock format
- 4,000+ ON/OFF events, 99 holiday schedules
- Automatic Daylight Saving Time adjustment
- Flexible load control is enhanced by Astro, Variable Pulse, and Interval options as required for outdoor lighting control, bell ringing, and after hour temporary override, respectively
- Non-volatile memory maintains all programmed switching times for the life of the time switch
- Manual override: Program can be overridden any time by placing the load switch in the Disable position and pressing the ON/OFF button
- Multi-Circuit Models feature contacts that can be field configured to act independently operated SPDT, or independently pulsed SPDT for contactor and bell ringing applications
- Remote manual override feature up to 4000' from time switch

### Applications:

- Schools
- Offices
- Airports
- Stores
- Hotels
- Restaurants
- Factories
- Parks
- Apartments

### Specifications:

**Enclosure:** 8-Circuit NEMA 3R – Heavy duty .048 in. steel in gray finish with lockable hasp

10¾ in. (27.3 cm) H x 11½ in. (29.2 cm) W x 4¾ in. (12.1 cm) D

16-Circuit NEMA 3R – Heavy duty .060 in. steel in gray finish with lockable hasp

20⅝ in. (52.4 cm) H x 13¼ in. (33.7 cm) W x 5⅞ in. (13.0 cm) D

**ON/OFF Events:** 4,000+ Events

**Special Voltages and Cycles:** Line voltage models 50/60 Hz; Low voltage models 60 Hz, 24 Volts

**Switch Rating:** Each Pole; 20 Amp Resistive/General Purpose, 12-277 VAC

**Normally Open (NO), Normally Closed (NC) contact ratings:**

20 Amp (NO), 10 Amp (NC) Resistive/General Purpose, 120, 240 VAC; 1 HP (NO), ½ HP (NC), 120 VAC; 2 HP (NO), ½ HP (NC), 240 VAC; 5 Amp Tungsten, 120, 240 VAC; 470 VA (NO), 275 VA (NC) Pilot Duty; 20 Amp (NO) 3 Amp (NC) Ballast, 120-277 VAC

**Battery backup:** Non-volatile memory requires no backup. Time keeping and calendar data maintained within 0.01% accuracy for minimum of 8 years with one factory installed, field replaceable lithium coin cell

**Wiring Terminals:** #18 to #10 AWG wire

**Minimum ON/OFF Times:** 1 minute

**Maximum ON/OFF Times:** 6 days 23 hours 59 minutes

**Shipping Weights:** ET70815CR - 15.05 lbs (6.8 kg), ET70815CR24 - 15.25 lbs (6.9 kg), ET71615CR - 28.2 lbs (12.8 kg), ET71615CR24 - 27.75 lbs (12.6 kg)

Model #	Circuits	Switch	Clock Volts AC	Amp Rating	HP Rating	Enclosure
ET70815CR	8	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 3R
ET70815CR24	8	SPDT	24	20	1 HP/2 HP	NEMA 3R
ET71615CR	16	SPDT	120, 208, 240, 277	20	1 HP/2 HP	NEMA 3R
ET71615CR24	16	SPDT	24	20	1 HP/2 HP	NEMA 3R

All models comply with ASHRAE 90.1-1999-9.2.1.3 for exterior lighting control & ASHRAE 90.1-1999-9.2.1.2 for space control.



ET70815CR



ET71615CR

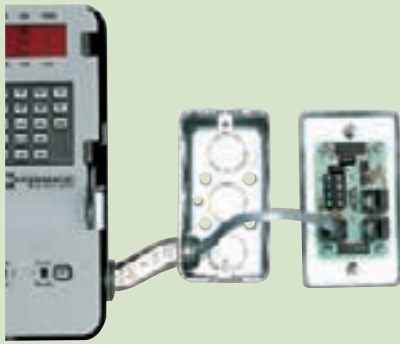
### For Controlling:

- Water Heaters
- Parking Lot Lighting
- Commercial Ovens
- Interior Lighting
- Bells & Signals
- HVAC/R Equipment
- Fans/Blowers/Pumps
- Livestock Feeders
- Poultry Equipment
- Process Equipment



UL916 UL917 -40°F  
E76987 C22.2-177 (-40°C)  
LR3730 to  
155°F  
(68°C)

# Next Generation Programming Software & Accessories



**ET7232M – Flush Mount**  
**ET7232M1 – Surface Mount**



**156ET9403A**

## Unleash the Power of the Next Generation Time Switch!

The NextGen programming software is written specifically for installing contractors and maintenance personnel. It is the fastest and easiest way to program the Intermatic Next Generation series of electronic time switches.

### Features:

- Programming of all current Next Generation models (1, 2, 4, 8, & 16 circuits)
- Easy point-and-click programming of holiday and daily event schedules
- File Save function for archiving event schedules for future editing and use
- On-line Help Manual gives easy to follow directions
- One-button time and date programming synchronizes the time switch with your PC's date and time

Required software available free at [www.intermatic.com](http://www.intermatic.com)

Next Generation programming allows facility managers to make schedule changes from across the building or campus through an intranet or even across country through the Internet.

## NEXT GENERATION ACCESSORIES

### ET7232M – Flush Mount with Gasket

### ET7232M1 – Surface Mount

RS232 Serial Interface for all Next Generation Time switches. Also used as remote override for 1 & 2 circuit models.

### 156ET9402A

8-Circuit remote override input header

### 156ET9403A

16-Circuit remote override input header

### LAN Connection to a PC

Office computers are typically connected through local area networks (LANs) which provide an in-place backbone to allow control of Next Generation time switches from any networked PC. This applies to office buildings, as well as distributed facilities such as university or corporate campuses.

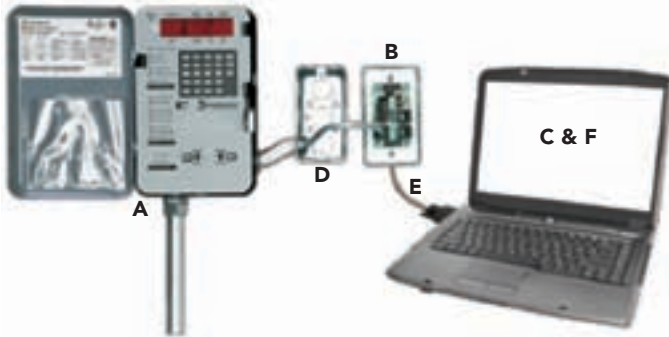
### Next Generation Distributed Control

By linking distributed Next Generation time switches together with the facility manager's PC, the time and associated cost of making periodic schedule changes is greatly reduced. All timing throughout the network can be synchronized to the second with the PC's internal clock.



# Next Generation Connectivity

## Serial Connection for the Next Generation Lighting Controls



### Equipment Needed

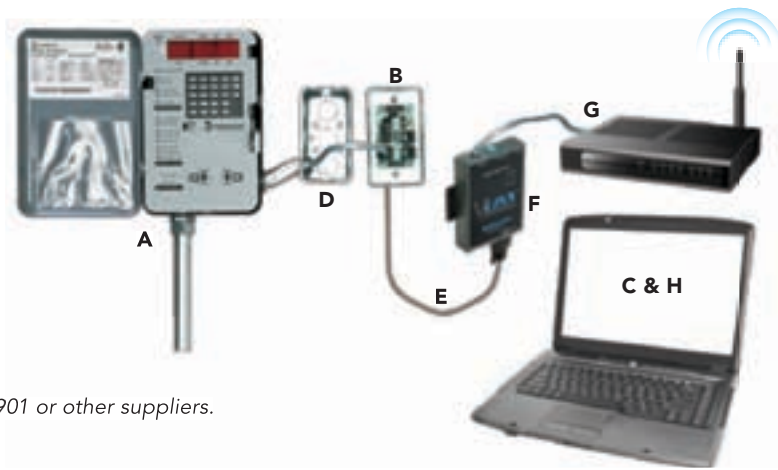
- A ET70000 Series Timer
- B ET7232M/M1 Serial Interface (M1 – no gasket)
- C Free Software Download at [www.intermatic.com](http://www.intermatic.com)
- D Handy Box and mounting hardware
- E DB-9 Serial Cable Male to Female
- F Computer to run software – PC or Laptop  
Must have 9-pin Serial output\*

\* *Application Note: USB to serial converters do **not** operate correctly with this device. If the laptop does not have a 9-pin serial output, a PCM card is available for Type II/III card slots. The PCM card is supplied with a cord to connect to the serial (RS232) cable, item E. Tested and recommended: Model JJ-PCMO12 by SIIG, Inc., Fremont, CA 94538-3152.*

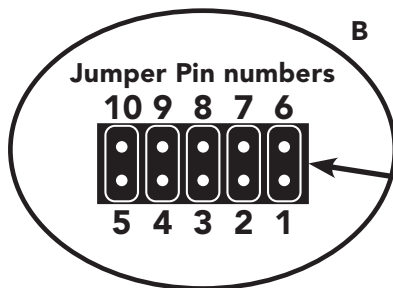
## Network Connection for the Next Generation Lighting Controls

### Equipment Needed

- A ET70000 Series Timer
- B ET7232M/M1 Serial Interface (M1 – no gasket)
- C Free Software Download at [www.intermatic.com](http://www.intermatic.com)
- D Handy Box and mounting hardware
- E DB-9 Serial Cable Male to Female (null modem cable or serial printer cable)
- F Ethernet to Serial Converter\*  
RS232/IEEE 488 Converter
- G Local Area Network (hubs, cables, et al)
- H Computer to run software

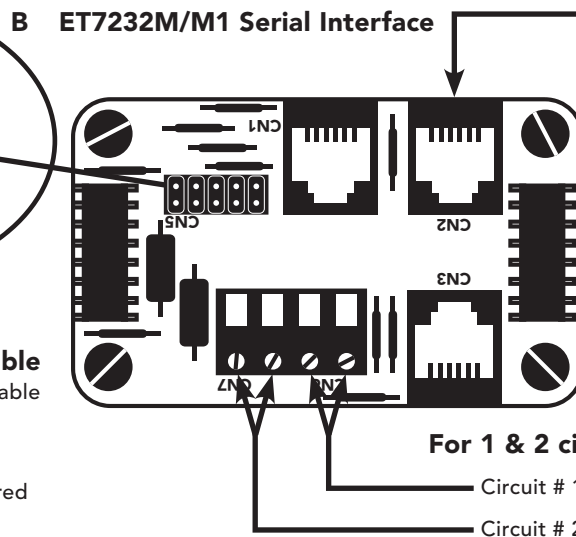


\* Available at <http://bb-elec.com/> part number ESP901 or other suppliers.



### CN5 Jumpers:

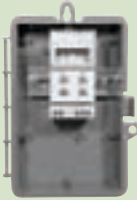
PC Cable	Modem Cable
straight through cable	Nul-modem cable
1 to 2	1 to 6
6 to 7	2 to 7
8 not jumpered	8 not jumpered
4 to 9	4 to 9
5 to 10	5 to 10





# LightMaster Lighting Control System

**GRASSLIN™**  
by **INTERMATIC®**



**LM2-O-120**

## LM Series

2 channel lighting controller with unique light level set points for each channel

## Specifications

### Enclosures:

- NEMA 1 - Indoor Use Only Equivalent
- NEMA 3R - Raintight Enclosure, industrial grade plastic, gray finish with lockable hasp
- 8.8 in. (22.0 cm) H x 6.6 in. (16.5 cm) W x 2.9 in. (7.3 cm) D

### Temperature range:

Control: -4°F (-20°C) to 131°F (55°C)  
Sensor: -22°F (-30°C) to 158°F (70°C)

### Switch configuration:

SPDT "dry" contacts per channel

**Resistive Rating:** 16 Amp, 277 VAC per channel

**Ballast Rating:** 8 Amp, 277 VAC per channel

**Output Relay:** SPDT "dry" contacts per channel

### Sensor available in two variations:

- LS1 Transparent Sensor  
0.2 to 50 Foot-Candles; Transparent case (IP65)
- LS2 Dark Sensor  
10 to 1000 Foot-Candles; Dark UV Filter case (IP65)

### Sensor time delay:

0 to 100 seconds

### Humidity range:

**Control:** 0 to 95% RH non-condensing  
**Sensor:** 0 to 100% RH

### Shipping weight (LM series):

2 lbs. (0.9 kg)



The **LightMaster LM Series** is a control system that operates on ambient light level sensing. There are two components to the basic LightMaster offering: The 2 channel lighting controller and one ambient light sensor, which comes packaged in either an indoor or outdoor enclosure. Individual components are available to customize the LightMaster to fit your application.

LightMaster is an affordable alternative to expensive or unreliable lighting controls. It's a cost effective solution for providing additional light level control beyond the typical timer or photo control. It can be added to an existing timer.

## Energy Savings

The LightMaster's accuracy and functionality exceeds that of timers and photo controls. It offers true dusk to dawn operation and can achieve additional energy savings by adjusting light levels throughout the day or night. Additionally, the LightMaster offers an affordable solution for daylight harvesting. For large installations, up to 10 units (20 channels) can be connected to a single sensor. The integral light sensitivity adjustment provides a wide range of settings, making these units applicable for control of indoor and outdoor lighting as well as automatic awnings or shades. It features a delay setting to avoid nuisance switching ON and OFF of lighting during intermittent environmental changes like clouds, lightning or headlights.

## Additional Safety

The LightMaster is essential where activities are impacted by changing and inadequate light levels throughout the day. It will turn lighting ON during inclement weather and OFF when normal light levels resume.

## Maintenance Savings and Convenience

The LightMaster is more reliable than photo controls and can save maintenance costs over time. It's quality construction and convenient installation features prevent the need for expensive lift trucks and crews typically used to replace failed photo controls installed on top of luminaries. The LightMaster controller can be mounted at a convenient level for programming - the sensor can be mounted up to 330 feet away from controller. Sensors are Millivolt eliminating wire cost for heavy wire.

## Typical LightMaster applications below:

- Security Lighting
- Atriums
- ATM/Banks
- Awnings, Shades, Blinds
- Parking Garages
- Industrial Yards, Off-Shore Rigs, Shipyards
- Site Lighting
- 24-Hour Retail Convenient Store/Service Establishments
- Perimeter Lighting
- Access ways, Walkways, Driveways
- Exterior Lighting, Signage

## Features:

### Control Unit:

- Available in 1 and 2 channel control units
- 1 light level set point per channel
- NEMA 3R Outdoor or NEMA 1 Indoor enclosure
- Adjustable dial for setting foot candle levels
- 0-100 second delay adjustment to avoid nuisance switching from clouds, headlamps, lightning

### Expandable:

Up to 10 control units (20 Channels) can be connected to one sensor

### Sensor:

Light level sensor can be mounted up to 330 feet away from control unit  
Sensors are non-arcing

### Individual sensors have specific foot candle ranges:

- Dark Sensor: LS2 10 to 1000 fc
- Transparent Sensor: LS1 0.2 to 50 fc

# LightMaster Lighting Control System

## The Logical Alternative to Expensive or Unreliable Lighting Control

**Light Level Adjustment**  
(0.2 to 50 F.C.,  
10 to 1000 F.C.  
w/optional Sensor)

**Optional NEMA 1 or NEMA 3R Enclosure**  
(Clear Cover Available)

**120 VAC Power Input**

**Time Delay**  
(0 to 100 Seconds)  
Prevents Nuisance Switching

**SPDT "Dry" Contact Output**  
(One per Channel)

**Weatherproof Sensors**  
can be Remotely Mounted (up to 330 feet away)

**LS1 Transparent Sensor (optional)**  
Sensitivity: 0.2 to 50 Foot Candles  
Case: Transparent (IP65)

**LS2 Dark Sensor (standard)**  
Sensitivity: 10 to 1,000 Foot Candles  
Case: Dark UV filter (IP65)

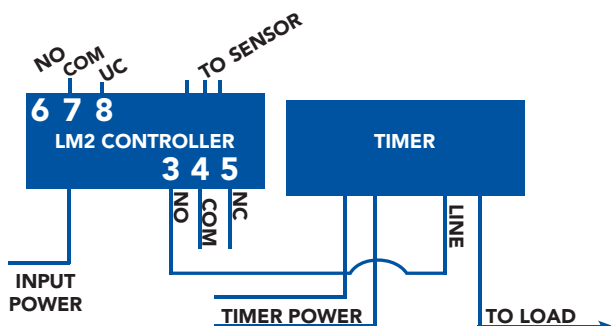
**LM2-O-120**  
2 Channel Controller  
NEMA 3R Outdoor Enclosure

3"  
3/4 in. conduit fitting

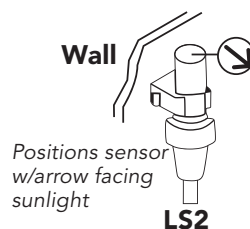
### LightMaster:

Model #	Sensor Type	Channel	Mounting/Enclosure †
LM2-O-120	LS2	2	NEMA 3R
PC1-120-LS1	LS1	1	Surface/DIN Rail
PC1-120-LS2	LS2	1	Surface/DIN Rail
PC2-120-LS1	LS1	2	Surface/DIN Rail
PC2-120-LS2	LS2	2	Surface/DIN Rail
<b>Light Sensor Only</b>			
LS1	Transparent		
LS2	Dark Sensor		

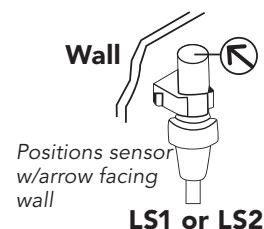
† See page 48 for enclosure options and details.



### Interior Lighting Control (Daylight Harvesting)



### Dusk to Dawn Control



# Time Switch Enclosures

A.



2T2040GA

B.



2T511GA



2T2293GA

C.



2T2500GA



2T2926A

UL & CSA apply to all enclosures shown.



UL917 C22.2-177  
E10694 LR3730

## A. Steel Indoor Enclosures

- **NEMA 1 Rated**
- Drawn steel with gray powder coat paint finish
- Hasp (with hole for seal or lock) holds permanently attached hinged door closed
- Combination 1/2 – 3/4 in. nominal knockouts, one on back and on each side, and two on bottom
- Convenient mounting holes

Model Number	Description/Enclosure – Size (H x W x D)	Weight
2T2040GA*	Gray Standard Indoor Enclosure – 7 <sup>3</sup> / <sub>4</sub> in. x 5 in. x 3 in.	1.4 lbs

\* Available for SERIES T100, T170, T180, T1100, T1200, T1400, T1900, T2000, C8800, ET100C, ET170C, ET700C and models EH10, EH40, ET279C ET70115, ET70215, and ET8000 series.

## B. Steel Indoor/Outdoor Enclosures

- **NEMA 3R Rated**
- For protecting time switch from rain, sleet, snow and ice
- Drawn steel with gray or beige powder coat paint
- .036 in. Heavy duty construction with side-hinged door
- Hasp provided for lock
- Combination 1/2 in – 3/4 in. nominal knockouts one on back and each side of enclosure, and two on bottom
- Separate grounding terminal
- Convenient mounting holes

Model #	Description/Enclosure – Size (H x W x D)	Weight
2T511GA*	Gray Standard Indoor/Outdoor – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>5</sup> / <sub>8</sub> in.	2.5 lbs
2T2485GA*	Beige Standard Indoor/Outdoor – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>5</sup> / <sub>8</sub> in.	2.5 lbs
2T2331GA**	Gray Indoor/Outdoor – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>5</sup> / <sub>8</sub> in.	2.5 lbs
2T2293GA***	Gray Indoor/Outdoor – 12 <sup>1</sup> / <sub>2</sub> in. x 8 <sup>1</sup> / <sub>4</sub> in. x 3 <sup>7</sup> / <sub>8</sub> in.	4.0 lbs

\* Available for SERIES T100, T170, T180, T1100, T1200, T1400, T1900, T2000, C8800, ET100C, ET170C, ET700C and models EH10, EH40, ET279C ET70115, ET70215, and ET8000 series.

\*\* Available for SERIES T100CR, T170CR, T1400BR, T1400BCR, T1800BR and T1800BCR.

\*\*\* Available for SERIES T7400B, T7800B, T7400BC and T7800BC.

## C. Plastic Indoor/Outdoor Enclosures

Ends rusting problems forever.

- **NEMA 3R Rated**
- Made of heavy-duty industrial grade plastic
- Rainproof all-plastic enclosure is perfect for applications where high humidity and/or dust can be a problem
- Plastic enclosure has combination 1/2 and 3/4 in. nominal knockouts, one on back and each side of enclosure, and two on bottom

Model #	Description/Enclosure – Size (H x W x D)	Weight
2T2500GA*	Gray Indoor/Outdoor Plastic – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>3</sup> / <sub>4</sub> in.	1.3 lbs
2T2502GA*	Beige Indoor/Outdoor Plastic – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>3</sup> / <sub>4</sub> in.	1.3 lbs
2T2926A*	Gray Indoor/Outdoor Plastic – 9 <sup>3</sup> / <sub>8</sub> in. x 5 <sup>1</sup> / <sub>2</sub> in. x 3 <sup>3</sup> / <sub>4</sub> in. with 4 x 3 <sup>1</sup> / <sub>2</sub> in. see through window	1.3 lbs

\* Available for SERIES T100, T170, T180, T1100, T1200, T1400, T1900, T2000, C8800, ET100C, ET170C, ET700C and models EH10, EH40, ET279C ET70115, ET70215, and ET8000 series.



# Time Switch Enclosures & Panels

## D. 2-in-1 Raintight Enclosure and Panels

- **NEMA 3R Rated**
- Use where 2 time switches are to be mounted side by side
- Heavy-duty, spot-welded NEMA 3R construction with beige powder coat paint
- Hasp (with hole for lock) holds permanently attached hinged door closed
- Combination 1/2 – 3/4 in. nominal knockouts conveniently located – two on back, five on bottom and one on each side
- Top mounting brackets plus two holes below switch level on back of enclosure

Model Number	Description/ Enclosure or Panel – Size (H x W x D)	Weight
T10000R*	2-in-1 Indoor/Outdoor – 10½ in. x 10½ in. x 4 in.	6.5 lbs
(replaces 2T2089GA)	Enclosure	
T21000R*	Indoor/Outdoor Panel – 10½ in. x 10½ in. x 4 in. with 4/8 Breaker Base	
T30000R*	Indoor/Outdoor Panel – 16¾ in. x 10½ in. x 4¼ in. with 8/16 Breaker Base	11.0 lbs
T40000R*	Indoor/Outdoor Panel – 20¾ in. x 12¾ in. x 4¼ in. with 8/16 Breaker Base	17.0 lbs

\* Available for SERIES T100, T170, T1900, T2000 and C8800. NOT FOR T1400/T1800 series and other models with carryover.

## E. Flushmount Enclosure

- **NEMA 1 Rated**
- For concealing mechanism in wall and giving a finished, flush appearance
- Heavy-duty, formed steel construction with hinged door
- Gray finish with powder coat paint
- Convenient mounting holes
- Cutout 9½ in. H x 6 in. W x 4½ in. D; flange 11 in. H x 8 in. W

Model Number	Description	Weight
2T308A*	Standard Flushmount w/Lock	6.5 lbs
2T2365GA**	Flushmount Enclosure w/Lock	7.0 lbs
6ET1398GA	Flush Cover for ET70415CR and ET70415CR24	2.5 lbs

\* Available for SERIES T100, T170, T180, T1900, T2000 and C8800. NOT FOR T1400/T1800/T1900 MODELS WITH BCR SUFFIX.

\*\* Available for SERIES ET100C, ET170C, ET700C and models EH10, EH40, ET279C, ET7115C, ET7215C, ET70215C and ET70115C.

## F. Mounting Brackets

- Heavy gauge steel mounting bracket mounts to a standard symmetrical rail TS35 according to DIN46277 and EN50022
- Ideal for panel mounting of mechanical or electronic time switch controls, alongside of other DIN rail mountable electrical devices
- Snap-in type bracket accepts a wide range of Intermatic time switches including most T100, T170, T180, T1900, T2000, C8800, ET100, ET170, ET700 and ET70000 time switches

Model Number	Description	Weight
22T535GR	DIN Rail Bracket – 6 x 5 x 2 in.	1.0 lbs
22T338GR	Surface Mount Snap-in Bracket – 6 x 5 x 2 in.	1.0 lbs

**D.** 22T713 (Brackets Only)

**T10000R**  
2-in-1 Raintight Enclosure

**T21000R**

**T30000R**

**T40000R**

**E.**

**2T2365GA**  
Flushmount Enclosure

**F.**

Surface Mount Bracket

**22T338GR**

DIN Rail Bracket

**22T535GR**

UL & CSA apply to all enclosures shown.

UL917 C22.2-177  
E10694 LR3730

# Time Switch Enclosures

**GRÄSSLIN™**  
by **INTERMATIC®**



**E150**

**E200**  
(Not Pictured)



**E300**

## E150 Plastic Indoor Enclosure

- Plastic NEMA 1 enclosure with hinged door and latch
- Provisions for mounting ANY Intermatic time control
- Five combinations 1/2 – 3/4 in. knockouts: In bottom, sides and back
- Exterior Size: 10 in. H x 6.5 in. W x 3.75 in. D
- Interior Size: 7.75 in. H x 4.75 in. W x 3 in. D
- Gray plastic finish

## E200 Enclosure

- Plastic NEMA 3R enclosure with hinged door and latch
- Provisions for mounting ANY Intermatic time control
- Five combinations 1/2 – 3/4 in. knockouts: In bottom, sides and back
- Exterior Size: 10 in. H x 6.5 in. W x 3.75 in. D
- Interior Size: 7.75 in. H x 4.75 in. W x 3 in. D
- Gray plastic finish

## E300 Compact Plastic Outdoor Enclosure

- Plastic NEMA 3R raintight enclosure with hinged door and latch
- Provisions for mounting Intermatic timer modules
- Five combinations 1/2 – 3/4 in. knockouts: in bottom, sides and back
- Exterior Size: 8.795 in. H x 6.631 in. W x 2.935 in. D
- Gray plastic finish

## Timer Accessories

### DC-FMEU

Clear Plastic Cover FMD Electronic Timer

### DC-FME-AU

Clear Plastic Cover FM1 Mechanical Timers

### MD-DIN

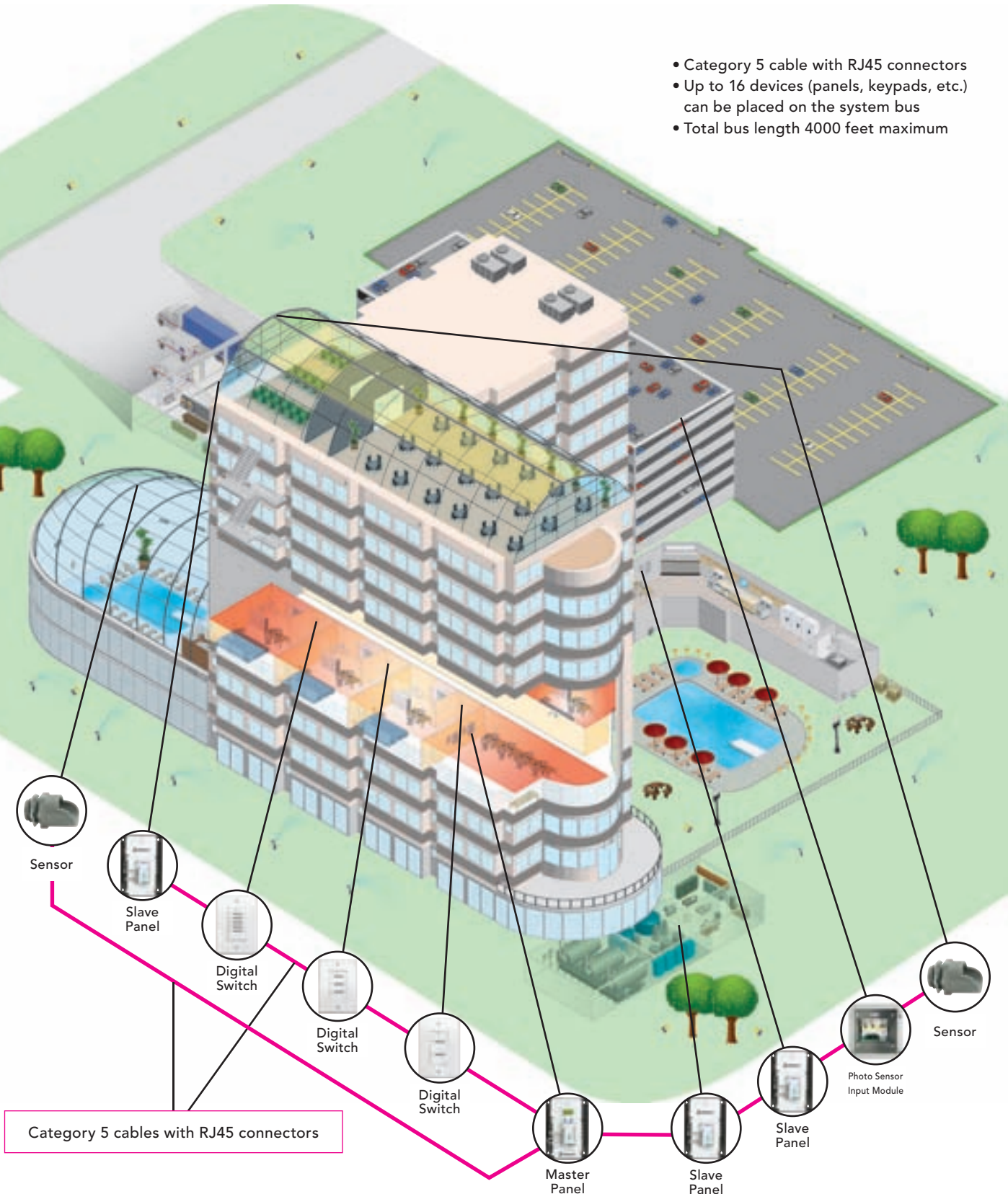
DIN Rail Mounting Base for Timers

### 22-00012

4 in. Metal Rail

# Energy Master Series Advanced Lighting Control System

- Category 5 cable with RJ45 connectors
- Up to 16 devices (panels, keypads, etc.) can be placed on the system bus
- Total bus length 4000 feet maximum



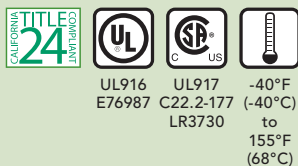
# Energy Master Series Advanced Lighting Control System



**EM1416MC**  
(Master)



**EM1416SC**  
(Slave)



## Energy Master Panels

### Common Features:

- Energy Master Control System provides 100% digital replacement for traditional time clocks, spring-wound timers and contractor packages
- Panels and switches daisy-chain together using Category 5 patch cables with RJ45 Connectors
- The digital timing control of the EM1400 Energy Master Series includes many advance features and provides for complete control of up to 256 circuits
- Control options are enhanced by the ability of the EM1400 series to accept inputs from a variety of accessory devices including digital photo sensors, dry contact closures, keypads & switches, as well as peripheral devices such as serial and ethernet interfaces

## Master Control with Digital Time Control

### Features:

- 32 independent 365-day schedules
- Astronomical timing of Sunrise and Sunset events
- Large LCD user interface display
- Ten-year battery backup of time-of-day
- Non-volatile system memory stores all programming
- Manual override of each circuit
- On-board digital contact closure inputs
- On-board photo sensor input

### MASTER PANELS – MC Suffix

**System Inputs:** 14 Digital contact closure inputs and 1 Photo sensor input (Use EM14PS photo sensor)

**Programming:** Via EM1400 clock or via PC with EMI-Manager Software

**Power Supply Voltage:** 120-277 VAC

**Bus Specifications:** 16 devices maximum

**Bus Protocol:** RS 485 (EM1400 bus)

**Bus Connector:** RJ45 Connectors

**Bus Length:** 4000 feet maximum

**Max. Humidity:** 10% – 90% Non-condensing

**Ambient Temperature:** 0° – 105°F

**Enclosure Type:** Surface mount, hinged cover enclosure with friction catch, NEMA 1

**Enclosure Dimensions:** 12 in. W x 18 in. H x 6 in. D (8 or 16 relays)

**Listings:** UL/CUL 916 listed, ETL listed to UL 924 (for emergency circuit use)

### SLAVE PANELS – SC Suffix

**System Inputs:** 14 Digital Contact Closure Inputs  
No photo sensor input on slave panel

**Power Supply Voltage:** 120-277 VAC

**Bus Protocol:** RS 485 (EM1400 bus)

**Bus Connector:** RJ45 connectors

**Max. Humidity:** 0% – 90% Non-condensing

**Ambient Temperature:** 0° – 105°F

**Enclosure Type:** Surface mount, hinged cover enclosure with friction catch, NEMA 1

**Enclosure Dimensions:** 12 in. W x 18 in. H x 6 in. D (8 or 16 relays)

**Listings:** UL/CUL 916 listed, ETL listed to UL 924 (for emergency circuit use)

Model #	Circuits	Switch	Clock Volts	Amp Rating	DTC	Enclosure
EM1408MC	8	SPST	120-277	30	Yes	NEMA 1
EM1416MC	16	SPST	120-277	30	Yes	NEMA 1
EM1408SC	8	SPST	120-277	30	No	NEMA 1
EM1416SC	16	SPST	120-277	30	No	NEMA 1



# Energy Master Series Advanced Lighting Control System

## Energy Master Control Stations

- These 100% digital momentary switches control partitions, groups or scenes of lighting
- A single button can be set to control up to 240 circuits
- Programming also allows keypad inputs to be configured for momentary, toggle or bypass timing, as well as many other popular switching functions
- Control stations may be ordered with up to six buttons per gang

Model #	Buttons	Style	Color
EMKB1	1	Decorator	White
EMKB2	2	Decorator	White
EMKB3	3	Decorator	White
EMKB4	4	Decorator	White
EMKB5	5	Decorator	White
EMKB6	6	Decorator	White

## Energy Master Rocker Stations

- Look like traditional wall switches
- Rocker switches provide a familiar interface to a modern lighting control system and can be mounted in standard switch boxes
- Both digital and contact closure rocker switches can be programmed to control any relay in any panel in the system

### Model EMDS

The Momentary Rocker Switch interfaces with the lighting control system through digital contact input on the master control panel or through connection to photo sensor input module (EMPS3IN).



### Model EMRS-W-D

The Digital Rocker Switch interfaces directly with the lighting control system communication bus using standard Category 5 patch cables with RJ45 connectors.



**EMDS  
EMRS-W-D**




  
 UL916 E76987    UL917 C22.2-177 LR3730

# Energy Master Series Advanced Lighting Control System



EMSL-NC & EMSL-NO



EMSL600NC & EMSL600NO



## Energy Master 120 – 347 Volt Relay Modules

Intermatic offers a variety of relay configurations for different applications including the demands of today's high-efficiency ballast loads. Each relay is individually removable from the insulating track, where it is mounted within the relay panel. All relays are UL and CUL 916 listed as well as ETL Listed to UL Standard 924.

**Model EMSL-NC** – Normally Closed Latching Relay

**Model EMSL-NO** – Normally Open Latching Relay

### Load Ratings

**Ballast:** 30 Amp, 277 VAC

**Tungsten:** 20 Amp, 120 VAC

**Ballast:** 20 Amp, 347 VAC

### Performance Ratings

**Maximum conductors:** 2 each # 8AWG per lug

**Short circuit current rating:** 18,000 Amps, 277 VAC

**Cycle rating:** 250,000 Cycles

## Energy Master 600 Volt Relay Modules

The 600 volt double-pole relay occupies the footprint of two standard single-pole relays when mounted in a EM1400 Series panel. The 600 volt relay is ideal for 277/480v (347/600 in Canada) HID loads and eliminates the need to have relays controlling lighting contactors.

**Model EMSL600NC:** Normally Closed Double-Pole 600 Volt Relay

**Model EMSL600NO:** Normally Open Double-Pole 600 Volt Relay

### Load Ratings

**Ballast:** 20 Amp, 600 VAC

**Motor:** 1 HP, 120-208 or 120-240 VAC, 2 HP, 277-480 VAC (or 347-600 VAC in Canada)

### Performance Ratings

**Maximum Conductors:** 2 each # 8AWG per lug

**Short Circuit Current Rating:** 5,000\* Amps, 600 VAC

\* Implied SCCR for all UL 50 or UL 916 products is 5000 Amps.

This relay has not been tested to any specific SCCR.

Energy Master Panels, Control Switches and Relays are intended to be used together and as a complete system. These products cannot be used outside the system or in conjunction with a system other than Energy Master.

# Energy Master Series Advanced Lighting Control System

## Energy Master Photo Sensors & Accessories

Intermatic has a complete line of photo sensors to optimize your lighting control system for both simple and complex site lighting applications and can even stagger ON lighting as outdoor light levels decrease. When using the photo sensor input module in conjunction with digital photo sensors, the system is capable of delivering up to 14 different levels of lighting in reaction to sensed ambient light.

### Model EM14PS Outdoor Local Photo Sensor

- May be incorporated into outdoor lighting schedules (Photo sensor ON, time clock OFF)
- Designed for single zone or multi-zone lighting applications
- Suitable for wet locations
- Standard ½ in. – 14 threaded mounting

### Model EMOPS1 Outdoor Digital Global Photo Sensor

- When combined with a photo sensor input module, this sensor provides up to 14 different trigger points, each controlling a unique relay group in as many as 15 relay panels
- Designed for single zone or multi-zone lighting applications
- Suitable for wet locations
- Standard ½ in. – 14 threaded mounting

### Model EMPS3IN Photo Sensor Input Module

- Accepts input from up to 3 connected indoor or outdoor Digital Photo Sensors or contact closure inputs
- Up to 14 switch-trigger points
- Inputs may be digitally enabled or disabled via time clock or other controllers such as digital switch, building automation or occupancy sensors
- Triggers act as global ON and OFF commands; each programmed at a unique light level and controlling a unique group of relays
- Advanced daylight harvesting features

### Model EM-MOD Modem Module

- Mounts directly into the EM1408MC or EM1416MC master panel
- Allows the EM1400 series to be programmed remotely over standard telephone lines
- Requires EMI-Manager Software



EM14PS & EMOPS1



EMPS3IN



EM-MOD



UL916 E76987    UL917 C22.2-177 LR3730



# AC Hour Meter (Non-Reset Type)

**GRÄSSLIN™**  
by **INTERMATIC®**



**FWZ53-120/50U**  
**FWZ53-120U**  
**FWZ53-24U**



**FWZ55K-240U\***  
**FWZ55-220/50**  
**FWZ55K-120U\***  
**FWZ55K-220/50**  
**FWZ55-120U**  
**FWZ55-240U**



File  
#LR44080

File  
#E22587

## FWZ Series

FWZ 36, 53, and 55 Hour Meters are rectangular flush panel mount designed to fit into tight locations. All can withstand an IP20 environmental rating (IP54 with use of gasket). See page 161 for explanation of IP classifications.

*All models also available with ¼ in. spade terminals without screw clamp.*

## FWZ53-120/50U, FWZ53-120U & FWZ53-24U

### Specifications:

- Bezel: 1.42 x 0.95 in. (36 x 24mm)
- Capacity: 99,999.99 hours
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz models
- Power Consumption: 2 Watts
- Temperature: –40° to 160°F (–40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp. Rear access screw terminals available (model "K")
- Weight: 1.2oz
- Flush panel retainer mounted with wire spring clip retainer
- Panel Opening: 1.36 x 0.90 in. rectangular (34.5 x 23mm)

## FWZ55K-240U\*, FWZ55-220/50, FWZ55K-120U\*, FWZ55K-220/50, FWZ55-120U & FWZ55-240U

### Specifications:

- Bezel: 2.36 x 1.36 in. (60 x 34.5mm)
- Capacity: 99,999.99 hours
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz models
- Power Consumption: 2 Watts
- Temperature: –40° to 160°F (–40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp. Rear access screw terminals available (model "K")
- Weight: 1.8oz
- Flush panel retainer mounted with slip-on plastic retaining bracket
- Panel Opening: 2.06 x 1.08 in. rectangular (52 x 27.5mm)

\* Rear access screw terminals

## Hour Meter Accessories

### G-55U

Gasket for FWZ55 Models



# AC Hour Meter (Non-Reset Type)

## FWZ72-120U, FWZ72-240U, FWZ72-24U, FWZ72K-120U\*, FWZ72K-240U\*

All can withstand an IP20 environmental rating. See page 161 for explanation of IP classifications.

Black Polycarbonate

### Specifications:

- Bezel: 2.83 in. round (72mm) 3-hole
- Capacity: 99,999.99 hours
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz models
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp. Rear access screw terminals available (model "K")
- Weight: 1.8oz
- Flush panel mounted with (3) 0.185 in. holes for #8 screws
- Panel Opening: 1.75 in. round (44.5mm) or 1.50 x 1.00 in. rectangular (38 x 25mm)

\*Rear access screw terminals (Model "K").

## FWZ72B-240U & FWZ72B-24U

Blue-Silver on Colorless Frosted Polycarbonate

### Specifications:

- Bezel: 2.83 in. round (72mm) 3-hole
- Capacity: 99,999.99 hours
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240, 50 or 60 Hz models
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp
- Weight: 1.8oz
- Flush panel mounted with (3) 0.185 in. holes for #8 screws
- Panel Opening: 1.75 in. round (44.5mm) or 1.50 x 1.00 in. rectangular (38 x 25mm)

## FWZ72C-120

Blue-Silver on Colorless Frosted Polycarbonate

### Specifications:

- Bezel: 2.83 in. round (72mm) 3-hole
- Capacity: 99,999.99 hours
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz models
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp
- Weight: 1.8oz
- Flush panel mounted with (3) 0.185 in. holes for #8 screws
- Panel Opening: 1.75 in. round (44.5mm) or 1.50 x 1.00 in. rectangular (38 x 25mm)

## G-72U

Gasket for all FWZ72 flush mount models

**GRÄSSLIN™**  
by **INTERMATIC®**



Black Polycarbonate  
**FWZ72-120U**  
**FWZ72-240U**  
**FWZ72-24U**  
**FWZ72K-120U\***  
**FWZ72K-240U\***



Blue-Silver on Colorless  
Frosted Polycarbonate  
**FWZ72B-120U**  
**FWZ72B-240U**  
**FWZ72B-24U**



Clear on Colorless  
Frosted Polycarbonate  
**FWZ72C-120**



File  
#LR44080



File  
#E22587

# AC Hour Meter (Non-Reset Type)

**GRÄSSLIN™**  
by **INTERMATIC®**



**UWZ48-120U**  
**UWZ48-240U**  
**UWZ48-24U**  
**UWZ48-220/50U**



**UWZ48A-120U**  
**UWZ48A-24U**



File  
#LR44080

File  
#E22587

## UWZ Series

The UWZ 48 Series is designed to meet IP20 environmental rating for indoor applications. All can withstand an IP20 environmental rating (IP54 with use of gasket). See page 161 for explanation of IP classifications. All models are light gray color with white numerals on black background. Tenths and hundredths numerals are yellow. An orange dial adjacent to the hundredths digit provides running indication.

### UWZ48-120U, UWZ48-240U, UWZ48-24U & UWZ48-220/50U

Surface mounted type. The UWZ 48 unit with plug-in base where terminal protection is not necessary. The socket base is easy to install and connect. The meter is simply plugged into the base and secured by one screw.

#### Specifications:

- Bezel: 1.89 x 1.89 in. (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: Surface
- Digits: 7 – 0.16 in. high
- Voltage: 24, 120, 240 VAC, 50/60 Hz
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Screw Lugs
- Weight: 2.5oz.

### UWZ48A-120U & UWZ48A-24U

Wall mounted type. Used in conjunction with a terminal cover for added safety, the UWZ 48A is surface mounted. Installation merely requires fixing the base to wall or panel with two screws, wiring the base, and plugging in the meter with the terminal cover.

#### Specifications:

- Bezel: 1.89 x 1.89 in. (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: Surface
- Digits: 7 – 0.16 in. high
- Voltage: 24, 120, 240 VAC, 50/60 Hz
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Screw Lugs
- Weight: 2.5oz.

# AC Hour Meter (Non-Reset Type)

## UWZ Series Cont.

### UWZ48E-120U, UWZ48E-240U, UWZ48E-24U, UWZ48E-220/50U & UWZ48E-24/50U

Flush mounted with bracket. The UWZ 48E unit fits into a 1.79 x 1.79 in. (45.5 x 45.5mm) cut-out. The thickness of the panel for flush mounting can be up to 0.35 in. (9mm). The unit is secured in position by a plastic slip-on retaining bracket. Also fits square or round openings for 72mm meters with optional 72mm bezel. All can withstand an IP20 environmental rating (IP54 with use of gasket). See page 161 for explanation of IP classifications.

#### Specifications:

- Bezel: 1.89 x 1.89 in. (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: Flush
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp
- Weight: 2.1oz

### UWZ52E-120U

Flush mounted with bracket. The UWZ 52E with round face is fastened with a plastic slip-on retaining bracket. For larger cutouts up to a 60mm diameter, a slip-on 65mm bezel is available.

#### Specifications:

- Bezel: 2.28 in. round (58mm)
- Capacity: 99,999.99 hours
- Mounting: Flush
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp
- Weight: 2.1oz

### UWZ48V-120U & UWZ48V-24U

DIN rail mounting. A special snap-on socket base enables the unit to be quickly and simply fitted on DIN rail.

#### Specifications:

- Bezel: 1.89 x 1.89 in. (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: DIN Rail
- Digits: 7 – 0.16 in. high numerals
- Voltage: 24, 120, 240 VAC, 50/60 Hz
- Power Consumption: 2 Watts
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination ¼ in. spade and screw clamp
- Weight: 2.5oz



UWZ48E-120U  
UWZ48E-240U  
UWZ48E-24U  
UWZ48E-220/50U  
UWZ48E-24/50U



UWZ52E-120U



UWZ48V-120U  
UWZ48V-24U



File  
#LR44080



File  
#E22587

# DC Hour Meter (Non-Reset Type)

**GRASSLIN™**  
by **INTERMATIC®**



**GZ40AU**



**GZ40BU**



**GZ52BU**

## GZ Series

### Hour meter series set to operate on DC voltages.

Measures up to six digits for machinery, etc... in order to determine usage. All can withstand an IP20 environmental rating (IP54 with use of gasket). See page 161 for explanation of IP classifications.

## GZ40AU

### Specifications:

- SAE Bezel: 2.31 in. diameter (59mm)
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals; Hours: white on black; Tenths: red on white
- Voltage: 4-40 VDC and 10-80 VDC
- Power Consumption: .03 W, 12VDC; .70 W, 48 VDC
- Temperature: -22° to 150°F (-30° to 65°C)  
Special Model Temp: -40° to 185°F (-40° to 85°C)
- Vibration Resistance: 10-75 Hz, 1-8g's
- Protected From: reverse polarity, inductive switch
- Weight: 2oz

## GZ40BU

### Specifications:

- 3-Hole Bezel: 2.80 in. diameter. (72mm)
- Totally sealed enclosure
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals; Hours: white on black; Tenths: red on white
- Voltage: 4-40 VDC and 10-80 VDC
- Power Consumption: .03 W, 12 VDC; 70 W, 48 VDC
- Temperature: -22° to 150°F (-30° to 65°C)  
Special Model Temp: -40° to 185°F (-40° to 85°C)
- Vibration Resistance: 10-75 Hz, 1-8g's
- Termination: ¼ in. spade terminals
- Protected From: reverse polarity, inductive switch
- Weight: 2oz

## GZ52BU

### Specifications:

- Operating Voltage: 8-30 VDC
- Current Consumption: < 3 mA, 12 VDC
- Accuracy: ±0.5 sec/day at 20°C
- Mechanical Movement: 2-Phase Step Motor
- Display: 6 Digits (99999.9 Hours)
- Operation Indicator: LED
- Bezel: Black (Plastic) Circular
- Electrical Connection: ¼ in. Quick Connectors
- Polarity Protection: Diode
- Mounting: Flush (screw adj.)
- Operating Temperature: -40° C – 85°C
- Storage Temperature: -40° C – 90°C
- Environmental Rating: IP65
- Shock Resistance: DIN EN60068-2-27
- Vibration Resistance: DIN EN60068-2-64
- Approvals: CE



# DC Hour Meter (Non-Reset Type) & Accessories

## RZ Series

### The Hour Meter Without Electrical Connection

#### RZ52HU, RZ52DHU, RZ52VU & RZ52V

The RZ hour meter records the running time of machines, vehicles, etc. which vibrate during operation. The automatic mechanism in this meter converts vibrations into energy which drives the hour meter and minute sweep hand. It is so sensitive, it is capable of operating from the slight vibration of a moving car. All can withstand an IP20 environmental rating (IP54 with use of gasket). See page 161 for explanation of IP classifications.

RZ52 = Model reference

D = Rubber mounting assembly

H = Horizontal installation

V = Vertical installation

## Hour Meter Accessories

### BEZ-55GRAYU

55mm Sq. Bezel Adapter, Gray, UWZ 48E

### BEZ-55BLACKU

55mm Sq. Bezel Adapter, Black, UWZ 48E

### BEZ-72U

72mm Sq. Bezel Adapter, Gray, UWZ 48E

### BEZ-72PU

72mm Sq. Bezel Adapter w/pins for 3-Hole Pattern, Gray, UWZ 48E

### G-55U

Gasket for FWZ55 Models

### G-72U

Gasket for FWZ72 Models

**GRÄSSLIN™**  
by **INTERMATIC®**



**RZ52HU**  
**RZ52DHU**  
**RZ52VU**  
**RZ52V**

Bezel: 2.28 in. round (58mm)



**BEZ-55GRAYU**  
55mm Bezel for UWZ 48E



**BEZ-72U**  
72mm Bezel for UWZ 48E



**BEZ-72PU**  
72mm Bezel w/3 pins for round  
3-bolt hole openings for  
UWZ 48E



# Decorator Spring Wound Timers



**FD30MAC**  
Ivory



**FD30MAC**  
Almond



**FD60MWC**  
White



UL917 UL917 C22.2-177 2.5 lbs -40°F  
E10694 E10694 LR3730 1.1 kg (-40°C)  
UL917 to  
155°F  
(68°C)

## FD Decorator Series Auto-Off Timers

### Features:

- Energy saving timers use no electricity to operate
- Designed to replace any standard wall switch, single or multi-gang
- Automatically limits ON time of fans, lights, motors, heaters and other energy-consuming loads
- Time limits of 5, 15, 30 and 60 minutes and 2, 4, 6, and 12 hours available
- "Hold feature" allows the user to override the automatic shut-off function for extended use of the load as required
- Supplied with a molded white, ivory, or almond time dial plate designed to fit either toggle or decorator style switch plates
- Single or multi-gang with no field modifications required to fit either style switch plate
- Time saving "up front" terminal connection with teeter type terminals
- Easy "press-on" knob design ensures quick and easy installation

### Applications:

- Indoor Lighting
- Outdoor Lighting
- Lighting Overrides
- Exhaust Fans
- Whole House Fans
- Ventilating Fans
- Tennis Court Lighting
- Pumps
- Air Conditioners
- Steam Rooms
- Bathroom Fans
- Whirlpools
- Porch Lights
- Broom Closets
- Carriage Lights
- Television Sets
- Self Storage Units
- Engine Block Heaters
- Process Controls

### Specifications:

#### Switch Rating:

**Resistive:** 20 Amp, 125 VAC, 50/60 Hz; 10 Amp, 250 VAC, 50/60 Hz; 10 Amp, 277 VAC, 50/60 Hz

**Tungsten:** 7 Amp, 125 VAC

**Motor:** 1 HP, 125 VAC, 50/60 Hz; 2 HP, 250 VAC, 50/60Hz

**Caution: Do not use for sunlamps, sauna, etc...**

**Style:** Decorator Styling — Can be used with decorator or toggle type switch plates (Not included)

Time Cycle	Switch	Hold	IVORY	WHITE	ALMOND
5 Min	SPST	No	FD5M	FD5MW	—
15 Min	SPST	No	FD15MC	FD15MWC	FD15MAC
15 Min	SPST	Yes	FD15MH	FD15MHW	—
30 Min	SPST	No	FD30MC	FD30MWC	FD30MAC
30 Min	SPST	Yes	FD30MH	FD30MWH	—
60 Min	SPST	No	FD60MC	FD60MWC	FD60MAC
60 Min	SPST	Yes	FD60MH	FD60MHW	—
2 Hr	SPST	No	FD2H	FD2HW	—
4 Hr	SPST	No	FD4H	FD4HW	—
6 Hr	SPST	No	FD6H	FD6HW	—
6 Hr	SPST	Yes	FD6HH	FD6HHW	—
12 Hr	SPST	No	FD12HC	FD12HWC	—
12 Hr	SPST	Yes	FD12HH	FD12HHW	—
2 Hr	SPDT	No	FD32H	FD32HW	—
4 Hr	SPDT	No	FD34H	FD34HW	—
6 Hr	SPDT	No	FD36H	—	—
12 Hr	SPDT	No	—	FD312HW	—
15 Min	DPST	No	FD415M	—	—
30 Min	DPST	No	FD430M	FD430MW	—
60 Min	DPST	No	FD460M	FD460MW	—
6 Hr	DPST	No	FD46H	FD46HW	—

Note: For Replacement Knob information see page 159.

# Commercial Spring Wound Timers

## FF Commercial Series Auto-Off Timers



### Features:

- Energy saving commercial timers use no electricity to operate
- Designed to replace any standard wall switch, single or multi-gang
- Automatically limits ON time of fans, lights, motors, heaters, etc...
- Time limits of 5, 15, 30 and 60 minutes and 2, 4, 6, and 12 hours available
- "Hold feature" allows the user to override the automatic shut-off function for extended use of the load as required
- Rugged time-dial plate takes the abuse encountered in commercial environments
- Commercial "brush metal" look meets NEC requirements. (Plastic Construction)
- Time saving "up front" terminal connection with teeter type terminals
- Easy "press-on" knob design ensures quick and easy installation

### Applications:

- Indoor/Outdoor Lighting
- Lighting Overrides
- Fans
- Pumps
- Air Conditioners
- Steam Rooms/Whirlpools
- Television Sets
- Closet/Storage Units
- Engine Block Heaters

### Specifications:

#### Switch Rating:

**Resistive:** 20 Amp, 125 VAC, 50/60 Hz; 10 Amp, 250 VAC, 50/60 Hz;  
10 Amp, 277 VAC, 50/60 Hz

**Tungsten:** 7 Amp, 125 VAC

**Motor:** 1 HP, 125 VAC, 50/60 Hz; 2 HP, 250 VAC, 50/60 Hz

**Caution: Do not use for sunlamps, sauna, etc...**

Time Cycle	Switch	Hold	Model No.
5 Min	SPST	No	FF5M
5 Min	SPST	Yes	FF5MH
15 Min	SPST	No	FF15MC
15 Min	SPST	Yes	FF15MH
30 Min	SPST	No	FF30MC
30 Min	SPST	Yes	FF30MH
60 Min	SPST	No	FF60MC
60 Min	SPST	Yes	FF60MHC
2 Hr	SPST	No	FF2H
4 Hr	SPST	No	FF4H
6 Hr	SPST	No	FF6H
6 Hr	SPST	Yes	FF6HH
12 Hr	SPST	No	FF12HC
12 Hr	SPST	Yes	FF12HHC
15 Min	SPDT	No	FF315M
30 Min	SPDT	No	FF330M
60 Min	SPDT	No	FF360M
2 Hr	SPDT	No	FF32H
2 Hr	SPDT	Yes	FF32HH
4 Hr	SPDT	No	FF34H
4 Hr	SPDT	Yes	FF34HH
6 Hr	SPDT	No	FF36H
12 Hr	SPDT	No	FF312H
12 Hr	SPDT	Yes	FF312HH
15 Min	DPST	No	FF415M
30 Min	DPST	No	FF430M
60 Min	DPST	No	FF460M
6 Hr	DPST	No	FF46H
12 Hr	DPST	No	FF412H

Note: for replacement knob information see page 159.



FF15MC



FF30MH



FF60MC

UL917 E10694	UL917 E10694	C22.2-177 LR3730 UL917	2.5 lbs 1.1 kg	-40°F (-40°C) to 155°F (68°C)



# In-Wall 24-Hour Mechanical Timer

**GRÄSSLIN™**  
by **INTERMATIC®**



**KM2ST-1G**



**KM2STU-1G**  
*Two-gang/toggle*



**KM2ST-2D**  
*Two-gang/  
decorator*



**KM2ST-4G**  
*Four-gang/toggle*



**KM2STUH-120**  
*Mechanism Only*



File LR3730  
#E10694

## KM2 In-Wall Timer (24 Hour)

### Features:

- Replaces standard wall switch (toggle) to provide automatic control of outdoor or indoor lighting, fans, pumps, office machines, and other types of circuits
- Captive trippers are easy to set, cannot be lost
- Tripper intervals are 20 minutes
- 72 trippers provide up to 36 ON/OFF events in 24 hour period
- Three way, OFF/AUTO/ON override switch provides continuous ON or OFF positions
- UL Listed and CSA C/US Listed
- Easy wiring and installation
- Multiple plates available
- Reliable, synchronous timer motor
- Easy wiring and installation
- Works with fluorescent and compact fluorescent lights

### Specifications

#### Switch Rating:

21 Amp, 250 VAC, 60Hz; 1 HP, 125 VAC; 2 HP, 250 VAC; 1350 W Tungsten

#### Environmental Ratings:

**Operating Temperature Range:** -40°F to 180°F (-40°C to 85°C)

**Operating Humidity:** 0 to 95% Non-condensing

**Wiring Connections:** (3) #14AWG color coded lead wires

- Hot – Black
- Switched – Red
- Neutral – White



Model Number	Wall Plate Configuration	Switch
KM2ST-1G	Single-gang	SPST
KM2STU-1G	Single-gang, 3 Way	SPDT
KM2ST-2G	Two-gang, Toggle	SPST
KM2ST-3G	Three-gang, Toggle	SPST
KM2ST-4G	Four-gang, Toggle	SPST
KM2ST-2D	Two-gang, Decorator	SPST
KM2ST-3D	Three-gang, Decorator	SPST
KM2ST-2R	Two-gang, Receptacle	SPST
KM2STUH-120	Mech Only	SPST



# Electronic Auto-Off Timers

## EI200 Series

### Decorator Electronic Auto-Off Timer



#### Features:

- Provides silent operation in time ranges from 30 minutes up to 12 hours
- Four basic models available in three colors reduce the need to stock many competitive models
- Available in White, Ivory, and Light Almond
- Replaces single-pole switches in a variety of applications
- Requires neutral wire

#### Specifications:

**Switch:** Single-pole

**Switch Rating:**

**Resistive (heater):** 15 Amp, 120 VAC, 1800 Watts

**Tungsten (incandescent):** 8.3 Amp, 120 VAC, 1000 Watts

**Ballast (fluorescent):** 8 Amp, 120 VAC

**Motor:** 1/4 HP, 120 VAC

**Cycle:** 50/60 Hz.

**Operating Ambient Temperature Range:** 32°F (0°C) to 122°F (50°C)

**Caution: Do not use for sunlamps, sauna, etc...**

**Style:** Can be used with decorator type switch plates (Not included)

Model #	Time Range	Switch	Clock Volts AC	Max Wattage	Color	HOLD
EI200	5/10/15/30 Minute	Single-Pole	120	1,800	Ivory	Yes
EI200W	5/10/15/30 Minute	Single-Pole	120	1,800	White	Yes
EI200LA	5/10/15/30 Minute	Single-Pole	120	1,800	Light Almond	Yes
EI205*	5/15/30/45/60 Minute	Single-Pole	120	1,800	Ivory	No
EI205W*	5/15/30/45/60 Minute	Single-Pole	120	1,800	White	No
EI205LA*	5/15/30/45/60 Minute	Single-Pole	120	1,800	Light Almond	No
EI210	10/20/30/60 Minute	Single-Pole	120	1,800	Ivory	Yes
EI210W	10/20/30/60 Minute	Single-Pole	120	1,800	White	Yes
EI210LA	10/20/30/60 Minute	Single-Pole	120	1,800	Light Almond	Yes
EI215**	15/30/60 Minute, 2/4 Hour	Single-Pole	120	1,800	Ivory	No
EI215W**	15/30/60 Minute, 2/4 Hour	Single-Pole	120	1,800	White	No
EI215LA**	15/30/60 Minute, 2/4 Hour	Single-Pole	120	1,800	Light Almond	No
EI220	1/2/4/8 Hour	Single-Pole	120	1,800	Ivory	Yes
EI220W	1/2/4/8 Hour	Single-Pole	120	1,800	White	Yes
EI220LA	1/2/4/8 Hour	Single-Pole	120	1,800	Light Almond	Yes
EI230	2/4/8/12 Hour	Single-Pole	120	1,800	Ivory	Yes
EI230W	2/4/8/12 Hour	Single-Pole	120	1,800	White	Yes
EI230LA	2/4/8/12 Hour	Single-Pole	120	1,800	Light Almond	Yes
EI235*	15/30/45/60/120 Minute	Single-Pole	120	1,800	Ivory	No
EI235W*	15/30/45/60/120 Minute	Single-Pole	120	1,800	White	No
EI235LA*	15/30/45/60/120 Minute	Single-Pole	120	1,800	Light Almond	No

\* Meets or exceeds California Title 24, ASHRAE 90.1 and IECC requirements for enclosed spaces.

\*\* Meets or exceeds ASHRAE 90.1 Requirements for enclosed spaces.



**EI210W**  
White



**EI200**  
Ivory



**EI230W**  
White



**EI220LA**  
Light Almond

#### Applications:

- Indoor Lighting
- Outdoor Lighting
- Lighting Overrides
- Exhaust Fans
- Whole House Fans
- Ventilating Fans
- Tennis Court Lighting
- Pumps
- Air Conditioners
- Steam Rooms
- Bathroom Fans
- Whirlpools
- Porch Lights
- Broom Closets
- Carriage Lights
- Television Sets
- Self Storage Units
- Engine Block Heaters
- Process Controls



On models with hold feature

UL244A E211835

2.5 lbs 1.1 kg

32°F (0°C) to 122°F (50°C)

# Digital Auto-Off Timers



**EI400C**  
Ivory



**EI400WC**  
White



**EI400LAC**  
Light Almond



C22.2-177 2.5 lbs 32°F  
LR3730 1.1 kg (0°C)  
UL917 to 122°F  
(50°C)

## EI400 Series Decorator Digital Auto-Off In-Wall Timer

Effectively replaces 16 different spring-wound models, freeing up additional shelf space, providing more specification flexibility, ease of installation and absolutely silent operation.

### Features:

- Timer setting from 1 second to 24 hours – To-the-second accuracy
- Provides “true” 3-way control allowing the load interval to be started and stopped using a standard mechanical switch
- No Neutral Wire required
- Factory supplied CR2 lithium battery provides up to three years of time keeping without AC power
- User program selection stored in non-volatile memory
- Low battery indicator
- ADA Compliant
- Warning feature provides an audible and/or visual signal that load is switching off
- Functions to control all voltages and frequencies (within the correct ratings) with no adjustments required
- CFL Compatible
- Available in White, Ivory, and Light Almond
- Decorator Styling (*switch plate NOT included*)

### Applications:

- Indoor Lighting
- PAR Lights
- Exhaust Fans
- Air Conditioners
- Tennis Court Lighting
- Whirlpools
- HID Lighting
- Carriage Lights
- Library Lights
- Fluorescent Lighting
- Lighting Overrides
- Recreational Vehicles
- Ventilating Fans
- Bathroom Fans
- Fountain Pumps
- Broom Closets
- Watering Equipment
- Self Storage Units
- Outdoor Lighting
- Heaters
- Whole House Fans
- Steam Rooms
- Pool Pumps
- Porch Lights
- Feeding Equipment
- Television Sets
- Classroom Lights

### Specifications:

**Switch:** Single-pole or 3-way (multi-way) Compatible

**Switch Rating:**

**Resistive (heater):** 20 Amp, 120-277 VAC

**Tungsten (incandescent):** 15 Amp, 120 VAC; 6 Amp, 208-277 VAC

**Ballast (fluorescent):** 16 Amp, 120-277 VAC

**Motor:** 1 HP, 120 VAC; 2 HP, 240 VAC

**Cycle:** 50/60 Hz.

**DC Loads:** 4 Amp, 12 VDC; 2 Amp, 28 VDC

**Caution: Do not use for sunlamps, sauna, etc...**



Model #	Switch	Contact Voltage	Wattage AC/DC	Color
EI400C	Single-Pole/3-Way	12-277 VAC; 12-28 VDC	1,800/4,155	Ivory
EI400WC	Single-Pole/3-Way	12-277 VAC; 12-28 VDC	1,800/4,155	White
EI400LAC	Single-Pole/3-Way	12-277 VAC; 12-28 VDC	1,800/4,155	Light Almond

# Digital 7-Day Time Switch

## EI500 Series Decorator Digital In-Wall 7-Day Time Switch



### Features:

- Compact 7-day timer provides up to 7-ON and 7-OFF operations per week
- Can be used for 24-hour or 7-day load control of lights, fans, pumps, and other medium-duty loads
- Compact, quiet, low profile design is easy to program for to-the-minute 24-hour or 7-day control
- Display continuously shows time of day, day of the week, timer load and the load status
- Available in three colors: white, ivory and light almond
- Can be used with decorator type switch plates (Not included)
- Replaces single-pole switches in a variety of applications
- Requires neutral wire

### Applications:

- Hall Lights
- Ceiling Lights
- Whole House Fans
- Paddle Fans
- Porch Lights
- Outdoor Lights
- Air Conditioners
- Coffee Makers
- Boilers
- Attic Fans
- Industrial Fans
- Automated Control

### Specifications:

**Switch:** Single-pole

**Switch Rating:**

**Resistive (heater):** 15 Amp, 120 VAC, 1800 Watts

**Tungsten (incandescent):** 8.3 Amp, 120 VAC, 1000 Watts

**Ballast (fluorescent):** 8 Amp, 120 VAC

**Motor:** ¼ HP, 120 VAC

**Cycle:** 50/60 Hz.

**Caution:** Do not use for sunlamps, sauna, etc...

**Events:** 7 ON & 7 OFF events per day

Model #	Switch	Clock Voltage	Max Wattage	Color
EI500C	Single-Pole	120 VAC 50/60 Hz	1,800	Ivory
EI500WC	Single-Pole	120 VAC 50/60 Hz	1,800	White
EI500LAC	Single-Pole	120 VAC 50/60 Hz	1,800	Light Almond



**EI500C**  
Ivory



**EI500WC**  
White



**EI500LAC**  
Light Almond

### Great for:

- Schools
- Airports
- Hotels
- Parks
- Offices
- Stores
- Restaurants
- Apartments



UL916  
UL1472  
E211835

UL916  
UL1472

2.5 lbs  
1.1 kg

32°F  
(0°C)  
to  
122°F  
(50°C)



# Digital 7-Day Astronomic Time Switch



**EI600C**  
Ivory



**EI600WC**  
White



**EI600LAC**  
Light Almond

## EI600 Series Decorator Electronic 7-Day Astro Time Switch

### Features:

- Easy-to-program timer provides up to 42 ON/OFF operations per week
- No Neutral Wire required
- CFL Compatible
- Auto Daylight Saving Time adjustment
- Can be used for 24-hour or 7-day load control
- Astronomic feature provides sunset ON and sunrise OFF settings or combine astronomic feature with specific timed ON/OFF programming
- Independent 7-day programming provides complete flexibility for applications where load switching differs each day of the week
- Low battery indicator
- Display continuously shows time of day, day of the week, time load and load status
- The timer has an isolated single pole single throw switch which allows the timer to switch any load type, including PAR lamps and motor loads from 12-277 VAC or 12-28 VDC, within the specified ratings
- A "3 wire" design allows the timer to replace, or be used as a single-pole or 3-way (multi-way) switch
- Factory-supplied CR2 lithium battery provides up to three years of time keeping without AC power
- User program selections are stored in non-volatile memory
- Random setting feature available to avoid predictable "time controlled" look
- Decorator Styling (switch plate not included)
- Available in White, Ivory, and Light Almond

### Specifications:

**Switch:** Single-pole or 3-way (multi-way) Compatible

**Switch Rating:**

**Resistive (heater):** 20 Amp, 120-277 VAC

**Tungsten (incandescent):** 15 Amp, 120 VAC; 6 Amp, 208-277 VAC

**Ballast (fluorescent):** 16 Amp, 120-277 VAC

**Motor:** 1 HP, 120 VAC; 2 HP, 240 VAC

**Events:** 40 ON/OFF Events per week

**Cycle:** 50/60 Hz

**DC Loads:** 4 Amp, 12 VDC; 2 Amp, 28 VDC

**Caution: Do not use for sunlamps, sauna, etc...**

### Energy Code Tip:

Meet energy codes with a simple wall switch replacement. Manual ON assures lights are used only when needed. The sweep OFF makes sure lights are not left ON all night long with a switch that is set to turn OFF multiple times in the evening. Replace wall switch occupancy sensors to eliminate nuisance turn OFF.



UL917 2.5 lbs 32°F  
C22.2-177 1.1 kg (0°C)  
LR3730 to  
122°F (50°C)

Model #	Switch	Contact Ratings	Max Wattage AC/DC	Color
EI600C	Single-Pole/3-way	12-277 VAC; 12-28 VDC	1,800/4,155	Ivory
EI600WC	Single-Pole/3-way	12-277 VAC; 12-28 VDC	1,800/4,155	White
EI600LAC	Single-Pole/3-way	12-277 VAC; 12-28 VDC	1,800/4,155	Light Almond





# In-Wall Timers

## ST01C (White) & ST01AC (Almond) Heavy Duty In-Wall Timers with Astronomic Feature

### Can be used with four separate programming options:

Same settings Monday through Friday, Saturday & Sunday, all 7 days of the week or individual daily settings.

#### Features:

- Automatic DST and flexible for future changes, if needed
- Set it once and never set it again; follows daily changes in sunrise/sunset times
- For single pole and three way applications up to 100 ft..
- Controls lighting including fluorescent and heavy duty loads such as fans and appliances
- No neutral wire required
- Up to 6 ON/OFF settings per 7-day period for a total of 42 ON/42 OFF settings per week
- Easy-to-set 6 button programming
- LCD digital clock and readout
- To-the-minute setting accuracy
- Battery backup with replaceable battery
- Random setting feature available to avoid predictable "timer controlled" look
- Manual override feature
- Use with decorator-style wall plate (not included)

#### Specifications:

**Resistive:** 15 Amp, 120-277 VAC

**Tungsten:** 15 Amp, 120 VAC; 6 Amp, 208-277 VAC

**Ballast:** 8 Amp, 120 VAC; 4 Amp, 208-277 VAC

**Motor:** 1 HP, 120 VAC; 2 HP, 240 VAC

**DC Loads:** 4 Amp, 12 VDC; 2 Amp, 28 VDC

## Heavy Duty In-Wall Time Switches

#### Features:

- Heavy duty timers used to turn on lights, fans, pumps and other heavy duty loads for energy savings, security and convenience
- Designed to mount to any standard junction box for replacing a wall switch
- Available in single ON/OFF or multiple ON/OFF type
- Easy to use manual override
- Model E1010 equipped with a 24-hour dial divided in half-hour increments
  - Permanently attached ON and OFF tripper permitting single "ON/OFF" control every 24 hours
- Model E1020 equipped with a multiple program dial
  - Dial accommodates 12 ON and 12 OFF trippers
  - Furnished with two ON and two OFF trippers
- Both timers have three color code leads and require a hot, neutral and one side of the load

#### Specifications:

**Size:** 4¼ in. (10.8 cm) H x 3¼ in. (9.5 cm) W x 1⅜ in. (3.5 cm) D

**Switch Rating:** 120 VAC, 60 Hz; 1440 W Tungsten; 12 FLA; 15 Amp Resistive

**Timing Cycle:** Minimum ON time ½ hour, maximum ON time 22½ hours; Minimum time between any two ON trippers (and any two OFF trippers) is 2 hours

Model #	Switch	Volts AC	Amps	Max Wattage	Color
E1010	SPST	120	15	1800	Stonedust White Housing
E1020	SPST	120	15	1800	Stonedust White Housing

For additional trippers for E1020 (2 ON/2 OFF Trippers per pack), order No. 156EB1945A.



**ST01C**  
White

**ST01AC**  
Almond

#### Applications:

- Fans
- Appliances
- Coach Lights
- Receptacles
- Incandescent Lighting
- Compact Fluorescent Lighting



LR3730 32°F (0°C)  
UL917 to 122°F (50°C)



**E1020**

#### Applications:

- Hall Lights
- Ceiling Lights
- Whole House Fans
- Paddle Fans
- Porch Lights
- Outdoor Lights
- Air Conditioners
- Coffee Makers
- Boilers
- Attic Fans
- Industrial Fans
- Automated Control



UL917 2.5 lbs (-40°F)  
C22.2-177 1.1 kg (-40°C)  
LR3730 to 155°F (68°C)



# In-Wall Timers



**EJ351C**  
White



**EJ500C**  
White



**EJ500AC**  
Almond

### Applications:

- Incandescent lighting only
- Coach lights
- Ceiling Lights



## EJ351C

### Programmable 24-hour Security Timer

**Caution:** *NOT for use with Compact Fluorescents*

#### Features:

- Up to 24 ON/24 OFF settings per day
- Random setting turns light ON and OFF at slightly different times each day
- Self-learning feature: if not manually programmed, it will repeat the first 24 hr. ON/OFF pattern
- 15 minute memory guard protects against power failure
- Replaces any standard wall light switch
- Use with existing wall plate; standard (toggle) or decorator (rocker) styles (not included)

#### Specifications:

500 Watts Incandescent, 120 VAC, 60 Hz

## EJ500C

### Indoor Digital Wall Switch Timer with Astronomic Feature

**Caution:** *NOT for use with Compact Fluorescents*

#### Features:

- Flushmount design
- 7 ON/7 OFF settings per day
- Controls incandescent lighting
- Easy to set programming
- Automatic Daylight Saving Time adjustment
- Follows daily changes in sunrise/sunset times; Set it once and never set it again
- Replaceable Battery backup guards against memory loss
- Replaces any standard wall switch
- Use with decorator style wall plate (not included)

#### Specifications:

500 Watts Incandescent, 120 VAC, 60 Hz, 4 Amp Tungsten

## EJ500AC

### Indoor Digital Wall Switch Timer with Astronomic Feature

**Caution:** *NOT for use with Compact Fluorescents*

#### Features/Specifications:

- Same as EJ500C except Almond Color

# Plug-In Timers

## Indoor and Outdoor Timers

**Reduce Utility Costs** — Intermatic timers help reduce energy consumed by household loads. Mechanical or digital, indoor or outdoor, plug-in or in-wall, Intermatic has a timer to control most residential loads.

**Flexible scheduling and easy to program** – Multiple events scheduling, astronomic function, and to-the-minute accuracy are just a few of the features of our digital plug-in timers.

**Safety and Security** — Intermatic timers provide the control you need to keep your home safe and comfortable. Never come home to a dark house again.

### TN311C Heavy-Duty Indoor Timer

- Grounded receptacle and plug
- 3 ON/3 OFF settings per day
- For air conditioners, heaters and other heavy electrical loads

**Ratings:**

15 Amp Resistive, 1750 W Tungsten & Resistive, 125 VAC, 60 Hz, 1 HP, (12 FLA, 72 LRA), 120 VAC Motor (12 Amp Air Conditioner)

### DT620CL Heavy Duty Indoor Digital Timer

**Specifications:**

- 2 grounded receptacles and grounded plug
- Up to 28 ON/OFF settings
- Astronomic settings with automatic Daylight Saving Time adjustment

**Ratings:**

15 Amps, 1800 W Resistive, 12 Amps Inductive, 1000 W Tungsten, 125 VAC, 60 Hz, ½ HP

### HB800RCL/HB800RCH Heavy-Duty Outdoor Digital Timer

**Features:**

- 2 grounded receptacles
- Grounded plug with 12 in. cord
- Astronomic settings with automatic Daylight Saving Time adjustment

**Specifications:**

15 Amps, 1800 W Resistive, 12 Amps Inductive, 1000 W Tungsten, 120 VAC, 60 Hz, ½ HP  
-31°F to 122°F (-35°C to 50°C)

### TN111RM40 Field Installed Timer

**Features:**

- 24-Hour Mechanical
- 2 ON/2 OFF Settings per day
- Bulk pack – 36 units
- Rated for outdoor use in a NEMA rated enclosure

**Specifications:**

9 Amps Resistive, 125 VAC



#### TN311C Great For:

- Air Conditioners
- Heaters
- Appliances
- Lamps



#### DT620CL Great For:

- Table Lamps
- Holiday Lights
- Air Conditioners



#### HB800RCL Great For:

- Security Lighting
- Engine Block Heaters
- Pool Pumps
- Holiday Lights



#### HB800RCH Great For:

- Security Lighting
- Engine Block Heaters
- Pool Pumps
- Holiday Lights



#### TN111RM40 Great For:

- Landscape Lighting Transformers

For additional trippers see page 158, model numbers 107TN221 (red trippers) & 107TN222 (turquoise trippers)





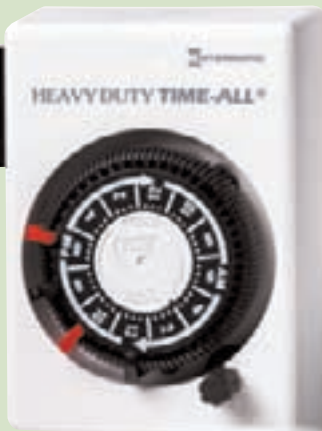
# Plug-In Appliance Timers



HB112C



HB113C



HB114C



## HB112C

### Air Conditioner & Appliance Timer

#### Features:

- Automatically controls 240 VAC air conditioners, heaters, heavy-duty appliances and lamps
- 3,750 Watt capacity
- Plugs directly into wall outlet
- 2 ON/2 OFF settings per day
- 3-prong 220-240 VAC grounded plug and receptacle
- Manual override ON/OFF switch

#### Specifications:

3750 W, 240 VAC; 2 HP, 240 VAC Max. Motor Load



## HB113C

### Air Conditioner & Appliance Timer

#### Features:

- Same as HB112C except for the following:
- Automatically controls 120 VAC air conditioners, heaters, heavy-duty appliances and lamps
- 2,500 Watt capacity

#### Specifications:

2500 W, 120 VAC; 1 HP, 120 VAC Max. Motor Load



## HB114C

### Air Conditioner & Appliance Timer

#### Features:

- Same as HB112C except for the following:
- 5,000 Watt capacity

#### Specifications:

5000 W, 240 VAC; 2 HP, 240 VAC Max. Motor Load



*Note: For additional trippers see page 159, model numbers 107SB189 (red trippers) & 107SB192 (Black trippers).*



# Photo Controls

## Photo Controls

Full line of SPST thermal type photo controls and relay type photo controls provide "dusk-to-dawn" lighting control.

### Thermal type photo controls feature:

- Cadmium sulfide photocell
- Sonic welded polycarbonate housing and lens to seal out moisture
- Delay action which eliminates loads switching OFF due to car headlights, lightning, etc.
- Design utilizes a temperature compensating bimetal and a metal film resistor for reliable long life operation over ambient temperature extremes

### Applications:

- Parking Lot Lighting • Area Lighting • Car Lot Lighting • Security Lighting
- Billboard Lighting • Municipal Lighting • Roadway Lighting • Street Lighting

## K4000C Series

### Fixed Position Mounting, Thermal Type

- Designed to fit into standard outlet box, post lamp or wall packs
- Model K4321 includes a weatherproof wall plate with neoprene gasket. UL listing for this model applies to the entire plate assembly when properly mounted to an approved outdoor junction box
- All other models equipped with a 3/8 in. – 18 threaded side mounting, locking nut and washer gasket
- All models with 9 in. leads

### Specifications:

Unless noted otherwise, the specifications listed below apply to K4000, K4100, K4200, K4300 & K4500 Series.

**Size:** See individual models. Most hard wired models supplied with 6 in. leads  
K4000 fixed position models have 9 in. leads

**Switch Rating:** See chart for each series.

*Note: The ballast wattage rating is based upon a 50% power factor*

**Activation:** 1-5 FC ON; 3-15 FC OFF (without shield on models with shield)

**Color:** Gray

**Shipping Weight:** See individual models

**Size:** Plate – 4 1/2 in. (11.4 cm) H x 2 3/4 in. (7.0 cm) W

Mechanism – 1 5/16 in. (3.3 cm) W x 1 13/16 in. (4.6 cm) L x 13/16 in. (2.1 cm) D

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	Replaced By	California Title 24 Compliant
K4021C	1800	1000	15	8.3	120		Yes
K4023C	3100-4150	1700-2300	15	8.3	208-277		Yes
K4022†	3600	2000	15	8.3	240	K4023C	Yes
K4033†	4150	2300	15	8.3	277	K4023C	Yes
K4027***	5205	2880	15	8.3	347		Yes
K4035*	7200	4000	15	8.3	480		Yes
**K4321C***	1800	1000	15	8.3	120		Yes

*Note: Wall plate with gasket available for other models; order No. K4001.*

\* Not UL listed or CSA certified.

\*\* Wall plate included.

\*\*\* Certified by CSA to US and Canadian Standards.

† Obsolete item – while supplies last.



**K4021C**



LR38068 C22.2-55 UL773A CSA TIL A-15  
K4000 Series UL773A E42722  
5 Year Warranty

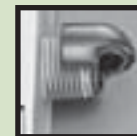


**K4321C**



LR38068 C22.2-55 UL773A CSA TIL A-15  
5 Year Warranty

Light Shield for K4000  
Part Number 6LV1352





# Photo Controls

K4121C



K4423M



K4236C



K4221C



K4251



K42-SW-A



UL773A C22.2-55 5 Year  
E42722 LR38068 Warranty  
E67412 UL773A  
CSA TIL  
A-15

## K4100 Series Stem Mounting, Thermal Type

- Single and multi-volt models
- All models equipped with a light level slide adjustment and provide a 1/2 in. – 14 threaded stem
- Washer gasket and locking nut are packaged with each photo control
- Models with “M” suffix have heavy duty die cast housings

**Size:** 1 1/16 in. (4.0 cm) Square, 3 in. (7.6 cm) Long

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	Replaced By	California Title 24 Compliant
K4121C**	1800	1000	15	8.3	120		Yes
†K4121M*	2000	1800	16.7	15	120	K4136M	No
K4421M***	1800	1000	15	8.3	120		Yes
†K4124**	3100	1700	15	8.3	208	K4123C	Yes
†K4122**	3600	2000	15	8.3	240	K4123C	Yes
K4123C***	3100-4150	1700-2300	15	8.3	208-277		Yes
K4423M****	3100-4150	1700-2300	15	8.3	208-277		Yes
†K4133***	4150	2300	15	8.3	277	K4123C	Yes
K4127***	5205	2880	15	8.3	347		Yes
K4135*	7200	4000	15	8.3	480		Yes
K4136M*	2000-4625	1800	16.7	15	120-277		Yes
*K4141C****	3000	3000	25	25	120		Yes

\* Not UL listed or CSA certified.

\*\* Not CSA certified.

\*\*\* Certified by CSA to US and Canadian Standards.

\*\*\*\* 1 Year Warranty.

† Obsolete item – while supplies last.

Note: See Obsolete/Substitution Chart on page 162.

## K4200 Series Stem & Swivel Mounting, Thermal Type

- Single and multi-volt models
- Model K4251 and K4253 have photo eye located on top and are designed for spot/flood type fixtures

**Size:** K4200 Series – 1/2 in. – 14 threaded swivel, 1 1/16 in. (4.0 cm) Square, 5 1/2 in. (14.0 cm) Long

**Model K4236** – 5 3/4 in. (14.6 cm) High, 3 in. (7.6 cm) Diameter

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	Replaced By	California Title 24 Compliant
K4221C**	1800	1000	15	8.3	120		No
†K4224**	3100	1700	15	8.3	208	K4223C	Yes
†K4222**	3600	2000	15	8.3	240	K4223C	Yes
K4223C***	3100-4150	1700-2300	15	8.3	208-277		Yes
†K4233***	4150	2300	15	8.3	277	K4223C	Yes
K4227***	5205	2880	15	8.3	347		Yes
K4235*	7200	4000	15	8.3	480		Yes
K4236C	1800-4150	1000-2300	15	8.3	120-277		Yes
K4251***	1800	1000	15	8.3	120		Yes
K4253***	3100-4150	1700-2300	15	8.3	208-277		Yes

\* Not UL listed or CSA certified.

\*\* Not CSA certified.

\*\*\* Certified by CSA to US and Canadian Standards.

† Obsolete item – while supplies last.

Note: See Obsolete/Substitution Chart on page 162.

# Photo Controls

## K4500 Series Locking-Type Mounting, Thermal Type

- Easy to install; just plug and twist
- Equipped with standard 3-prong NEMA locking-type plug connections
- Delay action which eliminates loads switching OFF due to car headlights, lightning, etc.
- Complies with ANSI C136.10 standard

**Size:** 3¾ in. (9.5 cm) High, 3 in. (7.6 cm) Diameter

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	California Title 24 Compliant
K4521	1800	1000	15	8.3	120	Yes
K4524	3100	1700	15	8.3	208	Yes
K4522	3600	2000	15	8.3	240	Yes
K4533	4155	2300	15	8.3	277	Yes
K4535	7200	4000	15	8.3	480	Yes



UL773 C22.2-55 3/4 lbs 5 Year  
E59121 LR38068 .34 kg Warranty  
UL773A

## LC4500 Series Low Cost Locking-Type, Thermal Type

The LC4500 Series provides low cost, reliable control for street lighting and other applications requiring a NEMA twist and lock type plug connection. An integral polypropylene housing with UV protection, keeps moisture out and ensures long life. Complies with ANSI C136.10 standard.

**Activation:** .5 FC minimum ON; 15 FC maximum OFF

**Size:** 2¾ in. (7.0 cm) High, 3 in. (7.6 cm.) Diameter

**Color:** Translucent with color coded band for voltage identification

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	California Title 24 Compliant
LC4521C	1800	1000	15	8.3	120	Yes
LC4523	3100-4155	1700-2300	15	8.3	208-277	Yes
LC4527*	5205	2880	15	8.3	347	Yes
LC4535	7200	4000	15	8.3	480	Yes
LC4536C	1800-4155	1000-2300	15	8.3	120-277	Yes
LC4521LA**	1800	1000	15	8.3	120	Yes
LC4523LA**	3100-4155	1700-2300	15	8.3	208-277	Yes
LC4535LA**	7200	4000	15	8.3	480	Yes
LC4536LAC**	1800-4155	1000-2300	15	8.3	120-277	Yes

\* Not UL Listed.

\*\* Models with LA suffix equipped with 2400 volt open type spark gap arrester.



UL773 C22.2-55 .2 lbs 3 Year  
E59121 LR38068 .09 kg Warranty



**K4521**



**K122**



**K4500**



**K121  
K121-30**



UL773 C22.2-55  
E59121 LR38068  
UL773

### Accessories for Locking-Type Controls

#### Pole Bracket Adapter:

Model K122\* – 105-480 Volts; for use with K1200, K4500 or LC4500 Series locking-type controls. K121\* – receptacle only, K121-30\* receptacle with 30 in. leads. (\* Not UL Listed or CSA Certified)

#### Shorting Cap:

Model K4500 – 105-480 Volts; replaces locking-type photo control to complete circuit.



**LC4521C**



# Photo Controls



K1200



K1100



LC2000

## K1100, K1200 Series Relay Type Photo Controls With Adjustable Stem or Locking-Type Mounting

This series features "instant ON/OFF switching" in two mounting types. Complies with ANSI C136.10 standard.

**Series K1100:** Equipped with an adjustable stem for mounting at almost any angle up to 80 degrees. Models equipped with three 6 in. color coded leads.

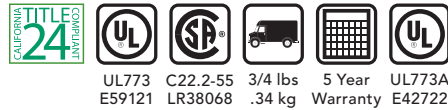
**Series K1200:** Easy to install using NEMA plug-in locking type connection. Models are equipped with 2400 Volt open type spark gap arrester and standard 3-prong connector.

**Size: K1100 Series:** 5¾ in. (14.6 cm) High, 3 in. (7.6 cm) Diameter; ½ in. – 14 NPT Stem  
**K1200 Series:** 3¾ in. (9.5 cm) High, 3 in. (7.6 cm) Diameter

**Activation:** 1 FC ON; 3 – 10 FC OFF

Model #	Watts Tungsten	VA Ballast	Amps Tungsten	Amps Ballast	Volts AC	California Title 24 Compliant
K1121	1800	1800	15	15	105-130	Yes
K1122	1800	1800	7.5	7.5	210-240	Yes
K1221	1800	1800	15	8.3	105-130	Yes
K1222	1800	1800	7.5	7.5	210-240	Yes

\* Ballast rating meets UL testing at 50% power factor.



UL773 C22.2-55 3/4 lbs 5 Year UL773A  
E59121 LR38068 .34 kg Warranty E42722

## LC2000 Low Cost Relay Type Photo Control with Locking-Type Mounting

### Features:

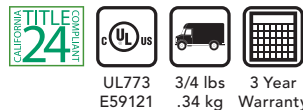
- "Instant ON/OFF Switching". Complies with ANSI C136.10 standard
- Easy to install NEMA plug-in locking type connector
- Heavy-duty relay designed for long life switching

**Size:** 2¾ in. (5.6 cm) High, 3¾ in. (8.1 cm) Diameter

**Activation:** 1 to 3 FC ON. Turn OFF to turn ON ratio is 4

Model #	Watts Tungsten	VA Ballast	Volts AC	California Title 24 Compliant
LC2000	1000	1800	110-277	Yes

Includes 110 Joule MOV Surge Arrester.



UL773 3/4 lbs 3 Year  
E59121 .34 kg Warranty



# Photo Controls

## Solid State Photo Controls – Locking-Type

The **K4536SS** Photo Control is electronically calibrated and provides reliable control of street lighting and other applications requiring a NEMA plug-in locking type connection. Complies with ANSI C136.10 standard.

The **K4536SST** is the most energy efficient photo control available today by offering a photo control and a timer all in one! This electronically calibrated solid state model continually adjusts itself and never needs resetting. Let the K4536SST pay for itself by reducing your energy bill.

### K4536SST Features:

- No time switch needed
- Turns ON like a photo control and OFF like a time switch
- Turns lights ON at dusk, OFF at user's pre-set time throughout the night and turns the lights ON again at user's pre-set time in the morning
- Provides a fixed OFF time adjustable in half-hour increments from 6:00 p.m. – 2:00 a.m. and a fixed ON time adjustable in half-hour increments from 4:00 a.m. – 8:00 a.m.
- Easily retrofits any standard locking-type photo control
- No rewiring — fits ordinary locking-type socket
- Automatically resets itself after power outage
- Complies with Federal Energy Act, California Title 24, and Dark Sky Initiative

**Activation:** 3 FC ON, 2-4 FC OFF

**Operation:** Instant ON, 10 Second Delay OFF

**Size:** 23<sup>3</sup>/<sub>4</sub> in. (7.0 cm) High, 3 in. (7.6 cm) Diameter

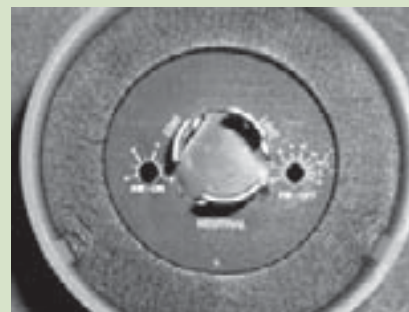
**Color:** Translucent with color coded band for voltage identification

Model #	Watts Tungsten	VA Ballast	Amps Tungsten/VAC	Amps Ballast/VAC	Volts AC	California Title 24 Compliant
K4536SS	1000	1800	8.3/120	15/120	105-305	Yes
K4536SST	1000	1800	8.3/120	15/120	105-305	Yes

*Includes 430 Joule MOV Surge Arrester.*



**K4536SS**



**K4536SST**



C22.2-55 3/4 lbs 5 Year  
LR38068 .34 kg Warranty  
UL773A



# Low Voltage Landscape Transformers



**ML44T  
ML88T**



**ML100THB**



**ML121RT  
ML200RT  
ML200RTW**



**ML300RTW ML300RTWSN**



**ML600TW ML600TWSN**



**ML900TW ML900TWSN**

## Power Packs

Intermatic offers the widest variety of power packs in any wattage and control option your system may require. Power Packs are available from 44 to 900 Watts, allowing you to choose which power supply is right for your particular lighting plan.

All power packs are certified for safe operation and long life. Keyhole mountings are featured for ease of operation and installation. See chart below for available power packs and features.

120 VAC input, 12 VAC output

Models	Max. Wattage Output	Specifications	Color
ML44T	44 Lamp Watts	Timer with 2 sets of trippers	Black
ML88T	88 Lamp Watts	Timer with 2 sets of trippers	Black
ML100THB	100 Lamp Watts	Electronic Timer and photo control	Black
ML121RT	121 Lamp Watts	Timer with 2 sets of trippers	Black
ML200RT	200 Lamp Watts	Timer with 2 sets of trippers	Black
ML200RTW	200 Lamp Watts	Timer with 2 sets of trippers and ground shield	Black
ML300RTW	300 Lamp Watts	Timer with 2 sets of trippers and ground shield	Black
ML300RTWSN	300 Lamp Watts	Timer with 2 sets of trippers and ground shield	Sand
ML600TW	600 Lamp Watts	Timer with 2 sets of trippers and ground shield	Black
ML600TWSN	600 Lamp Watts	Timer with 2 sets of trippers and ground shield	Sand
ML900TW	900 Lamp Watts	Timer with 2 sets of trippers and ground shield	Black
ML900TWSN	900 Lamp Watts	Timer with 2 sets of trippers and ground shield	Sand

*IMPORTANT: When planning your lighting and choosing a power pack, your total bulb wattage must not exceed maximum transformer wattage output rating.*

## ML814DRP Photo Eye Accessory

- Automatically controls low voltage transformers based on sunrise & sunset
- 12 VAC 50/60 Hz
- Can only be used with 100 Watt or greater transformers
- 300 Watt Tungsten





# Why Every Commercial/Residential Facility Needs Surge Protection

Electrical disturbances and downtime cost North American companies and residents more than \$26 billion every year. Every process and appliance within your building is controlled by electrical equipment and electronic components which all require surge protection to function reliably.

ANSI/IEEE has defined common disturbances which occur in modern facilities; Voltage, Waveform, Current Waveform and 100 kHz Ring Wave. Depending on the proximity of the equipment to your power entry points, the severity increases. As the transient event propagates throughout your building, it degrades your electronic components by stressing them with excess voltage and current.

Every modern facility is a strong candidate for surge protection. Intermatic has a broad line of Service Entrance, Panelboard and Point-of-Use Surge Protection.

**Service Entrance, Panelboard and Point-of-Use surge protection can be found in the following types of facilities and installations:**

- Industrial Manufacturing
- Commercial Office Space
- Health Care Facilities
- Institutional Buildings
- Government
- Hospitality
- Retail Space
- Single/Multi-Family Residences

**Virtually all devices which are powered by electricity are vulnerable. Surge Suppression is required for protection of the following types of systems:**

- Computers/Peripherals/Servers
- Network Servers/Routers/Modems
- Telecom Equipment
- Variable Frequency Drives
- Lighting Ballasts
- HVAC/R Controls
- Fire Alarm Systems
- Security Systems
- Lighting Control and Dimming Systems
- Automatic Test Equipment
- Uninterruptible Power Supplies
- Bar Code Scanning Equipment
- Programmable Logic Controllers
- Stereos
- Televisions
- Home Theater Systems
- Pumps, Motors and Related Equipment with Electronic Controls or Starters

To understand how Surge Protective Devices work with generators please visit [www.intermatic.com](http://www.intermatic.com)

## ANSI/UL 1449 3<sup>rd</sup> Edition Surge Protection Definitions

As of September 30, 2009 ANSI/UL 1449 3<sup>rd</sup> Edition replaced UL 1449 2.5. Surge Protective Devices (SPDs) manufactured after September 30, 2009 need to meet ANSI/UL 1449 3<sup>rd</sup> Edition standards. Any products manufactured before this date may still be sold as a UL 1449 2.5 compliant product.

Due to increased use of electrical devices in residential, commercial and industrial markets, ANSI/UL 1449 3<sup>rd</sup> Edition was adopted. Electrical components in devices such as computers, security systems, home theater systems and factory equipment are susceptible to transient overvoltage and can create significant downtime, equipment replacement and costly repairs.

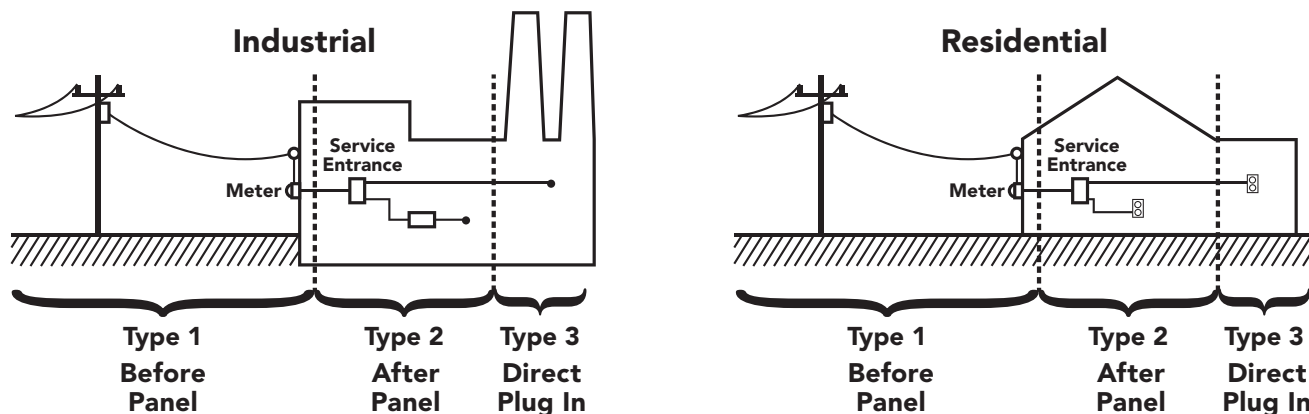
As a result "Surge Protectors" will now be known as "Surge Protective Devices" (SPD) and are reclassified into Type 1, Type 2 and Type 3 SPDs.

**Surge Protective Device types:** (The type of SPD is listed on the product)

**TYPE 1:** Permanently connected SPD which is intended to be installed between the secondary transformer and the line side of the service equipment.

**TYPE 2:** Permanently connected SPD which is intended to be installed on the load side of the service equipment over current device.

**TYPE 3:** Cord connected SPD which is intended to be installed at the point of use.





# Glossary of ANSI/UL 3<sup>rd</sup> Edition Terms

**SURGE:** A sudden and sharp increase of current or voltage within electric circuits.

**SURGE PROTECTIVE DEVICE (SPD):** A device used to limit a surge on equipment by diverting or limiting it. SPDs were previously known as Transient Voltage Surge Suppressors or secondary surge arresters.

**SHORT CIRCUIT CURRENT RATING (SCCR):** The measurement of how much current the electrical system can supply during a fault condition. This value determines where an SPD may be installed. (Listed on the product)

**NOMINAL DISCHARGE CURRENT (In):** Peak value of the current through the SPD having a current wave shape of 8/20 where the SPD remains functional after 15 surges. (Listed on the product)

**NOMINAL SYSTEM VOLTAGE:** The voltage level at which a system normally operates. Nominal system voltages include, but are not limited to, 120, 208, 240, 277, 347, 480, 600 VAC. (Listed on the product)

**MODES OF PROTECTION:** Electrical paths within a system which an SPD offers defense against surge events. Examples of protection include, Line to Neutral (L-N), Line to Ground (L-G), Line to Line (L-L) and Neutral to Ground (N-G). (Listed on the product)

**VOLTAGE PROTECTION RATING (VPR):** The value assigned by UL which specifies the measured limited voltage value of the SPD. VPR rating is formally known as the "suppressed voltage rating". (Listed on the product)

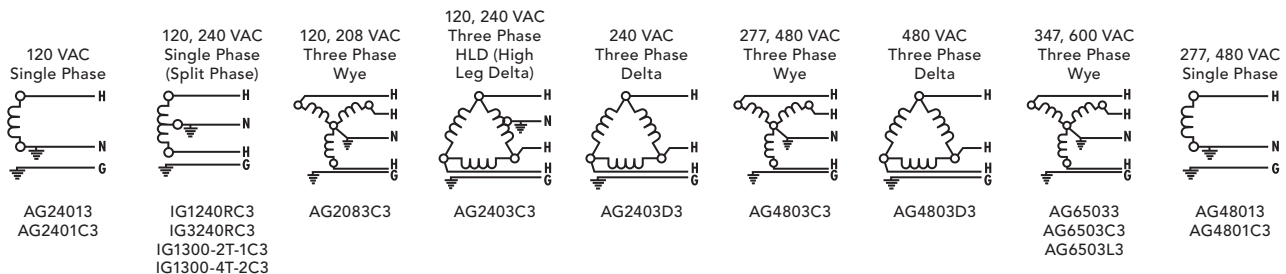
**MAXIMUM CONTINUOUS OPERATING VOLTAGE:** The maximum RMS voltage that may be applied to each mode of a surge protection device. (Listed on the product)

## Guidelines to consider when choosing a Surge Protection Device

1. Geographic location
  - a. Exposure to utility grid switching
  - b. Locations susceptible to brownouts or frequent utility power switching
2. Point of installation (also see types of SPD within definitions)
  - a. Protect equipment which is located near switching motors or transformers
  - b. Sensitive equipment: Computers, home theater systems, appliances which have sensitive electronics should be protected

## System Voltage

The wiring diagrams characterize common voltage configurations available for the products. Refer to individual product pages for models available in below configurations. Match the voltage configuration below with your voltage configuration at your service entrance, distribution panel or panelboard location where you want protection.



Note: As with all SPDs, this standard only protects against surges that travel along the electrical pathway and does not protect against direct lightning strikes traveling down non-electrical paths. For Type 2 SPDs, your SPD is only as useful as your weakest breaker. Make sure sizing of breakers within the electrical panel are at least a 20 amp dual pole breakers to aid in preventing short circuits before the SPD becomes functional. Type 1 SPDs are normally mounted before the panels which would not include a breaker.

# Types 1 & 2 Surge Protective Devices PanelGuard®

Surge Protection

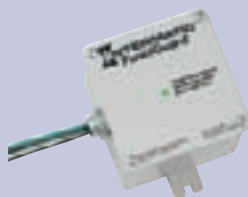
**NEW  
PRODUCTS**



**IG1300-2T-1C3**



**IG1300-4T-2C3**



**IG1240RC3**

ANSI/UL 1449 3<sup>rd</sup> Edition  
compliant



Flush Mount Plate



**IG1240FMP3**

## IG Series

### Features:

- Hard-wired models provide greater capacity to handle surge energy (based on their close location to the service ground) compared to standard plug-in strips
- Designed for 120, 240 VAC single or split-phase panels
- Green LED indicator provides surge protection status
  - ON: Energized and providing protection
  - OFF: May still be energized but protection has been diminished and the unit should be replaced

**NEW  
PRODUCTS**

## IG1300-2T-1C3

- Type 2 SPD applications
- 120, 240 VAC Single (Split) Phase
- 6 Modes of Surge Protection (L1-N, L2-N, L1-G, L2-G, N-G, L1-L2)
- Provides protection for 2 Telephone Lines (Analog Phone Line, Modem, or DSL) and 1 Coax Line (Cable TV, Cable Internet or Satellite TV)
- CSA Listed to UL 1449 3<sup>rd</sup> Edition
- NEMA 3R Outdoor Raintight Enclosure for Indoor/Outdoor installations (9.38 in. H x 5.25 in. W x 4.0 in. D)
- 5 Year Product Warranty
- **\$10,000** Connected Equipment Coverage Warranty for 5 years on Appliances and Electronics

**NEW  
PRODUCTS**

## IG1300-4T-2C3

- Type 2 SPD applications
- 120, 240 VAC Single (Split) Phase
- 6 Modes of Surge Protection (L1-N, L2-N, L1-G, L2-G, N-G, L1-L2)
- Provides protection for 4 Telephone Lines (Analog Phone Line, Modem, or DSL) and 2 Coax Lines (Cable TV, Cable Internet or Satellite TV)
- CSA Listed to UL 1449 3<sup>rd</sup> Edition
- NEMA 3R Outdoor Raintight Enclosure for Indoor/Outdoor installations (9.38 in. H x 5.25 in. W x 4.0 in. D)
- 5 Year Product Warranty
- **\$10,000** Connected Equipment Coverage Warranty for 5 years on Appliances and Electronics

**NEW  
PRODUCTS**

## IG1240RC3

- Type 1 or 2 SPD applications
- 120, 240 VAC Single (Split) phase
- 6 Modes of Surge Protection (L1-N, L2-N, L1-G, L2-G, N-G, L1-L2)
- Green LED indicator provides status of protection
- NEMA 3R Outdoor Raintight Enclosure for Indoor/Outdoor applications
- Plastic housing (5.65 in. H x 4.18 in. W x 3.33 in. D)
- 5 year product warranty
- CSA Listed to ANSI/UL 1449 3<sup>rd</sup> Edition
- **\$10,000** Connected Equipment Coverage Warranty for 5 years on Appliances and Electronics

## IG1240FMP3

- Includes faceplate, screws and mounting bracket for IG1240RC3

# Surge Protective Devices PanelGuard®

## IG3240RC3



- Type 1 or 2 SPD applications
- 120, 240 VAC Single (Split) phase
- 6 Modes of Surge Protection (L1-N, L2-N, L1-G, L2-G, N-G, L1-L2)
- Green LED indicator provides status of protection
- NEMA 3R Outdoor Raintight Enclosure for Indoor/Outdoor applications
- Metal housing (6.28 in. H x 4.4 in. W x 3.25 in. D)
- 10 year product warranty
- CSA Listed to ANSI/UL 1449 3<sup>rd</sup> Edition
- \$25,000 Connected Equipment Coverage Warranty for 5 years on Appliances and Electronics.



## IG3240FMP3

- Includes faceplate, screws and mounting bracket for IG3240RC3
- 4 x 30 in. 12-gauge color coded leads for the IG1240RC3 or IG3240RC3
- 4 x 24 in. 12-gauge color coded leads for the IG1300-2T-1C3 or IG1300-4T-2C3

## IG Series Chart

Model	Service Voltage	Phase	Leads#/Length (in.)	Gauge	Wire Configuration	I <sub>N</sub> Nominal Discharge Current	SCCR Short Circuit Current Rating	MCOV Maximum Continuous Operation Voltage	VPR Voltage Protection Rating L-N L-L L-G N-G
<b>Type 2</b>									
IG1300-2T-1C3	120, 240 VAC	2	4/24	12	L1, L2, N, GND	20 kA	50 kA	150 L-N, N-G 300 L-L, L-G	700 1200 1200 700
IG1300-4T-2C3	120, 240 VAC	2	4/24	12	L1, L2, N, GND	20 kA	50 kA	150 L-N, N-G 300 L-L, L-G	700 1200 1200 700
<b>Type 1 or 2</b>									
IG1240RC3	120, 240 VAC	2	4/30	12	L1, L2, N, GND	20 kA	50 kA	150 L-N, N-G 300 L-L, L-G	700 1200 1200 700
IG3240RC3	120, 240 VAC	2	4/30	12	L1, L2, N, GND	20 kA	50 kA	150 L-N, N-G 300 L-L, L-G	700 1200 1200 700

# Types 1 & 2 Surge Protective Devices ArresterGuard®

Surge Protection

**NEW PRODUCTS**



**AG2083C3, AG2401C3,  
AG2403C3, AG2403D3,  
AG4803C3, AG4803D3  
AG6503C3, AG6503L3  
AG24013, AG48013  
&  
AG65033**

ANSI/UL 1449 3<sup>rd</sup> Edition  
compliant

Mounting Bracket



**AG1BRKT**

## ArresterGuard® Series

### Features:

- Designed for outdoor installations on service entrances and utility meter cabinets
- Approved for outdoor applications such as irrigation equipment, pumps, lighting fixtures, traffic signaling devices, farm equipment, HVAC/R controls and motors
- Parallel Metal Oxide Varistors (MOV) from each line to grounded neutral provide increased product capability
- Molded polycarbonate housing with ½ in. x 20 threaded nipple is weatherproof and UV resistant
- Epoxy encapsulation protects components from moisture, dirt and corrosion
- Color coded 18 in. leads; AG6503L3 – 36 in. leads
- 1 year product warranty

### Wye Configurations:

**NEW PRODUCT** **AG2083C3**

- 120, 208 VAC, 3 pole 4 wire device
- 18 in. 12 gauge leads

**NEW PRODUCT** **AG2401C3 & AG24013**

- 120, 240 VAC single phase, 2 pole 3 wire device
- 18 in. 12 gauge leads



**NEW PRODUCT** **AG4803C3**

- 277, 480 VAC, 3 pole 4 wire device
- 18 in. 12 gauge leads

**NEW PRODUCT** **AG6503C3, AG6503L3 & AG65033**

- Up to 600 VAC three phase, 3 pole 4 wire device
- 18 in. 12 gauge leads (AG65033/& AG6503C3); 36 in. 10 gauge leads (AG6503L3)

**NEW PRODUCT** **AG48013**

- 277, 480 VAC single phase, 2 pole 3 wire device
- 18 in. 10 gauge leads
- 18 in. 6 gauge green ground lead
- 18 in. 12 gauge leads

### High Leg Delta Configuration:

**NEW PRODUCT** **AG2403C3**

- 240 VAC, 3 pole 4 wire device
- 18 in. 12 gauge leads

### Delta Configurations:

**NEW PRODUCT** **AG2403D3**

- 240 VAC, three phase, 3 pole 3 wire device

**NEW PRODUCT** **AG4803D3**

- 277, 480 VAC, three phase, 3 pole 3 wire device

The chart below shows Voltage Protection Ratings (VPR) for each model.

Model	Service Voltage	Poles	Wire Configuration	I <sub>N</sub> Nominal Discharge Current	MCOV Maximum Continuous Operation Voltage	(VPR) Voltage Protection Ratings	
						L-N/G	L-L
AG24013/C3	120, 240 VAC	1 or 2	L1, L2, GND/N	20 kA	150 L-N/G	700	1200
AG2083C3	208 VAC	3	L1, L2, L3, GND/N	20 kA	300 L-L	700	1200
AG48013	277, 480 VAC	1 or 2	L1, L2, GND/N	20 kA	320 L-N/G	1200	2000
AG4803C3	277, 480 VAC	3	L1, L2, L3, GND/N	20 kA	640 L-L	1200	2000
AG65033/C3/L3	347, 600 VAC	3	L1, L2, L3, GND/N	20 kA	420 L-N/G 840 L-L	1500	2500

Model	Service Voltage	Poles	Wire Configuration	(SCCR) Short Circuit Current Rating	(MCOV) Maximum Continuous Operation Voltage				(VPR) Voltage Protection Ratings			
					L1 or L3 to N/G	L2 to N/G	L1/L3 to L2	L1 or L3 to N/G	L2 to N/G	L1/L3 to L2		
AG2403C3	240 VAC	3	L1, L2, L3, GND/N	50 kA	150	270	300	420	700	1000	1200	1500

Match the correct model to the voltage of your system/machine.



# Type 3 Point-of-Use Surge Protective Devices

## Surge Protective Strips

### Features:

- Type 3 SPD (Surge Protective Device)
- Designed for heavy industrial use
- 14 gauge SJT power cord with molded plug
- 3-mode Surge Protection (L-N, L-G, N-G)
- Protection monitoring circuitry with LED light indicator
- CSA listed to UL 1449, 3<sup>rd</sup> Edition
- 15 Amp resettable breaker
- Ivory metal housing (except IG112663BLK10)

### IG112463



- 4 outlets
- 6 ft. cord
- Lighted ON/OFF switch

### IG112663



- 6 outlets
- 6 ft. cord
- Lighted ON/OFF switch

### IG112663BLK10



- Black metal housing
- 6 outlets
- 10 ft. cord
- Lighted ON/OFF switch

### IG20663 & IG206153



- 6 specification-grade outlets
- Master ON/OFF switch
- 6 ft. cord (IG20663); 15 ft. cord (IG206153)
- EMI/RFI noise filtration

### IG20B123 & IG2012B153



- 6 specification-grade outlets
- Master ON/OFF switch
- 6 ft. cord (IG20B123); 15 ft. cord (IG2012B153)
- EMI/RFI noise filtration

### IG20863



- 8 specification-grade outlets
- Master ON/OFF switch
- 6 ft. cord
- EMI/RFI noise filtration

## Product Selection Chart – Type 3 Point-of-Use Models

Intermatic Model	Electrical Rating	Connected Equipment \$ Coverage	VPR	Prod. Warr. (yrs)
Industrial Grade				L-N/L-G/N-G
IG112463	15 Amp, 125 VAC	\$10,000	700/600/600	5
IG112663	15 Amp, 125 VAC	\$10,000	700/600/600	5
IG112663BLK10	15 Amp, 125 VAC	\$10,000	700/600/600	5
IG20663	15 Amp, 125 VAC	\$25,000	400/400/500	5
IG206153	15 Amp, 125 VAC	\$25,000	400/400/500	5
IG20B123	15 Amp, 125 VAC	\$5,000	700/600/600	5
IG2012B153	15 Amp, 125 VAC	\$5,000	700/600/600	5
IG20863	15 Amp, 125 VAC	\$25,000	400/400/500	5

## Mounting Bracket Plate

### 24EG5133

- Secures mounting bracket for all IG strips



IG112463

NEW PRODUCTS

Surge Protection

IG112663

IG112663BLK10

IG20663 & IG206153

IG20B123 & IG2012B153

IG20863



ANSI/UL 1449 3rd Edition compliant



24EG5133

# Surge Protective Devices Communication Protection



IG2TM



IG4TM



IG2T3R



## Stand Alone Telephone/Modem/DSL Internet Lines

### IG2TM

- Provides protection for 2 lines
- NEMA 1 Enclosure
- Tip to Ground, Tip to Ring and Ring to Ground Modes
- 40 kA surge protection per line
- Gas Tube Protection 350 VDC Breakdown
- UL497A

Model Number	Application	Lines	Gauge	Wire Configuration	DC Breakdown Voltage	Location
IG2TM	phone/ modem/DSL	up to 2	#24-#16 AWG	4 wire	350 VDC	Indoor

### IG4TM

- Protection same as IG2TM
- Protects 4 Lines

Model Number	Application	Lines	Gauge	Wire Configuration	DC Breakdown Voltage	Location
IG4TM	phone/ modem/DSL	up to 4	#24-#16 AWG	8 wire	350 VDC	Indoor

### IG2T3R

- Protection same as IG2TM
- Provides protection for 2 lines (expandable to 12 Lines)
- NEMA 3R Enclosure

Model Number	Application	Lines	Gauge	Wire Configuration	DC Breakdown Voltage	Location
IG2T3R	phone/ modem/ DSL	2 standard (up to 12)	#24-#16 AWG	4 wire (up to 24 wire)	350 VDC	Indoor/ Outdoor

# Surge Protective Devices Communication Protection

## Stand Alone Local Antenna/Cable – Satellite/Cable Internet Protection

### IG1CM

- Provides Protection for 1 Line (Expandable to 2 Lines)
- 10 kA surge protection per line
- Gas Tube Protection 90 VDC Breakdown

Model Number	Application	Lines	Thread Type	DC Breakdown Voltage	Location
IG1CM	Cable TV/Internet/Satellite	1	F	90 VDC	Indoor

### IG1C3R

- Protection same as IG1CM
- Provides Protection for 1 Line (Expandable to up to 6 Coax Lines)
- NEMA 3R Enclosure

Model Number	Application	Lines	Thread Type	DC Breakdown Voltage	Location
IG1C3R	Cable TV/ Internet/Satellite	1 Standard (up to 6)	F	90 VDC	Indoor/ Outdoor

### IG2T

- Spare Telephone/Modem/DSL Internet Protection Module

Model Number	Lines	For Use In:
IG2T Spare	2	IG2TM, IG1CM, IG2T3R, IG1C3R, IG1300-2T-1C

### IG1C

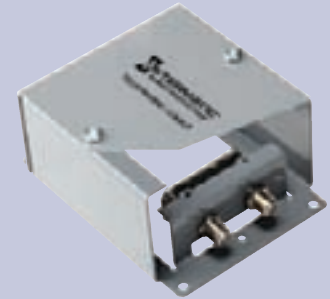
- Spare Coax Cable Protection Module

Model Number	Lines	For Use In:
IG1C Spare	1	IG1CM, IG1C3R, IG2TM, IG4TM, IG2T3R

### IGFlush Mount Kit

- Flush mount kit for IG2TM, IG4TM, and IG1CM

Model Number	For Use In:
IG Flush Mount Kit	IG2TM, IG4TM, IG1CM



IG1CM



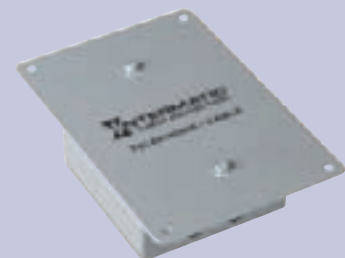
IG1C3R



IG2T



IG1C



IG Flush Mount Kit



# Types 1, 2 & 3 Surge Protective Devices

## Surge Protective Devices-Panel Guard®

Old Model #	New Model #	Service Voltage	Phase	Leads#/Length (in)	Wire Configuration	I <sub>N</sub>	SCCR	MCOV	VPR			
									L-N	L-L	L-G	N-G
<b>Type 2</b>												
IG1300-2T-1C	IG1300-2T-1C3	120/240	2	4/24	L1, L2, N, G	20 kA	50 kA	150 L-N, N-G	700	1200	1200	700
IG1300-4T-2C	IG1300-4T-2C3	120/240	2	4/24	L1, L2, N, G	20 kA	50 kA	300 L-L, L-G	700	1200	1200	700
<b>Type 1 or 2</b>												
IG1240RC	IG1240RC3	120/240	2	4/30	L1, L2, N, G	20 kA	50 kA	150 L-N, N-G	700	1200	1200	700
IG3240RC	IG3240RC3	120/240	2	4/30	L1, L2, N, G	20 kA	50 kA	300 L-L, L-G	700	1200	1200	700

SCCR = Short Circuit Current Rating.

VPR = Volage Protection Rating.

MCOV = Maximum Continuous Operating Voltage.

I<sub>N</sub> = Nominal Discharge Current.

## Surge Protective Devices-Arrester Guard®

Type 1 US, Type 2 Canada

Old Model #	New Model #	Service Voltage	Poles	Wire Configuration	I <sub>N</sub>	SCCR	MCOV	VPR		
								L-N/G	L-L	
AG2401C	AG2401C3	120/240	1 or 2	L1, L2, N/G	20 kA	50 kA	150 L-N/G	700	1200	
AG2083C	AG2083C3	208	3	L1, L2, L3, N/G	20 kA	50 kA	300 L-L	700	1200	
AG4801	AG48013	277/408	1 or 2	L1, L2, N/G	20 kA	50 kA	320 L-N/G	1200	2000	
AG4803C	AG4803C3	277/408	3	L1, L2, L3, N/G	20 kA	50 kA	640 L-L	1200	2000	
AG6503C	AG6503C3	347/600	3	L1, L2, L3, N/G	20 kA	50 kA	420 L-N/G	1500	2500	
AG6503L	AG6503L3	347/600	3	L1, L2, L3, N/G	20 kA	50 kA	840 L-N/G	1500	2500	
Old Model #	New Model #	Service Voltage	Poles	Wire Configuration	I <sub>N</sub>	SCCR	MCOV/VPR			
							L1 or L3 to N/G	L2 to N/G	L1 to L3	L1/L3 to L2
AG2403C	AG2403C3	120/208/240	3	L1, L2, L3, N/G	20 kA	50 kA	150/700	270/1000	300/1200	420/1500

SCCR = Short Circuit Current Rating.

VPR = Volage Protection Rating.

MCOV = Maximum Continuous Operating Voltage.

I<sub>N</sub> = Nominal Discharge Current.

## Type 3 Surge Protective Devices

Old Model #	New Model #	Number of Outlets	Cord Length (ft.)	Electrical Rating V/Amp	VPR L-N/L-G/N-G	Product Warranty (Years)	Connected Equipment Coverage
IG11266	IG112663	6	6	125/15	700/600/600	5	\$10,000
IG2066BLK10	IG112663BLK10	6	10	125/15	700/600/600	5	\$10,000
IG2066	IG20663	6	6	125/15	400/400/500	5	\$25,000
IG20615	IG206153	6	15	125/15	400/400/500	5	\$25,000
IG20B12	IG20B123	6	6	125/15	700/600/600	5	\$5,000
IG2012B15	IG2012B153	6	15	125/15	700/600/600	5	\$5,000
IG2086	IG20863	8	6	125/15	400/400/500	5	\$25,000

SCCR = Short Circuit Current Rating.

VPR = Volage Protection Rating.

MCOV = Maximum Continuous Operating Voltage.

I<sub>N</sub> = Nominal Discharge Current.

## Surge Protective Devices

Phone/Modem/DSL

Model #	Lines	Gauge	# of Wires	DC Breakdown Voltage (VDC)	Location
IG2TM	Up to 2	#24 - #16 AWG	4	350	Indoor
IG4TM	Up to 4	#24 - #16 AWG	8	350	Indoor
IG2T3R	2 standard up to 12	#24 - #16 AWG	4 (up to 24)	350	Indoor





# Weatherproof

# Weatherproof Receptacle Covers



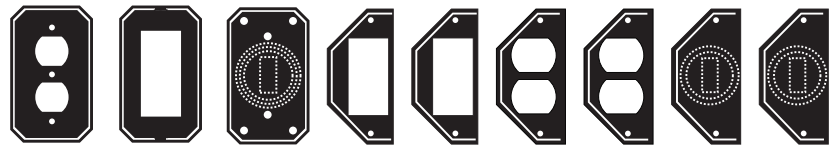
## Flexi-Guard Patented Insert Design

**CONTRACTOR FRIENDLY – OUR FEATURES MAKE INSTALLATION EASY AND EFFICIENT!**



**Intermatic's line of quality weatherproof covers offer many time saving features:**

- Flexi-Guard inserts are designed to easily snap into all Intermatic weatherproof covers and are available in one and two-gang combinations, to cover a multitude of needs
- All Intermatic weatherproof covers are packaged with the three most common Flexi-Guard inserts that cover configurations for GFCI, duplex, toggle or round receptacles
- Flexi-Guard inserts feature key-hole slots to make installation easy
- Additional inserts are available for two-gang applications. All Flexi-Guard inserts can be ordered separately. See page 93 for corresponding part numbers.
- Easy to remove cord set exit ports
- Pre-adhered gaskets
- Single-gang weatherproof covers can be mounted horizontally or vertically



## All Intermatic weatherproof covers meet the current code requirements

### Code Requirements:

Intermatic's line of NEMA 3R receptacle covers ensures compliance with 2008 NEC Article 406.8 (B) which requires that 15 and 20 ampere, 125 and 250 volt receptacles installed in a wet location have an enclosure that is weatherproof whether or not the attachment plug cap is inserted. They are designed to meet the 2008 NEC Article 210-60(b), which requires that receptacles installed behind beds in hotels and motels be protected with a suitable guard.

### NEMA 3R

Patented: U.S. Patent #5 280 135

U.S. Design Pat. #342233

Canadian Patent #2 073 932

Other Patents Pending

Meets UL and CSA Cold Impact Testing at -60°F (-51°C)

### Specifications:

All covers can be used for flush mount, surface mount or FS junction box mounting

**Cover:** Clear (gray or white on selected models) UV stabilized polycarbonate

**Mounting Base and Inserts:** Black UV stabilized polycarbonate

**Gasket:** Neoprene — 1/8 in. (4.8 mm) thick with slits for mounting screws

# Weatherproof Receptacle Covers


## Flexi-Guard Weatherproof Plastic While-In-Use Covers

Intermatic's weatherproof covers are easy to install, offer flexible options and reduce the amount of inventory needed to cover the project.

### Features:

- Complies with 2008 NEC Article 406.8 (B)
- Packaged with 3 patented inserts for GFCI, duplex, toggle or round receptacles
- Two-gang models include 6 snap-together, rotating inserts that create 70 combinations to fit almost every application. See page 93 for insert options
- Single-gang covers mount both vertically and horizontally by switching the hinge points
- Clear or white cover
- Heavy-duty polycarbonate construction
- Inserts include keyhole slots for up to 14 installation configurations
- Pre-adhered gasket
- Meets requirements for cold impact testing at -60° F (-51°C)
- Lockable hasp for .250 in. (6.35 mm) shank lock — WP1100C and WP1100WC only
- Lockable hasp for .125 in. (3.175 mm) shank lock — WP3100C and WP3103C only
- Hidden hinges — WP3100C and WP3103 only
- Easy to remove cord set exit ports — WP3100C and WP3103 only
- Max cord size for all covers: (2) 14 gauge AWG OR (1) 12 gauge AWG  
Except WP1250C and WP1150C: (2) 14 gauge AWG OR (1) 10 gauge AWG

**Warranty:** Limited 1-year warranty

Model	Description	Depth (in.)	Color	Cord Diam. (in.)	Exit Port Length (in.)
WP1100WC	Single-gang Vertical or Horizontal w/(WP17) Flexi-Guard Inserts	2¾	White	0.5	0.75
WP1110C	Single-gang Vertical or Horizontal w/(WP17) Flexi-Guard Inserts	3⅝	Clear	0.5	0.75
WP1150C	Single-gang Vertical or Horizontal w/(WP17) Flexi-Guard Inserts	4¾	Clear	0.8	1.27
WP1220C	Two-gang with (WP217) Flexi-Guard Inserts	2¼	Clear	0.5	0.75
WP1230C	Two-gang with (WP217) Flexi-Guard Inserts	3⅛	Clear	0.5	0.75
WP1250C	Two-gang with (WP217) Flexi-Guard Inserts	4¾	Clear	0.8	1.27
WP3100C	Single-gang Vertical or Horizontal w/(WP17) Flexi-Guard Inserts	2¾	Clear	0.5	0.97
WP3103C	3/0 Adapter Plate for 3 in. Round Box Applications				
 WP3103C	Single-gang Vertical or Horizontal w/(WP17) Flexi-Guard Inserts	2¾	Clear	0.5	0.97

Note: See page 93 for insert information.



Weatherproof





# Weatherproof Receptacle Covers

Weatherproof



WP1000C



WP1000HGC



WP1010C



WP1020C



WP1030C



WP1050



## Guardian Series Weatherproof Plastic While-in-Use Covers

- Complies with 2008 NEC Article 406.8(B)
- Patented inserts offer more configurations and cover more jobs
- Two-gang models include inserts for Duplex or GFCI applications

### Features:

- Single-gang covers packaged with three patented inserts for GFCI, duplex, toggle or round receptacles
- Inserts include keyhole slots for easy installation
- Pre-adhered gasket
- Heavy-duty polycarbonate construction
- Clear cover on most models. Two models with gray cover
- Meets requirements for cold impact testing at -60°F (-51°C)
- Max cord size for all covers: 2 – 14 gauge OR 1 – 12 gauge. Except WP1050: 2 – 14 gauge OR 1 – 10 gauge.

**Warranty:** Limited 1-year warranty

Model	Description	Depth	Color	Cord Diam. (in)	Exit Port Length (in)
WP1000C	Single-gang Vertical w/(WP17) Flexi-Guard Inserts	2¼ in.	Clear	0.5 in.	0.78
WP1000GC	Single-gang Vertical w/(WP17) Flexi-Guard Inserts	2¼ in.	Gray	0.5 in.	0.78
WP1000HC	Single-gang Horizontal w/(WP17) Flexi-Guard Inserts	2¼ in.	Clear	0.5 in.	0.78
WP1000HGC	Single-gang Horizontal w/(WP17) Flexi-Guard Inserts	2¼ in.	Gray	0.5 in.	0.78
WP1010C	Single-gang Vertical w/(WP17) Flexi-Guard Inserts	3⅞ in.	Clear	0.5 in.	0.78
WP1010HC	Single-gang Horizontal w/(WP17) Flexi-Guard Inserts	3⅞ in.	Clear	0.5 in.	0.78
WP1020C	Two-gang or Single-gang w/WP101 and WP102 Inserts	2¼ in.	Clear	0.5 in.	0.78
WP1030C	Two-gang or Single-gang w/WP101 and WP102 Inserts	3¼ in.	Clear	0.5 in.	0.78
WP1050	Two-gang or Single-gang w/WP101 and WP102 Inserts	4¼ in.	Clear	0.8 in.	1.27

### Single-gang Flexi-Guard †



WP17 †

### Two-gang products Include:

#### Two-gang Duplex

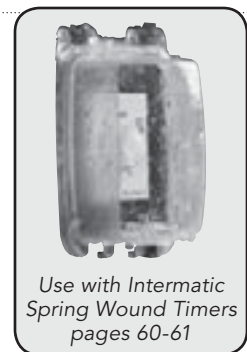


WP101

#### Two-gang GFCI



WP102



Use with Intermatic Spring Wound Timers pages 60-61

† Converts to toggle, 1⅜, 1⅝, 1¾ or 2⅛ in. diameter round.

Note: Lockable hasp accepts up to .125 in. (3.175 mm) diameter shank  
See page 93 for insert information.



# Weatherproof Receptacle Covers

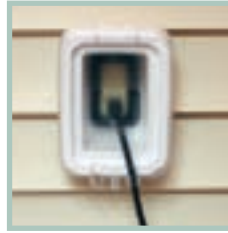
## Recessed Weatherproof While-in-Use Covers

**WP1000RC — Vertical Cover**  
**WP1000HRC — Horizontal Cover**  
**Product Features:**

- Complies with 2008 NEC Article 406.8(B)
- Heavy-duty polycarbonate cover for long lasting durability

### Specifications:

- Device recesses into wall for a flush finish. Used for siding, stucco or brick finishes
- Removable siding flange provides clear finish for all siding types
- Patented single-gang inserts for GFCI, duplex, toggle or round receptacles
- Heavy-duty gasket ensures protection from the elements
- Recessed sleeve adjusts to ensure lowest profile installation in every application
- Outlet box offers mounting options for stud, block, brick or cut-in
- Cord exit easily handles two 12/3 cord sets
- Handles NmB (Non-Metallic Building Wire) or conduit
- Heavy-duty, UV resistant, polycarbonate constructed cover



2.00 lbs  
0.91 kg

Item #	Description
WP1000RC	Recessed In-Use Cover Kit: Includes Back Box, Siding Flange, and Vertical Mount Finish Kit
WP1000HRC	Recessed In-Use Cover Kit: Includes Back Box, Siding Flange, and Horizontal Mount Finish Kit

## WP2000 Flexi-Guard Outlet Post

### Product Features:

- Complies with 2008 NEC Article 406.8(B)
- Heavy-duty PVC construction for long lasting durability


### Applications:

Provides a new, code compliant solution for supplying power to gardens and other out-of-the-way areas. A remotely mounted energy saving photo control and/or timer are also available to activate area lighting.

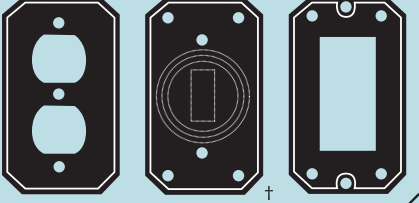
### Specifications:

- Patented single-gang inserts for GFCI, duplex, toggle or round receptacles
- Provisions for installing mechanical or digital timers to control area lighting:
  - PB913N84: 24 hour, 120 Volt mechanical timer – allows for 2 ON/OFF daily cycles see page 144
  - PB313EK: 24 hour, 120 Volt electronic timer – allows for 8 ON/OFF daily cycles (Timers sold separately) see page 146
- Provisions for fixed-position, stem-mounting and stem & swivel mounting photo controls to control area lighting (See page 71-72 for photo control options)
- All ports accept 1/2, 3/4, or 1 in. PVC conduit (adapters included)
- Base includes mounting holes and template for optional concrete/pavement mounting
- Cover includes lockable hasp that accepts up to .375 in. (9.525 mm) diameter shank


**Warranty:** Limited-1 year warranty



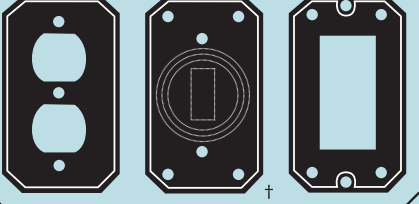
**WP1000RC**




Single-Gang Flexi-Guard  
† Converts to toggle, 1-3/8", 1-5/8", 1-3/4", or 2-1/8" diameter round



**WP2000**



Single-Gang Flexi-Guard  
† Converts to toggle, 1-3/8", 1-5/8", 1-3/4", or 2-1/8" diameter round



3.00 lbs  
1.36 kg

# Weatherproof Receptacle Covers

Weatherproof



**WP1010MC**



**WP1010HMC**



**WP1030MC**



## Flexi-Guard Weatherproof Die-Cast While-in-Use Covers

- For Commercial Applications
- Heavy-duty die cast receptacle covers
- Complies with 2008 NEC Article 406.8(B)
- Offers same features as plastic models but are manufactured of heavy-duty cast metal for severe applications such as schools and commercial buildings
- Patented Flexi-Guard inserts provide flexibility in field by selecting and installing proper insert
- Two-gang model WP1030MC includes inserts for two-gang duplex and GFCI requirements
- Cover includes lockable hasp that accepts up to .280 in. (7.112 mm) diameter shank (lock not included)
- Max cord size for all covers: 2-16 gauge or 1-14 gauge

Model	Description	Depth (in.)	Color	Cord Exit Port Diam. (in.)	Port Length (in.)
WP1010MC	Single-gang Vertical w/(WP17) Flexi-Guard Inserts	3 $\frac{1}{8}$	Gray	0.75	0.75
WP1010HMC	Single-gang Horizontal w/(WP17) Flexi-Guard Inserts	3 $\frac{1}{8}$	Gray	0.50	0.50
WP1030MC	Single-gang or 2-gang w/(WP217) Flexi-Guard Inserts	3 $\frac{1}{8}$	Gray	1.00	0.65

### Single-gang Flexi-Guard



**WP17**

Converts to toggle, 1 $\frac{3}{8}$ , 1 $\frac{5}{8}$ , 1 $\frac{3}{4}$  or 2 $\frac{1}{8}$  in. diameter round.

### Two-gang Flexi-Guard



**WP217**

Converts to toggle, 1 $\frac{3}{8}$  or 1 $\frac{5}{8}$  in. diameter round.

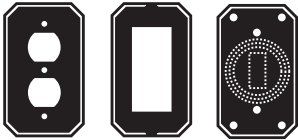
See Page 93 for additional inserts.

# Flexi-Guard Inserts

These patented Flexi-Guard Inserts fit single-gang or two-gang models of clear, gray plastic or die cast design. Each insert package can be purchased separately. All weatherproof covers come with Flexi-Guard inserts and mounting screws. The two-gang inserts (Part Numbers: WP217, WP101, WP102, WP107 and WP213) include a special two-gang gasket.

## WP17 – Single-gang Flexi-Guard Inserts

3 standard Flexi-Guard inserts – 14 possible configurations!

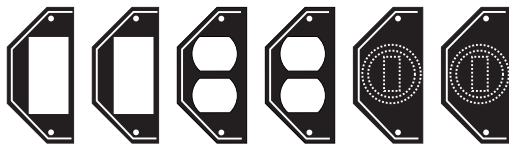


The WP17 insert package comes standard in all Flexi-Guard single-gang weatherproof covers. It includes three separate inserts that can be configured into as many as 14 different receptacle or switch applications. Configurations are diagrammed below. The special pre-scored insert converts to either toggle, or the following round receptacle sizes: 1.375, 1.625, 1.75 or 2.125 in.

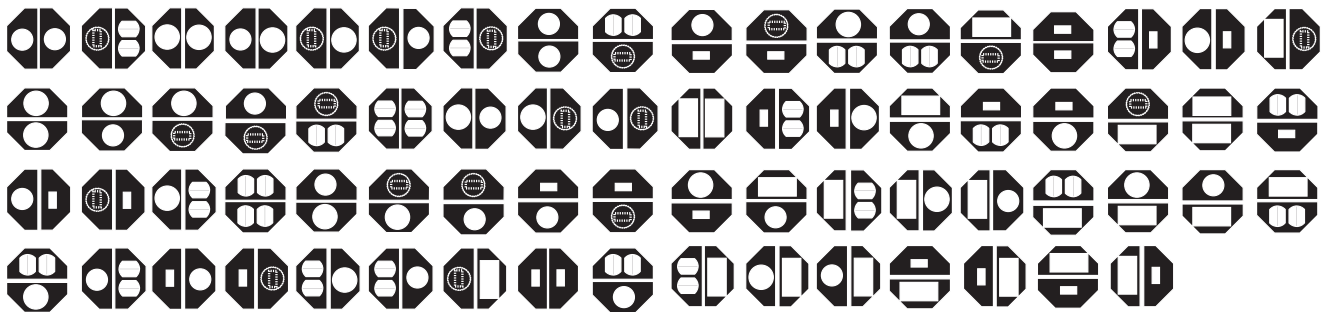


## WP217 – Two-gang Flexi-Guard Inserts

6 standard Flexi-Guard inserts – 70 possible configurations!



These 6 two-gang Flexi-Guard inserts can be combined to make the following configurations for two-gang covers. The special pre-scored insert converts to either toggle, or the following round receptacle sizes: 1.375, 1.625 in.



## Additional Inserts Available for Flexi-Guard or Guardian Series:

WP101



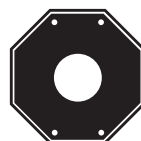
Two-gang Duplex

WP102



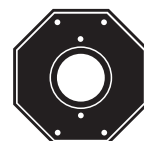
Two-gang GFCI

WP107



Two-gang Round  
1.375 in.  
1.625 in.  
1.75 in.

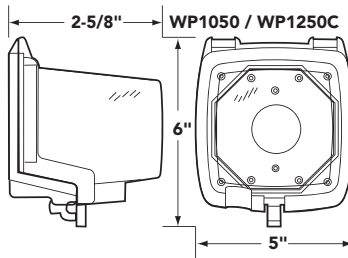
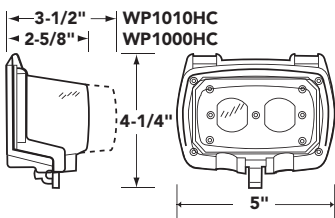
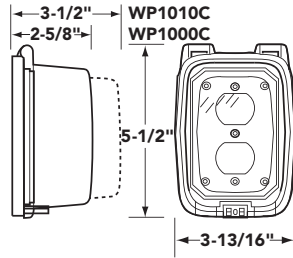
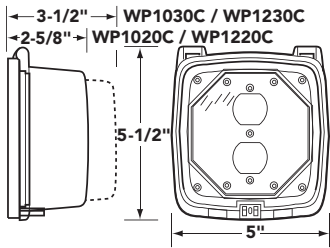
WP213



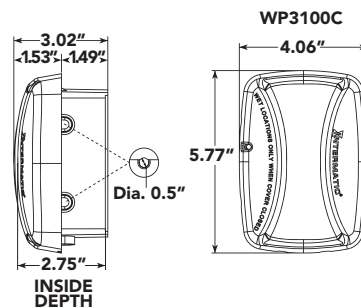
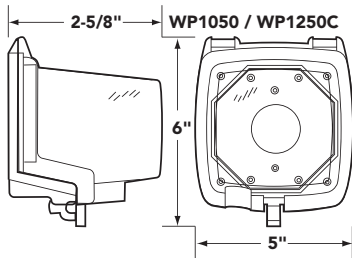
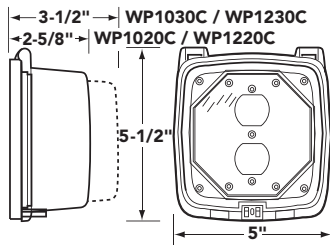
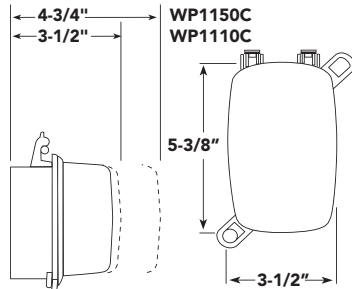
Two-gang Round  
2.156 in.  
2.656 in.

# Dimensional Drawings

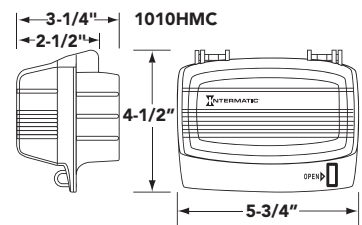
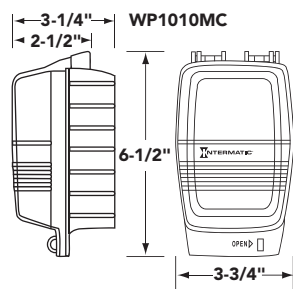
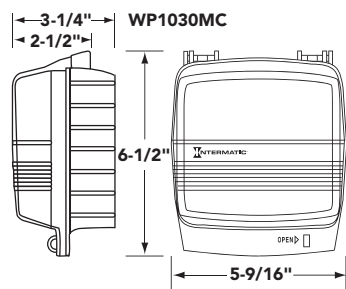
## Clear & Opaque Gray Models



## Clear & White Models



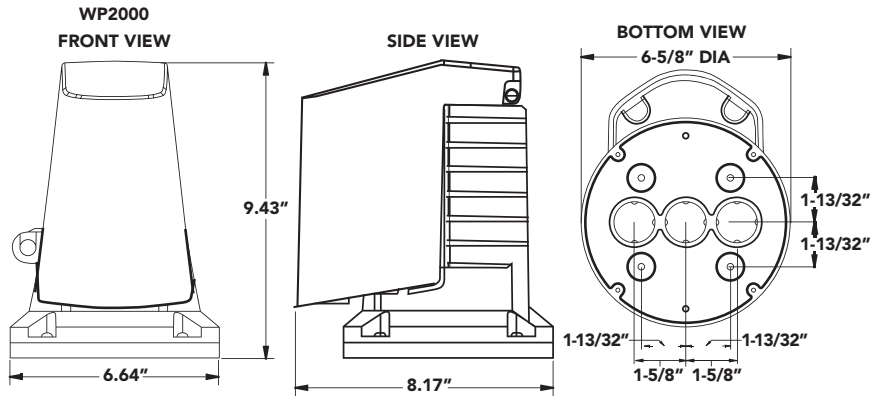
## Heavy-Duty Die Cast Models



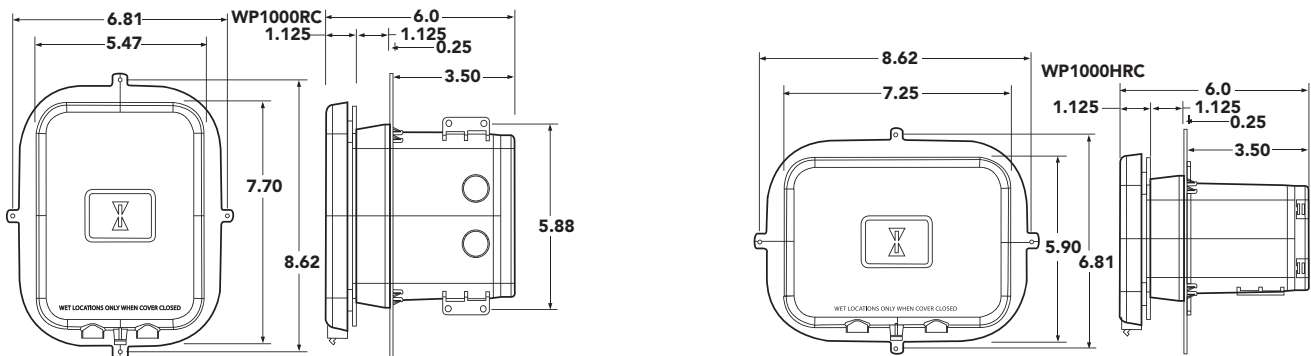


# Dimensional Drawings

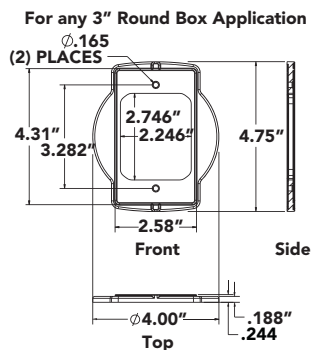
## Outlet Post



## Recessed



## WP3103C Adapter Plate



# Redefine light sensor controls



LS2  
Sensor

LightMaster  
LM2-O-120

**INTERMATIC**<sup>®</sup>  
Providing a brighter solution.™

**GRÄSSLIN**<sup>™</sup>  
by **INTERMATIC**

see pages 44-45 for more details



Professional Lighting

# High Intensity Discharge (HID) Lighting

**NEW PRODUCTS**



**WL050MH  
WL070MH  
WL100MH**



**WL035HPS  
WL050HPS  
WL070HPS  
WL100HPS**



**WL150MH  
WL175MH  
WL150MH-PS**



**WL150HPS**



**WL250MH  
WL250MH-PS**



**WL250HPS**



**WL400MH  
WL400MH-PS**



**WL400HPS**

**Photometrics and Dimensional Drawings available at:**  
[www.intermatic.com](http://www.intermatic.com)

**Replacement Bulb Information**  
(See page 160)



Intermatic's line of HID lighting is the perfect solution for a wide variety of indoor and outdoor lighting needs. In addition, Intermatic has a full array of controls and sensors designed to complement any commercial, industrial or residential lighting system.

## Now offering Pulse Start option.

Look for model numbers ending in PS.

## Wall Packs

Ideal for: Parking Areas, Entrances, Walkways, Underpasses, Loading Docks, Recreation Areas and Tunnels

- UL and/CUL listed for wet locations
- Heavy-duty die-cast aluminum powder coated construction
- Corrosion-resistant hardware
- Bronze finish
- 1/2 in. tapped holes available for installing optional photocell
- Lamp included

### Specifications:

Part Number	Wattage	Lamp	Voltage	Lens
WL035HPS	35	High Pressure Sodium	120 VAC	Polycarbonate
WL050HPS	50	High Pressure Sodium	120 VAC	Polycarbonate
WL050MH	50	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Polycarbonate
WL070HPS	70	High Pressure Sodium	120 VAC	Polycarbonate
WL070MH	70	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Polycarbonate
WL100HPS	100	High Pressure Sodium	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL100MH	100	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL150HPS	150	High Pressure Sodium	Quad Tap* 120, 208, 240, 277 VAC	Glass
<b>NEW PRODUCT</b> WL150MH-PS**	150	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL250HPS	250	High Pressure Sodium	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL250MH	250	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass
<b>NEW PRODUCT</b> WL250MH-PS**	250	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL400HPS	400	High Pressure Sodium	Quad Tap* 120, 208, 240, 277 VAC	Glass
WL400MH	400	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass
<b>NEW PRODUCT</b> WL400MH-PS**	400	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC	Glass

\* Fixture is available as 120, 277, 347 VAC Tri Tap Ballast fixtures. Add a "T" suffix to the appropriate part number.

\*\* PS - Pulse Start.



# High Intensity Discharge (HID) Lighting

## Cut-Off Wall Packs

Ideal for: Buildings, Backyards, Parks, Signs and Sports Fields

- UL/CUL listed for wet locations
- Heavy-duty die-cast aluminum powder coated construction
- Reduces light pollution
- 1/2 in. tapped holes available for installing optional photocell
- Lamp included
- Bronze finish
- Glass lens

### Specifications:

Part Number	Wattage	Lamp	Voltage
WLC70HPS	70	High Pressure Sodium	120V
WLC100HPS	100	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
WLC100MH	100	Metal Halide	Quad Tap 120, 208, 240, 277 VAC
WLC150HPS	150	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
WLC150MH	150	Metal Halide	Quad Tap 120, 208, 240, 277 VAC
WLC175MH	175	Metal Halide	Quad Tap 120, 208, 240, 277 VAC
WLC250HPS	250	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
WLC400HPS	400	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
WLC250MH	250	Metal Halide	Quad Tap 120, 208, 240, 277 VAC
WLC400MH	400	Metal Halide	Quad Tap 120, 208, 240, 277 VAC

## Full Cut-Off Wall Packs

Ideal for: Applications requiring Dark Sky compliance

### Specifications:

Part Number	Wattage	Lamp	Voltage
WLFC150HPS	150	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
WLFC150MH	150	Metal Halide	Quad Tap 120, 208, 240, 277 VAC
WLFC175MH	175	Metal Halide	Quad Tap 120, 208, 240, 277 VAC



WLC70HPS  
WLC100HPS



WLC100MH



WLC150HPS



WLC150MH  
WLC175MH



WLC250HPS  
WLC400HPS



WLC250MH  
WLC400MH



WLFC150HPS



WLFC150MH  
WLFC175MH

Photometrics and Dimensional Drawings available at:  
[www.intermatic.com](http://www.intermatic.com)

Replacement Bulb Information  
(See page 160)





# High Intensity Discharge (HID) Lighting



**FL035HPS  
FL050HPS  
FL070HPS**



**FL050MH  
FL070MH  
FL100MH**



**FL100HPS**



**FL150MH  
FL150MH-PS**



**FL150HPS**



**FL250MH  
FL250MH-PS  
FL400MH  
FL400MH-PS**



**FL250HPS  
FL400HPS**



**FL150Q**



**FL300Q  
FL500Q**

**Photometrics and Dimensional Drawings available at:**  
www.intermatic.com

**Replacement Bulb Information**  
(See page 160)



## Floodlights

Ideal for: Buildings, Backyards, Highway Signs, Outdoor Advertising Boards, Parks and Sports Fields

- UL and CUL listed for wet locations
- Heavy-duty die-cast aluminum powder coated construction
- Corrosion-resistant hardware
- High impact-resistant tempered glass lens
- Bronze finish
- Lamp holder E-26, UL approved
- Lamp included

### Specifications:

Part Number	Wattage	Lamp	Voltage
FL035HPS	35	High Pressure Sodium	120 VAC
FL050HPS	50	High Pressure Sodium	120 VAC
FL070HPS	70	High Pressure Sodium	120 VAC
FL050MH	50	Metal Halide	Quad Tap*
			120, 208, 240, 277 VAC
FL070MH	70	Metal Halide	Quad Tap*
			120, 208, 240, 277 VAC
FL100HPS	100	High Pressure Sodium	Quad Tap
			120, 208, 240, 277 VAC
FL100MH	100	Metal Halide	Quad Tap*
			120, 208, 240, 277 VAC
FL150HPS	150	High Pressure Sodium	Quad Tap*
			120, 208, 240, 277 VAC
FL150MH	150	Metal Halide	Quad Tap*
FL150MH-PS**			120, 208, 240, 277 VAC
FL250HPS	250	High Pressure Sodium	Quad Tap*
			120, 208, 240, 277 VAC
FL250MH	250	Metal Halide	Quad Tap*
FL250MH-PS**			120, 208, 240, 277 VAC
FL400HPS	400	High Pressure Sodium	Quad Tap*
			120, 208, 240, 277 VAC
FL400MH	400	Metal Halide	Quad Tap*
FL400MH-PS**			120, 208, 240, 277 VAC

\* Fixture is available as 120, 277, 347 VAC Tri Tap Ballast fixtures. Add a "T" suffix to the appropriate part number.

\*\* PS – Pulse Start.

## Quartz Floodlights

Ideal for: Building Facades, Signs, Sports Fields and Emergency and Temporary Floodlighting

- UL and CUL listed for wet locations
- Hinged front door
- ½ in. threaded swivel mount
- 120 Volt fixture
- Die-cast aluminum construction
- Tempered door glass
- Dark bronze finish
- Lamp included

### Specifications:

Part Number	Wattage	Lamp	Voltage	Finish	Lens
FL150Q	150	Quartz Halogen	120V	Bronze	Glass
FL300Q	300	Quartz Halogen	120V	Bronze	Glass
FL500Q	500	Quartz Halogen	120V	Bronze	Glass

# High Intensity Discharge (HID) Lighting

## Canopy Lights

Ideal for: Parking Areas, Entrances, Walkways, Underpasses, Loading Docks and Recreation Areas

- UL and CUL listed for wet locations
- Heavy-duty die-cast aluminum powder coated construction
- High impact polycarbonate lens
- Corrosion-resistant hardware
- Lamp included
- Bronze finish
- Quad Tap\* ballast: 120, 208, 240, 277 Volts

### Specifications:

Part Number	Wattage	Lamp	Voltage
CP150HPS	150	High Pressure Sodium	Quad Tap 120, 208, 240, 277 VAC
CP150MH	150	Metal Halide	Quad Tap* 120, 208, 240, 277 VAC

\* Fixture is available as 120, 277, 347 VAC Tri-Tap Ballast fixture. Add a "T" suffix to the appropriate part number.

## Dusk-to-Dawn Lights

Ideal for: Perimeter and Security Lighting, Loading Platforms, Barnyards, Parking Lots, Rural Homes, Public Entrances and Off-Street Parking

### Specifications:

- UL and CUL listed for wet locations
- Precision die-cast aluminum housing with natural finish
- UV-stabilized Polystyrene Lens
- 24 in. arm
- Dusk-to-dawn with twist-lock photo control
- Mounting hardware included
- Lamp holder E-39, 4KV and UL approved
- Lamp included
- 120 Volt fixture

### Specifications:

Part Number	Wattage	Lamp	Voltage	Arm
DD150HPS	150	High Pressure Sodium	120 VAC	24 in.
DD100MH	100	Metal Halide	120 VAC	24 in.

## Wall Fixture with Photocell

Ideal for: Parking Areas, Entrances, Walkways, Underpasses, Loading Docks and Recreation Areas

- UL and CUL listed for wet locations
- High-impact polycarbonate lens and housing
- Aluminum baseplate with conduit access
- Corrosion-resistant hardware
- 120 Volt installed photocell included
- Bronze finish
- 120 Volt fixture
- Lamp included

### Specifications:

Part Number	Wattage	Lamp	Voltage
WL070HPSPC	70	High Pressure Sodium	120 VAC



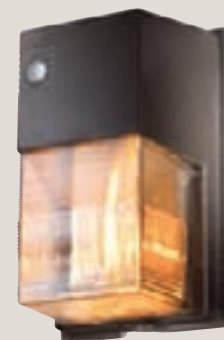
CP150HPS



CP150MH



DD150HPS  
DD100MH



WL070HPSPC

Photometrics and Dimensional Drawings available at:  
[www.intermatic.com](http://www.intermatic.com)

Replacement Bulb Information  
(See page 160)





# Professional Grade Vapor Tight Fixtures



## Vapor Tight Fixtures

Ideal for: Use in severe service areas where extreme conditions prevail; Subways, Construction Sites, Bridges, Tunnels, Freezers, Coolers, Waste Water & Sewage Treatment Plants

- UL and CUL listed for wet locations
- Industrial grade, fully enclosed with gasket
- Rugged, seamless, die-cast construction prevents moisture from entering
- Powder coat finish for maximum durability
- Heat-resistant glass globes
- CFL compatible
- Lamp not included

### Specifications:

Part Number	Wattage	Voltage	Glass Globe	Cast Guard
VPXG-11-CGI	100	120 VAC	Yes	Yes
VPKG-11-CGI	100	120 VAC	Yes	Yes
VWG-01-CGI	100	120 VAC	Yes	Yes



**VPXG-11-CGI**  
*Ceiling Mount*



**VPKG-11-CGI**  
*Pendant Mount*



**VWG-01-CGI**  
*Wall Mount*

Photometrics and Dimensional Drawings available at:  
[www.intermatic.com](http://www.intermatic.com)





# Professional Grade Motion Detection Fixtures

## Dual Sensor Motion Detection Security Light

Ideal for: Entries, Patios, Porches, Garages and Outbuildings

- UL and CUL listed for wet locations
- Distortion free lens
- Built-in surge protection
- Manual override
- 150 W halogen max (bulb included)
- Voltage – 120 VAC, 60 Hz
- Wall mount
- Adjustable ON time

### Specifications:

Part Number	Wattage	Description	Voltage	Finish	Lamp Included
FL150QMSW	150	Dual Sensor Motion Detection Security Light	120 VAC, 60 Hz	White	Yes

## Motion Detection Security Light

Ideal for: Buildings, Backyards, Parks, Signs and Sports Fields

- UL and CUL listed for wet locations
- Distortion-free lens with two detection planes
- Built-in surge protection
- Manual override
- Voltage – 120 VAC, 60 Hz
- Wall mount and soffit/eave mount applications
- Adjustable ON time

### Specifications:

Part Number	Wattage	Description	Voltage	Finish	Lamp Included
FL300MSW	300	Motion Detection Security Light	120 VAC, 60 Hz	White	No

## Motion Detection Security Switch

Ideal for: Lighting, Alarms, Video Cameras, Fans and Electrical Appliances

- UL and CUL listed for wet locations
- Distortion-free lens with two detection planes
- Built-in surge protection
- Switching capacity: maximum 300 Watts
- Detection angle of sensor: 140° horizontal/Plane A (10 zones)
- Sneek-by guard: 90° horizontal/Plane B (6 zones) 8° vertical
- Swiveling range of sensor: 130° horizontal, 65° vertical
- Range over which detection is adjustable: 270° horizontal
- Sensor reach: minimum 40 feet in front, 23 feet at sides (based on 10 foot mounting height)
- Manual override
- Voltage – 120 VAC, 60 Hz
- Wall mount and soffit/eave mount applications
- Adjustable ON time

### Specifications:

Part Number	Wattage	Description	Voltage	Finish
HLMSW	300	Motion Detection Security Switch	120 VAC, 60 Hz	White



FL150QMSW



FL300MSW



HLMSW

Photometrics and Dimensional Drawings available at:  
[www.intermatic.com](http://www.intermatic.com)

Replacement Bulb Information  
(See page 160)



MULTI  
WAVE™

# Redefine pool controls

*variable and  
two-speed control*



PE653RC

**INTERMATIC®**  
Providing a brighter solution.™

see page 108 for more details





**Pool & Spa Controls**



# Pool & Spa

## Affordable and energy saving pool and spa controls

Intermatic pool and spa controls are affordable, efficient and easy to install. The core components are interchangeable to provide you with the flexibility you need to manage your pool, spa and backyard. Intermatic makes it easy for you to choose the right controls for your new pool, or upgrade an existing pool control to digital and wireless operation. Parts can be purchased as mechanisms that easily snap into most existing Intermatic enclosures or packaged inside raintight enclosures.

## Intermatic's Wave family of pool and spa controls

- **MultiWave** – Five Circuits featuring Single, Two & Variable Speed Pump Control, Booster Pump Control, Freeze Protection, Heater Thermostat, Z-Wave® control, Wireless Control
- **IWave** – Five Circuits featuring Single & Two Speed Pump Control, Booster Pump Control, Freeze Protection, Heater Thermostat, Actuator Control, Wireless Control
- **MiniWave** – Up to five circuits featuring Single Speed Pump Control, Booster Pump Control, Heater Thermostat, Actuator Control, Wireless Control
- **PoolWave** – Three Circuits featuring Single & Two Speed Pump Control, Booster Pump Control, Freeze Protection, Heater Thermostat, Wireless Control
- **SpaWave** – Three Circuits featuring Single & Two Speed Pump Control, Booster Pump Control, Freeze Protection, Heater Thermostat, Wireless Control
- **Mechanisms** – Available for upgrading or adding to current systems
- **Accessories** – To expand your pool and spa controls

## Energy Consumption – Can you afford to leave your filter on high speed all day?

Pool operation can be 20% of your entire electrical consumption. Title 20 recommends filtering pool water only twice per 24 hour period - which is sufficient for most residential pools. Intermatic has several digital, multi-circuit solutions that offer features to control Two-Speed and Variable-Speed pumps. For simple Two-Speed control, the P1353ME (Mechanism) snaps right into most existing Intermatic enclosures. For Variable-Speed control, the new MultiWave connects to any existing enclosure. See Intermatic's offering for simple, efficient upgrades that meet Title 20 and other new energy legislation.

## New Multiwave wireless control for one, two or variable speed pumps

MultiWave is the newest addition to the Intermatic Wave Pool and Spa product line. It features wireless control for one, two and variable speed pumps. Five circuits control pool/spa equipment, plus any other landscape or backyard features from its hand-held control.

Setup is easy – just choose your equipment from the MultiWave equipment list, and the MultiWave automatically locates and sets up the equipment.

### Features:

- 5 Circuits
- Wireless control
- Controls Variable Speed , Two-Speed and Single-Speed pumps
- Plug and Play equipment detection and set-up – easy to initialize and use
- Handheld circuit display can be customized to suit your specific equipment control need



# Pool & Spa

## Upgrading and expanding to fit your pool, spa and backyard needs

Upgrading from a mechanical one circuit time switch is easy and affordable.

### P1353ME Series digital three circuit clock mechanism

- Features Three Separate Circuits – Program independent circuits to operate any Two-Speed pump. Use circuit one for HIGH speed, circuit two for LOW speed, and circuit three can be used for lighting, cleaners, water features, or any other backyard equipment that needs to be turned ON or OFF
- Pre-programmed modes for equipment combinations – Saves set up time
- Each circuit has Three ON/OFF Event Programs – Perfect for turning pump on either HIGH or LOW-Speed 2 times per day. For example: ON at 6:00 AM and OFF at 9:00 AM on HIGH-Speed, back ON at 8:00 P.M. and OFF at 11:00 PM on LOW-Speed (2 total events programmed)
- Manual Override – Allows you to turn equipment ON/OFF outside the programmed event
- Snaps into most existing Intermatic enclosures – Easy to install and contractor/user friendly

### Valve actuator controls for pool/spa combinations

Intermatic offers two separate valve actuator controls. The Intermatic P4243ME controls three separate valves simultaneously. This is a great control for pool/spa combinations and also offers two separate relays in addition to the valve controls, for control of pool/spa/backyard equipment. The P4043ME operates two valve actuators and is perfect for automating water features and pool/spa combinations.

### Wireless control

Intermatic offers a wireless control system upgrade consisting of PE650 and PE953 which can be added to existing Intermatic digital P1353ME series timer. Intermatic's new MultiWave PE653RC features wireless control built into the variable speed timer.

Wireless control allows the user to operate equipment and devices from a hand-held remote. Programming is set-up and operated on a user-friendly, waterproof remote control. Wireless control offers the following functions:

- ON/OFF switching of all five circuits
- Temperature control
- Activation of actuator controls for pool/spa combinations
- Lighting
- Water features
- Cleaners

The easy-to-read backlit remote offers time of day, water temperature setting and is water submersible

### Enclosures

Intermatic offers separate enclosures to house the individual components. Additionally, Intermatic offers enclosures for breaker panels and transformers. Intermatic makes the choice simple by packaging it all under one part number, or you can simply mix and match components with the enclosure you need.

### Accessories

Intermatic offers a full line of digital control accessories to make operating your pool and spa easy and affordable.

# Variable Speed & Two Speed Control Systems

**MULTI  
WAVE™**



**PE653RC**



**PE653**



**PE953**  
(See page 120-121)



## Wireless 5-Circuit Pool/Spa Control System PE653RC

The "MultiWave" Wireless Control System Controls Pools/Spas and now your Home!

Combine the PE653 MultiWave Controller with the PE953 MultiWave Hand Held Transceiver and automate your pool/spa and even your home with the most technologically advanced wireless control system in the market today!

The MultiWave is designed as a "plug and play" system. Install the water sensor PA122 (see page 121) and watch the MultiWave thermostat come alive to maintain your pool and/or spa water temperatures. Install the air sensor 178PA28A (see page 121) and let the MultiWave freeze protection system take over to protect your investment. Connect your equipment to the intelligent RS485 communication port and relax as the MultiWave recognizes and controls your equipment with ease.

### Included:

- Owner's Manual
- Three AA Batteries
- Small Flat Head Screwdriver
- Receiving PE653 Controller with 2T2485GA Enclosure
- Equipment Labels
- Hand Held PE953 Transmitter
- Water Sensor with Hose Clamp

### Specifications:

**Enclosure & Control:** NEMA 3R rated for Indoor/Outdoor installation in beige finish 9<sup>3</sup>/<sub>8</sub> in. (23.8 cm) H x 5<sup>1</sup>/<sub>2</sub> in. (14.0 cm) W x 3<sup>3</sup>/<sub>8</sub> in. (9.2 cm) D

**Enclosure Knockouts:** Combination 1/2 - 3/4 in. nominal knockouts, one on back and each side of enclosure and two on bottom

**Shipping Weight:** 5.4 lbs (2.3 kg)

**Agency Approval:** CSA/C-US

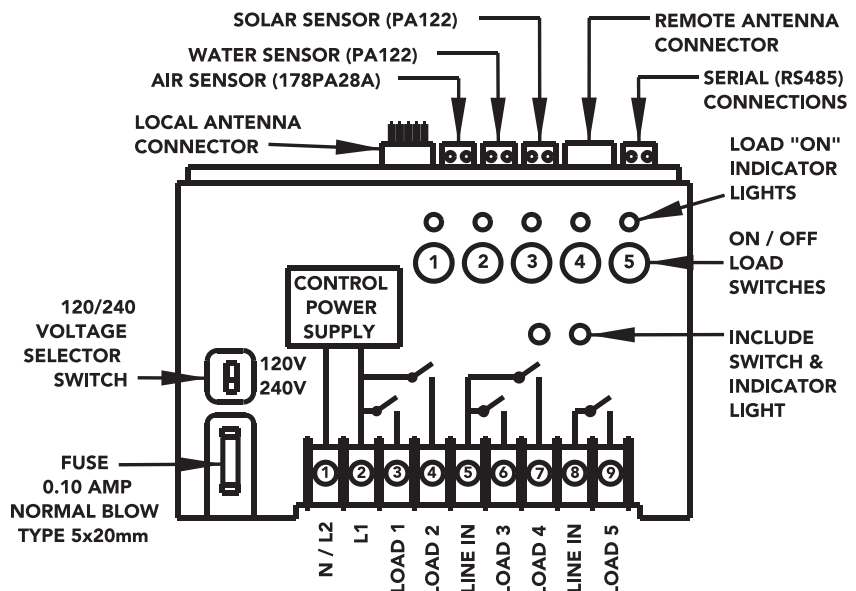
### Ratings:

**Control Supply:** 120, 240 VAC, 50/60Hz, 5-Watts Maximum

**Circuit #1:** 20 Amp Resistive (17 FLA, 80 LRA), 120, 240 VAC 50/60 Hz

**Circuit #2 thru #5:** 15 Amp Resistive (10 FLA, 60 LRA), 120, 240 VAC, 50/60 Hz

### Full Two-Speed & Variable Speed Controller

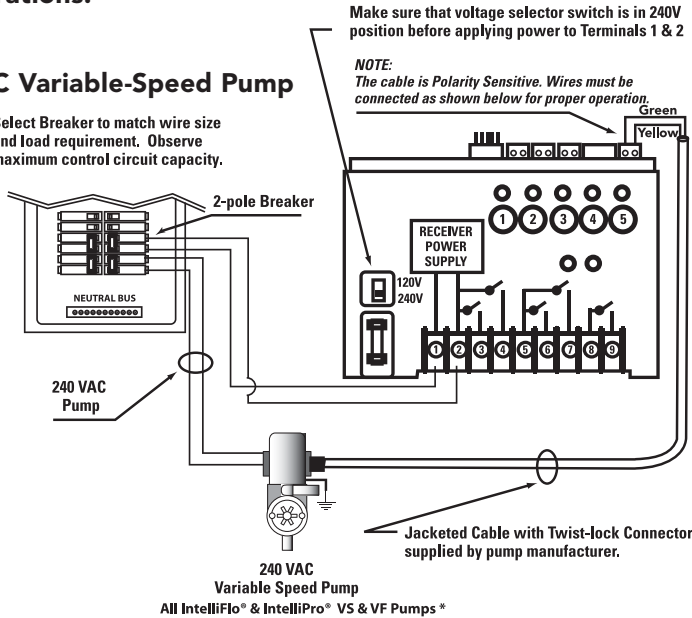


# MultiWave Accessories & Applications

There are many equipment pad configurations the MultiWave Control System can control. Below are a few of the most common configurations.

## 240 VAC Variable-Speed Pump

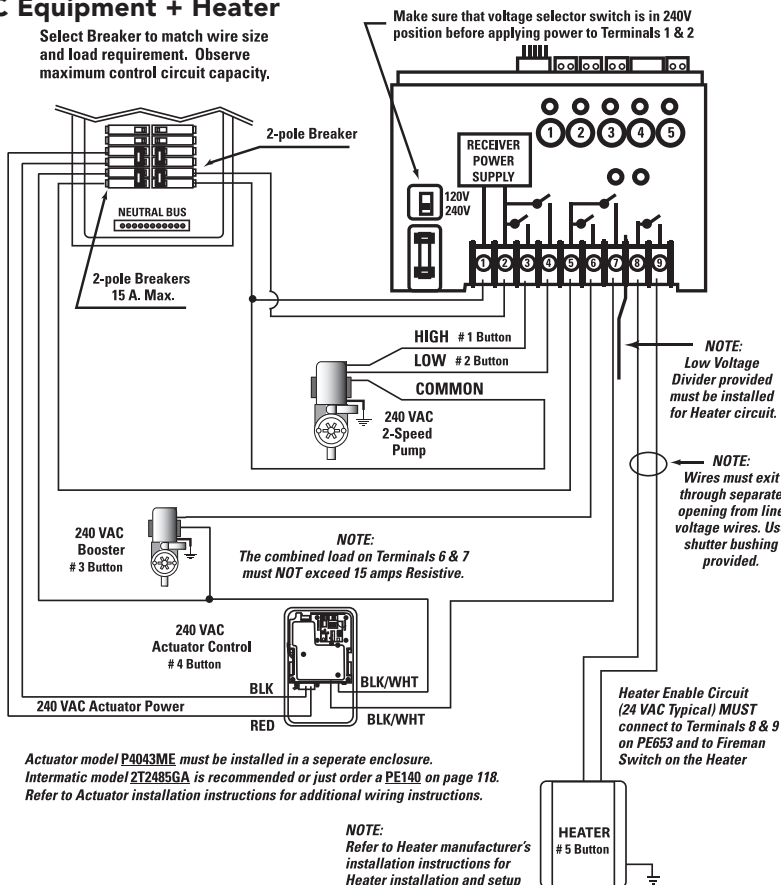
Select Breaker to match wire size and load requirement. Observe maximum control circuit capacity.



\* IntelliFlo and IntelliPro are registered trademarks of Pentair Water Pool and Spa, Inc.

## 240 VAC 2-Speed Pump + 240 VAC Booster Pump + other 120 VAC Equipment + Heater

Select Breaker to match wire size and load requirement. Observe maximum control circuit capacity.



Actuator model P4043ME must be installed in a separate enclosure. Intermatic model 2T2485GA is recommended or just order a PE140 on page 118. Refer to Actuator installation instructions for additional wiring instructions.

**NOTE:**  
Refer to Heater manufacturer's installation instructions for Heater installation and setup

## Optional Controller Accessories: (Not Included)



### Freeze (Air Temperature) Sensor 178PA28A

Needed to sense and display outside air temperature and activate freeze protection. See page 121



### Actuator Control P4043ME

Needed to control actuators for pool and spa applications. (Rain Tight Enclosure Needed) See page 118-119



### Raintight Enclosure 2T2485GA

Needed to house the P4243ME Actuator Controller. (If no enclosure is present) See page 46, 131

# 60 Amp Variable Speed & Two Speed Control Systems



PE20065RC



PE24065RC

## PE20000RC Series Kits

### Wireless 5-Circuit Pool/Spa Control System with 60 Amp Breaker Base, Actuator Control & Two Actuators

Combine the features of the PE653RC MultiWave Control System with the convenience of the PE20000 60 Amp Intermatic Panel and create a powerful PE20065RC wireless control system kit for any pool or spa installation. The PE20000 series panel includes a four position 60 Amp breaker base to accommodate a variety of different equipment loads and one mechanism slot to accommodate the vast array of mechanisms Intermatic has to offer. In addition, there is a low voltage raceway for low voltage control lines (i.e. actuators, sensors, etc...), two décor knockouts for GFCIs and switches, and a convenient side knockout for an outdoor receptacle.

Order PE24065RC, which includes a P4043ME mechanism and two PE24VA actuators, and remotely control any pool and spa combination. With this addition, you can now switch both your water valves and heater thermostat settings between your pool and spa with a click on your wireless control. These are by far the most affordable and versatile control systems offered today.

#### Included in Kits:

- MultiWave Control System (PE653RC)
- Three AA Batteries
- Equipment Labels
- Water Sensor (PA122) with Hose Clamp
- P4043ME Actuator Controller (**PE24065RC only**)
- (2) PE24VA Water Valve Actuators (**PE24065RC only**)
- Owner's Manual
- Small Flat Head Screwdriver
- Hand Held (PE953) Transmitter
- PE20000 Enclosure w/60 Amp Base

#### Specifications:

**Enclosure & Control:** NEMA 3R rated for Indoor/Outdoor installation  
0.048 in. steel with electrostatically applied light beige finish.  
16½ in. (41.9 cm) H x 10⅞ in. (27.6 cm) W x 4¼ in. (10.8 cm) D

**Enclosure Knockouts:** Two 1.09 in. diameter through holes, six combination ½ – ¾ in. knockouts, and three combination ¾ – 1 in. knockouts on the bottom. Two combination ½ – ¾ in. on the left side and one combination ¾ – 1 in. on the back.

One knockout 1¾ x 2¾ in. on the right side for mounting switches or GFCI

**Panel Rating:** 60 Amp, 120, 240 VAC or 120, 208 VAC single phase

**Shipping Weight:** 5.4 lbs (2.3 kg)

**Agency Approval:** CSA/C-US

#### Ratings:

**Control Supply:** 120, 240 VAC, 50/60 Hz, 5-Watts Maximum

**Circuit #1:** 20 Amp Resistive (17 FLA, 80 LRA) 120, 240 VAC 50/60Hz

**Circuits #2 thru #5:** 15 Amp Resistive (10 FLA, 60 LRA) 120, 240 VAC 50/60 Hz

*Note: The following page refers to only a fraction of the most common applications of the MultiWave Control System. Contact your Intermatic representative or visit [www.intermatic.com](http://www.intermatic.com) and visit the Pool & Spa section of our website for more application ideas and details.*

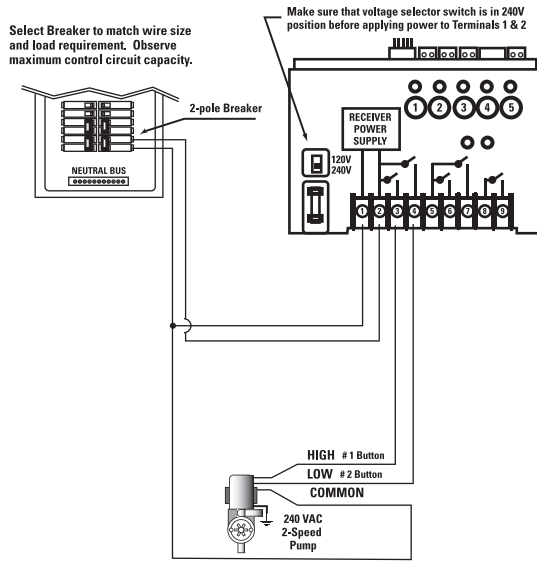




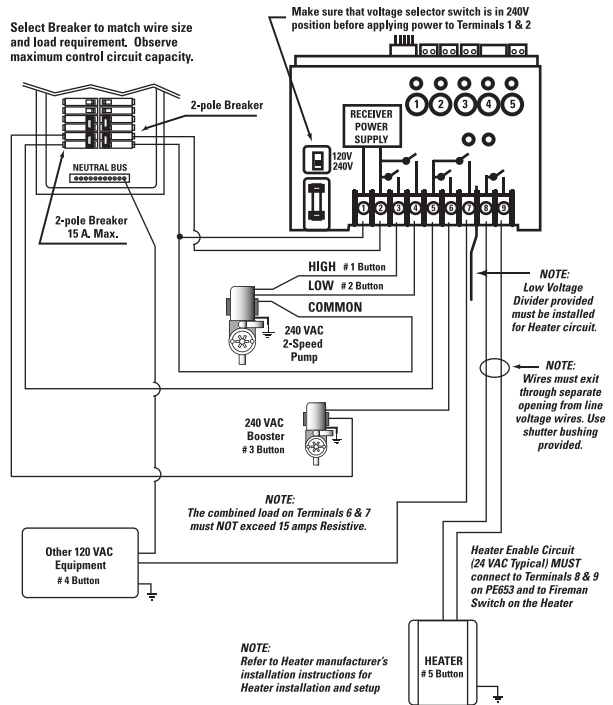
# Common PE2000RC Applications

## PE20065RC Applications

### 240 V 2-Speed Pump

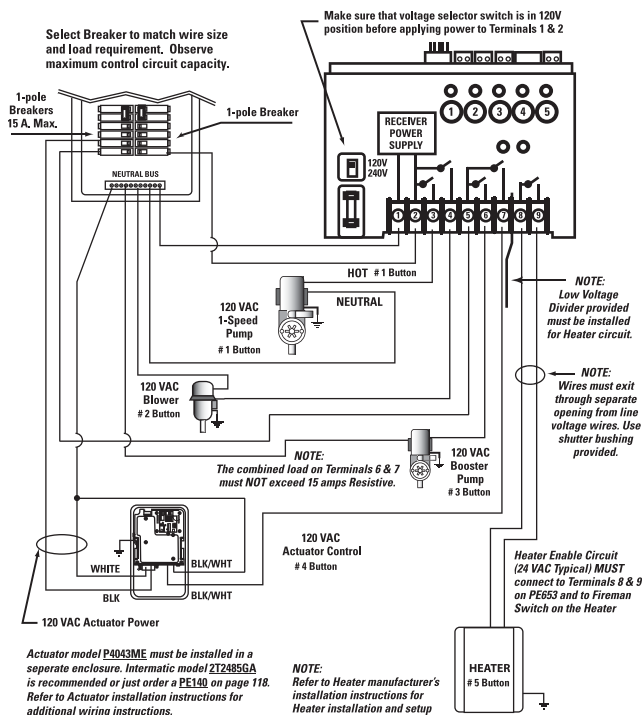


### 240 V 2-Speed Pump + 240 V Booster Pump + other 120 VAC Equipment + Heater

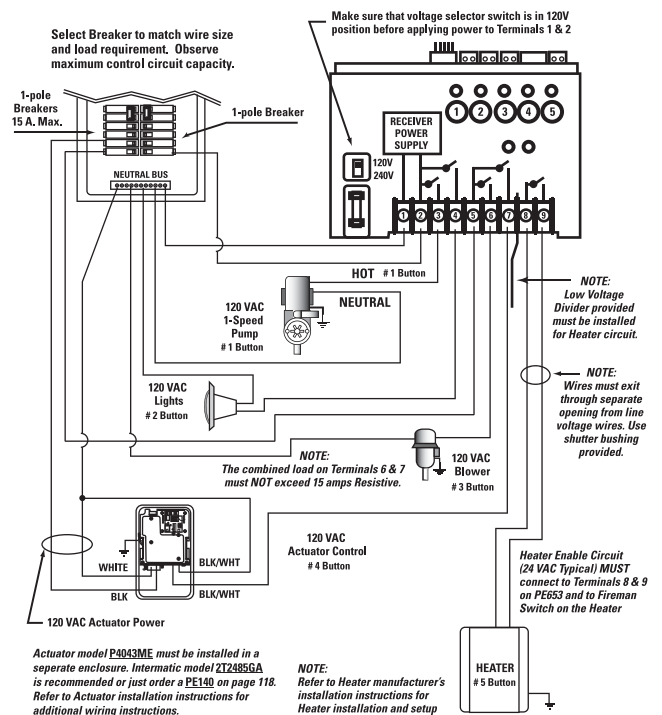


## PE24065RC Applications

### 120 V 1-Speed Pump + 120 VAC Blower or Lights + 120 V Booster Pump + 120 V Actuator + Heater



### 120 V 1-Speed Pump + 120 VAC Blower + 120V Lights + 120 V Actuator + Heater



# 80 Amp Variable Speed & Two Speed Control Systems



PE30065RC



PE34065RC

## PE30000RC Series Kits

### Wireless 5-Circuit Pool/Spa Control System with 80 Amp Breaker Base, Actuator Control & Two Actuators

Some heat pumps can consume between 40 and 60 Amps worth of power, therefore, it may be necessary to have a higher amperage breaker base to accommodate heat pumps. Combine the features of the PE653RC MultiWave Control System with the convenience of the PE30000 80 Amp Intermatic Panel and create a powerful PE30065RC wireless control system kit for any pool or spa installation. The PE30000 Series Panel includes an eight position 80 Amp breaker base to accommodate a variety of different equipment loads and two mechanism slots to accommodate the vast array of mechanisms Intermatic has to offer. In addition, there is a low voltage raceway for low voltage control lines (i.e. actuators, sensors, etc...), four décor knockouts for GFCIs and switches, and a convenient side knockout for an outdoor receptacle.

Order a PE34065RC which includes a P4043ME mechanism and two PE24VA actuators and remotely control any pool and spa combination. With this addition, you can now switch both water valves and heater thermostat settings between your pool and spa with a click on your wireless control. These are by far the most affordable and versatile control systems offered today.

#### Included in Kits:

- MultiWave Control System (PE653RC)
- Three AA Batteries
- Equipment Labels
- Water Sensor (PA122) with Hose Clamp
- P4043ME Actuator Controller (**PE34065RC only**)
- (2) PE24VA Water Valve Actuators (**PE34065RC only**)
- Owner's Manual
- Small Flat Head Screwdriver
- Hand Held (PE953) Transmitter
- PE30000 Enclosure w/80 Amp Base

#### Specifications:

**Enclosure & Control:** NEMA 3R rated for Indoor/Outdoor installations

0.048 in. steel with light beige finish

22 in. (55.9 cm) H x 14 $\frac{3}{4}$  in. (37.5 cm) W x 4 $\frac{1}{4}$  in. (10.8 cm) D

**Enclosure Knockouts:** Two 1.09 in. diameter through holes, six combination  $\frac{1}{2}$  –  $\frac{3}{4}$  in. knockouts, 2 combination  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$  in. knockouts, four  $\frac{1}{2}$  in. knockouts on the bottom. Two combination  $\frac{1}{2}$  –  $\frac{3}{4}$  in. knockouts on the left side and four combination  $\frac{1}{2}$  –  $\frac{3}{4}$  in. knockouts, two combination  $\frac{3}{4}$  – 1 in. on the back. One knockout 1 $\frac{3}{4}$  x 2 $\frac{3}{4}$  in. on the right side for mounting switches or GFCI.

**Panel Rating:** 80 Amp 120, 240 VAC or 120, 208 VAC single phase

**Shipping Weight:** 5.4 lbs (2.3 kg)

**Agency Approval:** CSA/C-US

#### Ratings:

**Control Supply:** 120, 240 VAC, 50/60 Hz, 5-Watts Maximum

**Circuit #1:** 20 Amp Resistive (17 FLA, 80 LRA) 120, 240 VAC 50/60 Hz

**Circuits #2 thru #5:** 15 Amp Resistive (10 FLA, 60 LRA) 120, 240 VAC 50/60 Hz

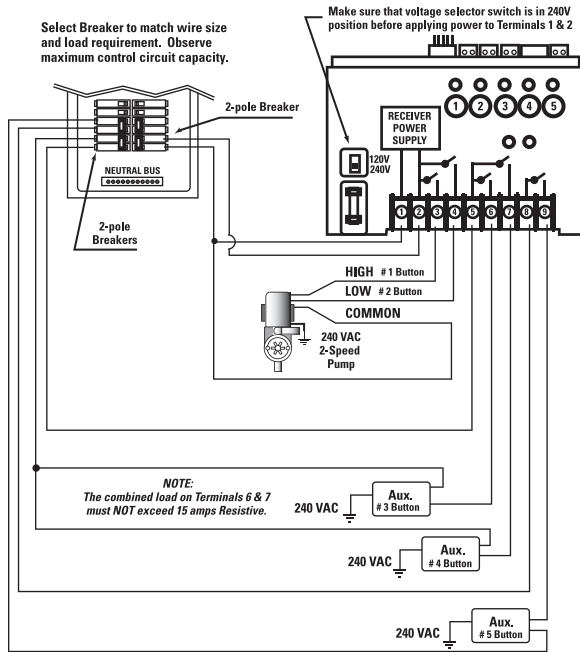
*Note: The following page refers to only a fraction of the most common applications of the MultiWave Control System. Contact your Intermatic sales representative or visit [www.intermatic.com](http://www.intermatic.com) and visit the Pool & Spa section of our website for more application ideas and details.*



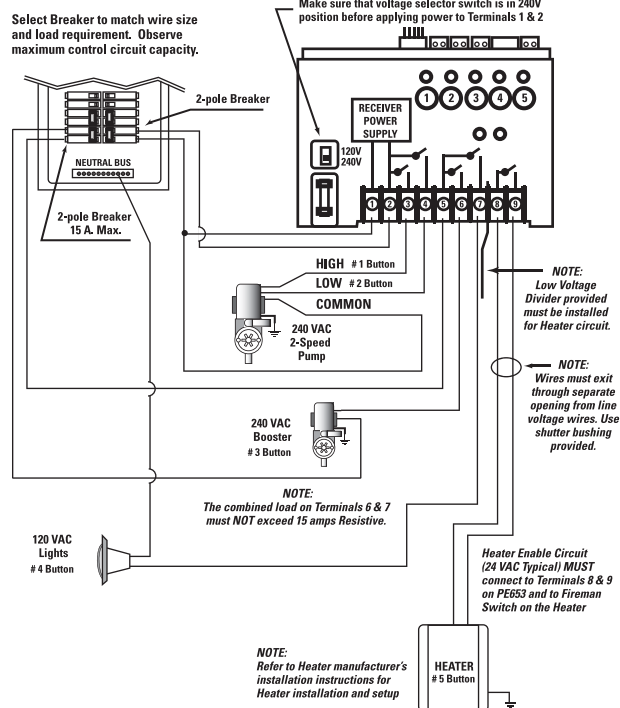
# Common PE3000RC Applications

## PE30065RC Applications

### 240 V 2-Speed Pump + any three 240 VAC Auxiliary Equipment

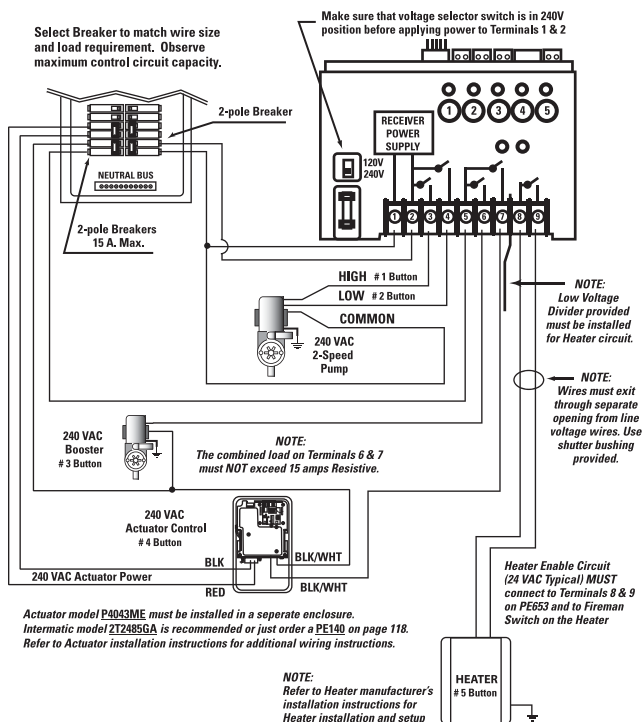


### 240 V 2-Speed Pump + Booster Pump + 120 V Light + Heater

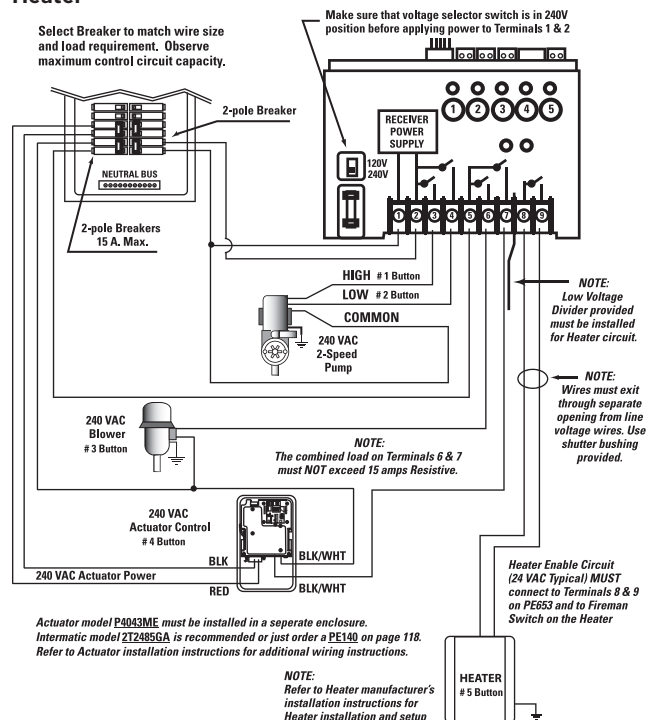


## PE34065RC Applications

### 240 V 2-Speed Pump + 240 V Booster Pump + 240 V Actuator + Heater



### 240 V 2-Speed Pump + 240 V Blower + 240 V Actuator + Heater



# Digital Two Speed Controller Mechanism



**P1353ME**

## Specifications:

- Three individual circuits
- Three ON/OFF events per day per circuit
- Seven pre-programmed modes for common pool & spa applications
- Input voltage 120, 208, 240 VAC
- Memory backup
- Freeze protection
- Heater protection (fireman switch)
- LCD readout
- Shipping weight: 3 lbs (1.4 kg)
- Agency approval: CSA/C-US

## CONTACT RATINGS — EACH CIRCUIT, ALL MODES

- 17 Amp Resistive, 120, 240 VAC, 50/60 Hz
- (20 FLA, 96 LRA) 120 VAC, 50/60 Hz
- (17 FLA, 80 LRA) 240 VAC, 50/60 Hz
- 5 Amps Tungsten, 120, 240 VAC, 50/60 Hz
- 5 Amps Ballast, 120, 240 VAC, 50/60 Hz



## P1353ME

### Three Circuit Clock Mechanism

Designed as an upgrade to your T100 Series time switch, the P1353ME mechanism can be installed into almost any Intermatic enclosure and has the ability to program up to three circuits. Choose between seven pre-programmed modes of operation, which include single speed pump or 2-speed pump/cleaner pump combinations. In addition, programmed modes that include auxiliaries can control pumps up to 3 HP as well as underwater, landscape and/or fountain lighting. Countdown and Override features allow cycle interruptions when pool/spa service is required. All timing and protection associated with filter pump/cleaner pump combinations and two-speed pumps has already been integrated into the software.

### Pre-Programmed Equipment Pad Modes

#### Mode 1 – (Aux1, Aux2, Aux3)

The time switch is a 3-circuit switch with all three switches controlling auxiliary devices.

#### Mode 2 – (Pump High, Pump Low, Aux3)

The time switch is a 2-circuit switch with the 1st & 2nd switch controlling a two-speed pump. The 3rd switch is controlling any auxiliary device. All protection associated with a two speed pump is pre-programmed into this mode.

#### Mode 3 – (Pump, Aux2, Cleaner Pump)

The time switch is a 3-circuit switch with the 1st switch controlling a single speed pump, the 2nd switch controls any auxiliary device, and the 3rd switch operates a booster/cleaner pump. All timing & protection associated with a filter pump/cleaner pump combination is pre-programmed into this mode.

#### Mode 4 – (Pump High, Pump Low, Cleaner Pump)

The time switch is a 2-circuit switch with the 1st & 2nd switch controlling a 2-speed pump. The 3rd switch is controlling a booster/cleaner pump. All protection associated with a 2-speed pump and booster/cleaner pump combination is pre-programmed into this mode.

#### Mode 5 – (Pump L1, Pump L2, Aux3)

The time switch is a 2-circuit switch with the 1st & 2nd switch controlling a 240V pump, where both L1 & L2 are required to be disconnected when the pump is OFF. The 3rd switch is controlling any auxiliary device.

### New Pre-Programmed Equipment Pad Modes

#### Mode 6 – (Aux1, Aux2, Aux3)

##### Heater green mode

The time switch performs identical to Mode 1 except this mode allows the heater to heat the water only when Circuit 1 (the filter pump) is manually turned on – not when the clock turns the pump on. This mode is helpful when you have Circuit 1 connected to a circulation pump in a spa. When the spa is not in use, the clock circulates the water to filter it, but does not turn ON the heater. When the spa is in use, the heater is also turned ON by manually switching Circuit 1 ON.

#### Mode 7 – (Pump High, Pump Low, Common)

##### Break both lines

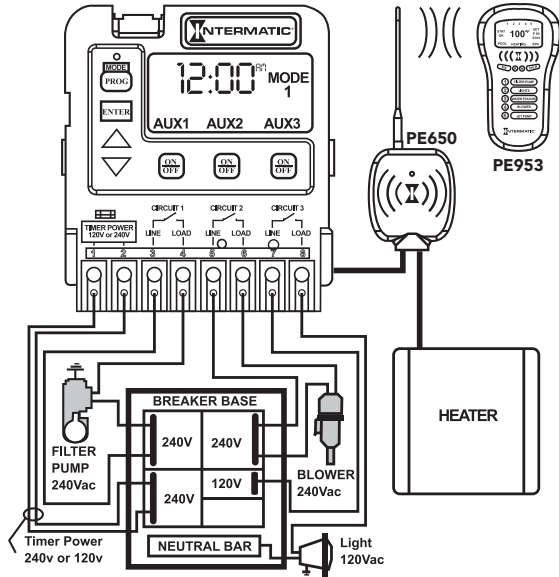
The time switch performs identical to Mode 2 except this mode allows the hook up to break both hot lines of a 240VAC two speed pump connection. In this mode the time switch becomes a single circuit device specifically designed to control a two-speed pump motor. The 1st & 2nd circuits connect to the High and Low lines of the two-speed pump respectively and the 3rd circuit connects to the second hot leg. All timing & protection associated with a two-speed pump is pre-programmed into this mode.



# P1353ME Mode Applications

## 3 Circuit Pre-Programmed Options

Setting up the P1353ME Series 3-circuit timer is easy. Intermatic has already pre-programmed the most popular pool/spa/auxiliary combinations for your convenience. Just choose the mode that best suits your needs!



### Mode 1 – (Aux1, Aux2, Aux3)

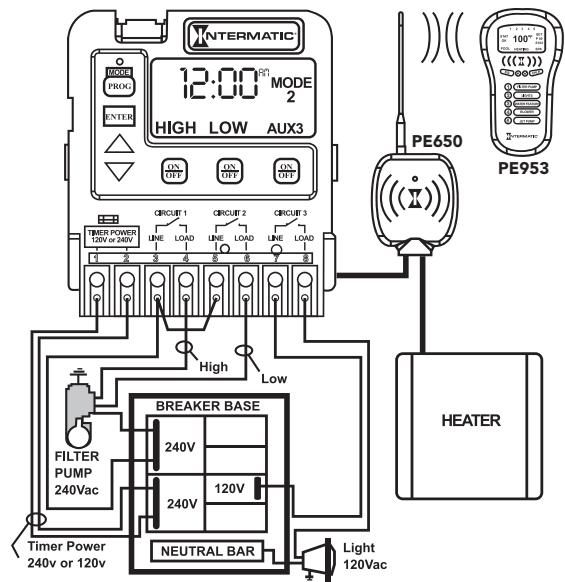
Each of the three single pole circuits are defined generically, and can control any load within each of its individual circuit ratings. All three circuits act independent of each other.

**Applications:** In Mode 1, the P1353ME Three Circuit Clock Mechanism is ideal for pool or spa only applications where each piece of equipment is independently controlled. With the addition of a PE650 Receiver and PE953 Transmitter, you can easily add wireless control to your equipment and thermostat control to your pool or spa. Each of the three circuits is rated for up to 3 HP and can handle both 120 VAC and 240 VAC equipment loads. This is the most versatile timer in the market today and can be added to almost all Intermatic control panels, both new and existing, making it ideal for upgrades to older Intermatic systems.

### Mode 2 – (Pump High, Pump Low, Aux3)

Circuits one and two are dedicated single pole outputs for a two-speed pump load. Circuits one and two will never be ON at the same time, consistent with a two-speed pump application. Circuit three is a single pole circuit for a generic load, and independent of circuits one and two.

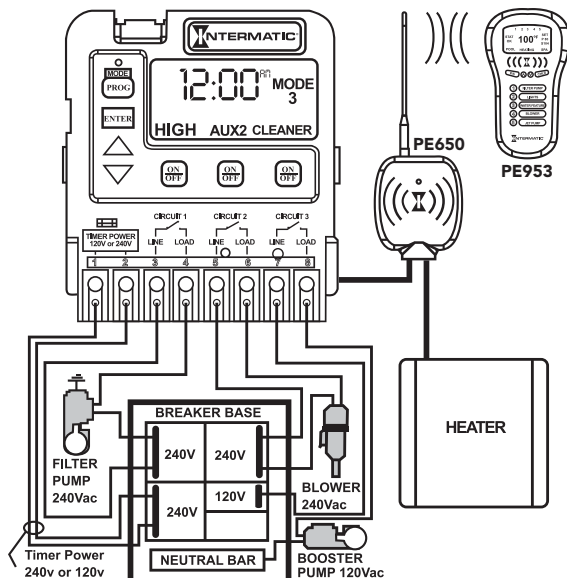
**Applications:** In Mode 2, the P1353ME Three Circuit Clock Mechanism acts as a Two Speed Controller and can be used for two speed pool applications but is ideal for spa applications where the filter pump on the spa is used for filtering in low speed and used for jets in high speed. The remaining circuit can be used for spa lights or blower. With the addition of a PE650 Receiver and PE953 Transmitter, you can easily add wireless control to your equipment and thermostat control to your pool or spa.



### Mode 3 – (Pump, Aux2, Cleaner Pump)

Circuits one and three are dedicated single pole outputs for a single speed pump working with a pressure side cleaner pump. Circuit three will never come ON unless circuit one is ON for at least one minute, consistent with a pressure side cleaner pump. Circuit two is a single pole circuit for a generic load, independent of circuits one and three.

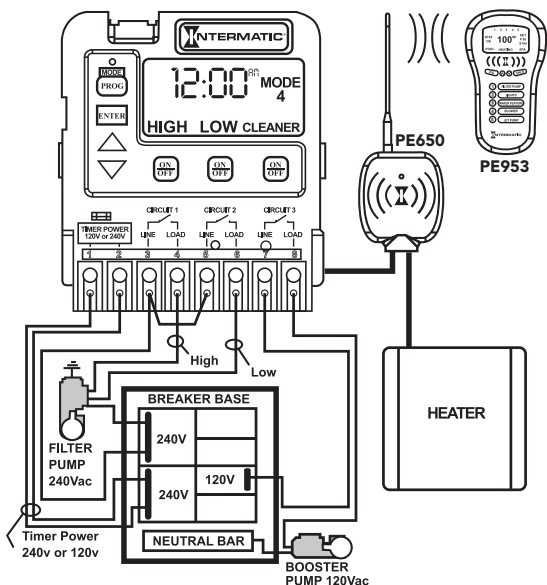
**Applications:** In Mode 3, the P1353ME Three Circuit Clock Mechanism is ideal for pool applications where a Booster/Cleaner pump is being controlled. In this mode, if the Filter Pump is OFF, the Booster/Cleaner pump will activate the Filter Pump first and then turn itself ON when activated. This ensures adequate priming of the Booster/Cleaner pump. The remaining circuit can be used for lights. With the addition of a PE650 Receiver and PE953 Transmitter, you can easily add wireless control to your equipment and thermostat control to your pool.



# P1353ME Mode Applications

## 3 Circuit Pre-Programmed Options

### Continued



#### Mode 4 – (Pump High, Pump Low, Cleaner Pump)

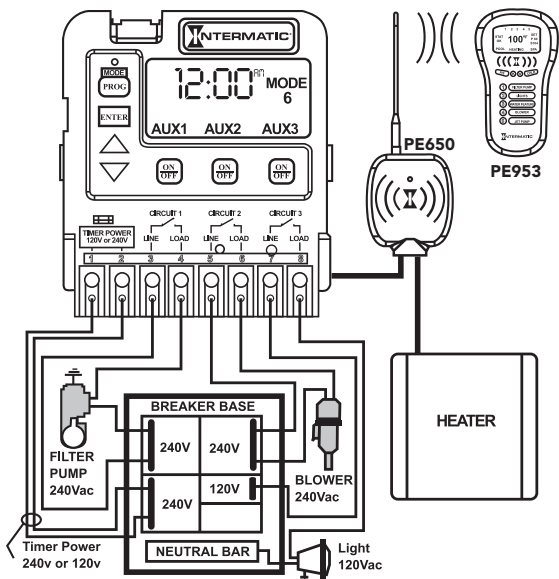
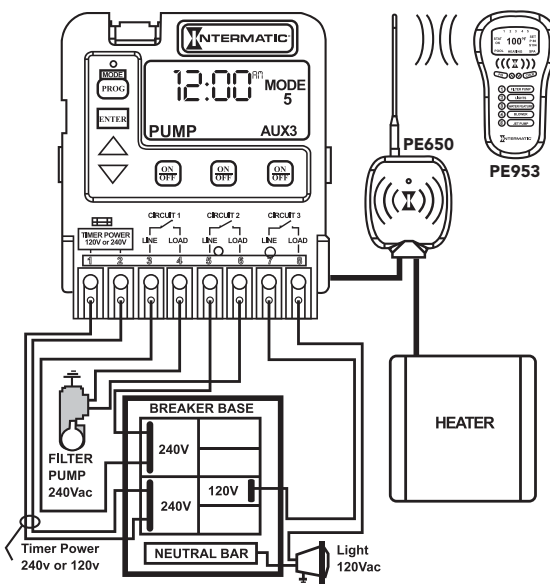
Circuits one and two are dedicated single pole outputs for a two-speed pump load. Circuits one and two will never be ON at the same time, consistent with a two-speed pump application. Circuit three is also a dedicated single pole output for a pressure side cleaner pump. Circuit three will never come ON unless circuit one is ON for at least one minute, consistent with a pressure side cleaner pump.

**Applications:** In Mode 4, the P1353ME Three Circuit Clock Mechanism acts as a Two Speed Controller and is ideal for pool applications where a booster/cleaner pump is being controlled. In this mode, if the filter pump is OFF or in low speed, the booster/cleaner pump will activate the filter pump in high speed first and then turn itself ON when activated. This ensures adequate priming of the booster/cleaner pump. With the addition of a PE650 Receiver and PE953 Transmitter, you can easily add wireless control to your equipment and thermostat control to your pool.

#### Mode 5 – (Pump, Pump, Aux3)

Circuits one and two are now coupled together making one circuit capable of switching the power source to one pump. The ON/OFF button for circuit one now controls both circuit one and two simultaneously. The ON/OFF button for circuit two is disabled. Circuit three remains a single pole circuit for a generic load, and is independent of circuits one and two.

**Applications:** In Mode 5, the P1353ME Three Circuit Clock Mechanism acts as a two circuit clock to allow the breaking of both hot legs in a 240 VAC equipment hookup on circuit #1. Even though the P1353ME is not a disconnect, and you can easily control a 240 VAC load by breaking only one leg, some wiring situations may dictate breaking both legs of a 240 VAC load. It is good service practice to always open the equipment circuit breaker and red tag it appropriately when working on pool or spa equipment. When working on equipment, DO NOT rely on any clock to disconnect power. The clock may be scheduled to turn ON during servicing.



#### Mode 6 – (Aux1, Aux2, Aux3)

Identical to Mode 1, in which each of the three single pole circuits are defined generically and can control any load within each of its individual circuit ratings, with all three circuits acting independent of each other. However, with Mode 6, the fireman switch closes only when Circuit 1 (the filter pump) is manually turned ON, not when the clock turns it ON. This mode is useful when you have Circuit 1 connected to a circulation pump in the spa. When the spa is not in use, the clock circulates the water to filter it, but does not turn ON the heater. When the spa is in use, the heater is also turned ON by manually switching Circuit 1 ON.

**Applications:** In Mode 6, the P1353ME Three Circuit Clock Mechanism is ideal for spa applications where you need to control three pieces of individual equipment (circulation pump, blower, light), but do not want to heat the spa while it's not in use.

# P1353ME Mode Applications

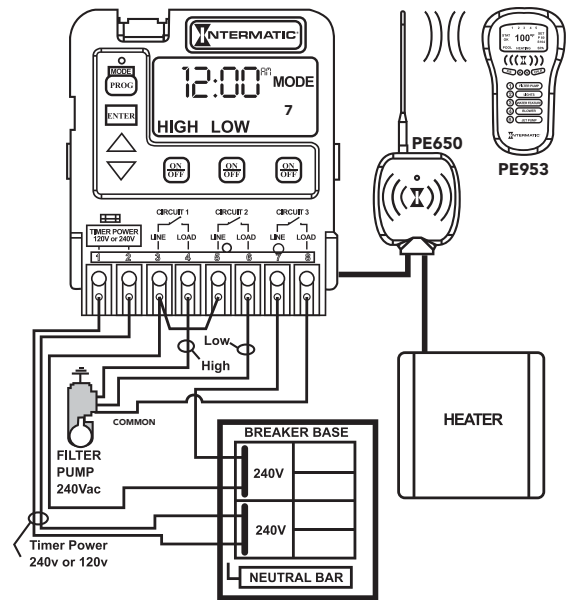
## 3 Circuit Pre-Programmed Options

### Continued

#### Mode 7 – (Pump High, Pump Low, Aux3)

Circuits one and two are dedicated single pole outputs for a two-speed pump load. Circuits one and two will never be ON at the same time, consistent with a two-speed pump application. Circuit three is a single pole circuit tied to circuits one and two and used to control the common line of the two speed pump. In Mode 7, all three circuits are used to control the two speed pump and break both legs of a 240 Volt pump installation.

**Applications:** In Mode 7, the P1353ME Three Circuit Clock Mechanism acts as a two speed controller and can be used for two speed pool applications but is ideal for spa applications where the filter pump on the spa is used for filtering in low speed and used for jets in high speed. The remaining circuit is used to open the second hot leg of a 240 Volt two speed installation when the pump is turned to the OFF position. With the addition of a PE650 Receiver and PE953 Transmitter, you can easily add wireless control to your equipment and add thermostat control to your pool or spa.





# Actuator Controller & Load Mechanisms



**P4043ME**



**PE140**



**P4243ME**

## P4000ME Series Actuator Control & Load Mechanisms

### Specifications:

- 120, 208, 240 VAC input voltage
- Controls up to three valve actuators
- Switches heater thermostat
- Remote control capabilities
- Agency approval: CSA/C-US
- Controls two circuits (**P4243ME only**)

### Contact Ratings – Each Circuit

- Valve Actuator Supply: 24 VAC, 40 VA
- 17 Amp Resistive, 120-240 VAC, 50/60 Hz (**P4243ME only**)
- 1.5 HP, 120 VAC, 50/60 Hz (**P4243ME only**)
- 3.0 HP, 240 VAC, 50/60 Hz (**P4243ME only**)
- 10 Amp Tungsten, 120, 240 VAC, 50/60 Hz (**P4243ME only**)

### P4043ME – Valve Actuator Control Mechanism

Have you ever wanted an affordable control that would only automate a set of water valves from the pool position to the spa position? Or maybe just turn a single water valve to engage a water feature?

Designed specifically for aftermarket and retro-fit applications, the P4043ME is ideal for controlling up to three water valve actuators with any latching or momentary contactor (**not provided**) capable of providing 120 VAC or 240 VAC. In addition, the P4043ME can switch the thermostat on most heaters between pool and spa when the actuators change position.

The P4043ME is ideal for those applications where only simple water valve control is required and can be triggered by any switching device you may provide (i.e. light switch, spring wound AUTO/OFF, wireless switch, relay, etc...). Installation is easy! Simply snap the P4043ME into any existing Intermatic enclosure that contains an available mechanism support bracket, hook up power to both the P4043ME and the trigger device, and plug in your 24 VAC water valve actuators behind the top door of the mechanism.

### PE140 – Valve Actuator Control

If you do not have an Intermatic enclosure, you can order the PE140 model which contains the P4043ME mechanism and the appropriate low voltage hardware for running your actuator cables.

### P4243ME – Valve/Pump Switch Mechanism

Designed as part of the I-Wave system and for aftermarket and retro-fit applications, the P4243ME does everything a P4043ME does and is most suited for controlling up to two different circuits associated with pool/spa combinations. It can also be used to control all the equipment typically needed in connection with water features, solar heating and other similar applications. This unit snaps into almost any Intermatic enclosure and controls pumps up to 3HP, 24 volt supply for up to three valve actuators, automatic HIGH/LOW water temperature selector, heater connection circuit and push button control for each load with indicator lights on the face of switch. In addition, the unit has connections for a hard wired or wireless remote and a master switch controller.

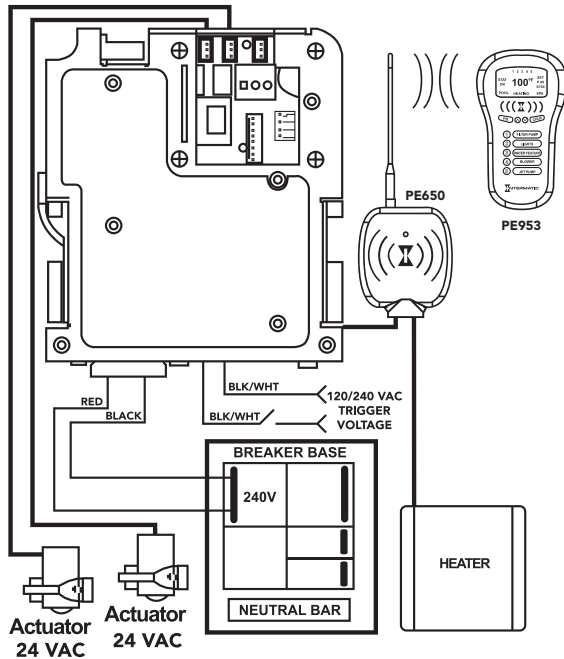
*Note: The following page refers to only a fraction of the most common applications of the MultiWave Control System. Contact your Intermatic sales representative or visit [www.intermatic.com](http://www.intermatic.com) and visit the Pool & Spa section of our website for more application ideas and details.*





# Actuator Controller & Valve/Pump Switch Applications

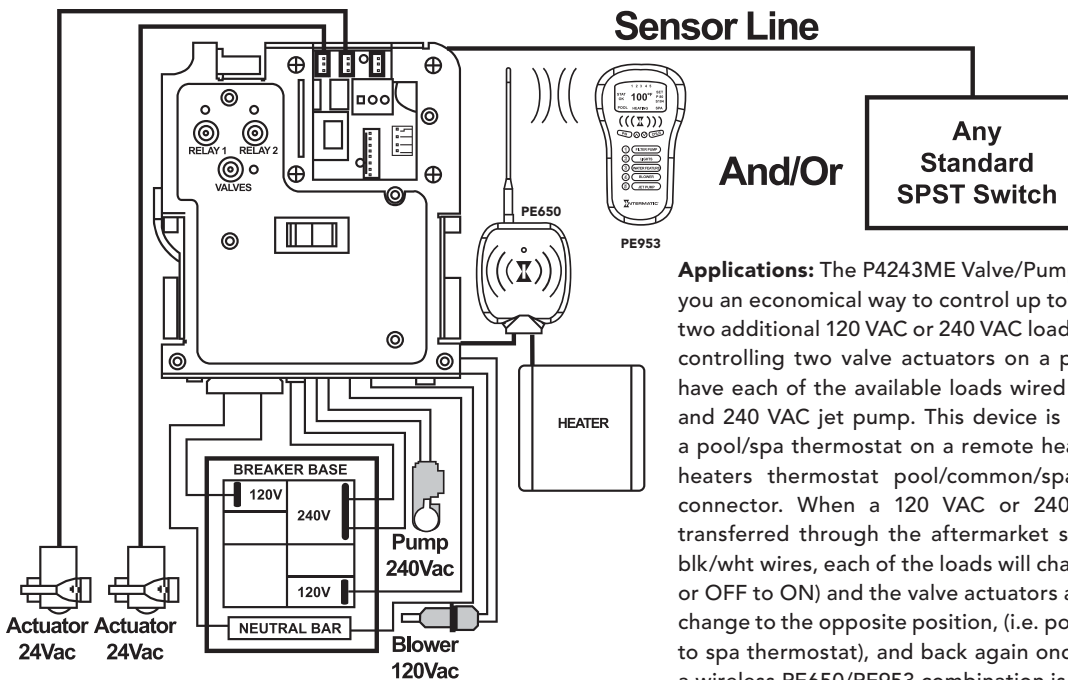
## P4043ME Application



**Applications:** The P4043ME Actuator Control Mechanism gives you an economical way to control up to three valve actuators with either a simple aftermarket switch, a sophisticated PE650/PE953 wireless control or both. In the example, we illustrate controlling two valve actuators most commonly found in a fountain control, solar control or pool/spa control system. This device is also capable of switching a pool/spa thermostat on a remote heater by wiring the remote heaters thermostat pool/common/spa wires to the onboard connector. When a 120 VAC or 240 VAC trigger voltage is transferred through the aftermarket switch to the mechanism's blk/wht wires, the valve actuators and heater thermostat will change to the opposite position, (i.e. pool to spa, pool thermostat to spa thermostat), and back again once the switch is opened. If a wireless PE650/PE953 combination is added to the mechanism, a wireless full thermostat control system along with actuator control would now be available.

## P4243ME Application

### Sensor Line



**Applications:** The P4243ME Valve/Pump Switch Mechanism gives you an economical way to control up to three valve actuators and two additional 120 VAC or 240 VAC loads. The example, illustrates controlling two valve actuators on a pool/spa combination and have each of the available loads wired to a 240 VAC spa blower and 240 VAC jet pump. This device is also capable of switching a pool/spa thermostat on a remote heater by wiring the remote heaters thermostat pool/common/spa wires to the onboard connector. When a 120 VAC or 240 VAC trigger voltage is transferred through the aftermarket switch to the mechanisms blk/wht wires, each of the loads will change state, (i.e. ON to OFF or OFF to ON) and the valve actuators and heater thermostat will change to the opposite position, (i.e. pool to spa, pool thermostat to spa thermostat), and back again once the switch is opened. If a wireless PE650/PE953 combination is added to the mechanism, a wireless full thermostat control system along with actuator control and individual load control would now be available.



# Wireless & Remote Control Accessories



PE650



PE953



133PE1484A

## I-Wave Remote Controls Panel-Mounted Transceiver (PE650) with Antenna (PA118)



Utilizing ground breaking Z-Wave® technology, Intermatic's Wireless Panel-Mounted Transceiver and Hand-Held Transceiver provide reliable two-way communication and long range ability that is unmatched by any other wireless protocols.

The main function of the Panel Mounted Transceiver is to take commands from the Wireless Hand Held Transceiver (PE953) and hand them off to two mechanisms (P1353ME and/or P4243ME).

### This unit can control:

- One P1353ME and one P4243ME
- One or two P1353ME units
- One or two P4243ME units
- Gas or electric heater thermostat

In cases where the two devices are too far apart for direct communication you can also purchase a (PA121) 35-ft. Antenna Extension Cable Assembly when structures impede transmissions between the Panel Mounted Transceiver and Hand Held Transceiver.

## Wireless Hand-Held Transceiver (PE953)

The primary function of the PE953 MultiWave wireless hand-held controller is to both transmit user commands and receive equipment data from a variety of different devices, including the PE650, PE653, specific OEM equipment and any Z-Wave compatible transceiver device. The PE953 is an all-in-one multitasking controller capable of communicating with all the above devices by toggling the screens on the controller to the appropriate device. With the addition of the new backlit display and improved features; the new PE953 MultiWave controller replaces the I-Wave PE950 controller.

### Features:

- Waterproof
- Replaces the PE950
- Backlit LCD display
- User friendly programming
- Improved programming capabilities
- New Z-Wave home automation features
- Controls the PE650, PE653, specific OEM equipment & Z-Wave devices
- Z-Wave certified capable of communicating with any Z-Wave certified devices

## Three-Button Wired Remote Control (133PE1484A)

The Three-Button Wired Remote Control 133PE1484A plugs into either the Three-Circuit Clock P1353ME or Valve/Pump Switch P4243ME and is normally installed as a spa-side remote. Most often the remote controls the filter pump, jets and lights, plus includes indicator lights on the face of the button. When installed as part of a system, it replaces the wireless method of controlling the three circuits within the mechanism. The Three-Button Wired Remote Control can also be installed where a third mechanism is needed in the enclosure, since the Wireless Hand-Held Transceiver (PE953) can only control two mechanisms.

# Control Accessories

## I-Wave Accessories

### Antenna (PA118)

The Intermatic Antenna PA118 installs on the top of the PE650 I-Wave receiver. All PE650 I-Wave receivers come with the antenna so you would only require a PA118 for replacement purposes. Only a PA118 antenna will work with the PE650 I-Wave Receiver.

### Water Temperature Sensor (PA122)

The Intermatic Water Temperature Sensor PA122 installs in the inlet side of the heater and monitors both pool and spa water temperature, depending on the position of the diverter valves. Installation is necessary for the thermostatic control to work. The sensor plugs into the Panel-Mounted Transceiver PE650 and the water temperature is displayed on the Hand-Held Transceiver PE953.

### Freeze (Air Temperature) Sensor (178PA28A)

Add the Intermatic Freeze or Air Temperature Sensor 178PA28A to installations where below-freezing outdoor temperatures are a concern. The sensor is designed to protect the pool and spa equipment and plumbing against freeze damage. The sensor plugs into the circuit board on the back of the P1353ME and turns ON the filter pump when air temperature drops below the programmed temperature. The freeze programming mode will not appear unless the sensor is plugged into the clock.

### 35-ft. Antenna Extension Cable Assembly (PA121)

When a structure impedes transmission between the Panel-Mounted Transceiver PE650 and Handheld Transceiver(s) PE953, you can use the 35-ft. Antenna Extension Cable Assembly PA121 to relocate the antenna from the Panel-Mounted Transceiver to the area of operation, ensuring that communication between the Hand-Held unit and the control center is successful.

Model #	Description	Case Qty.	Case Weight
PE650	Panel mounted transceiver	1	5.5 lbs. (2.5 kg)
PE953	Wireless hand held transceiver	1	5.5 lbs. (2.5 kg)
133PE1484A	Three-button wired remote control	1	3.1 lbs. (1.4 kg)
PA118	Antenna	1	0.2 lbs. (0.1 kg)
PA122	Water temperature sensor	1	0.3 lbs. (0.1 kg)
178PA28A	Freeze sensor	1	0.3 lbs. (0.1 kg)
PA121	Antenna extension	1	3.0 lbs. (0.1 kg)
PA120	Relay – DPST, 24 VAC coil	1	0.4 lbs. (0.2 kg)
143T145A	Relay – DPST, 24 VDC coil	1	0.4 lbs. (0.2 kg)



PA118



PA122



178PA28A



Antenna Extension  
Cable Accessory

PA121



143T145A

PA120



# Digital Two-Speed Controls PE Series

## PE100 Series

### P1353ME & NEMA 3R Enclosure with Available Options

- For 1 and 2-speed pumps
- Controls 3 circuits
- 3 ON/OFF events per day
- 7 pre-programmed combinations to choose from
- Add on other pool/spa related devices

See pages 114-117 for specifications on P1353ME

#### Applications:

- Single Speed Pump/Booster Pump Combos
- Two-Speed Pump/Booster Pump Combos
- Pool & Spa Lighting
- Water Features
- Gardens & Fountains
- Landscape Lighting

#### Specifications:

**Enclosure:** NEMA 3R rated for Indoor/Outdoor installation in beige finish  
"P" suffix models are same dimensions, except made from outdoor grade plastic.

9<sup>3</sup>/<sub>8</sub> in. (23.8 cm) H x 5<sup>1</sup>/<sub>2</sub> in. (14.0 cm) W x 3<sup>5</sup>/<sub>8</sub> in. (9.2 cm) D

**Knockouts:** Combination 1/2 – 3/4 in. nominal knockouts, one on back and each side of enclosure and two on bottom

**Switch Rating (each circuit):** 20 Amp Resistive, 120-240 VAC, 50/60 Hz; (20 FLA, 96 LRA), 120 VAC, 50/60 Hz; (17 FLA, 80 LRA), 240 VAC, 50/60 Hz; 5 Amp Tungsten, 120-240 VAC, 50/60 Hz; 5 Amp Ballast, 120-240 VAC, 50/60 Hz

**Shipping Weight:** 3.7 lbs (1.7 kg)

**Agency Approval:** CSA/C-US

Model #	Description	Switch	Clock Supply Volts 50/60 Hz
PE153	Digital Time Clock in Metal Enclosure	3 - SPST	120, 240
PE153F	Digital Time Clock in Metal Enclosure with Freeze Protection Probe	3 - SPST	120, 240
PE153P	Digital Time Clock in Plastic Enclosure	3 - SPST	120, 240
PE153PW	Digital Time Clock in Plastic Enclosure with 100' Wired Remote Command	3 - SPST	120, 240
PE153PF	Digital Time Clock in Plastic Enclosure with Freeze Protection Probe	3 - SPST	120, 240
PE153PWF	Digital Time Clock in Plastic Enclosure with 100' Wired Remote Command & Freeze Protection Probe	3 - SPST	120, 240
PE153RC	Digital Time Clock in Metal Enclosure with Wireless Remote Command & Heater Control	3 - SPST	120, 240

Note: See page 120-121 for PE650 and PE953 specifications and pages 114-117 for P1353ME specifications.



PE153RC



# Digital Two-Speed Controls PE10000 Series

## PE 10000 Series Digital Pool or Spa Control Centers

For pool, spa or water feature applications, the PE Series Digital Controls include one P1353ME mechanism that controls a total of three timed circuits, including single speed or two-speed filter pumps, pool lights, spa lights and landscape lights. Countdown and override features allow programs to be interrupted for service and automatically resumed without reprogramming your system.

### Applications:

- Single Speed Pump/Booster Pump Combos
- Water Features
- Two-Speed Pump/Booster Pump Combos
- Gardens & fountains
- Pool & Spa Lighting
- Landscape Lighting

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish.

14¾ in. (37.5 cm) H x 14¾ in. (37.5 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** One 1.09 in. diameter through hole, three ½ in. knockouts, seven combination ½ – ¾ in. knockouts, and two combination ¾ – 1 in. knockouts on the bottom. Two combination ½ – ¾ in. on the left side and one combination ¾ – 1 in. and one combination ½ – ¾ in. on the back. One knockout 1¾ x 2¾ in. on the right side for mounting switches or GFCI

**Switch Rating:** P1353ME – See page 114

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description/Mechanism	Switch	Clock Supply Volts 50/60 Hz	Shipping Weight
PE10000	None	None	120, 240	16.3 lbs (7.4 kg)
PE15300	P1353ME	3-SPST	120, 240	17.2 lbs (7.8 kg)
PE15300F	P1353ME w/Freeze Probe	3-SPST	120, 240	17.2 lbs (7.8 kg)

### Upgrade Solution & Options:

**Wireless – Add PE650 & PE953 (see page 120-121)**



PE10000



PE15300



PE15300F





# Digital Two-Speed Controls PE20000 Series Pool or Spa Wave



PE2000



PE25300



PE25300F



PE25300RC



## PE20000 Series Digital Pool or Spa Control Panels

For pool, spa or water feature applications, the Pool or Spa Wave PE2 Series Wireless Control System includes one P1353ME mechanism that controls a total of three timed circuits, including single speed or two-speed filter pumps, cleaner/booster pumps, pool lights, spa lights and landscape lights. Countdown and override features allow programs to be interrupted for service and automatically resumed without reprogramming your system.

### Applications:

- Single Speed Pump/Booster Pump Combos
- Two-Speed Pump/Booster Pump Combos
- Water Features
- Pool & Spa Lighting
- Gardens & Fountains
- Landscape Lighting

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
16½ in. (41.9 cm) H x 10⅞ in. (27.6 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** One 1.09 in. diameter through hole, six combination ½ – ¾ in. knockouts, and three combination ¾ – 1 in. knockouts on the bottom. Two combination ½ – ¾ in. on the left side and one combination ¾ – 1 in. on the back. One knockout 1¾ x 2¾ in. on the right side for mounting switches or GFCI

**Panel Rating:** 60 Amp, 120, 240 VAC or 120, 208 VAC single phase

**Switch Rating:** P1353ME – See page 114

**Agency Approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts 60 Hz	Shipping Weight
PE20000	None	None	120, 240	14.3 lbs (6.5 kg)
PE25300	P1353ME	3 - SPST	120, 240	18.3 lbs (8.3 kg)
PE25300F	P1353ME w/Freeze Probe	3 - SPST	120, 240	18.3 lbs (8.3 kg)
PE25300RC	P1353ME w/Wireless Remote Command and Heater Control	3 - SPST	120, 240	19.3 lbs (8.8 kg)

Note: See page 120-121 for PE650 and PE953 specifications and page 114-117 for P1353ME specifications.

### Upgrade Options:

**Wireless – Add PE650 & PE953 (see page 120-121)**

# Digital Controls

## PE30000 Series Mini I-Wave

### PE30000 Series Digital Pool or Spa Control Panels

For pool, spa or water feature applications, the Mini I-Wave Series Digital Controls includes one P1353ME mechanism that controls a total of three timed circuits, including single-speed or two-speed filter pumps, cleaner/booster pumps, pool lights, spa lights and landscape lights. Countdown and override features allow programs to be interrupted for service and automatically resumed without reprogramming your system.

#### Applications:

- Single Speed Pump/Booster Pump Combos
- Two-Speed Pump/Booster Pump Combos
- Water Features
- Pool & Spa Lighting
- Gardens & Fountains
- Landscape Lighting

#### Specifications:

**Enclosure:** 0.048 in. steel with light beige finish

22 in. (55.9 cm) H x 14<sup>3</sup>/<sub>4</sub> in. (37.5 cm) W x 4<sup>1</sup>/<sub>4</sub> in. (10.8 cm) D

**Knockouts:** One 1.09 in. diameter through hole, six combination 1/2 – 3/4 in. knockouts, 2 combination 3/4, 1, 1 1/4 in. knockouts, four 1/2 in. knockouts on the bottom. Two combination 1/2 – 3/4 in. knockouts on the left side and four combination 1/2 – 3/4 in. knockouts, two combination 3/4 – 1 in. on the back. One knockout 1 3/4 x 2 3/4 in. on the right side for mounting switches or GFCI

**Panel Rating:** 80 Amp, 120, 240 VAC or 120, 208 VAC single phase

**Switch Rating:** P1353ME – See page 114

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description/Mechanism	Switch	Clock Supply Volts 50/60 Hz	Shipping Weight
PE30000	None	None	120 or 240	16.3 lbs (7.4 kg)
PE35300	P1353ME	3-SPST	120 or 240	19.0 lbs (8.6 kg)
PE35300RC	P1353ME w/Wireless Remote	3-SPST	120 or 240	29.0 lbs (13.2 kg)
<b>Command &amp; Heater Control</b>				
PE35343RC	P1353ME & P4243ME w/Wireless Remote Command, Heater Control & Two PE24VA Valve Actuators	3-SPST 2-DPST 3-Actuators	120 or 240	38.0 lbs (17.3 kg)

Note: See page 120-121 for PE650 and PE953 specifications and page 114-117 for P1353ME specifications.





# Digital Controls

## PE40000 Series I-Wave



**PE40000**



**PE45300**



**PE45343RC**



**PE45343RCT3**



### PE40000 Series I-Wave Wireless Pool/Spa Control Panels

For pool, spa or water feature applications, the I-Wave Series Digital Controls includes one P1353ME mechanism that controls a total of three timed circuits, including single speed or two-speed filter pumps, cleaner/booster pumps, pool lights, spa lights and landscape lights. Countdown and override features allow programs to be interrupted for service and automatically resumed without reprogramming your system.

For pool/spa combinations or pool/water feature combinations, the PE45343RC includes all the features of the PE Series Digital Controls plus two PE24VA valve actuators, Wireless Panel-Mounted Transceiver PE650 and Hand-Held Transceiver PE950 which allows the system to display the status of each of the five circuits (3 timed and 2 on-demand), pool and spa water temperature, pool and spa thermostat set point, heating status and overall communication status.

#### Applications:

- Pool/Spa Combinations
- Pool/Water Feature Combinations
- Pool/Spa Lighting
- Water Features
- Fountains
- Landscape Lighting

#### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
26.0 in. (66.3 cm) H x 18.0 in. (45.9 cm) W x 5.5 in. (14.0 cm) D

**Knockouts:** Two combination 3/4 – 1 – 1 1/4 in. and eleven combination 1/2 – 3/4 in. knockouts on the bottom. Two 3/4 – 1 in. combination and four combination 1/2 – 3/4 in. knockouts on the back. Low voltage compartment has two combination 1/2 – 3/4 in. knockouts and one 3/4 in. hole with a shutter bushing installed. Two combination 3/4 – 1 in. and one combination 1/2 – 3/4 in. knockouts. One 1 3/4 x 2 3/4 in. knockout on the right side

**Panel Rating:** 125 Amp, 120, 240 VAC or 120, 208 VAC single phase

**Switch Rating:** P1353ME (page 114) and P4243ME (pages 118-119)

**Shipping Weight:** See Table

**Agency approval:** CSA/C-US

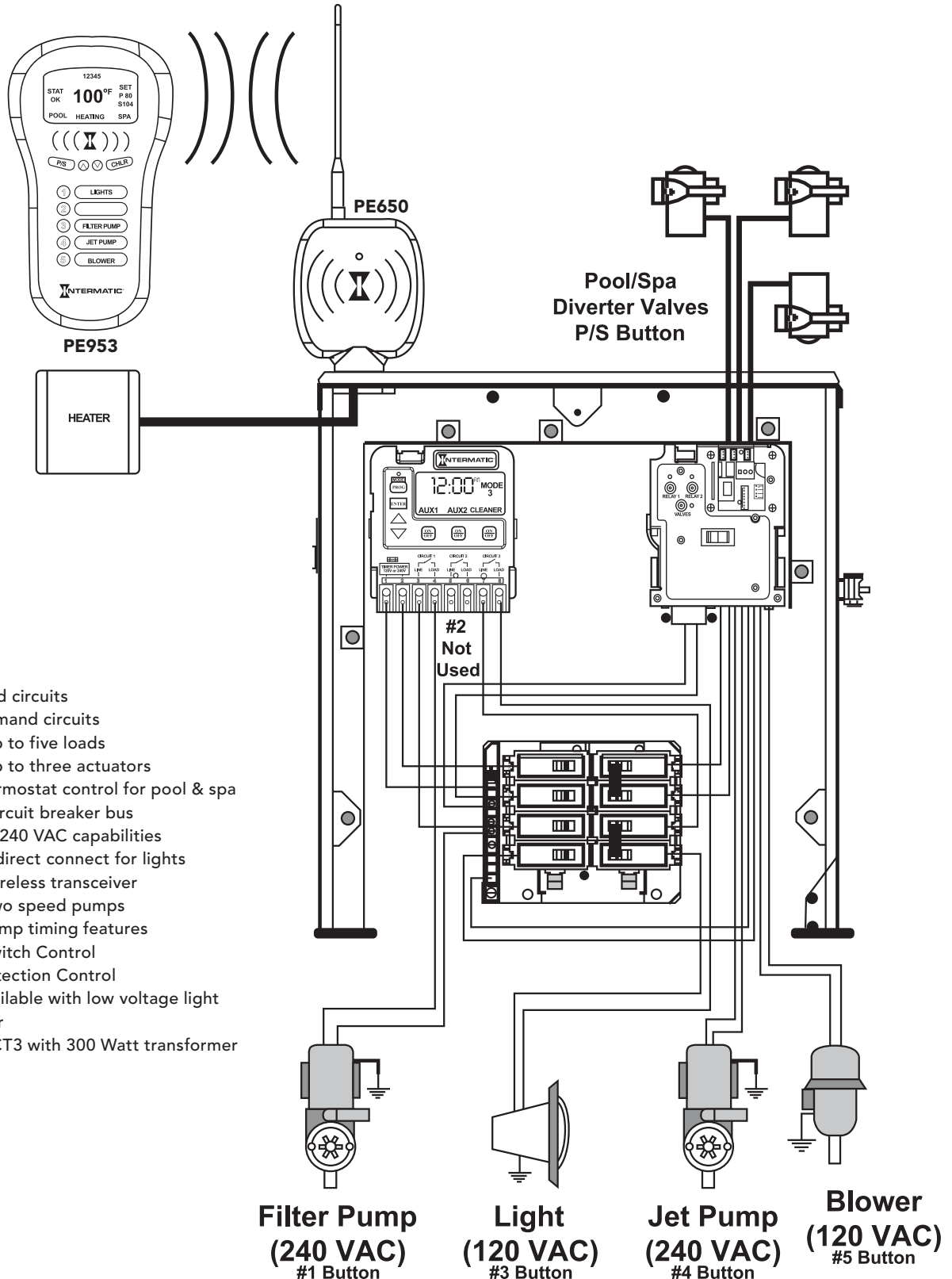
Model #	Mechs/ Description	Circuits	Transformer	Volts 50/60 Hz	Shipping Weight
PE40000	None	None	None	120, 240	42.0 lbs. (19.1 kg)
PE45300	P1353ME	3 – SPST	None	120, 240	44.0 lbs. (19.8 kg)
PE45343RC	P1353ME w/Wireless Remote Command, Heater Control & (2) Actuators	3 – SPST 2 – DPST 2 – Actuators	None	120, 240	52.0 lbs. (23.6 kg)
PE45343RCT3	P1353ME w/Wireless Remote Command, Heater Control & (2) Actuators w/300 Watt 12 V Transformer	3 – SPST 2 – DPST 2 – Actuators	300 Watt	120, 240	61.0 lbs. (27.5 kg)

Note: See pages 120-121 for PE650 and PE953 specifications, page 114 for P1353ME, pages 118-119 for P4243ME specifications and page 148 for PE24VA Valve Actuator specifications.



# Digital Control Applications

## I-Wave Application PE45343RC & PE45343RCT3



### Features

- Three timed circuits
- Two on-demand circuits
- Controls up to five loads
- Controls up to three actuators
- Heater thermostat control for pool & spa
- 125 Amp circuit breaker bus
- 120 VAC & 240 VAC capabilities
- Approved direct connect for lights
- Z-Wave® wireless transceiver
- Controls two speed pumps
- Booster pump timing features
- Fireman Switch Control
- Freeze Protection Control
- Models available with low voltage light transformer
- PE45343RCT3 with 300 Watt transformer



# Digital Controls PE1500RC Series Mini-Wave



**PE1541RC**



**PE1501RC**



**PA120**

**143T145A**

## PE1500RC Series Mini-Wave Wireless Pool/Spa Control Panels

For pool/spa combinations or pool/water feature combinations, the PE1541RC includes a PB313E one circuit electronic timer for controlling the filter pump, two PE24VA valve actuators, Wireless Panel Mounted Transceiver PE650 and Hand-Held Transceiver PE950, which allows the system to display the status of each of the four on-demand circuits, pool and spa water temperature, pool and spa thermostat set point, heating status and overall communication status. PE1501RC does not include actuators and is designed for pool or spa applications.

### Specifications:

**Panel Rating:** 100 Amp, 120, 240 VAC or 120, 208 VAC single phase

**Switch Rating:** 17 Amp Resistive, 120, 240 VAC, 50/60 Hz; 1.5 HP, 120 VAC, 50/60 Hz; 3.0 HP, 240 VAC, 50/60 Hz; 10 Amp Tungsten, 120, 240 VAC, 50/60 Hz

**Shipping Weight:** 24.3 lbs. (10.9 kg)

**Agency Approval:** CSA/C-US

Model #	Timer	Circuits	Actuators	Switch	Clock Supply Volts 50/60 Hz
PE1541RC	PB313E	4	2	4 - DPST	120, 240
PE1501RC	PB313E	4	None	4 - DPST	120, 240

Note: See Page 120-121 for PE650 and PE953 specifications.

## PA120 Relay (24 VAC Coil) Booster/Cleaner Pump, Water Feature or Extra Circuit

If you need to control a booster/cleaner pump, water feature or just require an additional circuit, the PA120 can be added as circuit #3 to your Mini-Wave Control Center. If used as a booster/cleaner pump relay, you will need to program your PE953 Wireless Hand-Held Transceiver to lock out the booster/cleaner pump whenever your valve actuators change from the pool position to the spa position. This relay requires a 24 VAC coil, not a 24 VDC coil like the remaining four relays.

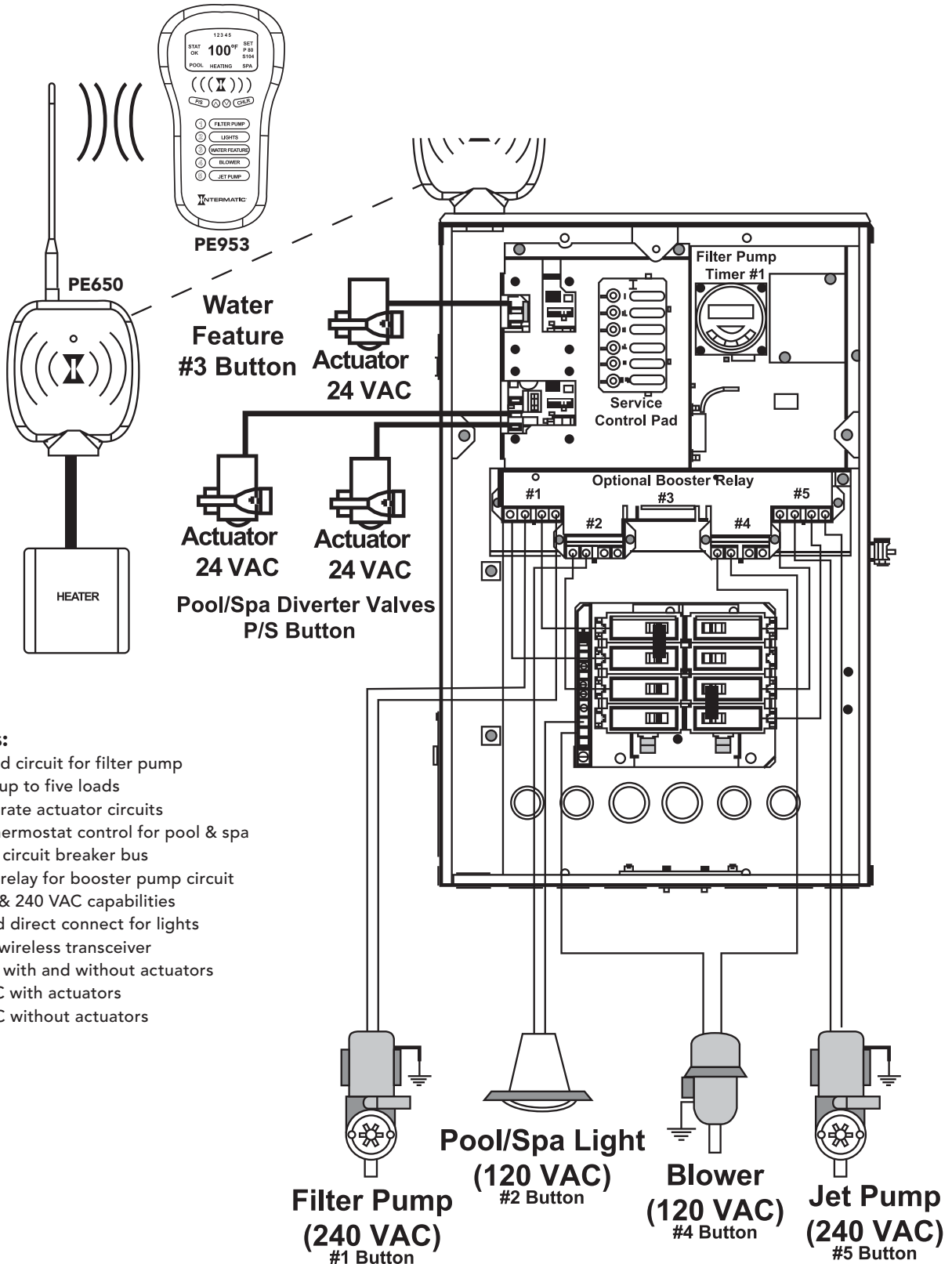
## 143T145A (24 VDC Coil) Replacement Relay

The 143T145A is the replacement relay for the I-Wave, Mini-Wave or most any other competitors control system available on the market today. Capable of controlling up to a 3 HP motor, it has a 24 VDC coil, and comes equipped with a 10 in. red/black lead wire and two pin connector suitable for most control systems.

Model #	Description	Case Qty.	Case Weight
PA120	Relay - DPST, 24 VAC coil	1	0.4 lbs. (0.2 kg)
143T145A	Relay - DPST, 24 VDC coil	1	0.4 lbs. (0.2 kg)

# Mini-Wave Applications

## Mini-Wave Application PE1541RC & PE1501RC



### Features:

- One timed circuit for filter pump
- Controls up to five loads
- Two separate actuator circuits
- Heater thermostat control for pool & spa
- 100 Amp circuit breaker bus
- Optional relay for booster pump circuit
- 120 VAC & 240 VAC capabilities
- Approved direct connect for lights
- Z-Wave® wireless transceiver
- Available with and without actuators
- PE1541RC with actuators
- PE1501RC without actuators



# Mechanical Time Switches



**T104M**



**T104M201**



## T100M Series 24 Hour Mechanical Time Switch Mechanisms

These heavy duty Time Switch Mechanisms are designed for commercial, industrial and residential applications, and have the highest motor load ratings in the industry. They provide up to 12 ON/OFF operations each day with minimum ON/OFF time of 1 hour. All models are equipped with ON and OFF trippers and can be installed in almost all Intermatic enclosures.

**Applications:**

- Filter Pumps
- Heat Pumps
- Lighting

**Specifications:**

**Switch Rating:** 40 Amp Resistive each pole, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty each pole 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC

**Shipping Weight:** See Table

**Agency approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts 60 Hz	Shipping Weight
T101M	Mechanism only	SPST	120	1.4 lbs (0.6 kg)
T102M	Mechanism only	SPST	208-277	1.4 lbs (0.6 kg)
T103M	Mechanism only	DPST	120	1.4 lbs (0.6 kg)
T104M	Mechanism only	DPST	208-277	1.4 lbs (0.6 kg)
T106M	Mechanism only	SPDT	208-277	1.4 lbs (0.6 kg)

for 2-speed pump applications

## T100M201 Series 24 Hour Mechanical Time Switch Mechanism with Heater Protection

This Time Switch Mechanism provides coordinated control for heater and filter pump operations. It is designed to turn OFF a gas fired swimming pool heater approximately 20 minutes before the filter pump shuts down. This eliminates the problem of pounding and knocking due to overheated water, reduces scale and lime deposits and extends the service life of the heater. The 24-hour dial allows up to 12 ON/OFF operations each day. One set of ON and OFF trippers is supplied with each switch. Minimum ON/OFF time is one hour. Can be installed in almost all Intermatic enclosures.

**Applications:**

- Pool and/or spa pumps with gas fired heaters

**Specifications:**

**Switch Rating:** 40 Amp Resistive each pole, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty each pole 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC

**Heater Control Circuit:** 10 Amp, 240V. max

**Shipping Weight:** See Table

**Agency approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts 60 Hz	Shipping Weight
T104M201	Mechanism only with heater protection	DPST	208-277	1.4 lbs (0.6 kg)



# Mechanical Time Switches

## T100 Series Pool/Spa Time Switches

These heavy-duty Mechanical Time Switches are designed for commercial, industrial and residential applications and have the highest motor load ratings in the industry. They provide up to 12 ON/OFF operations each day with a minimum ON/OFF time of 1 hour. All models are equipped with ON and OFF trippers and are available in either plastic or metal indoor/outdoor enclosure.

T100R201 and T100P201 Series Time Switches are designed to turn OFF a gas fired swimming pool heater approximately 20 minutes before the filter pump shuts down. This eliminates the problem of pounding and knocking due to overheated water, reduces scale and lime deposits and extends the service life of the heater.

### Applications:

- Booster Pumps
- Fans
- Heat Pumps
- Lighting
- Air Conditioning
- Swimming Pool and/or Spa Filter Pumps with Gas Fired Heaters
- Hydro Chlorinators
- Music and Signal Systems

### Specifications:

**Enclosure:** NEMA 3R rated for Indoor/Outdoor installation. 0.034 in. drawn steel in beige finish

9<sup>3</sup>/<sub>8</sub> in. (23.8 cm) H x 5<sup>1</sup>/<sub>2</sub> in. (14.0 cm) W x 3<sup>5</sup>/<sub>8</sub> in. (9.2 cm) D

"P" models are the same as above, except made from outdoor grade plastic

**Knockouts:** Combination 1/2 – 3/4 in. nominal knockouts, 1 on back and each side of enclosure and 2 on bottom

**Switch Rating:** 40 Amp Resistive each pole, 120-480 VAC; 40 Amp Tungsten, Inductive or 1000 VA Pilot Duty each pole, 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC

**Heater Protection Circuit:** 10 Amp, 240 V max

**Agency Approval:** CSA/C-US



Model #	Description	Switch	Clock Supply Volts 60Hz
2T2485GA	Metal enclosure only	None	NA
2T2502GA	Plastic enclosure only	None	NA
2TP3352A	Plastic enclosure only with safety door	None	NA
T101P3	Time switch in plastic enclosure	SPST	120
T104P3	Time switch in plastic enclosure	DPST	208-277
T101R3	Time switch in metal enclosure	SPST	120
T101PCD82	Time switch in plastic enclosure w/see-through cover	SPST	125
T103PCD82	Time switch in plastic enclosure w/see-through cover	DPST	125
T104PCD82	Time switch in plastic enclosure w/see-through cover	DPST	125
T104R3	Time switch in metal enclosure	DPST	208-277
T101P201*	Time switch in plastic enclosure w/heater protection	SPST	120
T104P201*	Time switch in plastic enclosure w/heater protection	DPST	208-277
T101R201*	Time switch in metal enclosure w/heater protection	SPST	120
T104R201*	Time switch in metal enclosure w/heater protection	DPST	208-277

\* The heater protection switch (fireman switch) is closed when the time switch contacts are open to allow remote operation of the heater. A flow or pressure switch must always be part of the heater control circuit.

For additional trippers (1 ON/1 OFF per pack), order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order No. PA115.

Note: See page 130 for a detailed list of replacement mechanisms.





# Mechanical Controls



T10000R



T10004R



T10404R



## T10000R Series Pool/Spa Control Centers

The T10000R Series Control Centers feature an all-weather enclosure and contain one or two heavy-duty timer mechanisms. In addition, they have provision to install switches or GFCI receptacle on the side and additional switches inside. The enclosure accepts any combinations of P1353ME or P4243ME or T100M or RC2000M or PF1000M Series mechanisms.

### Applications:

- Filter Pumps/Booster Pump Combinations
- Filter Pump/Light Controls
- Pool/Spa Combinations
- Landscape or HID Lighting
- Signs

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
12 in. (30.5 cm) H x 12 in. (30.5 cm) W x 4 1/4 in. (10.8 cm) D

**Knockouts:** Five combination 1/2 – 3/4 in. and two combination 3/4 – 1 in. knockouts on the bottom. One combination 1/2 – 3/4 in. on the left side and one combination 3/4 – 1 in. on the back. One knockout 1 3/4 x 2 3/4 in. on the right side for mounting switches or GFCI

**Center Rating:** 92 Amp per leg, 168 Amp Max. 120-240 VAC or 120-208 VAC single phase, 60 Hz

**Time Switch Rating:** 30 Amp Resistive/Inductive, Tungsten or 1000 VA Pilot Duty each pole 120, 208, 240 VAC; 2 HP (24 FLA), 120 VAC; 5 HP (28 FLA), 240 VAC

**Shipping Weight:** See Table

**Agency Approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts AC, 60 Hz	Shipping Weight
T10000R	Enclosure Only	None	NA/NA	9.3 lbs (4.2 kg)
T10004R	One T104M	NA/DPST	NA/240	10.5 lbs (4.7 kg)
T10101R	Two T101M	SPST/SPST	120/120	11.0 lbs (5.0 kg)
T10404R	Two T104M	DPST/DPST	240/240	11.0 lbs (5.0 kg)
T10604R*	T106M & T104M	SPDT/DPST	240/240	11.0 lbs (5.0 kg)
T12404R**	T104M201 & T104M	DPST/DPST	240/240	11.0 lbs (5.0 kg)

\* For 2 Speed Pump Applications.

\*\* The heater protection switch (fireman switch) is closed when the time switch contacts are open to allow remote operation of the heater. A flow or pressure switch must always be part of the heater control circuit.

For additional trippers ( 1 ON 1 OFF per pack), order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order No. PA115.

For stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.

Note: See page 130 for a detailed list of replacement mechanisms.

# Mechanical Controls

## T20000R Series 60 Amp Pool/Spa Control Panels

The T20000R Series Control Panels features an all-weather enclosure and contain a 4 circuit breaker base, an equipment grounding bar and a mechanical time switch mechanism. The circuit breaker base accepts interchangeable type breakers made by a several manufacturers. In addition, the enclosure has provision for installing additional switches or GFCI receptacles on the side and inside.

### Applications:

- Filter Pumps
- Lights
- Ventilating Systems
- Signs
- Air Conditioners
- Heaters

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
16 $\frac{3}{4}$  in. (42.6 cm) H x 8 $\frac{7}{8}$  in. (22.5 cm) W x 4 $\frac{3}{8}$  in. (11.1 cm) D

**Knockouts:** Five combination  $\frac{1}{2}$  –  $\frac{3}{4}$  in. and three  $\frac{3}{4}$  – 1 in. on the bottom, one combination  $\frac{1}{2}$  –  $\frac{3}{4}$  in. on the left side, one  $\frac{3}{4}$  – 1 in. on the back and one combination  $1\frac{3}{4}$  x 2 $\frac{3}{4}$  in. knockout on the right side for mounting switches or GFCI

**Panel Rating:** 60 Amp, 120, 240 VAC or 120, 208 VAC; Single Phase, 60 Hz

**Time Switch Rating:** 30 Amp Resistive/Inductive, Tungsten or 1000 VA Pilot Duty each pole, 120, 208, 240 VAC; 2 HP (24 FLA), 120 VAC; 5 HP (28 FLA), 240 VAC

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description/Mechanism	Switch	Clock Supply Volts AC, 60 Hz	Shipping Weight
T21000R	Enclosure only	None	NA	11.2 lbs (5.0 kg)
T21001R	T101M	SPST	120	12.2 lbs (5.5 kg)
T21004R	T104M	DPST	240	12.2 lbs (5.5 kg)
T20004R*	T104M	DPST	240	11.6 lbs (5.3 kg)

\* T20004R has a limited availability, T21004R is the replacement model.

For additional trippers ( 1 ON 1 OFF per pack ), Order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order No. PA115.

For stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.

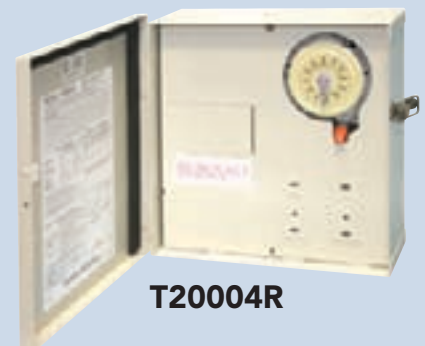
Note: See page 130 for a detailed list of replacement mechanisms.



T21000R



T21004R



T20004R





# Mechanical Controls

## T30000R Series 100 Amp Pool/Spa Control Panels

The T30000R Series Control Panels reduce installation costs and provide all of the electrical requirements for any pool and/or spa installation. They offer an all-in-one electrical control center which can be custom wired for a wide variety of requirements, and eliminate the need for additional junction boxes and service panels. The enclosure accepts any combination of P1353ME or P4243ME or T100M or RC2000M or PF1000M Series mechanisms.

### Applications:

- Filter Pumps
- Booster Pumps
- Heating Systems
- Lights
- Cleaning Systems
- Security Systems
- Fountains
- Sprinkler Systems
- Landscape or HID Lighting

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied beige finish  
16½ in. (41.9 cm) H x 10⅞ in. (27.6 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Two ½ in., three combination ½ – ¾ in., and two combination ¾ – 1 in. knockouts on the bottom. Four ½ in., three combination ½ – ¾ in. on the back. One combination ¾ – 1 in. on the left side. One 1¾ x 2¾ in. knockout on the right side for mounting switches and GFCI

**Panel Rating:** 100 Amp, 120, 240 VAC or 120, 208 VAC single phase, 60 Hz.

**Time Switch Rating:** 30 Amp Resistive/Inductive, Tungsten or 1000 VA Pilot Duty each pole, 120, 208, 240 VAC; 2 HP (24 FLA), 120 VAC; 5 HP (28 FLA), 240 VAC

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts AC, 60 Hz	Shipping Weight
T30000R5	Enclosure Only	None	NA/NA	15.5 lbs (7.0 kg)
T30004R	One T104M	None/DPST	NA/240	16.4 lbs (7.4 kg)
T30401R	T104M & T101M	DPST/SPST	240/120	17.3 lbs (7.8 kg)
T30404R	Two T104M	DPST/DPST	240/240	17.3 lbs (7.8 kg)
T30604R	T106M & T104M	SPDT/DPST	240/240	17.3 lbs (7.8 kg)
T32404R*	T104M201 & T104M	DPST/DPST	240/240	17.3 lbs (7.8 kg)

\* The heater protection switch (fireman switch) is closed when the time switch contacts are open to allow remote operation of the heater. A flow or pressure switch must always be part of the heater control circuit.

For additional trippers ( 1 ON 1 OFF per pack), order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order No. PA115.

For stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.

Note: See page 130 for a detailed list of replacement mechanisms.



T30000R5



T30004R



T32404R





# Mechanical Controls

## T40000R Series 125 Amp Pool/Spa Control Panels

The T40000R Series Control Panels reduce installation costs and provide all of the electrical requirements for any pool and/or spa installation. They offer an all-in-one electrical control center which can be custom wired for a wide variety of requirements, and eliminate the need for additional junction boxes and service panels. The enclosure accepts any combination of P1353ME or P4243ME or T100M or RC2000M or PF1000M Series mechanisms.

### Applications:

- Filter Pumps
- Booster Pumps
- Heating Systems
- Lights
- Cleaning Systems
- Security Systems
- Fountains
- Sprinkler Systems

### Specifications:

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
20¾ in. (52.7 cm) H x 12¾ in. (32.4 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Seven combination ½ – ¾ in. and three combination ¾ – 1 in. knockouts on the bottom. Five combination ½ – ¾ in. on the left side. One 1¾ x 2¾ in. knockout on the right side for mounting switches and GFCI

**Panel Rating:** 125 Amp max. 120, 240 VAC or 120, 208 VAC single phase, 60 Hz

**Timer Switch Rating:** 30 Amp Resistive/Inductive, Tungsten or 1000 VA Pilot Duty each pole, 120, 208, 240 VAC; 2 HP (24 FLA), 120 VAC; 5 HP (28 FLA), 240 VAC

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description/ Mechanism	Switch	Clock Supply Volts AC, 60 Hz	Shipping Weight
T40000R	Enclosure Only	None	NA	16.0 lbs (7.2 kg)
T40004R	One T104M	DPST	NA/240	20.5 lbs (9.2 kg)
T40404R	Two T104M	DPST	240/240	21.2 lbs (9.5 kg)

For additional trippers ( 1 ON 1 OFF per pack ), order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order NO. PA115.

For additional stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.

## T40000R4 Series 100 Amp Specialty Control Panels

These specialty Control Panels are the same as the T40000R Series, except they have been designed for specialty applications. Models include a factory installed GFCI, or stainless steel panel for high corrosive environments or an inside wiring compartment for two devices. These enclosures accept any combination of T100M, P1353ME, P4243ME or T100M or RC2000M or PF1000M Series mechanisms.

### Specifications:

**Enclosure, Knockouts, Timer Switch Rating & Agency Approval:** Same as above

**Panel Rating:** 115 Amp, 120, 240 VAC or 120, 208 VAC single phase, 60 Hz

**Shipping Weight:** See table

Model #	Description/ Mechanism	Switch	Clock Supply Volts AC, 60 Hz	Shipping Weight
T40000R4*	Inside Compartment	None/None	NA/NA	19.4 lbs (8.7 kg)
T40004RSS**	One T104M	None/DPST	NA/240	20.5 lbs (9.2 kg)
T40004R5	One T104M & GFCI Installed	None/DPST	NA/240	21.6 lbs (9.7 kg)
T40404R5	Two T104M & GFCI Installed	DPST/DPST	240/240	24.6 lbs (11.0 kg)

\* Enclosure only with inside wiring compartment for twist-lock receptacle and GFCI.

\*\* Stainless Steel Enclosure.

For additional trippers ( 1 ON 1 OFF per pack ), order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), order NO. PA115.

For additional stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.



Pool & Spa Controls



# Radio Remote Controls



**RC613L**



**RC613R**



**RC939**



## RC600 & RC900 Series Outdoor Radio Remote Controls

These Modular Radio Receivers are one half of a two part remote control system. They operate as ordinary ON/OFF switches but they also respond to the signals of a hand held transmitter — the other half of the system. The modules are designed for indoor or outdoor use, and can handle a variety of switching applications. By the push of a button on the face of the transmitter, the user is able to turn ON/OFF the connected load (lights, pump, etc.) from any remote location, inside or outside of the house, safely and conveniently. In addition, a single transmitter can operate up to three receivers and is able to “teach” each module a different code (Transmitter model RC939 sold separately).

### Applications:

- Pool/Spa Pumps, Lights & Heaters
- Pool/Spa Combinations
- Outdoor Lighting
- Air Blowers
- Fountain Pumps
- Motorized Gates
- Signs
- Water Features
- Motorized Valves

### Specifications:

**Enclosure:** Beige outdoor grade plastic

**Electrical Rating:** See table

**Maximum Range:** 100 ft. See transmitter model RC939 for details

**Agency Approval:** CSA/C-US

Model #	Description	Electrical Rating	Size	Shipping Weight
RC613	Receiver with ON/OFF button	15 Amp Resistive, 10 Amp (1200 W) Tungsten, 1 HP, motor load, 120 VAC	4½ in. H (11.4 cm), 3 in. W (7.6 cm), 1¼ in. D (4.0 cm)	0.5 lbs (0.2 kg)
RC613L	RC613 with (3) 36 in. long leads	Same as RC613	Same as RC613	0.7 lbs (0.3 kg)
RC613R	Heavy duty receiver module	20 Amp Resistive, 120, 240 V, 12.5 Amp (1500 W); 1.5 HP, 120 VAC; 3 HP, 240 VAC; DPST Contacts	7¾ in. H (19.7 cm), 4 in. W (10.7 cm), 3½ in. D (8.9 cm)	1.4 lbs (0.6 kg)
RC615	Timer Interface Module without manual button	Same as RC613	Same as RC613	0.5 lbs (0.2 kg)

## Hand Held Radio Transmitter

This hand held radio transmitter operates the shared equipment of a pool/spa combination by the touch of a button. Additional buttons are available on the transmitter to turn ON/OFF a booster pump, blower and lights.

### Applications:

- Pool/Spa Pumps, Lights & Heaters
- Pool/Spa Combinations
- Outdoor Lighting
- Air Blowers
- Signs
- Motorized Gates
- Fountain Pumps
- Water Features
- Motorized Valves

### Specifications:

**Enclosure:** Beige plastic, 4¾ in. (11.1 cm) H x 2¾ in. (7.0 cm) W x 1 in. (2.5 cm) D

**Agency Approval:** CSA/C-US

Model #	Description	Range*	Battery	Shipping Weight
RC939	3 Channel Radio Transmitter	100 ft..	9 V Transistor type	0.5 lbs (0.2 kg)

\* The range is 100 feet but depends on many factors including age of battery, proximity of large metal objects, location of the receiver and environmental conditions at the time of transmission.

# Air Operated Controls

## RC Series Single Circuit Air Switches & Accessories

These Air Switches are designed to control one piece of equipment with one air button. The switch can safely control loads without electricity at the pool, spa or tub side, for example a pump, blower or light. Each time pressure is applied to the remote air button the connected equipment will operate as described in the table. Model with suffix "T" has a built-in 10-minute automatic shut down timer. However, the operation can be stopped any time during the cycle by simply pressing the air button.

### Applications:

- Pumps
- Air Blowers
- Heaters
- Lights

### Specifications:

**Enclosure:** Plastic for Indoor/Outdoor installations

4 1/8 in. (10.5 cm) H x 4 1/8 in. (10.5 cm) W x 3 3/8 in. (8.6 cm) D

**Electrical Rating:** 20 Amp, Resistive 120, 240 VAC, 1 HP, 120 VAC; 2 HP, 240 VAC

**Voltage:** All models (except as noted) operate either on 120 VAC., (Line and Neutral) or 240 VAC., (Line 1, and Line 2 and Neutral). On 50 Hz operation, models with suffix "T" will time out in 11 minutes

**Maximum Range:** See table and note

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US



*Note: The actual distance between the control and air button depends on the amount of displaced air, the inside diameter of the air hose and other factors beyond the control of the manufacturer.*

Model	Description	Switch	Distance	Shipping Weight
RC2103S	ON/OFF	SPST	100 ft.	2.0 lbs (0.09 kg)
Model	Description	Distance/Length	Case Qty	Case Weight
RC4G	Air button for gunite spas	100 ft.	10	1.0 lbs (0.5 kg)
RC6F	Air button – universal	150 ft.	10	1.0 lbs (0.5 kg)
RC117	Air tubing	75 ft.	10	12.0 lbs (5.4 kg)
RC150	Air tubing	500 ft.	10	15.0 lbs (6.7 kg)
RC122B	Air tubing and RC4G	25 ft.	10	4.5 lbs (2.0 kg)
RC127B	Air tubing and RC4G	75 ft.	10	13.0 lbs (5.9 kg)
RC510	(10) Air tubing coupler	N/A	1	0.1 lbs (0.05 kg)



RC2103S



RC4G



RC6F



RC150



RC122B



RC510



# Air Operated Controls



RC2343PT  
RC2123PT

## RC2000 Series Multi-Function Air Switch Mechanisms

These Air Switches provide remote control for one, two or three separate loads. A push button connected to the mechanism with a flexible air hose enables the user to operate a pump, a blower and a light up to 75 feet away. Models with a "T" suffix have a 24-hour digital, multiple program timer that turns a single or two-speed pump ON/OFF several times per day. The air buttons and air hose are not included and must be purchased separately.

The RC2403RT model controls a single speed or two-speed filter pump, a blower and an independent 30 Amp circuit. Comes complete with 2 air buttons and 75 ft. air hose.

### Applications:

- Filter Pumps
- Jet Pumps
- Lights
- Booster Pumps
- Blowers
- Heaters

### Specifications:

**Enclosure:** For Indoor/Outdoor installations, beige plastic, 9<sup>3</sup>/<sub>8</sub> in. (23.8 cm) H x 5<sup>1</sup>/<sub>2</sub> in. (14.0 cm) W x 3<sup>3</sup>/<sub>4</sub> in. (9.5 cm) D

**Knockouts:** Four combination 1/2 - 3/4 in., one on each side of enclosure and two on bottom

**Electrical Rating:** 20 Amp Resistive, 120, 240 VAC; 1 HP, 120 VAC; 2 HP, 240 VAC; each circuit

**Voltage:** All models operate on 120 VAC (Line and Neutral) or 240 VAC (Line 1, Line 2 and Neutral)

### Shipping Weight:

RC2123PT – 3.0 lbs (1.4 kg)

RC2343PT – 3.25 lbs (1.5 kg)

**Agency Approval:** CSA/C-US

Model #	Description	Switch	Clock Supply Volts AC, 60Hz
RC2123PT	ON/OFF or HIGH LOW, w/timer	SPDT	120/240
RC2343PT	Two circuit sequential w/timer	4-function	120/240





# Air Operated Controls

## RC2100 Series

### Air or Remote Operated Pool/Spa Controls

This line of Air or Remote Operated Controls is specially designed to control pool/spa combinations economically and reliably away from the equipment. With one touch, these units automatically override the 24 HR. timer and turn ON the filter pump, switch the valves from pool-filter mode to the spa/water feature mode and switch the compatible dual thermostat on the heater/heat pump from the pre-set pool temperature to the pre-set spa temperature. Comes complete with two PE24VA 24-Volt valve actuators.

#### Applications:

- Pool/Spa Combinations
- Pool/Water Feature Combinations

#### Specifications:

##### RC2163BE, RC2163BFE

**Enclosure:** 0.048 in. steel with electrostatically applied beige finish  
16½ in. (41.9 cm) H x 10⅞ in. (27.6 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Two ½ in., three combination ½ – ¾ in., and two combination ¾ – 1 in. knockouts on the bottom. Four ½ in., three combination ½ – ¾ in. on the back. One combination ¾ – 1 in. on the left side. One 1¾ x 2¾ in. knockout on the right side for mounting switches and GFCI

**Panel Rating:** 100 Amp, 120, 240 VAC. or 120, 208 VAC single phase, 60 Hz

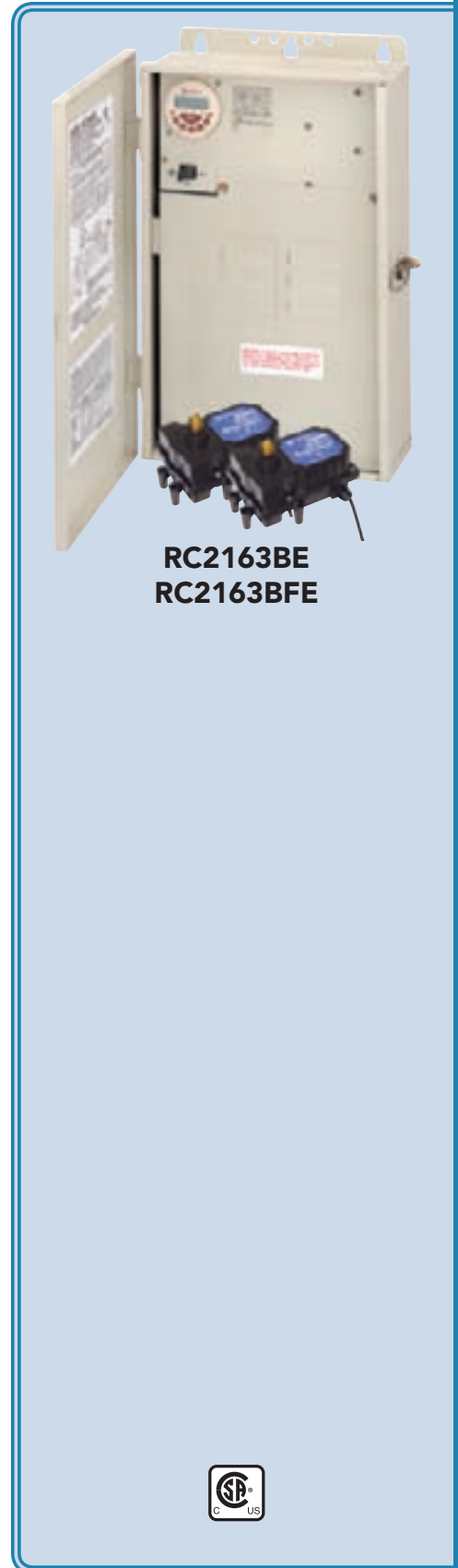
**Electrical Rating:** See table below. Actuator Circuit: 24 V, 40 Amp Max

**Shipping Weight:** See table below

**Agency Approval:** CSA/C-US

Specifications/Features	RC2163BE	RC2163BFE
<b>Voltage</b>	120/240	120/240
<b>Remote Command</b>	1-Air	Any Switch*
<b>Filter Pump</b>		
Timer Controlled in Pool Mode	Y	Y
Single Speed Only	Y	Y
1.5 HP – 120V; 3HP – 240V.		
Single or Two Speed	NA	NA
1 HP – 120V; 2 HP – 240V.		
<b>Heater Control</b>	Y	Y
<b>Number of Valve Actuator Connections</b>	3	3
<b>Blower</b>		
1 HP – 120V; 2 HP – 240V.	NO	NO
<b>Number of Breaker Spaces</b>	8/16	8/16
<b>Shipping Weight (lbs)</b>	24.3 (10.9 kg)	24.3 (10.9 kg)

\* Can use spring wound timer, toggle switch or wireless receiver (RC613) with transmitter (RC939) to operate equipment.



RC2163BE  
RC2163BFE





# Freeze Protection Controls



PF1102M



PF1102



PF1103MT



PF1103T



## PF1100 Series Single Circuit Freeze Protection Controls

These Freeze Protection Controls are designed to protect pool and spa equipment and plumbing against freeze damage. They turn the pump and heater ON when the outdoor temperature drops below the temperature set by the user-adjustable thermostat.

Models without timer connect to a timing or switching device and they control operation of the equipment, as well as protect it against freeze damage. Models with timer provide both automation and protection for the equipment.

### Applications:

- Filter Pumps
- Filter Pump/Booster Pump Combinations
- Waterfalls
- Water Features

### Specifications:

**Enclosure:** 0.034 in. drawn steel, electrostatically coated, beige color

Hasp, with hole for lock, holds permanently attached side-hinged door closed  
9<sup>3</sup>/<sub>8</sub> in. (23.8 cm) H x 5<sup>1</sup>/<sub>4</sub> in. (14.0 cm) W x 3<sup>5</sup>/<sub>8</sub> in. (9.2 cm) D

**Knockouts:** 1/2 – 3/4 in. combination knockouts, one back, one on each side, two bottom

**Thermostat Range:** 45°F – 32°F with 5 degrees differential

**Electrical Rating:** See table.

**Agency Approval:** CSA/C-US

Model #	Description	Input Rating	HP	Shipping Weight
PF1102	Thermostat only for 240 VAC installation	240 VAC	3	3.7 lbs (1.7 kg)
PF1102M	mechanism only	240 VAC	3	2.0 lbs (0.9 kg)
PF1102T	Timer with thermostat for 240 VAC installation	240 VAC	3	4.5 lbs (2.0 kg)
PF1102MT	mechanism only	240 VAC	3	2.5 lbs (1.1 kg)
PF1103	Thermostat only for 120/240 VAC installation	120/240 VAC*	1.5/3	3.7 lbs (1.7 kg)
PF1103M	mechanism only	120/240 VAC*	1.5/3	2.0 lbs (0.9 kg)
PF1103T	Timer with thermostat for 120/240 VAC installation	120/240 VAC*	1.5/3	4.5 lbs (2.0 kg)
PF1103MT	mechanism only	120/240 VAC*	1.5/3	2.5 lbs (1.1 kg)

\* Neutral must be installed.

# Freeze Controls

## PF1100 & PF1200 Series Multi-Circuit Freeze Protection Control Centers & Panels

These heavy-duty Freeze Protection Controls are designed specifically for pools requiring one or two time switches and protect the pool and spa equipment and plumbing against freeze damage. They turn the pump and heater ON when the outdoor temperature drops below the temperature set by the user-adjustable thermostat. In addition, they have a provision to install switches inside or GFCI receptacle on the side of enclosure.

### Applications:

- Filter Pumps
- Filter Pump Booster Pump
- Fountains
- Combinations
- Pool-Spa Combinations

### Specifications:

#### PF1112T, PF1202T

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
12 in. (30.5 cm) H x 12 in. (30.5 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Five combination ½ – ¾ in. and two combination ¾ – 1 in. knockouts on the bottom. One combination ½ – ¾ in. on the left side and one combination ¾ – 1 in. on the back. One knockout 1¾ x 2¾ in. on the right side for mounting switches or GFCI

**Center Rating:** 92 Amp per leg, 168 Amp Max. 120, 240 VAC or 120, 240 VAC single phase, 60 Hz.

**Electrical Rating:** See table

**Thermostat Range:** 44°F – 32°F with 5 degrees differential

**Shipping Weight:** See table

#### PF1222TB

**Enclosure:** 0.048 in. steel with electrostatically applied beige finish  
16½ in. (41.9 cm) H x 10⅜ in. (27.6 cm) W x 4¼ in. (10.8 cm) D,

**Knockouts:** Two ½ in., three combination ½ – ¾ in., and two combination ¾ – 1 in. knockouts on the bottom. Four ½ in., three combination ½ – ¾ in. on the back. One combination ¾ – 1 in. on the left side. One 1¾ x 2¾ in. knockout on the right side for mounting switches and GFCI

**Panel Rating:** 85 Amp max., 120, 240 VAC or 120, 208 VAC single phase, 60 Hz

**Electrical Rating:** See table

**Thermostat Range:** 44°F – 32°F with 5 degrees differential

**Shipping Weight:** See table

**Agency Approval:** CSA/C-US

Model #	Description	Electrical Input	Rating HP	Shipping Weight
PF1112T	For pools requiring one time switch	240 VAC	3	8.0 lbs (3.6 kg)
PF1202T	For pools with cleaner, requiring two time switches	240 VAC	3	10.0 lbs (4.5 kg)
PF1222TB	Same as a PF1202T with 4/8 breaker base and heater protection	240 VAC	3	17.0 lbs (7.7 kg)

For additional trippers (1 ON 1 OFF per pack), Order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), Order No. PA115.

For stand-offs for décor knockouts (4 stand-offs per pack), order No. 21T156A.

Note: See page 130 for a detailed list of T100M replacement mechanisms and page 140 for freeze switch mechanisms.

See pages 122-124 for digital freeze protection devices.



PF1112T



PF1202T



PF1222TB





# Safety Transformers

## PX100, PX300 & PX600 Series Safety Transformers

These Safety Transformers are specifically designed to supply 12 volts to pool/spa lights, submersible fixtures and outdoor garden lights. A grounded shield between the primary and secondary windings assures safe operation and the built-in circuit protection will disconnect power to the transformer in case of defect or overload.

### Applications:

- Pool Lights
- Spa Lights
- Garden Lights
- Fountain Lights

### Specifications:

#### PX100/S, PX300/S

**Enclosure:** Stainless steel or steel with electrostatically applied light beige finish  
Mounting brackets top and bottom

7.25 in. (19.4 cm) H x 5.25 in. (13.3 cm) W x 4.5 in. (11.4 cm) D

**Knockouts:** Total of ten combination 1/2 – 3/4 in. knockouts, (2) right side, (2) left side, (2) back, (4) bottom

**Electrical Rating:** See table

**Shipping Weight:** See table

#### PX600/S

**Enclosure:** Stainless steel or steel with electrostatically applied light beige finish.  
Mounting brackets top and bottom

10 in. (25.4 cm) H x 10 in. (25.4 cm) W x 5 in. (12.7 cm) D

**Knockouts:** Two combination 1/2 – 3/4 in., and 4 combination 3/4 – 1 in. knockouts on the bottom. Total of six combination 1/2 – 3/4 in. knockouts, 2 right side, 2 left side, 2 back

**Electrical Rating:** See table

**Shipping Weight:** See table



PX100



PX100S



PX300



PX300S



PX600



PX600S



Model #	Description	Input 60 Hz	Output	Shipping Weight
PX100	100 W Beige Steel Enclosure	120 VAC, 1 Amp	12 or 13 V	7.0 lbs (3.2 kg)
PX100S	100 W Stainless Steel Enclosure	120 VAC, 1 Amp	12 or 13 V	7.0 lbs (3.2 kg)
PX300	300 W Beige Steel Enclosure	120 VAC, 3 Amp	12, 13 or 14 V	13.0 lbs (5.9 kg)
PX300S	300 W Stainless Steel Enclosure	120 VAC, 3 Amp	12, 13 or 14 V	13.0 lbs (5.9 kg)
PX600	600 W Beige Steel Enclosure	120 VAC, 6 Amp	12, 13 or 14 V	26.0 lbs (11.7 kg)
PX600S	600 W Stainless Steel Enclosure	120 VAC, 6 Amp	12, 13 or 14 V	26.0 lbs (11.7 kg)



# Mechanical Controls With Safety Transformers

## T10000RT, T40000RT & PE45343RCT

### Series

#### Pool Panels with Transformer

These Panels with Transformer offer an all-in-one, easy to wire and extremely cost effective electrical control center for any pool or spa installation. Inside the enclosure are the time switch, the transformer and other components needed for the completion of this installation. The T40000RT Series panels will accept additional Intermatic mechanisms and/or components.

The PE45343RCT Series includes all the features of the PE Series Digital Controls plus two PE24VA valve actuators, Wireless Panel-Mounted Transceiver (PE953), which allows the system to display the status of each of the five circuits (3 timed and 2 on demand), pool and spa water temperature, pool and spa thermostat set point, heating status and overall communication status. (See pages 120-121)

#### Applications:

- Filter Pumps
- Blowers
- Low Voltage Pool/Spa Lighting
- Low Voltage Outdoor Lighting
- Fountains

#### Specifications:

##### T10000RT Series

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
12 in. (30.5 cm) H x 12 in. (30.5 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Five combination ½ – ¾ in. and two combination ¾ – 1 in. knockouts on the bottom. One combination ½ – ¾ in. on the left side and one combination ¾ – 1 in. on the back. One knockout 1¾ x 2¾ in. on the right side for mounting switches or GFCI

**Center Rating:** 62 Amp per leg, 168 Amp Max., 120, 240 VAC or 120, 208 VAC single phase, 60 Hz

**Shipping Weight:** See table

##### T40000RT Series

**Enclosure:** 0.048 in. steel with electrostatically applied light beige finish  
20¾ in. (52.7 cm) H x 12¾ in. (32.4 cm) W x 4¼ in. (10.8 cm) D

**Knockouts:** Seven combination ½ – ¾ in. and three combination ¾ – 1 in. knockouts on the bottom. Five combination ½ – ¾ in. on the left side. One 1¾ x 2¾ in. knockout on the right side for mounting switches and GFCI

**Panel Rating:** T40000RT Series — 100 Amp, 120, 240 VAC or 120, 208 VAC single phase, 60 Hz

**Time Switch Rating:** T40000R Series – See page 130

**Transformer Rating:** See table

**Shipping Weight:** See table

Model #	Transformer Watts	Input 60 Hz	Output	Mechanism	Shipping Weight
T10004RT1	100	120 VAC, 1 Amp	12 V, 13 V,	T104M	14.0 lbs (6.3 kg)
T10004RT3	300	120 VAC, 3 Amp	12 V, 13 V, 14 V	T104M	20.0 lbs (9.0 kg)
T40003RT3	300	120 VAC, 3 Amp	12 V, 13 V, 14 V	T103M	32.0 lbs (14.4 kg)
T40004RT1	100	120 VAC, 1 Amp	12 V, 13 V,	T104M	26.0 lbs (11.7 kg)
T40004RT3	300	120 VAC, 3 Amp	12 V, 13 V, 14 V	T104M	32.0 lbs (14.4 kg)

For additional trippers ( 1 ON 1 OFF per pack ), Order No. 156T1978A.

For additional OFF trippers (25 OFF per pack), Order No. PA115.

For stand-offs for décor knockouts (4 stand-offs per pack), Order No. 21T156A.

Note: See Page 130 for a detailed list of T100M replacement mechanisms.

**See page 114 for Digital Controls**



**T10004RT1**



**T40004RT3**





# Mechanical Replacement Timers



**PB913N**



**PB913N66**



**PB913N84**



**PB873MKZ**



## PB800 & PB900 Series Mechanical Timer Mechanisms

These timers provide automatic control for pumps, cleaners and other types of loads. Timers have three-way mounting; flush in round opening, raised in rectangular opening or on base. Quick connect terminals for easy installation.

### Applications:

- Filter Pumps
- Booster Pumps
- Sprinkler Systems
- Heating Systems
- Lights
- Fountains
- Cleaning Systems
- Security Systems

### Specifications:

**Size:** 3 1/8 in. (84.8 cm) H x 2 13/16 in. (71.4 cm) W x 1 5/16 in. (49.6 cm) D

**Electrical Rating:** 20 Amp Resistive, 120-277 Volt; 1250 Watt Tungsten 125 VAC; 1 HP (16 FLA), 120 VAC; 2 HP (12 FLA), 240 VAC; 360 VA Pilot Duty, 120-240 VAC.

**Timing Cycle:** 24 hour dial – minimum ON time 1 hour, maximum ON time 23 hours, increments of 30 minutes. 7-day dial – minimum ON time 6 hours, maximum ON time 162 hours, in increments of 3 hours

**Color:** Black housing with white screening and orange trippers

**Shipping Weight:** 8 oz (0.22 kg) All mechanisms are shipped in bulk (36 per carton) unless otherwise specified

**Agency Approval:** UL, CSA

Model #	Switch	Dial	Volts AC, 60 Hz	# of Trippers	Manual Override
PB873MKZ	SPST	7 day	120	56*	No
PB913N	SPST	24 hour	120	48*	No
PB913N66	SPST	24 hour	120	48**	Yes
PB913N84	SPST	24 hour	120	4**	Yes
PB914N	SPST	24 hour	208-277	48*	No
PB914N66	SPST	24 hour	208-277	48*	Yes

The standard mechanisms listed above have four 1/4 in. male quick connect terminals (two for the load and two for the independent clock motor).

\* Permanently attached orange trippers.

\*\* For additional trippers (2 ON 2 OFF per pack), order No. 156PB10398A.

### Cross Reference Table for Discontinued Models

Old Model #	Replaced By	Notes	Old Model #	Replaced By	Notes
PB813MZ56	<b>PB913N</b>		PB913N50	<b>PB913N</b>	
PB815MZ52	<b>PB913N</b>	1	PB913N68	<b>PB913N66</b>	
PB873MKZ25	<b>PB873MKZ</b>		PB913N70	<b>PB913N</b>	
PB873MKZ26	<b>PB873MKZ</b>		PB913N82	<b>PB913N66</b>	
PB878MKZ25	<b>PB374EB</b>	2	PB913N83	<b>PB913N84</b>	
PB879MKZ25	<b>PB373EB</b>	2	PB913P68	<b>PB913N66</b>	3
PB913M3	<b>PB913N</b>		PB913P69	<b>PB913N66</b>	3
PB913M9	<b>PB913N</b>	3	PB913N86	<b>PB913N66</b>	
PB913M56	<b>PB913N</b>	3	PB914N50	<b>PB914N</b>	
PB913N22	<b>PB913N</b>		PB915M81	<b>PB913N</b>	
PB913N25	<b>PB913N</b>		PB918N26	<b>PB314E</b>	2
PB913N26	<b>PB913N</b>		PB918N50	<b>PB314E</b>	2
PB913N27	<b>PB913N</b>		PB918N83	<b>PB314E</b>	2

Note: Replacement mechanisms may or may not have the same tripper colors and may require different method of connections.

1 – Original timer has gold plated contacts.

2 – Replacement is 50/60 Hz electronic timer.

3 – Original timer lead connections must be changed to 1/4 in. quick connects.

# Portable Outdoor Timers With GFCI & Photo Control

## P1100 Series

### Portable Outdoor Timers & Heavy-Duty Outdoor Timers

These portable outdoor timers are specially designed to control the filter pump of a portable pool or spa, but they can also be used to turn ON and OFF outdoor decorations, engine block heaters and other appliances, indoors or outdoors.

#### Applications:

- Filter Pumps
- Air Conditioners
- Signs
- Lights
- Engine Block Heaters
- Fans

#### Specifications:




**Enclosure:** Outdoor grade plastic

5 in. (12.7 cm) H x 5½ in. (13.97 cm) W x 3¾ in. (9.52 cm) D

**Cord:** 3 wire, outdoor grade, 22 in. long, with grounded plug

**Timer:** 24 hour with 23½ hour maximum ON time. Two ON, two OFF trippers: standard. Dial will accept up to 12 sets of trippers

**Shipping Weight:** 1.7 lbs (0.7 kg)

Model #	Description	Electrical	Plug & Receptacle
P1101	Timer	15 Amp (1800 W), Resistive or Tungsten; 1 HP Air Conditioner, (15 FLA, 90 LRA), Motor Load	5-15 
P1121	Timer	15 Amp (1800 W), Resistive or Tungsten; 1 HP Air Conditioner, (15 FLA, 90 LRA), Motor Load	5-15 
P1131	Heavy-Duty Timer w/Twist-Lock Plug & Receptacle	20 Amp Resistive, 1 HP, (15 FLA, 90 LRA) Motor Load	5L-20 

For additional trippers (2 ON 2 OFF per pack), order No. 156PB10398A.

## P1200 Series

### Two-Circuit Portable Outdoor Timer

These portable two-circuit above ground pool timers incorporate a plug in for a timed circuit (normally used for a pool pump) and a plug-in for a live circuit (typically used for a pool light). GFCI protected circuits and a three-prong grounded plug for the time switch supply are also built-in.

#### Applications:

- Above Ground Pool Pumps
- Above Ground Pool Lights

#### Specifications:



**Enclosure:** NEMA 3R rated for Indoor/Outdoor installation

9¾ in. (23.8 cm) H x 5½ in. (14.0 cm) W x 3¾ in. (9.2 cm) D

**Knockouts:** Combination ½ – ¾ in. nominal knockouts, one on the back and each side of enclosure, two pre-cut on bottom

**Timer:** 24 hour with 23½ hour maximum ON time. Two ON, two OFF trippers standard. Dial will accept up to 12 sets of trippers

Shipping Weight: 2.8 lbs. (1.3kg)

Model #	Description	Electrical	Plug & Receptacle
P1251P	PB913N84 Timer	15 Amp (1800 W), Resistive or Tungsten; 1 HP (15 FLA, 90 LRA) Motor Load w/photo control	5-15 
P1261P	PB913N84 Timer	15 Amp (1800 W), Resistive or Tungsten; 1 HP (15 FLA, 90 LRA) Motor Load	5-15 

For additional trippers (2 ON 2 OFF per pack), order No. 156PB10398A.



P1101



P1121



P1131



P1251P



P1261P





# Electronic Replacement Timers



**PB313E**  
**PB313EK**  
**PB314E**  
**PB314EK**



**PB373E**  
**PB374E**



## PB300 Series Electronic Timer Mechanisms

These compact Electronic Timers are specially suited for applications where equipment needs to be cycled ON and OFF up to 8 times per day, and where automatic operation of the equipment requires occasional override by someone other than a qualified service professional. They offer rugged construction, resistance to surges and humidity, operate between wide temperature extremes and come with a 5 year service life replaceable lithium battery. A light indicator illuminates when the timer is in the ON position. Select feature allows timers to be continuously ON, OFF or in AUTO mode.

PB300EK Series Electronic Timer kits are designed for applications where PB Series Mechanical Timers need to be replaced. The connected load must not exceed the ratings of these timers. The kits contain all the necessary hardware for a speedy repair or exchange.

### Applications:

- Filter Pumps
- Booster Pumps
- Sprinkler Systems
- Heating Systems
- Lights
- Fountains
- Cleaning Systems
- Security Systems

### Specifications:

**Enclosure:** Beige electrical grade plastic

**Size:** PB300 Series: 2<sup>3</sup>/<sub>8</sub> in. (6.0 cm) High and Wide

EB suffix: 1<sup>1</sup>/<sub>8</sub> in. (28 cm) Deep

E suffix: 7/8 in. (2.2 cm) Deep

### Electrical Rating:

A = 16 Amp Resistive, 0.5 HP motor load 24, 120 or 240 VAC, 50/60 Hz

B = 20 Amp Resistive, 10 Amp (1200 Watt) Tungsten, 1 HP (16 FLA), motor load;  
720 VA Pilot Duty, 120 VAC, 50/60 Hz

C = 20 Amp Resistive, 2 HP (12 FLA), 240 VAC, 50/60 Hz

**Shipping Weight:** 0.3 lbs. (0.14 kg)

**Agency Approval:** UL

Model #	Description	Switch	Rating	Volts AC 50/60 Hz
PB313E	24 hour	SPDT	A	120
PB313EK	PB Series replacement kit	SPDT	A	120
PB314E	24 hour	SPDT	A	240
PB314EK	PB Series replacement kit	SPDT	A	240
PB373E	7 day	SPST	B	120*
PB374E	7 day	SPST	C	240*

\* Output voltage is the same as supply voltage.



# Electronic Time Switches

## P1000 & P7000 Series Electronic Time Switches and Mechanisms

This line of electronic time switches in safety enclosures is specially suited for applications where there is a need to turn equipment up to 8 ON and OFF cycles daily, and where the automatic operation of the equipment requires occasional override by someone other than a qualified service professional. Electronic technology allows up-to-the-minute programming accuracy. The unique "door within the door" provides safe access to the timer control buttons, but prevents entry into the wiring compartment. Light indicator illuminates when timer is in ON position. An override feature is provided to allow pool service without interruption of ON/OFF settings. "Select feature" allows timer to be continuously ON, OFF or in Auto mode. The addition of a radio receiver (Model P1203FR) provides a 2nd circuit for any other load (light, blower etc.) requiring control from a remote location. Typical application for the clock circuit would be the pool pump, and a pool light for the radio circuit. In case of power failure, a replaceable lithium battery preserves programming for up to three years.

### Applications:

- Filter Pumps
- Pool/Spa Lights
- Water Features
- Fountains

### Specifications:

#### Mechanism Specifications:

**Size:** Standard mechanism fits in all standard Intermatic time switch enclosures and swimming pool control panels

#### Rating:

P7103ME – 1.5 HP, 120 VAC; 3.0 HP, 240 VAC

**Shipping Weight:** 1.41 lbs (0.6 kg)

**Enclosure Specifications:** All plastic NEMA 3R rated for Indoor/Outdoor installation. 9<sup>3</sup>/<sub>8</sub> in. (23.9 cm) H x 5<sup>1</sup>/<sub>2</sub> in. (14.0 cm) W x 3<sup>5</sup>/<sub>8</sub> in. (9.2 cm) D in beige finish

**Knockouts:** Combination 1/2 – 3/4 in. nominal knockouts, 1 on back and each side of enclosure, and 2 on bottom

**Shipping Weight:** 3.75 lbs (1.7 kg)

**Agency Approval:** CSA/C-US

Model #	Description	Switch	Supply Voltage 50/60 Hz
P1103FE	24-Hour Electronic Time Switch Enclosure	One DPST	120 V for clock 120 V, 240 V for load

Note: See pages 46-47 for available metal and plastic enclosures.



**P7103ME**

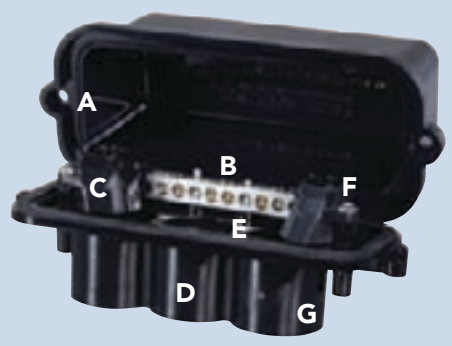


**P1103FE**





# Pool/Spa Junction Boxes & Water Valve Motorized Actuator



**PJB2175**



**PJB4175**



**PE24VA**



## PJB Series

### Pool/Spa Junction Box & Mounting Bracket

These polymeric, water tight, multi-fixture Junction Boxes are specially designed for pools, pool-spa combinations and landscape applications. The PJB4175 provides safe and reliable connection for up to four lights, while the PJB2175 supports up to two lights. They will accommodate flexible cords from #16-3 up to #12-3 and #10-3 in any combination and non-metallic conduits from 1/2 to 1 in., including one for supply conductor feed. An optional wall/post mounting bracket is also available.

#### Applications:

- Pool Lights
- Spa Lights
- Landscape Lights

#### Specifications:

**Enclosure:** Outdoor grade plastic. PJB4175 – 7.5 in. L x 4.75 in. W x 5.0 in. D  
PJB2175 – 7.0 in. L x 3.0 in. W x 4.0 in. D

*Note: Bracket sold separately.*

#### Photo call outs:

- A. Only two screws required to attach lid to base
- B. Easy access ground bar
- C. Innovative strain relief design
- D. Accepts multiple conduit sizes
- E. Platform design offers ease of installation
- F. One external bonding lug
- G. Supports up to two pool/spa lights
- H. Sloped platform design provides ultimate convenience
- I. Supports up to four pool/spa lights

Model #	Description	Light Connection	Case Qty.	Shipping Weight
PJB2175	Pool/Spa Light Junction Box	2	24	19.2 lbs (8.6 kg)
PJB4175	Pool/Spa Light Junction Box	4	12	13.2 lbs (6.0 kg)
PA114	Wall/Post Mounting Bracket	—	10	5 lbs (2.3 kg)

## 24-Volt Valve Actuator

Designed with quality in mind, Intermatic's 24-Volt valve actuators provide reliable control of 2-way and 3-way diverter valves for pool/spa combinations and water features. The water flow can be altered for specific applications through the adjustable cam, which rotates diverter valves to multiple degree settings. The cam settings can be easily adjusted by simply removing the lid.

These valve actuators are compatible with all pool/spa valves currently offered in the industry and will retrofit into all pool/spa control systems.

#### Applications:

- Pools
- Spas
- Fountains
- Water Features

#### Standard Features:

- Automates compatible diverter valves for pool/spa & pool/water feature combinations
- Adjustable cam rotates diverter valves to multiple degree settings
- Retrofits into all pool/spa control systems on the market

#### Specifications:

**Shipping Weight:** See table

**Case Quantity:** 6

Model #	Description	Voltage	Shipping Weight Each
PE24VA	Valve Actuator	24 VAC	3.5 lbs (2.2 kg)

# Pool/Spa Accessories

## Emergency Shut Off Switch PA600

The revised Article 680-12 of the National Electrical Code (NEC) now requires the installation of a disconnect switch "...located within sight from all pools, spas..." This Safety Switch is intended for disconnecting electrical equipment from its power source, quickly and safely, in case of emergency. Any person, even if not familiar with the installation or safety procedures, can shut down the connected equipment by simply moving the large red lever to the OFF position. It fits in a single-gang junction box and is rated for outdoor installations.

### Specifications:

**Electrical Rating:** 1 HP, 120V; 3 HP, 240V; 20 Amp Resistive, 120, 240V DPST

**Shipping Weight:** 0.5 lbs (0.2 kg)

**Housing:** Electrical grade plastic.

**Face Plate:** Beige powder coated steel

**Agency Approval:** CSA/C-US

## Fireman Switch 156T4042A

This switch provides coordinated control for any pool/spa heater and any filter pump. It is designed to turn OFF a gas fired pool/spa heater approximately 20 minutes before the filter pump shuts down. This eliminates the problem of pounding and knocking due to overheated water, reduces scale and lime deposits and extends the service life of the heater.

## Nonmetallic Hub Kits

**156PA13713A (1/2 in.), 156PA13714A (3/4 in.),  
156PA13715A (1 in.)**

All Intermatic Control Centers and Control Panels are approved for direct underwater light connection, eliminating the need for additional junction boxes. These Nonmetallic Hub Kits provide direct connection to 12 Volt and 120 Volt underwater luminaries.

## Metallic Hub Kit

**156PA14336A (1/2 in.)**

The Metallic Hub Kit is used for the same type of applications as the Nonmetallic Hub Kits, but is designed for applications that require red brass conduit.

## Stand-Off Posts

**21T166A (2), 21T156A (4)**

Stand-Off Posts are used for mounting toggle switches inside any Intermatic Pool/Spa Control Center and Control Panel. The switches are normally used for on-demand control pool/spa lighting, landscape lighting, water features, etc. The dead front is detached, the switch knockout is removed from the dead front and the stand-off post is secured to the back panel of the enclosure. The switch is then mounted to the posts with standard mounting screws and the dead front is re-attached.

## Back-Feed Retainer Kit

**22T904A**

A recent revision to the breaker base in all Intermatic Pool/Spa Control Panels now allows installers to back-feed the branch circuits using one breaker, single or double pole, as a main disconnect. In accordance with NEC Article 408.36 (F) -2005, the installation requires an additional fastener/retainer kit.



**PA600**



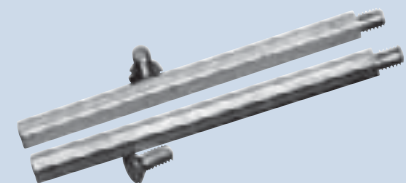
**156T4042A**



**156PA13713A  
156PA13714A  
156PA13715A**



**156PA14336A**



**21T166A  
21T156A**



**22T904A**

# Pool/Spa Accessories

Model #	Description	Where Used
124T1948	Insulator for T101 & T102 Series – Clear	All T101 & T102 Series Time Switches and Mechanisms
124T1952	Insulator for T103 & T104 Series – Clear	All T103 & T104 Series Time Switches and Mechanisms
124T2411A	(10) Insulators for T100 Series – Black, Rigid	All T100 Series Time Switches and Mechanisms
143T135	DPST Relay with 240 V Coil	All PF1102 Series Controls and Mechanisms, PF1200 Series Controls, P7102ME Electronic Mechanism
143T136	DPST Relay with 120 V Coil	All PF1103 Series Controls and Mechanisms, RC2200E Series Air Controls, RC2403RT Air Control, RC613R Receiver, P7103ME Electronic Mechanism
143RC151	DPST Relay with 24 VDC Coil	RC2100FE and RC2100E Series Air Controls
156PB10398A	2 ON and 2 OFF Trippers	All P1100 Series Timers, P1261P Portable Outdoor Timer, PB913N84 Series Mechanism
156T1978A	1 ON and 1 OFF Tripper	All T100 Series Time Switches and Mechanisms
156T6738A	(10) Insulators for Time Switch Manual Lever	All T100 Series Time Switches and Mechanisms
22T338GR	Snap-In Time Switch Mounting Bracket	All Pool/Spa Enclosures and T100 Series Time Switches
PA115	(25) OFF Trippers and Screws only	All T100 Series Time Switches and Mechanisms
WG1570-10D	120 Volt Clock Motor	T100 Series Time Switches and Mechanisms
WG1573-10D	208-277 Volt Clock Motor	T100 Series Time Switches and Mechanisms



124T1952



124T2411A



143T135



143T136



143RC151



156PB10398A



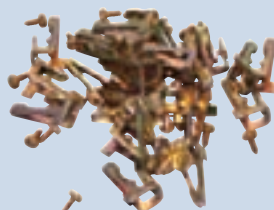
156T1978A



156T6738A



22T338GR



PA115



WG1570-10D



WG1573-10D





# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

ALR Product No.	Intermatic Model No.
AA-105	K4021C
AA-105HA, AA-105W	K4321C
AA-1068, AA-1068W	K4024, K4023C
AA-305	K4021C
AM-1-A, AM-1-A-NB, AM-2-A, AM-2-A-NB	K122
AT-15	K4136M & K4421M
AT-168	K4123M, K4423M
AT-19	K4135
AT-30	K4141C
BF-120	LC4521C, K4521
BF-208-277	LC4523
BF-480	K4535
ET3001A	ET1105C
FC12HH	FF12HHC
FC15M	FF15MC
FC30M	FF30MC
FC5M	FF5M
FC60M	FF60MC
JB1000, JB1001	K4536SST
LC-120	LC4521C
LC-208-277	LC4523
LM1000, LM1001	K4536SST
M-120	K1221
M-208-277	LC4523
M-480	K4535
MA512H	FD12HH
MA512HW	FD12HHW
MA515M	FD15MC
MA515MW	FD15MWC
MA530M	FD30MC
MA530MW	FD30MWC
MA560M	FD60MC
MA560MW	FD60MWC
MC-10	K4500
PC-101-R	T101P, GM40
PC-103-R	T103P, GM40
PC-104-R	T104P, GM40
PL-120	NE2C
PL-120SBP	NE3BC
PT-15	K4121C
PT-168	K4123C
PT-19	K4135
SC-10	K4500
SPT-15	K4221C
SPT-168	K4223C, K4123C

ALR Product No.	Intermatic Model No.
SPT-19	K4235
SST-120, SST-240, SST-IES, SST-PV	K4536SS
TC-101	T101P, GM40
TC-101-R	T101R, GM40
TC-101R201	T101R201
TC-103	T103, GM40
TC-103-R	T103R, GM40
TC-104	T104, GM40
TC-104-R	T104R, GM40
TC-104R201	T104R201
TC-173	T173, GM40
TC-174	T174, GM40
TC-7401B	T7401B, GM40W
TC-7402B	T7402B, GM40W
TC-7801B	T7801B, GM40W
TC-7802B	T7802B, GM40W
TL-115	K4251
Arlington Product No.	Intermatic Model No.
DBU1C	WP1100C, WP3100C, WP3103C
DBUL1	WP1100WC
DBUL1DC	WP1020C
DBVSeries	WP1000RC, WP1000HRC
FisherPierce Product No.	Intermatic Model No.
FA-105	K4021C
FA-105-W	K4321C
FA-1068	K4024, K4023C
FA-305	K4021C
FE100C	ET1105C
FE101C	ET1105C
FE171C	ET1105C
FE1715C	ET1715C
FL115	K4251
FP101	T101, GM40
FP101R	T101R, GM40
FP103	T103, GM40
FP104	T104, GM40
FP104R	T104R, GM40
FP171	T171, GM40
FP173	T173, GM40
FP7401B	T7401B
FT15	K4121C
FT168	K4123C
FT19	K4135

FisherPierce Product No.	Intermatic Model No.
N1038-1	K4500
N6401-NS	K4521
N6690B	LC2000
N7760, N7762E	K1221
N7772E	K1222
N7790B	LC4536LAC
N7794	LC4535LA
N9901S-MHL	K4536SS
NAT9021	K121
NFP120	K4521
NFP277	LC4523
NFP480	LC4535LA
NFP480-ELS	K4535
NS1038-1	K4500
NS476-71	K122
NS476-73, NS47681	K121
SFT15	K4221C
SFT168	K4223C
SFT19	K4235
Mulberry Product No.	Intermatic Model No.
30825	K4121C
30827, 30829, 30831	K4123C
30834	LC4521C
30836	K4524
30838	K4522
30840	K4533
30842	K4535
30850	K4021C
30851	K4024, K4123C
30852	K4024, K4123C
30855	K4321C
30868	K4221C
Paragon Product No.	Intermatic Model No.
1015-00RS	T1975
1015-40TS	T1975E
202AOS-J1	CR453CA2HAA
202AOS-K2	CR453CA2AAA
202EOS-J2	CR453CC2HAA
202EOS-K2	CR453CC2AAA
202EOS-L2	CR453CC2BAA
302EOS-K2	CR453AD3ABB
302FOS-J2	CR453AC3HAA
302FOS-K2	CR453AC3AAA
302FOS-L2	CR453QC3BAA
303EOS-L2	CR453AD3BBB

# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

Paragon Product No.	Intermatic Model No.	Paragon Product No.	Intermatic Model No.	Paragon Product No.	Intermatic Model No.
4001-00	T101, GM40	7008-20, 7008-71	T7802B	EC71D/18S/120V, EC71D/18S/240V	ET70115C
4001-00M	T101M, GM40-M	8041-00, 8041-20, 8043-00, 8043-20, 8045-00, 8045-20, 8046-00, 8046-20, 8047-00, 8047-20, 8141-00, 8141-20, 8143-00, 8143-20, 8145-00, 8145-20, 8243-20, 8245-20, 8247-20,	DTMV40	EC71D/18S/24V	ET70115CR24
4001-00-RT	T101, GM40	CW201-00, CW201-00-RT	K4121C	EC71D/30M/120V	ET1725C
4002-20, 4002-71	T102, GM40	CW201-70	K4136M	EC71D/30M/240V	ET70115C
4003-00	T103, GM40	CW201-71	K4123C	EC71D/30S/120V	FM1D20A-120
4003-00M	T103M, GM40-M	CW201-S-00	K4221C	EC71D/30S/240V	ET70115C
4003-00-RT	T103, GM40	CW201-S71	K4223C	EC71D/30S/24V	FM1D20A-24
4003-00S, 4003-00SM	T173, GM40	CW302-00	K4136M & K4421C	EC72D/120V, EC72D/240V	ET70215C
4004-20	T104, GM40	CW302-70	K4136M	EC72D/24V	ET70215CR24
4004-20S	T174, GM40	CW302-71	K4123M, K4421M	EC74/50S/120V, EC74/50S/240V	ET70415CR
4004-71	T104, GM40	EC11D/120V	FM1D20A-120	EC74/50S/24V	ET70415CR24
4004-71M	T104M, GM40-M	EC11D/240V	FM1D20A-240	EL71/120V, EL71/208-240V, EL71/277V, EL7100/120V	ET70115C
4004-71-RT	T104, GM40	EC365DST1/120V	ET70115CR	EL7100/208-240V	ET70115C
4004-71S	T174, GM40	EC365DST2/120V EC365DST2/277V	ET70215CR	EL7100PC/120V, EL7100PC/208-240V	ET70115CR
4005-00	T105, GM40	EC4000/120V	ET1115C	EL712	ET71615CR, ET71615CR24
4005-00S	T175, GM40	EC4000/208-277V	ET1105C	EL71PC/120V, EL71PC/208-240V, EL71PC/277V	ET70115CR
4006-20S	T176, GM40	EC4000/4/208-277V	ET1115C	EL72/120V, EL72/208-240V, EL72/277V, EL7200/120V, EL7200/208-240V	ET70215C
4006-21	T106, GM40	EC4000/4PC/120-RT	ET1115CPD82	EL7200PC/120V, EL7200PC/208-240V, EL72PC/120V, EL72PC/208-240V, EL72PC/277V	ET70215CR
4006-71S	T176, GM40	EC4000PC/120-RT	ET1115C	EL74	ET70415CR
4011-00	T101R, GM40	EC4000PC/120V	ET1115CPD82	EL78	ET70815CR, ET70815CR24
4011-00P, 4011-00PC-RT	T101PCD82, GM40	EC4000PC/208-277V	ET1115CPD82	ET100/3WAY, ET100F/3WAY, ET1100	EI400C
4012-20, 4012-71	T102R, GM40	EC4000PC/208-277V-RT	ET1115CPD82	ET1100/3WAY	EI400C
4013-00	T103R, GM40	EC4004/120V	ET1105C	ET1100/W	EI400WC
4013-00P	T103P, GM40	EC4004/120V-RT	ET1105C	ET1100F	EI400C
4013-00PC-RT	T103PCD82, GM40	EC4004/208-277V	ET1105C	ET1100F/3WAY	EI400C
4013-00S	T173R, GM40	EC4004/208-277V-RT	ET1105C	ET1100F/W	EI400WC
4014-20, 4014-71	T104R, GM40	EC4004PC/120V	ET1105CPD82	ET2000	EI400C
4014-71P	T104P, GM40	EC4004PC/120V-RT	ET1105CR	ET2000/W	EI400WC
4014-71PC-RT	T104PCD82, GM40	EC4004PC/208-277V	ET1105CPD82	ET2000F	EI400C
4014-71S	T174R, GM40	EC4004PC/208-277V-RT	ET1105CR	ET2000F/W	EI400WC
403GOS-K2	CR353FE3BA1	EC4005PC/120,240-RT	ET1125CR	JW10-00, JW10-00PC, JW10-20, JW10-20PC, JW30-00, JW30-00PC, JW30-20, JW30-20PC, JW5-00, JW5-00PC, JW5-20, JW5-20PC, JW60-00, JW60-00PC, JW60-20, JW60-20PC	CT1000, CT2000
403HOS-K2	CR353FF3BA1	EC7000/120V, EC7000/120V-RT, EC7000/208-277V	ET1715C		
41011-00	T101R201	EC7001/120V	ET1725C		
41014-20	T104R201	EC7001/208-277V	ET70115C		
42001-00	T1905	EC7001PC/120Vdc	ET17215C		
42011-00	T1905R	EC7004/120V	ET1705CR		
42011-20	T1906	EC7004/208-277V	ET70115C, ET1725C		
42013-00	T1905R	EC7005/120V	ET1725C		
42013-20	T1976R	EC7005PC/120-240V, EC7005PC/277V	ET1725CPD82		
44001-00, 44005-00	C8845				
4912-99	T21001R				
4918-99	T21004R				
7007-00	T7401B				
7007-20	T7402B				
7007-71	T7402B				
7008-00	T7801B				

# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

Paragon Product No.	Intermatic Model No.
LB201-00, LB201-00-RT	K4021C
LB201-71	K4023C
LB201W-00, LB201W-00-RT	K4321C
P101-00	T101, GM40
P101-00M	T101M, GM40-M
P101-00P	T101P, GM40
P101-00PC-RT	T101PCD82, GM40
P101-00PS	T171, GM40
P101-00RT	T101, GM40
P101-00S	T171, GM40
P103-00	T103, GM40
P103-00M	T103M, GM40-M
P103-00P	T103PCD82, GM40
P103-00PC-RT	T103, GM40
P103-00PC-RT	T103PCD82, GM40
P103-00PS	T173, GM40
P103-00RT	T103, GM40
P103-00S	T173, GM40
P104-71	T104, GM40
P104-71	T104M, GM40-M
P104-71P	T104P, GM40
P104-71PC-RT	T104PCD82, GM40
P104-71PS	T174, GM40
P104-71RT	T104, GM40
P104-71S	T174, GM40
PN201-00, PN201-00-RT	K4251
SC201-99	K4500
SWP12H	FF12HC
SWP12HH	FF12HH
SWP15M	FF15MC
SWP15MH	FF15MH
SWP2H	FF2H
SWP2HH	FF32HH
SWP30M	FF30MC
SWP30MH	FF30MH
SWP4H	FF4H
SWP5M	FF5M
SWP60M	FF60MC
SWP60MH	FF60MHC
SWP6H	FF6H
SWP6HH	FF6HH
SWPD12H	FD12HC
SWPD12HH	FD12HH
SWPD12HH-W	FD12HHW
SWPD12H-W	FD12HWC
SWPD15M	FD15MC

Paragon Product No.	Intermatic Model No.
SWPD15MH	FD15MH
SWPD15MH-W	FD15MHW
SWPD15M-W	FD15MWC
SWPD30M	FD30MC
SWPD30MH	FD30MH
SWPD30M-W	FD30MWC
SWPD60M	FD60MC
SWPD60MH	FD60MH
SWPD60M-W	FD60MWC
SWPD6H	FD6H
TB201-99	K122
TL201-00	LC4521LA
TL201-70	LC4536LAC
TL201-71	LC4523LA
TL301-00	LC4521LA
TL301-71	LC4523LA
TL301-80	LC4535LA
TL401-70, TL501-00	K4536SS
WB101	KM2ST-1G
WB102	KM2ST-2G
WB103	KM2ST-2D
Precision Product No.	Intermatic Model No.
8660	K1221
8672	K1222
8690	LC2000
102FAA	K4251
6025-00	T185
6025-20	T186
8690N	LC2000
A-105	K4021C
A-105W	K4321C
A-1068	K4024, K4023C
CD101	T101, GM40
CD101P	T101P, GM40
CD101R-201	T101R201
CD101RH	T101R, GM40
CD102	T102, GM40
CD102P	T102P, GM40
CD102RH	T102R, GM40
CD103	T103, GM40
CD103P	T103P, GM40
CD103RH	T103R, GM40
CD103S	T173, GM40
CD104	T104, GM40
CD104-20	T104-20, WHO4
CD104P	T104P, GM40

Precision Product No.	Intermatic Model No.
CD104R-201	T104R201
CD104RH	T104R, GM40
CD104S	T174, GM40
CD105	T105, GM40
CD105RH	T105R, GM40
CD105S	T175, GM40
CD106	T106, GM40
CD106RH	T106R, GM40
CD106S	T176, GM40
CD115-00	T1905
CD115-00S	T1975
CD115-20	T1906
CD115-20S	T1976
CD115-40	T1975E
CD2101R	T21001R
CD2104R	T21004R
ET115	K4251
JP-275	K4500
M2A	K122
M2ANA, M2ANB	K121
P-2275	K4521
P68275	LC4523
P-7275	K4535
SD7007-00/20	T7401B
SD7008-00/20	T7801B
ST-15	K4221C
ST-168	K4223C
ST-19	K4235
T-15	K4121C
T-168	K4123C
T-19	K4135
RAB Product No.	Intermatic Model No.
EZH100QT	FL100MH
EZH150QT	FL150MH
EZH175QT	FL175MH
EZSH100	FL100HPS
EZSH150QT	FL150HPS
FF35	FL035HPS
FF505	FL050HPS
FF70	FL070HPS
FFH50	FL050MH
FFH70	FL070MH
FZH250QT	FL250MH
FZH400QT	FL400MH
FZS250QT	FL250HPS
FZS400QT	FL400HPS



# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

RAB Product No.	Intermatic Model No.	Rhodes Product No.	Intermatic Model No.	T&B Product No.	Intermatic Model No.
QF150	FL150Q	90015	FF12HH, FD12HH	CKMD	WP1010HMC
QF300	FL300Q	90017	FF6HH, FD6HH	CKNM	WP1100C, WP3100C, WP3103C
QF500	FL500Q	90024	FF60MH, FD60MH	CKSDV	WP1010MC
STL110RW	FL300MSW	90030	FF5MH	<b>Taymac Product No.</b>	<b>Intermatic Model No.</b>
STL110W	HLMSW	90032	FF30MH, FD30MH	71101	WP1000RC
STL360Q1W	FL150QMSW	90240	FF4H, FD4H	MM2440C	WP1020C, WP1220C
VAN5H150QT	CP150MH	90281	FF2H, FD2H	MM400C	WP1100C, WP3100C, WP3103C
VAN5S150QT	CP150HPS	90539	FF15MH, FD15MH	MM740C	WP1150C
WP1H100	WL100MH	9302H	FF2H, FD2H	MM7440C	WP1050, WP1250C
WP1H50	WL050MH	9304H	FF4H, FD4H	MX3200	WP1010MC
WP1H70	WL070MH	9304M	FF5M	MX3300	WP1010HMC
WP1SN100	WL100HPS	9304MH	FF5MH	MX6200	WP1030MC
WP1SN35	WL035HPS	9305M	FF5M, FD5M	<b>Tork Product No.</b>	<b>Intermatic Model No.</b>
WP1SN50	WL0350HPS	9306H	FF6H, FD6H	1101	T101, GM40
WP1SN70	WL070HPS	9306HH	FF6HH, FD6HH	1102	T102, GM40
WP2CH100QT	WLC100MH	9306HI	FD6H	1103	T103, GM40
WP2CH150QT	WLC150MH	9312H	FF12H, FD12H	1104	T104, GM40
WP2CH175QT	WLC175MH	9312HH	FF12HH, FD12HH	1191	T101, GM40
WP2CSH100	WLC100HPS	9312HHI	FD12HH	1962	T103, GM40
WP2CSH150QT	WLC150HPS	9312HHW	FD12HHW	2000	K4121C
WP2CSH70	WLC70HPS	9312HI	FD12H	2001	K4221C
WP2FCH150QT	WLFC150MH	9312HW	FD12HW	2002	K4236C
WP2FCH175QT	WLFC175MH	9315M	FF15M, FD15M	2003	LC4521C, K4521
WP2FCSH150QT	WLFC150HPS	9315MH	FF15M, FD15MH	2004	LC4523
WP2H150QT	WL150MH	9315MHI	FD15MH	2005	K1221
WP2H175QT	WL175MH	9315MHW	FD15MHW	2007	LC4536LAC
WP2SH150QT	WL150HPS	9315MI	FD15M	2008	LC4535LA, K4535
WP3CH250QT	WLC250MH	9330M	FF30M, FD30M	2021	K4251
WP3CSC250QT	WLC250HPS	9330MH	FF30MH, FD30MH	2022	K4253
WP3H250QT	WL250MH	9330MHI	FD30MH	2100	K4121C
WP3SC250QT	WL250HPS	9330MI	FD30M	2101	K4121C, K4136M, K4421M
WP4CH400QT	WLC400MH	9330MW	FD30MW	2102	K4236C
WP4CSC400QT	WLC400HPS	9360M	FF60M, FD60M	2104	K4236C, K4123M, K4423M
WP4H400QT	WL400MH	9360MH	FF60MH, FD60MH	2105	K4141C
WP4SC400QT	WL400HPS	9360MHI	FD60MH	2107	K4136M
WPTS70	WL070HPSPC	9360MI	FD60M	2223, 2224	K121
YLM175	DD175MV	9360MW	FD60MW	2421, 2422	K1221
YLS150	DD150HPS	<b>Supco Product No.</b>	<b>Intermatic Model No.</b>	2500	K4500
<b>Rhodes Product No.</b>	<b>Intermatic Model No.</b>	CD100 Series	T100 Series	3000	K4021C
90001	FF12H, FD12H	M814520	DTMV40-M	3002	K4023C
90004	FF5M, FD5M	S804100, S804120, S804500, S804520, S814100, S814120, S814500, S814520	DTMV40	3002	K4023C
90005	FF15M, FD15M	<b>T&amp;B Product No.</b>	<b>Intermatic Model No.</b>	3010	K4321C
90006	FF30M, FD30M	2CKD	WP1030MC		
90007	FF6H, FD6H	2CKNM	WP1220C		
90008	FF60M, FD60M				
90011	FF30MC				

# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

Tork Product No.	Intermatic Model No.
3020	K4221C
3121	T105, GM40
5500	K4500
7100	T171
7102	T172
7120	T175, GM40
7122	T176, GM40
7200	T173, GM40
7202	T174, GM40
7220	T1871BR
7222	T1872BR
7300	T1471BR
7302	T1472BR
8001	T1905
8004	T1906
8007	T1975
8008	T1976
8061	C8865
8121	C8815
8301	C8835
8601	C8865
8602	C8866
1101-0	T101R, GM40
1101D	T10101R
1101M, 1101M-IAP	T101M
1101-N	T101P, GM40
1101-NC	T101PCD82, GM40
1102M	T102M
1103-0	T103R, GM40
1103M, 1103M-IAP	T103M
1103-N	T103P, GM40
1103-NC	T103PCD82, GM40
1104-0	T104R, GM40
1104D	T10404R
1104DF	T12404R
1104FM	T104R201
1104M, 1104M-IAP	T104M
1104-N	T104P, GM40
1104-NC	T104PCD82, GM40
1191-0	T101R, GM40
1847A, 1847AL, 1847AW, 1847AWL	ET1725C
1847AZ, 1847AZL	ET70715C
1848AZL	ET70215C
1962-0	T103R
2000-2	K4123C
2000-7	K4236C

Tork Product No.	Intermatic Model No.
2003S	LC4521LA
2004S	LC4523LA
2007D	LC4536LAC
2008D	LC4535LA
401A	TN111C37
5001M	LC4521LA
5001S	LC4521C, K4521
5004M	LC4523LA
5004S	LC4523
5007M	LC2000
5007S	LC4536LAC
5008M, 5008S	LC4535LA
5021M, 5021S	LC4521LA
5024M, 5024S	LC4523LA
5717-T4, 5717-T5, 5717-T6, 5717-T7, 5717-T8	K4536SST
5717-TM	K4536SS
5717-TZ	K4536SST
5737TM	K4536SS
5737TZ	K4536SST
701A	KM2ST-1G
701A-2G	KM2ST-1G
701AC	KM2ST-1G
7100-0	T171R
7102-0	T172R
7120Z, 7120ZL	ET70115C
7122ZL	ET70115CR
7200-0	T173R, GM40
7200L	T173CR
7200Z	V45471R
7200ZL	V45471CR
7202-0	T174R, GM40
7202L	T174CR
7202Z	V45472R
7202ZL	V45472CR
7300Z	V45471R
7300ZL	V45471CR
7302Z	V45472R
7302ZL	V45472CR
8001U	T1975E
8007L	T1975BCR
8007V	R8815P101C
A1200, A1600	ET71615CR, ET71615CR24
A502H	FD2H
A502HH	FD32HH
A502HHW	FD32HHW

Tork Product No.	Intermatic Model No.
A502HW	FD32HHW
A504H	FD4H
A504HH	FD34HH
A504HHW	FD34HHW
A504HW	FD4HW
A505M	FD5M
A505MW	FD5MW
A506H, A506HD	FD6H
A506HH	FD6HH
A506HHW	FD6HHW
A506HW	FD6HW
A512H	FD12HC
A512HH, A512HHC	FD12HH
A512HHW, A512HHWC	FD12HHW
A512HW	FD12HWC
A515M, A515MC	FD15MC
A515MH	FD15MH
A515MHW	FD15MHW
A515MW, A515MWC	FD15MWC
A530M, A530MC	FD30MC
A530MH	FD30MH
A530MHW	FD30MHW
A530MW, A530MWC	FD30MWC
A560M, A560MC	FD60MC
A560MH, A560MHC	FD60MH
A560MHW, A560MHWC	FD60MHW
A560MW, A560MWC	FD60MWC
ACT120M, ACT120M-24, ACT120MFS, ACT120MFS-24, ACT120S, ACT120S-24, ACT120SFS, ACT120SFS-24, ACT30M, ACT30M-24, ACT30MFS, ACT30MFS-24	CT1000, CT2000
C502H	FF2H
C504H	FF4H
C505M	FF5M
C506H	FF6H
C506HH	FF6HH
C512H	FF12HC
C512HH	FF12HHC
C515M	FF15MC
C515MH	FF15HH
C530M	FF30MC
C530MH	FF30MH
C560M	FF60MC
C560MH	FF60MHC
DCL400 BP	LM2-O-120

# Cross Reference

For a complete and current cross reference list please visit [www.intermatic.com](http://www.intermatic.com)

Tork Product No.	Intermatic Model No.
DG100	ET1705CR
DG100-2	ET174CR
DG100-3, DG180, DG180-2, DG180-3	ET70115CR
DGM100	ET70115C
DGM100-2, DGM100-3, DGS100, DGS100-2, DGS100-3, DGS180, DGS180-2, DGS180-3	ET70115CR
DIN100A, DIN101A, DIN101B	ET70115C
DIN103A	ET70415CR
DIN200, DIN201B	ET70215C
DS200, DS200-2, DS200-3	ET70215CR
DT100, DT100-2, DT100-3	ET70115C
DT200, DT200-2, DT200-3	ET70215C
DTS100A	ET70115CR
DTS200A	ET70215CR
DTS400A	ET70415CR
DW100A, DW100AY	ET70115C
DW200AY	ET70215C
DZM200, DZM200-2, DZM200-3, DZM200-A	ET70215CR
DZS100, DZS100-3, DZS100A	ET70115CR
DZS200, DZS200-2, DZS200-3, DZS200A	ET70215CR
DZS400A	ET70415CR
E101	ET1105C
E101-2, E101-3	ET1105C
E101-NC	ET1105C
E103	ET1125C
E103-2	ET1125C
E103-2NC	ET1125C

Tork Product No.	Intermatic Model No.
E103-3	ET1125C
E103NC	ET1125C
E120	ET1105C
E120-2, E120-3, E120NC	ET1105C
EH10	EH10
EH20	EH40
ES101	ET1705C
ES101-2, ES101-2NC	ET1725C
ES103	ET1725C
ES103-2	ET1725C
ES103-2NC	ET1725C
ES103-3	ET1725C
ES103NC	ET1725C
ES120	ET1715C
ES120-2, ES120-3	ET1725C
ES120NC	ET1745C, ET1725C
EW101	ET1705C
EW101-2	ET1725C
EW103	ET1725C
EW103-2, EW103-3	ET1725C
EW103NC	ET1725C
EW120, EW120NC	ET1715C
K400Z, K400Z-2, K401Z, K401Z-2	ET70415CR
K600Z, K600Z-2, K601Z	ET70815CR
K601Z-2	ET70415CR
K800Z, K800Z-2, K801Z	ET70815CR
K801Z-2	ET70415CR
SS13B, SS13F, SS20, SS20F	EI400C
SS700	STO1C
SSA100, SSA100R-24, SSA200	EI400C
T920L	T51211BC

Tork Product No.	Intermatic Model No.
T930L	T51311BC
TW220L	T51211BC
TW300L	T51311BC
TZ220L, TZ222L, TZ300L, TZ302L	ET70415CR
W100	T7401B
W120	T7801B
W200	T7401B
W202	T7402B
W220	T7801B
W220L	T7801BC
W222	T7802B
W222L	T7802BC
W300	T7401B
W300L	T7401BC
W302	T7402B
W302L	T7402BC
W400, W400A	T7401B
W400AL, W400AL-O	T7401BC
W402, W402A	T7402B
W402AL-O	T7402BC
WH2	WH40, WHO4
Z400B, Z400B-2	ET70415CR

# Parts/Accessories Chart

For a complete and current parts/accessories chart please visit [www.intermatic.com](http://www.intermatic.com)

Model	Description
<b>Electronic Timers</b>	
101--00040	Battery holder for ET100
101ET945A	Discontinued – use part number: 101--00040
133ET1189A	Power Board only for ET70115C Series
133ET1191A	Power Board only for ET70215C Series
133ET1192A	Power Board only for ET70415C Series
133ET1424A	Logic Module only for ET70115C Series
133ET1425A	Logic Module only for ET70215C Series
133ET1426A	Logic Module only for ET70415C Series
133ET1427A	Logic Module only for ET70815C Series
133ET1428A	Logic Module only for ET71615C Series
156ET3905A	(4) "AA" NiCad Rechargeable Bat. for ET700C & ET800CR Series
156ET4159A	(2) Lithium Coin Cells for ET70000C / ET70000CR Series
156ET9402A	8 Circuit Remote Override for ET70815CR & ET70815CR24 NEMA 3R
156ET9403A	16 Circuit Remote Override for ET71615CR & ET71615CR24 NEMA 3R
156ET9748A	Voltage and Momentary Output Selector Jumpers for ET Series and CT1000
188ET1045A	Power Board only for ET70815C Series
188ET1049A	Power Board only for ET71615C Series
22T338GR	Snap-In Bracket for ET Series, T100, T170, T180, T1900, T2000 & C8800 Series
22T535GR	DIN Rail Bracket for ET Series, T100, T170, T180, T1900, T2000 & C8800 Series
CA8750	CA USB Stick w/Base
CA8750SW	CA USB Stick w/Base & Pro CD
ET7232M	Override Accessory for ET70115C & ET70215C Series Outdoor or Flush Mount
ET7232M1	Override Accessory for ET70115C & ET70215C Series Surface Mount
<b>Enclosures</b>	
6ET1398GA	Flush Mount Cover with Lock for ET70415CR & ET70415CR24
24EB5495	Replacement Plate Only for E1120, KM2ST-1G & KM2SW-1G
24EB5497	Replacement Plate Only for E1220, KM2ST-2G & KM2SW-2G
24EB5524	Replacement Plate Only for E1221, KM2ST-2D & KM2SW-2D
24EB5526	Replacement Plate only for E1222, KM2STST-2G & KM2SWSW-2G
<b>Hour Meters</b>	
G-55U	Gasket for all FWZ55 flush mount models
G-72U	Gasket for all FWZ72 flush mount models
<b>Mechanical Timers</b>	
107T119	Tripper (silver) for T8800 & R8800 Series
107T73	Day Wheel Pin for T8800 & R8800 Series
119T86A	Transformer for T8845PV
124T1948	Insulator for Single Pole Time Switches
124T1952	Insulator for Double Pole Time Switches
124T2097	Plastic Insulator for T8800 & R8800 Series
124T2247	Insulator Old Style Replaces 124T1607

Model	Description
131T68GA	125 V, 60 Hz Motor & Carryover T7400BC & T7800BC Series
133T698A	Replacement Snap Switch for T1970 Series
133T1115A	Toggle Switch for T8800 & R8800 Series
133T700A	Micro Switch for T8800 & R8800 Series
133T701A	Replacement Snap Switch for T1900 & T2000 Series
133T773A	Replacement Snap Switch for C8800 Series
156EB1945A	Trippers 2 Sets (ON / OFF) for E1020, E1022, EB11, EB11R & WH21
156T1948A	Trippers One Set (ON/OFF/ON Cutout) for T170, P171, T1400 & T1800 Series
156T1949A	Tripper Variable (10 to 60 minute) for Model T185
156T1950A	Trippers (12 ON or OFF) for T1900, T2000, C8800, R8800 & T8800 Series
156T1954A	14 Pins for R8800, T8800 Series
156T1957A	Skipper Screws (3 per package)
156T1978A	Trippers (1 ON / 1 OFF) for T100, T170, T7000, & WH40 (Same as 156T3492A)
156T2548A	Trippers 7 Sets (ON / OFF) for T7400 & T7800 Series
156T3085A	3 Skipper Screws for T170, P171, T1400, T1800 and WH Series
156T3230A	Trippers (1 ON / 1 OFF / 1 On Cutout) for WH Series
FM-FU	FM1 Flush Mount Housing Kit
FM-SU	FM1 Surface/DIN Rail Kit
WG1381-10	Motor - Boxed, 125 V, 50 Hz for T170CR
WG1380-11	Motor - Boxed, 125 V, 60 Hz for T1400BCR
WG1383-11	Motor - Boxed, 208/277 V, 60 Hz for T1800BCR
WG1570-10D	Motor - Boxed, 125 V, 60 Hz for T101, T103 & T105
WG1571-10D	Motor - Boxed, 125 V, 50 Hz for T101, T102, T103, T104, T105, T100R201 & WH10
WG1573-10D	Motor - Boxed, 208/277 V, 60 Hz for T102, T104, WH10 & WH30
WG1574-10D	Motor - Boxed, 208/277 V, 50 Hz for T100R301
WG1576-10D	Motor - Boxed, 480 V, 60 Hz for WH40, WH70 & WH80
WG1600-11	Motor - Boxed, 125 V, 60 Hz for T7400B & T7800B
WG1603-11D	Motor - Boxed, 208/277 V, 60 Hz for T7400B & T7800B
WG190-15D	Motor - Boxed, 125 V, 60 Hz
WG230-13D	Motor - Boxed, 125 V, 60 Hz for E1000
WG233-18	Motor - Boxed, 208/277 V, 60 Hz for E1000
WG430-10D	Motor - Boxed, 125 V, 60 Hz for T1400BR
WG430-20D	Motor - Boxed, 125 V, 60 Hz for T1800BR
WG433-20D	Motor - Boxed, 208/277 V, 60 Hz for T180 & T500
WG436-20	Motor - Boxed, 480 V, 60 Hz for WH10 & WH30
WG630D	Motor - Boxed, 125 V, 60 Hz
WG720-10D	Motor - Boxed, 125 V, 60 Hz for T2000 Series
WG723-10D	Motor - Boxed, 208/277 V, 60 Hz for T2000 Series
WG730-14D	Motor - Boxed, 125 V, 60 Hz for R8800, T1900, T1970, T8800 Series
WG733-14D	Motor - Boxed, 208/277 V, 60 Hz for R8800, T1900, T1970, T8800 Series
WG736-14D	Motor - Boxed, 480 V, 60 Hz for R8800, T1975E & T1976E Series
WG750-10	Motor - Boxed, 125 V, 60 Hz for C8845
WG760-10	Motor - Boxed, 125 V, 60 Hz for C8825 (timer obsolete)



# Parts/Accessories Chart

For a complete and current parts/accessories chart please visit [www.intermatic.com](http://www.intermatic.com)

Model	Description
WG770-10	Motor - Boxed, 125 V, 60 Hz for C8866
WG770-10D	Motor - Boxed, 125 V, 60 Hz for C8865
WG7773-10	Motor - Boxed, 208/277 V, 60 Hz for C8866
WG7773-10D	Motor - Boxed, 208/277 V, 60 Hz for C8865
WG780-12D	Motor - Boxed, 125 V, 60 Hz for C8835
WG790-11D	Motor - Boxed, 125 V, 60 Hz for C8815
Pool & Spa	
PB313EK	Electronic 24 Hr 120 V, 50/60 Hz Replacement Clock Kit for Mechanical PB Clock
PB314EK	Electronic 24 Hr 240 V, 50/60 Hz Replacement Clock Kit for Mechanical PB Clock
119T267	Transformer - 100 Watt
119T340	Transformer - 300 Watt
124T2530A	8-Pole Buss Bar Assembly
124TP2608A	4-Pole Buss Bar Assembly
133PE1484A	Three Button Wired Remote Control for P1353ME Digital Control
133RC1144	Pressure Sensing Momentary Air Switch 3 Amp
143PS307	DPST Relay w/24 VDC Coil
143RC126	Bi-Stable Relay SPDT, 1 H.P.-120 V, 2 H.P. - 240 V, 120 V Coil
143RC140	Four Function Stepper Relay
143T135	Double Pole Single Throw Relay w/240 V Coil
143T136	Double Pole Single Throw Relay w/120 V Coil
143T145A	Double Pole Single Throw Relay, 24 VDC Coil w/leads
156PA13713A	1/2" Nonmetallic Hub Kit For Direct Connection To Underwater Pool Lights
156PA13714A	3/4" Nonmetallic Hub Kit For Direct Connection To Underwater Pool Lights
156PA13715A	1" Nonmetallic Hub Kit For Direct Connection To Underwater Pool Lights
156PA14336A	1/2" Metallic Hub Kit For Direct Connection To Underwater Pool Lights
156PB10398A	(2) ON (2) OFF Trippers for P1000 Series Timers
156T4042A	Heater Control (Fireman) Switch Kit
178PA28A	Freeze Protection Thermostat for P1353ME Digital Control
178T24	Freeze Protection Thermostat
21T156A	(4) Stand-off for Mounting Wiring Devices
22T904A	Hold-Down Kit For Circuit Breakers
24T5265A	Snap-in Bracket for (2) Wiring Devices
PA102	Replacement Thermostat Relay Assembly for PF1202T & PF1222TB
PA108	Repair Kit for all PAV Series Water Valves (includes 5 cover rings & 10 shaft rings)
PA114	Plastic Pool/Spa Light Junction Box Mounting Bracket
PA115	25 Off Trippers Only and Screws
PA117	Replacement Latch Kit
PA118	Antenna only for PE650 Transceiver
PA120	Double Pole Single Throw Relay w/24 VAC Coil
PA121	35 Foot Antenna Extension Cable Assembly for PE650 Transceiver
PA122	Water Temperature Sensor for PE650 Transceiver (I-Wave)

Model	Description
PA123	100 Watt 12 V Transformer Assembly Kit for PE40000 Series I-Wave Control System
PA124	300 Watt 12 V Transformer Assembly Kit for PE40000 Series I-Wave Control System
PA600	Pump Shut-Off Switch
PB913N66	24 Hr. Panel Mount Timer, 120VAC for PF & RC Series Products
PE650	Wireless I-Wave Panel Mount Receiver for P1353ME and/or P4243ME Mechs (PE950 transmitter req.)
PE653	Wireless 5 Circuit Pool/Spa/Variable Speed Receiver (MultiWave)
PE953	Wireless Hand Held Transmitter for all Wave Series Products
PJB2175	Plastic Pool/Spa Light Junction Box - Two Light Capacity w/ Conduit sizes from .5" to 1"
PJB4175	Plastic Pool/Spa Light Junction Box - Four Light Capacity w/Conduit sizes from .5" to 1"
RC117	Air Tubing - 75 Ft. Long
RC122B	Air Tubing - 25 Ft. Long w/RC4G Button
RC127B	Air Tubing - 75 Ft. Long w/RC4G Air Button
RC150	Air Tubing - 500 Ft. Long
RC4F	Air Button for Fiberglass Construction - 100 Ft. Range
RC510	Tube Coupler - 10 Units
RC6F	Air Button for Gunite/Fiberglass Construction - 150 Ft. Range
Spring Wound Timers	
146MT573	Small Ivory Knob
146MT574	Small White Knob
146MT575	Small Almond Knob
146MT577	Large Stonedust (gray) Knob
146MT579	Large Black Knob
AG1BRKT	L Bracket for AG Series
107TN221	Red trippers for TN311C
107TN222	Turquoise trippers for TN111RM40
107SB189	Red trippers for HB plug-ins
107SB192	Black trippers for HB plug-ins
176ET10A	Surge Suppressor - For Switching Inductive 240 V Nominal Loads
176ET22A	Surge Suppressor - For Switching Inductive 277 V Nominal Loads
176ET8A	Surge Suppressor - For Switching Inductive 24 V Nominal Loads
176ET9A	Surge Suppressor - For Switching Inductive 120 V Nominal Loads
107SB234	OFF Trippers for HB35R
107SB216	ON Trippers for HB31R & P1121
107SB217	OFF Trippers for HB31R & P1121
107TN222	ON Trippers for TN, PB, TB Series, P1101, P1131, P1161, P1261, AL300TPWS, AL600TPWS & AL900TPWS
107TN221	OFF Trippers for TN, PB, TB Series, P1101, P1131, P1161, P1261, AL300TPWS, AL600TPWS & AL900TPWS
107SB189	ON Trippers for HB11, HB35R, HB112C, HB113C, HB114C, AL300RTW, AL600TW, AL900TW, AL60TW & ML Series Transformer Timers
107SB192	OFF Trippers for HB11, HB112C, HB113C, HB114C, AL300RTW, AL600TW, AL900TW, AL60TW & ML Series Transformer Timers

# Bulb Replacement Chart

HID Wall Packs & Flood Lights									
Wall Pack	Flood	Cut-Off Wall Pack	Full Cut-Off Wall Pack	Lamp Type	Watts	Base	Type	Lumens	Lamp Hours
WL050MH	FL050MH	—	—	Metal Halide	50	Medium	ED17	"4,100"	"10,000"
WL070MH	FL070MH	—	—	Metal Halide	70	Medium	ED17	"6,200"	"16,000"
WL100MH	FL100MH	WLC100MH	—	Metal Halide	100	Medium	ED17	"9,500"	"16,000"
WL150MH	FL150MH	WLC150MH	WLFC150MH	Metal Halide	150	Medium	ED17	"12,500"	"10,000"
	FL175MH	WLC175MH	WLFC175MH	Metal Halide	175	Medium	ED17	"13,500"	"10,000"
WL250MH	FL250MH	—	—	Metal Halide	250	Mogul	ED28	"25,000"	"10,000"
WL400MH	FL400MH	WLC400MH	—	Metal Halide	400	Mogul	ED37	"36,000"	"20,000"
WL035HPS	FL035HPS	—	—	High Pressure Sodium	35	Medium	ED17	"2,250"	"24,000"
WL050HPS	FL050HPS	—	—	High Pressure Sodium	50	Medium	ED17	"4,000"	"24,000"
WL070HPS	FL070HPS	WLC070HPS	—	High Pressure Sodium	70	Medium	ED17	"6,300"	"24,000"
WL100HPS	FL100HPS	WLC100HPS	—	High Pressure Sodium	100	Medium	ED17	"9,500"	"24,000"
WL150HPS	FL150HPS	WLC150HPS	WLFC150HPS	High Pressure Sodium	150	Medium	ED17	"16,000"	"24,000"
WL250HPS	FL250HPS	WLC250HPS	—	High Pressure Sodium	250	Mogul	ED18	"26,000"	"24,000"
WL400HPS	FL400HPS	WLC400HPS	—	High Pressure Sodium	400	Mogul	ED18	"50,000"	"24,000"
HID Quartz Flood Lights									
—	FL150Q	—	—	Quartz	150	Double Ended	T3	"2,400"	"2,000"
—	FL300Q	—	—	Quartz	300	Double Ended	T3	"5,200"	"2,000"
—	FL500Q	—	—	Quartz	500	Double Ended	T3	"9,500"	"2,000"
HID Dusk-to-Dawn Lights									
—	—	—	DD100MH	Metal Halide	100	Medium	ED28	"8,500"	10,000
—	—	—	DD150HPS	High Pressure Sodium	150	Medium	ED17	"16,000"	"24,000"
HID Wall Pack Lights with Photocell									
WL070HPSPC	—	—	—	High Pressure Sodium	70	Medium	ED17	"6,300"	"24,000"
HID Canopy Lights									
—	—	—	CP150MH	Metal Halide	150	Medium	ED17	"12,500"	"10,000"
—	—	—	CP150HPS	High Pressure Sodium	150	Medium	ED17	"16,000"	"24,000"

# IP Classifications

IP Classifications			
Ingress Protection class of enclosures is according to IEC 529 given in form of IP classification, a two digit coding which is shown below			
First Digit		Second Digit	
Protection against contact and ingress of solid objects		Protection against ingress of water	
0	No special protection	0	No special protection
1	Protected against ingress solid objects with a diameter of more than 50 mm. No protection against deliberate access, e.g. with a hand, but large surfaces of the body are prevented from approach	1	Protection against dripping water falling vertically. No harmful effect must be produced (vertically falling drops)
2	Protected against penetration by solid objects with a diameter of more than 12 mm. Fingers or similar objects prevented from approach	2	Protection against dripping water falling vertically. There must be no harmful effect when the equipment (enclosure) is tilted at an angle up to 15° from its normal position (drops falling at an angle)
3	Protected against ingress of solid objects with a diameter of more than 2.5 mm. Tools, wires, etc. with a thickness of more than 2.5 mm are prevented from approach	3	Protection against water falling at any angle up to 60° from the vertical. There must be no harmful effect (spray water)
4	Protected against ingress of solid objects with a diameter of more than 1 mm. Tools, wires, etc. with a thickness of more than 1 mm are prevented from approach	4	Protection against water splashed against the equipment (enclosure) from any direction. There must be no harmful effect (splashing water)
5	Protected against harmful dust deposits. Ingress of dust is not totally prevented but the dust must not enter in sufficient quantity to interfere with satisfactory operation of the equipment. Complete protection against contact	5	Protection from water projected from a nozzle against the equipment (enclosure) from any direction. There must be no harmful effect (water jet)
6	Protection against ingress of dust (dust tight). Complete protection against contact	6	Protection against heavy seas or powerful water jets. Water must not enter the equipment (enclosure) in harmful quantities (splashing over)
		7	Protection against water when the equipment (enclosure) is immersed in water under defined conditions of pressure and time. Water must not enter in harmful quantities (immersion)
		8	The equipment (enclosure) is suitable for continuous submersion in water under conditions which must be specified by the manufacturer (submersion)

# Obsolete/Substitution Chart

For a complete and current Obsolete/Substitution list please visit [www.intermatic.com](http://www.intermatic.com)

Old Model	Substitution	Old Model	Substitution	Old Model	Substitution
AG2083C	AG2083C3	IG11266	IG112663	PE153WF	PE153, 133PE1484A, 178PA28A
AG2401	AG24013	IG11266BLK10	IG112663BLK10	PE950	PE953
AG2401C	AG2401C3	IG1240RC	IG1240RC3	RC2103E	RC2103S
AG2401C-IND	AG2401C3	IG1300-2T-1C	IG1300-2T-1C3	RC2112S	RC2103S
AG2403C	AG2403C3	IG1300-4T-2C	IG1300-4T-2C3	RC2123MT	RC2123PT
AG4801	AG48013	IG2012B15	IG2012B153	RC2123S	RC2123PT
AG4803C	AG4803C3	IG20615	IG206153	RC2133M	RC2123PT
AG6503	AG65033	IG2066	IG20663	RC2133P	RC2123PT
AG6503C	AG6503C3	IG2086	IG20863	RC2163E	RC2163BE
AG6503C-IND	AG6503C3	IG20B12	IG20B123	RC2163FE	RC2163BFE
AG6503C-INDL	AG6503L3	IG3240RC	IG3240RC3	RC2233P	RC2103S
AG6503L	AG6503L3	K4022	K4023C	RC2263BE	RC2163BE & RC2103S
CP924	DT620CL	K4033	K4023C	RC2263E	RC2163BE & RC2103S
E1120	KM2ST-1G	K4121M	K4136M	RC2343M	RC2343PT
E1220	KM2ST-1G	K4122	K4123C	RC2343MT	RC2343PT
ET100C	ET1105C	K4124	K4123C	RC2343P	RC2343PT
ET101C	ET1105C	K4133	K4123C	RC2403RT	RC2343PT & RC2103S
ET102C	ET1105C	K4222	K4223C	RC4F	RC4G
ET103C	ET1125C	K4224	K4223C	T25	TN311C, TN111RM40
ET104C	ET1125C	K4233	K4223C	T35	TN311C
ET104CP	ET1125CPD82	P1102FE	P1103FE	T240	HB114C
ET105C	ET1115C	P1102ME	P1103FE	T40004R5	T40000R4
ET171C	ET1705C	P1103ME	P1103FE	WL175MH	WL150MH
ET171CR	ET1705CR	P1161	P1261P	WP104	WP107
ET173C	ET1725C	P1203FR	P1103FE, RC613 & RC939	WP105	WP107
ET174C	ET1725C	P1261PE	P1261P	WP110WC	WP1110C, WP100WC
ET175C	ET1715C	P7101ME	P7103ME		
ET279C	ET1725C	P7102ME	P7103ME		
ET616	EI400C	PB912M10R	PB913N		
FL175MH	FL150MH	PE153W	PE153 & 133PE1484A		
IG11246	IG112463				

# Redefine energy controls



GM40AVE Auto-Voltage  
Electronic

GM40AV Auto-Voltage  
Mechanical

**INTERMATIC**<sup>®</sup>  
Providing a brighter solution.<sup>™</sup>

**GRASSLIN**<sup>™</sup>  
by **INTERMATIC**<sup>®</sup>

*see pages 19, 31 for more details*

**For more information  
visit [www.intermatic.com](http://www.intermatic.com)**



# Redefine defrost controls



DTMV40

**INTERMATIC**<sup>®</sup>  
Providing a brighter solution.™

**GRÄSSLIN**<sup>™</sup>  
by **INTERMATIC**



see page 20 for more details