DUAL LITE

Life Safety Solutions

Emergency Lighting

Exit Signs

AC Inverter Power Systems

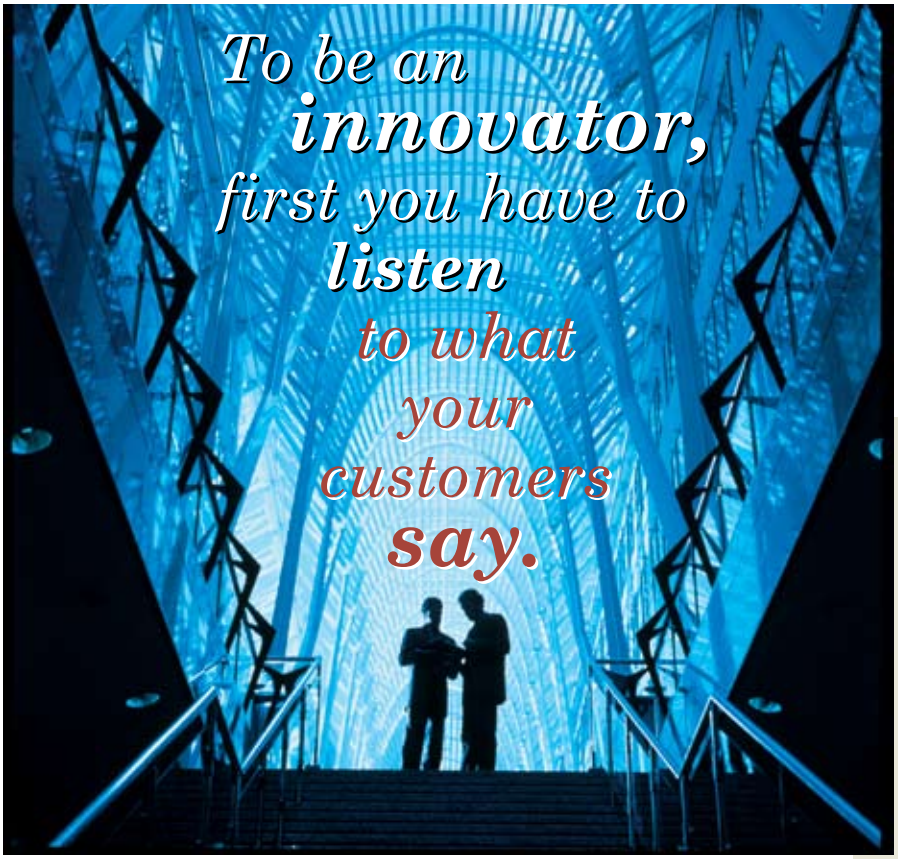
HUBBELL®

Hubbell Lighting, Inc.

DUAL LITE

Emergency Lighting Units...
...Exit Signs
Inverter Power Systems...

Life Safety Solutions



Innovation doesn't happen by chance. Yes, it takes experience... dedication to quality... and a willingness to think "outside the box." But if you're going to continually set industry standards, that thinking had better reflect what your customers expect.

Which is why at Dual-Lite, innovation begins with listening carefully to our customers.

About Our Products

All our latest products began with nationwide customer interviews to find out what you want and need...and what you think. We then took this product-shaping feedback, factored in our own high standards for quality, and developed products by which others are now measured. As you review our product offerings, you'll see that this strong tradition of excellence continues today with exit signs and emergency lighting that include the latest advances and the highest level of performance.

About Our Quality

Quality is the key reason why Dual-Lite remains the industry's most asked-for brand. You'll see it in our construction, components, design and engineering, all of which combine to deliver the highest level of customer satisfaction, and the industry's best safety record.

Number One Brand

It's our unique "listen-to-learn" business philosophy that's made Dual-Lite the industry's Number One brand ...and why our name still remains synonymous with life safety excellence after more than 65 years.

Liteforms® Collection

A Tradition Of Excellence

Sleek lines... low-profile silhouette... innovative design... Only one line of life safety equipment fits this description —the Liteforms® Collection by Dual-Lite.

Our unique styling is backed up by the substance of high-quality, high-performance components and sturdy construction features that helps ensure long-life, worry-free operation and lower maintenance expense. Plus, with our extensive product offering, you'll find a Liteforms exit sign or emergency lighting unit for nearly every commercial, industrial or institutional application. That's the LiteForms tradition of excellence

LiteForms, delivering the perfect solutions to all your life safety product needs.

CLEARVIEW™ Collection

Focused On Value

For many, value equates to cost-effective products that perform reliably.

For others, value means lowering transaction costs and minimizing returns.

For everyone, value is simply having your expectations met or exceeded every time.

Everything about Dual-Lite's Clearview Collection is focused on delivering the type of value and high output performance that our customers have come to expect. Additionally, Clearview Collection products share a "family" style that results in a unified designer look when they are installed together. With Clearview products, you can create life safety lighting systems with eye appeal.

Value... Performance... Style...
That's the Clearview difference.

ULTREX

Protection From Severe Conditions

Whether your need is a vandal-resistant exit sign, explosion-proof emergency lighting, or units that can withstand damp, exposed or hazardous conditions, the solution is the Ultrex line, from Dual-Lite.

Ultrex features products for almost every severe condition you'll encounter.
Each Ultrex unit is designed to provide unsurpassed, worry-free performance and lower maintenance — also lowering costs.

Ultrex Choices

Dual-Lite offers a broad choice of products for severe condition applications, including:

Emergency Lighting Units
- *EZ-2 Damp Series*
- *LZ Damp Series*
- *LM Damp Series*
- *N4X Series*
- *IPS Series*
- *XPB Series*
- *Lampak Series*

Exit Signs
- *LX Series*
- *LT Series*
- *LN4X Series*
- *Sempra SC Series*
- *Sempra SC WL Series*
- *Freedom LED Series*
- *LEDS Series*

Remote Lighting Heads
- *GNX Series*
- *OMS Series*

SPECTRON®

Self-Testing/Self-Diagnostic Electronics System

Technologically advanced self-testing, self-diagnostic electronics provide increased reliability and decreased maintenance.

All Dual-Lite models ordered with the Spectron option provide:
- Visual indication of AC power status
- Visual Indication of all self-diagnostic test cycles
- Visual indication of unit malfunctions including:
  - *Battery disconnected*
  - *Battery fault*
  - *Charger fault*
  - *Transfer fault*
  - *Lamp fault*

Features

- *Meets UL 924 standards for self-testing/self diagnostic models.*
- *Provides automatic self-diagnostic monitoring and testing of unit operation.*
- *Automatically performs routine maintenance and assures operational readiness at all times.*
- *Monitors charger and lamp operation.*
- *Routine discharge cycles insure optimum battery performance and maximum useful life.*
- *Automatic self-test every 28 days and extended operation self-test every 6 months.*
- *Automatic low voltage disconnect.*
- *Automatic unit transfer in brownout conditions.*
- *Automatic 15-minute retransfer delay (units).*
- *Automatic AC lockout circuit.*
- *Flashing LED indication of unit malfunction.*
- *All detected malfunctions retained in memory until corrected and retested.*
- *Test switch allows a system check at any time.*
- *Supports exit sign flashing options*

Test Intervals

The Spectron self-testing/self-diagnostic system conducts tests to verify proper operation continuously and on monthly, and semiannual intervals. Manual tests may also be performed at any time. A malfunction during any self test will be indicated by the external status indicators .

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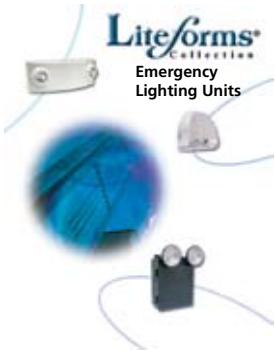

LiteForms Emergency Lighting Units

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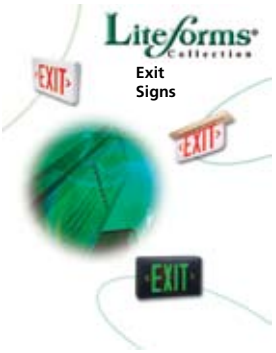

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The following guide provides a fast, easy method of selecting products for most applications. Refer to catalog pages for additional product and ordering information.

Lite*forms*® Collection

Emergency Lighting Units

Catalog Page Number(s)	Product Series	Model Number	Unit Voltage	Watts For 1 1/2 Hrs.	Battery Type	Power Consumption (Max.)[1]	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
14, 15	**LiteScape™ Series** *Commercial Units* 	LSC	6	20	Lead-Calcium	2 Watts	1 Years	1/5 Years
		LSCN	6	20	Nickel-Cadmium	2 Watts	1 Years	1/9 Years
		LSCI	6	20	Lead-Calcium	2 Watts	5 Years	2/4 Years
		LSCNI	6	20	Nickel-Cadmium	2 Watts	5 Years	2/4 Years
		GUARANTEED CODE-COMPLIANCE						
16	**EZ-2™ Series** *Commercial Units* 	EZ-2	4	10.8	Lead-Calcium	15 Watts	3 Years	3/3 Years
		EZ-2V	4	10.8	"	15 Watts	3 Years	3/3 Years
		EZ-2I	6	14.4	"	15 Watts	5 Years	5/5 Years
		Damp Location Model						
		EZ-2D	4	10.8	Lead-Calcium	15 Watts	3 Years	3/3 Year
17	**LZ Series** *Low-Profile Halogen Lamp Units* 	LZ2, LZ2D	6	10	Lead-Calcium	3.5 Watts	1 Year	1/5 Years
		LZ15	6	15	"	"	"	"
18, 19	**LZ Series** *High Capacity Halogen Lamp Units*  • *Choice of battery types* • *6- and 12-volt models* • *Capacities up to 65 watts* 	Standard Models						
		LZ30	6	30	Lead-Calcium	14 Watts	1 Year	1/5 Years
		LZ35-12V	12	35	"	"	"	"
		LZ65	6	65	"	"	"	"
		LZ65-12V	12	65	"	"	"	"
		LZ20N	6	20	Nickel-Cadmium	11.2 Watts	3 Years	1/9
		LZ25N-12V	12	25	"	"	"	"
		Damp Location Models						
		LZ25D	6	25	Lead-Calcium	14 Watts	1 Year	1/5 Years
		LZ30D-12V	12	30	"	"	"	"
		LZ55D	6	55	"	"	"	"
		LZ55D-12V	12	55	"	"	"	"
		LZ15ND	6	15	Nickel-Cadmium	11.2 Watts	3 Years	1/9
		LZ20ND-12V	12	20	"	"	"	"
		Remote Lighting Fixtures						
		Single Lamp Models	6, 12	—	—	—	1 Year	—
		Tandem Lamp Models	6, 12	—	—	—	1 Year	—
20, 21	**LM Series** *Compact, Traditional Design Units*  • *Rugged metal housing* • *6- and 12-volt models* • *Capacities up to 130 watts* • *Lighting heads may be top or side mounted*	Standard Models						
		LM2	6	14.4	Lead-Calcium	15 Watts	1 Year	1/5 Years
		LM16	6	16	"	"	"	"
		LM33	6	33	"	"	"	"
		LM40	6	40	"	"	"	"
		LM66	6	66	"	"	"	"
		LM80	6	80	"	"	"	"
		LM130	6	130	"	"	"	"
		LM40-12V	12	40	"	"	"	"
		LM66-12V	12	66	"	"	"	"
		LM80-12V	12	80	"	"	"	"
		LM130-12V	12	130	"	"	"	"
		Damp Location Models						
		LM28D	6	28	Lead-Calcium	15 Watts	1 Year	1/5 Years
		LM34D	6	34	"	"	"	"
		LM56D	6	56	"	"	"	"
		LM68D	6	68	"	"	"	"
		LM112D	6	112	"	"	"	"
		LM34D-12V	12	34	"	"	"	"
		LM56D-12V	12	56	"	"	"	"
		LM68D-12V	12	68	"	"	"	"
		LM112D-12V	12	112	"	"	"	"

(1) Maximum power consumption specification shown for circuit-sizing purposes only. Normal operating power requirements are significantly lower. Consult factory for normal operating power consumption ratings on specific models.

Quick Selector Guide

Liteforms® Collection

Emergency Lighting Units

Catalog Page Number(s)	Product Series	Model Number	Unit Voltage	Watts For 1½ Hrs.	Battery Type	Power Consumption (Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
20, 21	**LM Series** *Special Application Models*  • Rugged metal housing • 6- and 12-volt models • Capacities up to 100 watts • Lighting heads may be top or side mounted • Chicago Models	**NiCad Battery Models**						
		LM15N	6	14.4	Nickel-Cadmium	15 Watts	3 Years	1/9 Years
		LM30N	6	30	"	"	"	"
		LM50N	6	50	"	"	"	"
		LM50N-12V	12	50	"	"	"	"
		LM100N-12V	12	100	"	"	"	
		City of Chicago Models						
		LM24CH	6	24	Lead-Calcium	15 Watts	1 Year	1/5 Years
		LM36CH	6	36	"	"	"	"
		LM36CH-12V	12	36	"	"	"	"
22	**EZ-2R™ Series** *Recessed Mounting Units*  • Ceiling or wall mount	EZ-2R	6	10.8	Lead-Calcium	15 Watts	3 Years	3/3 Years
		EZ-2RI	6	14.4	"	15 Watts	5 Years	5/5 Years
23	**T-Grid™ Series** *Recessed Troffer Units*  • Suspended ceiling mount	TG15	6	15	Lead-Calcium	15 Watts	3 Years	3/3 Years
		TG30	6	30	"	75 Watts	"	"
		TG50-12V	12	50	"	"	"	"
		TG15N	6	15	Nickel-Cadmium	15 Watts	3 Years	1/9 Years
		TG30N	6	30	"	75 Watts	"	"
		TG50N-12V	12	50	"	"	"	"
24	**EXT™ Series** *Recessed Gimbal Unit* 	EXT-122-EM-K	6	8	Lead-Calcium	15 Watts	1 Year	1/5 Years
25	**LITE²™ Series** *Square Units*  • Surface, semi-recessed and fully-recessed models	EDS	6	10	Lead-Calcium	12 Watts	3 Years	3/3 Years
		EDS-2	6	14.4	"	"	"	"
		ERS	6	20	"	"	"	"
		ERS-3	6	30	"	"	"	"
		ERS-2-2	6	30	"	"	"	"
		ESS-I	6	10	Lead-Calcium	12 Watts	5 Years	5/5 Years
		ESS-I-2	6	14.4	"	"	"	"
		ERS-I	6	20	"	"	"	"
		ERS-3I	6	30	"	"	"	"
		ERS-2I-2	6	30	"	"	"	"
26	**DELITE® Series** *Cylinder Units* 	ESC-2-0	6	12	Lead-Calcium	15 Watts	1 Years	1/5 Years
27	**N4X Series** *Sealed, Harsh Environment Unit*  • Dust-tight, moisture and corrosion resistant	N4X2	6	15.6	Lead-Calcium	75 Watts	3 Years	3/3 Years
		N4X4	6	31.2	"	"	"	"
		N4X7	6	50.4	"	"	"	"
		N4X14	6	100	"	"	"	"
		N4X7-12V	12	50.4	"	"	"	"
		N4X14-12V	12	100	"	"	"	"

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DUAL LITE

Liteforms® Collection

Emergency Lighting Units

Catalog Page Number(s)	Product Series	Model Number	Unit Voltage	Watts For 1½ Hrs.	Battery Type	Power Consumption (Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
28, 29	**AS Series** *Traditional Units*  • *Maintenance-free batteries*	AS-80	6	80	Lead-Calcium	75 Watts	1 Year	1/5 Years
		AS-130	6	130	"	"	"	"
		AS-180-12V	12	180	"	"	"	"
		AS-270--12V	12	270	"	"	"	"
		AS-360-12V	12	360	"	"	"	"
		AS-180-24V	24	180	"	"	"	"
		AS-270-24V	24	270	"	"	"	"
		AS-360-24V	24	360	"	"	"	"
28, 29	**ALC-X/EDC-X Series** *Traditional Units*  • *Wet-cell lead-calcium batteries*	ALC-X-30	6	78	Wet-Cell Lead-Calcium	75 Watts	1 Year	1/9 Years
		ALC-X-60	6	144		"	"	"
		ALC-X-100	6	162		"	"	"
		12EDC-X-36S	12	200	"	"	"	"
		12EDC-X-60S	12	240	"	"	"	"
		12EDC-X-120S	12	350	"	"	"	"
		Note: *12EDC-X models supplied without lighting heads.*						
28, 29	**AS/EDN Series** *Traditional Units*  • *Longest life, wet-cell nickel-cadmium batteries*	AS-75	6	75	Wet-Cell Nickel-Cadmium	75 Watts	1 Year	1/14 Years
		AS-145	6	110		"	"	"
		AS-210	6	145		"	"	"
		12EDN-10S	12	48	"	"	"	"
		12EDN-18S	12	100	"	"	"	"
		12EDN-30S	12	150	"	"	"	"
		Note: *12EDN models supplied without lighting heads.*						
30, 31	**IPS Series** *NEC Class I, Division 2 Units*  • *Suitable for wet locations*	C1D2-6V36	6	36	Pure-Lead	25 Watts	3	3/3
		C1D2-6V72	6	72	"	"	"	"
		C1D2-12V36	12	36	"	"	"	"
		C1D2-12V72	12	72	"	"	"	"
32, 33	**XPB Series** *Explosion-Proof Units*  • *NEC Class I and II operation* • *Unit mounted and remote fixtures* 	XPB-75P	6	75	Pure-Lead	75 Watts	3 Years	3/3 Years
		12XPB-75P	12	75	"	"	"	"

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Liteforms® Collection

Fluorescent Power Packs

Catalog Page Number(s)	Product Series	Model Number	Operates Lamp Type	Rating In Lumens	Battery Type	Number Of Lamps Operated	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
34	**LAMPAK® Series** *Fluorescent Packs*  • *Models for standard fluorescent lamps*	UFO-3AW	Std. Fluor.	350-450	Nickel-Cadmium	1	1 Year	1 Year
		UFO-4W	Std. Fluor.	500-600	"	1	"	"
		UFO-5W	Std. Fluor.	600-700	"	1	"	"
		UFO-5AW	Std. Fluor.	600-700	"	1 or 2	"	"
		UFO-6W	Std. Fluor.	1100-1400	"	1 or 2	"	"
		UFO-6WI	Std. Fluor.	1100-1400	"	1 or 2	"	"
		UFO-6W-CLD	Std. Fluor.	600-750	"	1 or 2	"	"
35	**LAMPAK® Series** *Fluorescent Packs*  • *High lumen output models*	UFO-7W	Std. Fluor.	1450-3500	Nickel-Cadmium	1 or 2	1 Year	1 Year
		UFO-7WI	Std. Fluor.	1800-3500	"	1 or 2	"	"

Quick Selector Guide

Liteforms® Collection

Fluorescent Power Packs

Catalog Page Number(s)	Product Series	Model Number	Operates Lamp Type	Rating In Lumens	Battery Type	Number Of Lamps Operated	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
36	**LAMPAK® Series** *Fluorescent Packs* • *For compact fluorescent lamps* 	UFO-12W	13 to 42W Compact Fluor. Lamps	300-750	Nickel-Cadmium	1 or 2	1 Year	1 Year
37	**LAMPAK® Series** *Fluorescent Packs* • *For low-profile fluorescent fixtures* 	UFO-LP1 UFO-LP2	T5 and T8 Fluor. Lamps	390-700 650-1325	Nickel-Cadmium "	1 1	1 Year "	1 Year "
38	**LAMPAK® Series** *HID Back-up Ballast* • *For metal-halide HID lamps* 	UFO-MH175 UFO-MH250 UFO-MH400	Metal-Halide HID Lamps	20 to 30% Normal Output	Nickel-Cadmium " "	1 1 1	1 Year " "	1 Year " "

Liteforms® Collection

Exit Signs

Catalog Page Number(s)	Product Series	AC Lamp Type	AC Lamp Wattage	DC Lamp Type	Battery Type	Power Consumption (Emerg. Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
40	**LX Series** *Thermoplastic LED Exit Signs* • *All models Damp Location Listed* 	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years	1/9 Years
41	**DK Series** *Thermoplastic Incandescent Exit Signs* 	Incandescent	15W (2)	—	—	30 Watts	3 Years Excluding AC Lamps	—
42, 43	**LT Series** *Combination Emergency Unit/LED Exit Signs* • *Damp Location and Remote Capacity models* 	LED	Red – 2.6W Green – 2.1W	Halogen and LED	Lead-Calcium	5.0 Watts	5 Years	1/5 Years
44	**NYXC Series** *Combination Emergency Unit/LED Exit Signs* • *Meets NY City requirements* 	LED	Red –3.5W Green – 3.0W	LED	Lead-Calcium	7.0 Watts	5 Years	1/5 Years
45	**SMC Series** *Combination Emergency Unit/LED Exit Signs* • *Low-profile side mounted lighting heads* 	LED	Red – 2.6W Green – 2.1W	LED	Lead-Calcium	12 Watts	3 Years	1/5 Years

(1) Maximum power consumption specification shown for circuit-sizing purposes only. Normal operating power requirements are significantly lower. Consult factory for normal operating power consumption ratings on specific models.

Catalog Page Number(s)	Product Series	AC Lamp Type	AC Lamp Wattage	DC Lamp Type	Battery Type	Power Consumption (Emerg. Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
46, 47	**Sempra® Series** *Cast Aluminum LED Exit Signs* • *Lifetime warranty on LED lamp strip*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years (Lifetime on LED strip)	1/9 Years
48, 49	**Sempra® MR Series** *Master/Remote Cast Aluminum LED Exit Signs* • *Supplied as 2-sign sets* • *Low-profile Remote exit* • *Lifetime warranty on LED lamp strip*	LED	Red – 2.6W (2) Green – 2.1W (2)	LED	Nickel-Cadmium	3.8 Watts	5 Years (Lifetime on LED strip)	1/9 Years
50, 51	**Sempra® SC Series** *Severe Conditions Cast Aluminum LED Exit Signs* • *Lifetime warranty on LED lamp strip*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years (Lifetime on LED strip)	1/9 Years
52	**Sempra® SCWL Series** *Wet Location Cast Aluminum LED Exit Signs* • *Completely sealed and gasketed* • *Lifetime warranty on LED lamp strip*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years (Lifetime on LED strip)	1/9 Years
53	**Sempra® SERS Series** *Recessed Cast Aluminum LED Exit Signs* • *Lifetime warranty on LED lamp strip*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years (Lifetime on LED strip)	1/9 Years
54	**NYDC Series** *Cast Aluminum LED Exit Signs* • *Meets NY City requirements*	LED	Red – 2.5W	LED	Nickel-Cadmium	3.5 Watts	5 Years	1/9 Years
55	**LN4X Series** *Wet Location LED Exit Signs* • *Suitable for damp, wet and corrosive environments*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years	1/9 Years
56	**Freedom® LED Series** *Aluminum LED Exit Signs* • *Up to 12 hours of emergency operation* • *All models Damp Location Listed*	LED	Single Face Red – 4.5W Green – 4.7W Double Face Red – 6.8W Green – 6.7W	LED	Lead-Acid	7.7 Watts	5 Years	1/4 Years

(1) Maximum power consumption specification shown for circuit-sizing purposes only. Normal operating power requirements are significantly lower. Consult factory for normal operating power consumption ratings on specific models.

Quick Selector Guide

Lite*forms*® Collection

Exit Signs

Catalog Page Number(s)	Product Series	AC Lamp Type	AC Lamp Wattage	DC Lamp Type	Battery Type	Power Consumption (Emerg. Max.)(1)	Warranty	
							Equipment	Battery Full/Pro-Rata
57	**LEDS Series** *Low-Profile Aluminum LED Exit Signs* • *All models Damp Location Listed*	LED	Red – 3.2W Green – 2.9W	LED	Nickel-Cadmium	3.3 Watts	5 Years	1/9 Years
58	**NYX Series** *New York City LED Exit Signs* • *Meets NY City requirements*	LED	Red – 2.4W	LED	Nickel-Cadmium	3.5 Watts	5 Years	1/9 Years
59	**CMX Series** *Chicago Exit Signs* • *City of Chicago approval No. **9823***	Incandescent or Fluorescent	Incand.– 20W (2) Fluor.– 9W (2)	5W (2)	Lead-Calcium	Incand.– 50W Fluor.– 28W	5 Years	1/9 Years
60, 61	**LE Series** *Recessed Edge-Lit LED Exit Signs* • *Universal recess rough-in kit* • *Choice of six decorator finishes*	LED	Single Face Red – 2.2W Green – 2.5W Double Face Red – 3.4W Green – 4.0W	LED	Nickel-Cadmium	3.8 Watts	5 Years	1/9 Years
62, 63	**LES Series** *Surface Mount Edge-Lit LED AC Exit Signs* • *Wall-, ceiling- and end-mount models* • *Choice of six decorator finishes*	LED	Single Face Red – 2.2W Green – 2.5W Double Face Red – 3.4W Green – 4.0W	—	—	4.0 Watts	5 Years	1/9 Years
64	**NYE Series** *NYC Recessed Edge-Lit LED Exit Signs* • *Ceiling or wall recess installation* • *Meets NY City requirements*	LED	Red – 3.2W	LED	Nickel-Cadmium	4.0 Watts	5 Years	1/9 Years
65	**NYES Series** *NYC Surface Mount Edge-Lit LED Exit Signs* • *Wall-, ceiling- and end-mount models* • *Meets NY City requirements*	LED	Red – 3.2W	—	Nickel-Cadmium	4.0 Watts	5 Years	1/9 Years
66	**DEX Series** *Special Wording Incandescent Exit Signs*	Incandescent	15W (2)	3.7W (2) Incandescent	Lead-Calcium	35 Watts	3 Years Excluding AC Lamps	1/5 Years

(1) Maximum power consumption specification shown for circuit-sizing purposes only. Normal operating power requirements are significantly lower. Consult factory for normal operating power consumption ratings on specific models.

Quick Selector Guide

Emergency Lighting Products

Catalog Page Number(s)	Product Series	Model Number	Unit Voltage	Watts For 1 1/2 Hrs.	Battery Type	Power Consumption (Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
68	**SlimLite Series** *Contemporary Unit*	SL1, SL1-V	6	12	Lead-Calcium	3.5 Watts	1 Year	1/5 Years
69	**CV Series** *Designer Units* • *Standard and damp location models*	**Standard Models** CV2 CV3 CV5 **Damp Location Models** CV2D CV3D CV5D	 6 6 6 6 6 6	 12 18 30 12 18 30	 Lead-Calcium " " Lead-Calcium " "	 4 Watts " 14 Watts 4 Watts " 14 Watts	 1 Year " " 1 Year " "	 1/5 Years " " 1/5 Years " "
70	**CVEC Series** *Commercial Units* • *6- and 12-volt models* • *Capacities up to 100 watts* • *Lighting heads may be top or side mounted*	CVEC15 CVEC30 CVEC50 CVEC50-12V CVEC100-12V	6 6 6 6 6	15 30 50 50 100	Lead-Calcium " " " "	9 Watts 9 Watts 20 Watts 14 Watts 39 Watts	1 Year " " " "	1/5 Years " " " "

Catalog Page Number(s)	Product Series	AC Lamp Type	AC Lamp Wattage	DC Lamp Type	Battery Type	Power Consumption (Emerg. Max.)(1)	Warranty: Equipment	Warranty: Battery Full/Pro-Rata
71	**CV3 Series** *Thermoplastic LED Exit Signs*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years	1/9 Years
72	**CVT Series** *Combination Emergency Unit/LED Exit Signs*	LED	Red – 2.6W Green – 2.1W	Halogen and LED	Lead-Calcium	5.0 Watts	5 Years Excluding AC Lamps	1/9 Years
73	**CVD Series** *Cast Aluminum LED Exit Signs*	LED	Red – 2.6W Green – 2.1W	LED	Nickel-Cadmium	3.8 Watts	5 Years	1/9 Years
74	**CVER Series** *Recessed Mount Edge-Lit LED Exit Signs*	LED	Red –2.5W Green – 3.0W	LED	Nickel-Cadmium	5.2 Watts	5 Years	1/9 Years

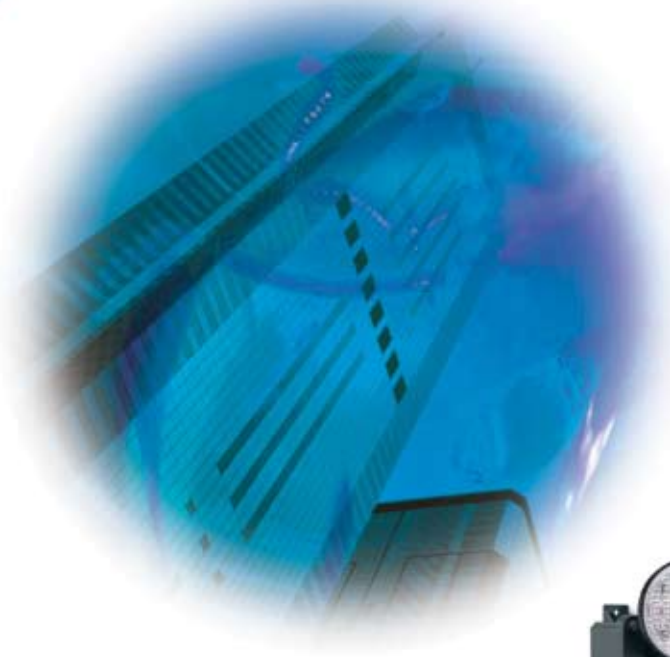
(1) Maximum power consumption specification shown for circuit-sizing purposes only. Normal operating power requirements are significantly lower. Consult factory for normal operating power consumption ratings on specific models.

Inverter Power Systems

Catalog Page Number(s)	Product Series	System Type	System Output Capacities
88 to 91	Synchron Series	Single Phase	400 to 2100VA
92 to 101	Spectron LSN	Single Phase	1.0 to 17.5kVA
103 to 104	Trident TRX Series	Three Phase	10 to 30kVA
105 to 106	Trident TRN Series	Three Phase	30 to 130kVA

DUAL LITE

Liteforms® Collection



Emergency Lighting Units

LiteScape Series	*Guaranteed Code Compliant Emergency Lights*	**14, 15**
EZ-2 Series	*Commercial Emergency Lights*	**16**
LZ Series	*Designer Emergency Lights*	**17**
LZ (HC) Series	*High Capacity Designer Emergency Lights*	**18, 19**
LM Series	*High Capacity Emergency Lights*	**20, 21**
EZ-2R Series	*Recessed Emergency Lights*	**22**
T-Grid Series	*Recessed T-Grid Emergency Lights*	**23**
EXT Series	*Recessed Gimbal Emergency Light*	**24**
Lite² Series	*Emergency Lighting Square Units*	**25**
Delite Series	*Emergency Lighting Cylinder Units*	**26**
N4X Series	*Harsh Environment Emergency Lights*	**27**
AS Series	*Industrial Emergency Lights*	**28, 29**
IPS Series	*Wet Location Emergency Lights*	**30, 31**
XPB Series	*Explosion-Proof Emergency Lights*	**32, 33**
Lampak Series	*Fluorescent Power Packs*	**34 to 38**

LiteScape

Commercial Emergency Light 20W

GUARANTEED CODE-COMPLIANT ILLUMINATION

Features

- Factory guaranteed NFPA-101 code-compliant illumination
- Field adjustable 3 ft. x 40 ft. or 6 ft. x 30 ft. egress illumination patterns
- SurePath® technology delivers bright, continuous illumination
- Low-profile silhouette
- Fast, easy installation
- High-output, 6 volt, 10-watt halogen lamps
- Impact resistant, UV stable polycarbonate construction
- Unit housing is paintable
- Lead-acid or nickel-cadmium battery models
- Universal 120/277VAC operation
- AC lockout
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Low-voltage battery disconnect
- Test switch and AC-On indicator
- Temperature range:
  Lead-acid models = 20°C to 30°C (68°F to 86°F)
  Nickel-Cadmium models = 0°C to 40°C (32°F to 104°F)
- UL 924 Listed (Emergency Lighting)
- UL Damp Location Listed (Nickel-Cadmium models only)

Ordering Information

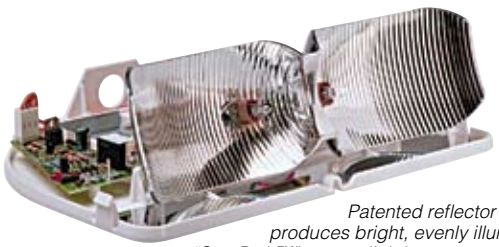
Standard Model	Nickel-Cadmium Model	Spectron Self-Testing Model	Nickel-Cadmium Spectron Self-Testing Model
LSC	**LSCN**	**LSCI**	**LSCNI**

Options (Add suffix to model)

-24K 220/240VAC, 60Hz. operation

-AA Audible alarm (1)

(1) For use with LSCI and LSCNI self-testing/self-diagnostic models only.



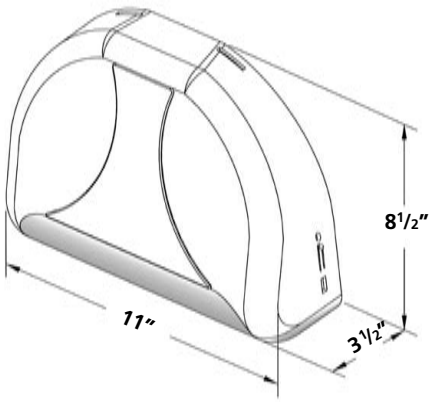
Patented reflector design produces bright, evenly illuminated "SurePath™" egress lighting pattern

SurePath™ Technology

The heart of LiteScape's SurePath technology is the patent pending reflector design created exclusively for Dual-Lite by Breault Research Organization, the company selected to correct the optics for the Hubble space telescope. This unique reflector design coupled with the unit's two high-output, 10-watt halogen lamps provide an incredibly bright and evenly distributed illumination pattern. Additionally, a user-selectable reflector adjustment allows a choice of the 3' or 6' wide SurePath illumination patterns. The long, broad and even nature of the SurePath illumination pattern makes it the optimum method of lighting interior paths of egress during emergency conditions.

Housing is field paintable to match wall decor.

Dimensions



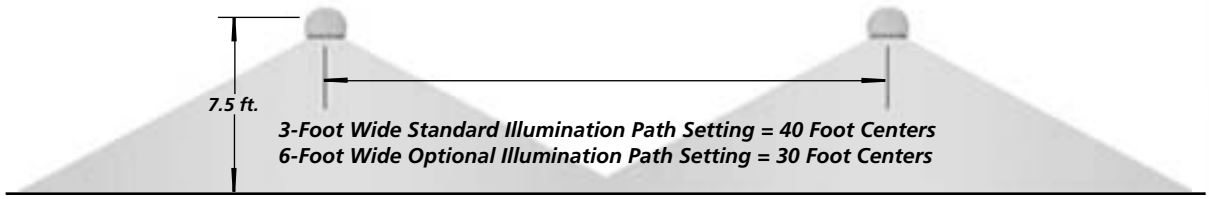
DUAL LITE

Lite/orms

The LiteScape Performance Guarantee

Dual-Lite guarantees the LiteScape unit will fully meet the 2003 edition of the NFPA 101 Life Safety Code emergency lighting requirements by providing an average of one footcandle of illumination along the path of egress as defined in the illustration below.

Center to Center Mounting Information



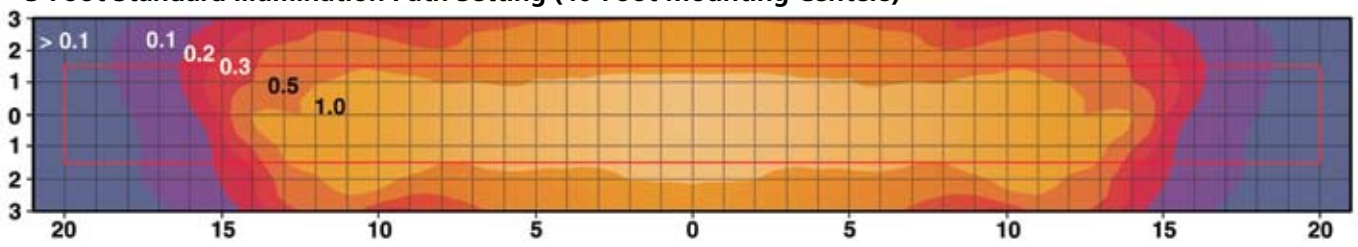
NOTE: The LiteScape unit must be installed per factory instructions provided and properly maintained. In addition, the pathway to be illuminated must meet the minimum surface reflectance values shown at right to qualify for guaranteed illumination performance.

Minimum Reflectance Values Required:
Ceiling: 80% Walls: 50% Floor: 20%

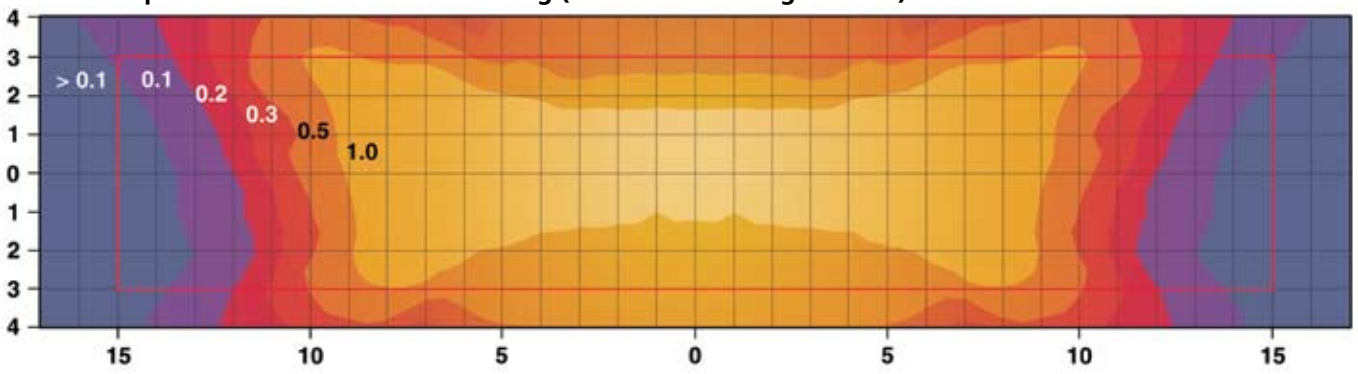
The LiteScape Performance Guarantee applies solely to units mounted 7.5 feet above the floor surface. For information on lighting performance at other mounting heights, refer to LiteScape Series Mounting Guide on the LiteScape product page in the Dual-Lite web site's on-line catalog. The LiteScape Performance Guarantee is subject to all conditions as outlined in the Product Warranty Statement on the Dual-Lite public web site (www.dual-lite.com) and applies only to the installation's initial emergency lighting inspection by the authority having jurisdiction.

PHOTOMETRICS

3-Foot Standard Illumination Path Setting (40-Foot Mounting Centers)



6-Foot Optional Illumination Path Setting (30-Foot Mounting Centers)



1) *Photometric illustrations based on data provided by Independent Testing Laboratories (**ITL**), Boulder, Colorado.*
2) *Photometrics shown based on 7.5-foot mounting height and minimum 80-50-20 reflectance values.*
3) *The white rectangular area in photometric illustrations represents normal center to center SurePath egress illumination pattern provided.*

INDEPENDENT VERIFICATION

The photometric data shown above was generated and verified by Independent Testing Laboratories (ITL) of Boulder, Colorado. LiteScape IES photometric files can be downloaded from the LiteScape product page at *www.dual-lite.com*. LiteScape illumination data has also been incorporated into the Hubbell LitePro® lighting design application software.

EZ-2

Commercial Emergency Lights 10.8W, 14.4W

An ULTREX Severe Conditions Product

Damp

(Damp Location Model EZ-2D)

Features

- Easy to install
- Compact, low-profile design
- Flame-rated, UV-stable thermoplastic housing
- Textured, bright white finish
- Universal mounting plate
- Glare-free, adjustable lampheads
- Maintenance-free battery
- Universal 120/277VAC operation
- Low power consumption
- Fully-automatic charger
- AC lockout
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Damp location model available
- Temperature range: 20°C to 30°C (68°F to 86°F)
  Damp location EZ-2D: 0°C - 40°C (32°F to 104°F)
- UL 924 Listed

Ordering Information

Standard Model	Damp Location Model	Voltmeter Model	Spectron Self-Testing Model
EZ-2	**EZ-2-D**	**EZ-2-V**	**EZ-2I**

Options (Add suffix to model)

-A21 Auxiliary 2-conductor AC line cord (120V only)

Accessories (Order Separately)

VRS Vandal resistant shield

WGEL Wire guard

Product Selector Guide

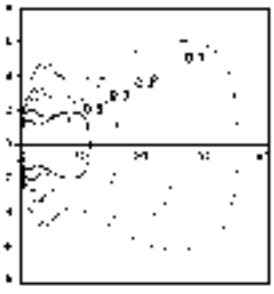
Base Catalog Number	Electrical									
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	AC Input Volts	Amps	Watts	Standard Lamp	Remote Capability
EZ-2, EZ-2-D and **EZ-2-V**	6	10.8	--	--	--	120	.080	8.4	5.4W	No
						277	.030	8.8		
EZ-2I*	6	14.4	--	--	--	120	.080	8.4	7.2W	No
						277	.030	8.8		

* Includes Spectron® self-testing/self-diagnostic electronics with time-delay relay (TDR) standard

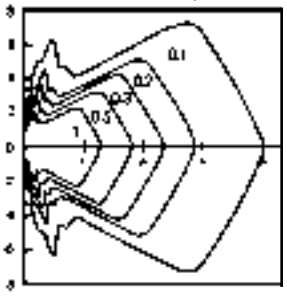
Photometrics

Horizontal Isofootcandle Distribution

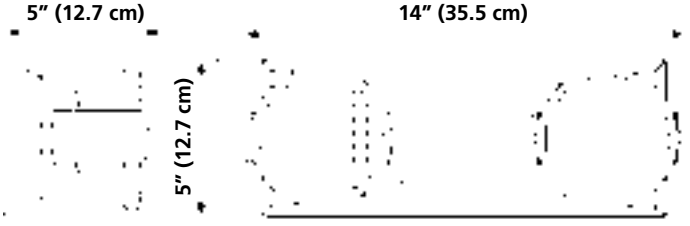
6 Volt, 5.4 Watt SBT Lamp



6 Volt, 7.2 Watt SBT Lamp



Dimensions



DUAL LITE

Lite/forms

Designer Emergency Lights 10W

Features

- Easy to install
- Flame-rated, UV-stable thermoplastic housing
- White or black finishes
- Slim, low-profile snap-together design
- Standard and damp location models
- Low profile, adjustable lampheads
- High-output halogen lamps
- Clear glass protective lamp lens
- Matching remote fixtures
- 120/277VAC operation standard
- Fully-automatic charger
- Maintenance-free battery
- 90 minute operation
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Temperature range: 20°C to 30°C (68°F to 86°F)
  Damp location model: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

See Product Selector Guide below for available models

Outdoor lighting head

Matching remote lighting head

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics (3)
-B	Black finish
-V	Voltmeter
-24K	220-240VAC, 60 Hz. operation
-A21	Auxiliary 2-conductor line cord (120V only) (1)
-A31	Auxiliary 3-conductor line cord (120V only) (2)

(1) Not for use with LZ15 model.
(2) For use with LZ15 model only.
(3) Not available with LZ2 model.

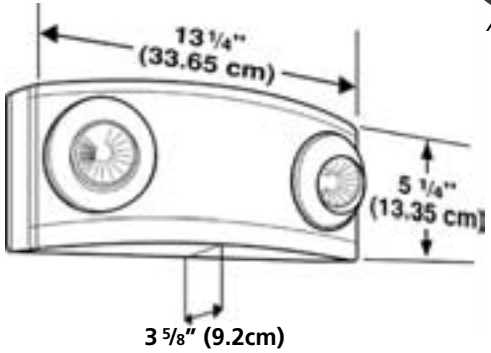
Accessories (Order Separately)

VRS	Vandal resistant shield
WGLZ	Wire guard
PMLZTW	12½" Pendant mounting kit - white
PMLZTB	12½" Pendant mounting kit - black
LZRSW0605	Matching remote lighting head - white
LZRSB0605	Matching remote lighting head - black
OMSSW0605	Outdoor lighting head - 6 Volt, 5 Watt sealed beam type lamp - White finish
OMSSB0605	Outdoor lighting head - 6 Volt, 5 Watt sealed beam type lamp - Black finish

Product Selector Guide

Base Catalog Numbers	Electrical						
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LZ2	6	10	--	--	--	5W Hal.	No
LZ2D*	6	10	--	--	--	5W Hal.	No
LZ15	6	15	12	--	--	5W Hal.	Yes

Dimensions

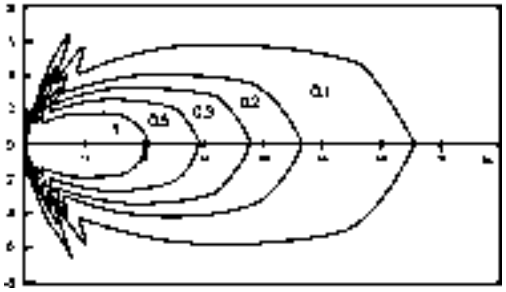


Also available in black finish

Photometrics

High-Output Halogen Lamp

Horizontal Isofootcandle Distribution



Designer Emergency Lights 15W to 65W

An ULTREX Severe Conditions Product Line (Damp Location Models)

Damp

Features

- Easy to install
- Capacities up to 65 watts
- 6- and 12-volt models
- Flame-rated, UV-stable thermoplastic housing
- White or black finishes
- Snap-together design
- Standard and damp location models
- Low profile lampheads
- High-output halogen lamps
- Clear glass protective lamp lens
- Matching remote fixtures
- 120/277VAC operation standard
- Fully automatic charger
- Choice of maintenance-free battery types
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Temperature range: 20°C to 30°C (68°F to 86°F)
  Damp location model: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

See Product Selector Guide for available models

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-B	Black finish
-V	Voltmeter
-10W	10-watt halogen lamps (1)
-0	Unit supplied without lampheads
-24K	220-240VAC, 60 Hz. operation
-A31	Auxiliary 3-conductor line cord (120V only)

(1) Available on units with capacities of 20 watts or more.

Also available in black finish

Accessories (Order Separately)

VRS	Vandal resistant shield
WGEL	Wire guard
LZRSW0605	Matching remote lighting head - white
LZRDSB0605	Matching remote lighting head - black
OMSSW0605	Outdoor lighting head - 6 Volt, 5 Watt sealed beam type lamp - White finish
OMSSB0605	Outdoor lighting head - 6 Volt, 5 Watt sealed beam type lamp - Black finish
OMSSW1205	Outdoor lighting head - 12 Volt, 5 Watt sealed beam type lamp - White finish
OMSSB1205	Outdoor lighting head - 12 Volt, 5 Watt sealed beam type lamp - Black finish

Matching Remote Lighting Heads

Matching Remote Fixtures

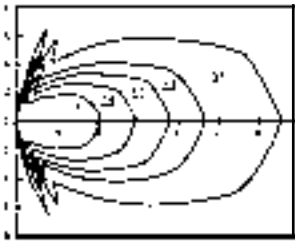
A complete line of 6- and 12-volt matching remote fixtures in single and tandem lamp configurations is available for use with LZ Series high-capacity units or any other 6- or 12-volt DC emergency lighting remote power sources.
All remote fixtures are offered in black and white textured finishes with a choice of 5- or 10-watt halogen lamps.

White		Black			
Single	Tandem	Single	Tandem	Volts	Watts
LZRSW0605	LZRDW0605	LZRSB0605	LZRDB0605	6	5
LZRSW0610	LZRDW0610	LZRSB0610	LZRDB0610	6	10
LZRSW1205	LZRDW1205	LZRSB1205	LZRDB1205	12	5
LZRSW1210	LZRDW1210	LZRSB1210	LZRDB1210	12	10

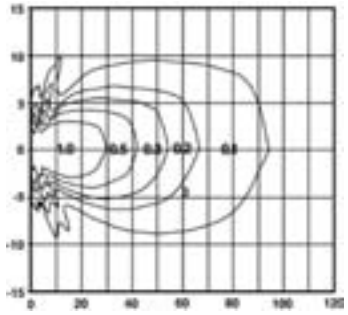
Photometrics

High-Output Halogen Lamp
Horizontal Isofootcandle Distribution

Standard 5W MR-16 Lamp



Optional 10W MR-16 Lamp



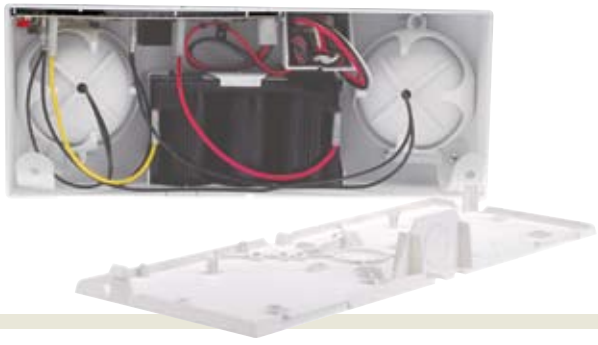
Product Selector Guide

Standard Models

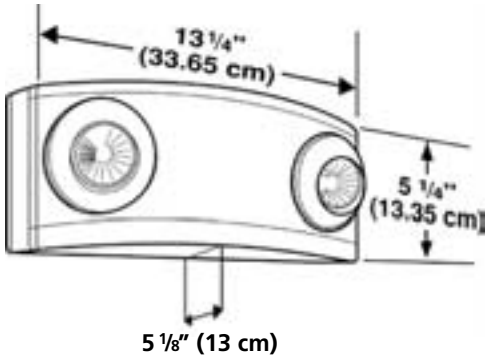
Base Catalog Numbers	Electrical							
	Output Volts	Battery Type	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LZ30	6	Lead-Calcium	30	24	15	12	5W Hal.	Yes
LZ35-12V	12	Lead-Calcium	35	26	18	14	5W Hal.	Yes
LZ65	6	Lead-Calcium	65	49	33	26	5W Hal.	Yes
LZ65-12V	12	Lead-Calcium	65	49	33	26	5W Hal.	Yes
LZ20N	6	Nickel-Cadmium	20	15	10	8	5W Hal.	Yes
LZ25N-12V	12	Nickel-Cadmium	25	19	13	10	5W Hal.	Yes

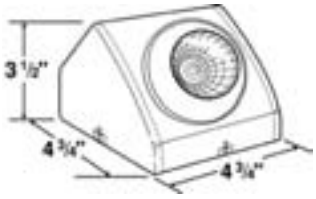
Damp Location Models

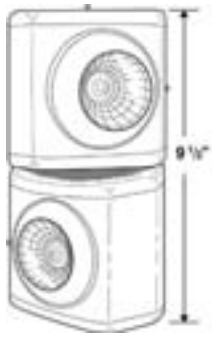
Base Catalog Numbers	Electrical							
	Output Volts	Battery Type	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LZ25D	6	Lead-Calcium	25	19	13	10	5W Hal.	Yes
LZ30D-12V	12	Lead-Calcium	30	24	15	12	5W Hal.	Yes
LZ55D	6	Lead-Calcium	55	42	28	22	5W Hal.	Yes
LZ55D-12V	12	Lead-Calcium	55	42	28	22	5W Hal.	Yes
LZ15ND	6	Nickel-Cadmium	15	11	8	6	5W Hal.	Yes
LZ20ND-12V	12	Nickel-Cadmium	20	15	10	8	5W Hal.	Yes



Dimensions







LM

High Capacity Emergency Lights 14W to 130W

An ULTREX Severe Conditions Product Line

Damp(1) Cold(2) Hot(2)

(1) Damp Location Models Only
(2) NiCad Models Only

Features

- Easy to install
- Universal wall mounting pattern
- White, corrosion-resistant metal housing and front-loading cover
- Maintenance-free battery
- 6- & 12-volt models
- Damp location models available
- Glare-free lampheads
- Lampheads may be top or side mounted
- Available with 3 or 4 lampheads
- Available without lampheads
- Matching remote fixtures
- 120/277VAC operation standard (220-240VAC, 60 Hz. optional)
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
  NiCad models: 20°C - 30°C (68°F to 86°F)
  Damp location models: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

See Product Selector Guide for available models

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics(1)(5)
-V	Voltmeter
-3	Unit supplied with three lampheads (1)(2)
-4	Unit supplied with four lampheads (1)(2)
-0	Unit supplied without lampheads (1)(2)(3)
-A31	Auxiliary 3-conductor AC line cord (120V)
-A32	Auxiliary 3-conductor AC line cord (277V)
-24K	220-240VAC, 60Hz. operation (4)

(1) Not available with LM2 model.

(2) Not available with LM16 model.

*(3) **NOTE:** Spectron models with over 80 watts of capacity require a minimum load of 35 watts for accurate lamp failure indications.*

(4) Not available on units with capacities over 80 watts for 1.5 hours.

(5) Spectron not available with Nickel-Cadmium battery models.

Optional Lamps

To order two nonstandard lamps on the fixture, suffix catalog number. See "Remote Heads and Fixtures" section for available lamps. Example: **LM33-SRHSW**0612.

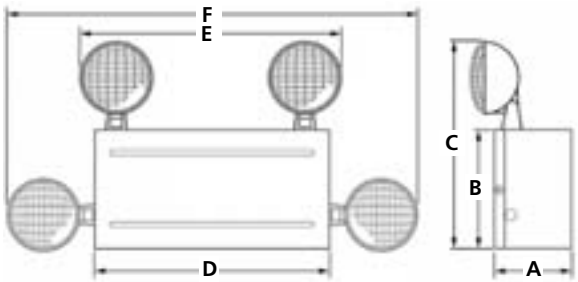
Accessories (Order Separately)

40G	Wire guard (Top mounted heads only)
SRHSW	Single matching remote head - white *
SRHDW	Twin matching remote head - white *

* *Supplied with round mounting plate. Specify voltage and wattage when ordering. Example: SRHDW1212. See "Remote Heads and Fixtures" section for available lamps.*

SRH Series Matching Remote Lighting Heads

Dimensions

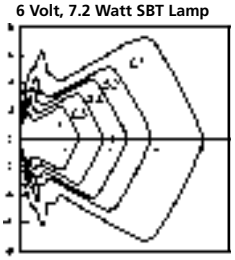


Enclosure Style	A	B	C	D	E	F
1	3 7/8" 9.8 cm	5 3/4" 14.6 cm	11 1/2" 29.3 cm	13 1/2" 34.3 cm	15 3/4" 40.0 cm	25" 63.5 cm
2	4 3/4" 12.1 cm	7 3/4" 19.7 cm	13 1/2" 34.3 cm	15 3/4" 40.0 cm	18" 45.7 cm	27 1/4" 69.2 cm

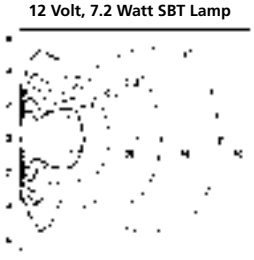
Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 7.2 Watt SBT Lamp



12 Volt, 7.2 Watt SBT Lamp



Product Selector Guide

Standard Models [1]

Catalog Numbers	Enclosure Style	Output Volts	Electrical					
			Output Watts					
			1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LM2	1	6	14.4	—	—	—	7.2W	No
LM16	1	6	16	—	—	—	7.2W	No
LM33	1	6	33	25	17	13	7.2W	Yes
LM40	1	6	40	31	21	16	7.2W	Yes
LM66	2	6	66	51	35	27	7.2W	Yes
LM80	2	6	80	62	43	33	7.2W	Yes
LM130	2	6	130	101	70	54	7.2W	Yes
LM40-12V	1	12	40	31	21	16	7.2W	Yes
LM66-12V	2	12	66	51	35	27	7.2W	Yes
LM80-12V	2	12	80	62	43	33	7.2W	Yes
LM130-12V	2	12	130	101	70	54	7.2W	Yes

[1] *Meets New York City Requirements*

Nickel-Cadmium Models [1]

Catalog Numbers	Enclosure Style	Output Volts	Electrical					
			Output Watts					
			1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LM15N	1	6	14.4	--	--	--	7.2W	No
LM30N	1	6	30	25	17	13	7.2W	Yes
LM50N	1	6	50	42	29	22	7.2W	Yes
LM50N-12V	1	12	50	42	29	22	7.2W	Yes
LM100N-12V	1	12	100	85	59	46	7.2W	Yes

[1] *Meets New York City Requirements*

Damp Location Models [1]

Catalog Numbers	Enclosure Style	Output Volts	Electrical					
			Output Watts					
			1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LM28D	1	6	28	21	15	11	7.2W	Yes
LM34D	1	6	34	26	18	14	7.2W	Yes
LM56D	2	6	56	43	30	23	7.2W	Yes
LM68D	2	6	68	53	36	28	7.2W	Yes
LM112D	2	6	112	87	60	47	7.2W	Yes
LM34D-12V	1	12	34	26	18	14	7.2W	Yes
LM56D-12V	2	12	56	43	30	23	7.2W	Yes
LM68D-12V	2	12	68	53	36	28	7.2W	Yes
LM112D-12V	2	12	112	87	60	47	7.2W	Yes

[1] *Meets New York City Requirements*

All Metal City Of Chicago Models [2]

Catalog Numbers	Enclosure Style	Output Volts	Electrical					
			Output Watts					
			1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
LM24CH	1	6	24	--	--	--	12W	No
LM36CH	1	6	36	26	--	--	12W	Yes
LM36CH-12V	1	12	36	26	--	--	12W	Yes

[2] *2000 Chicago Building Code compliant*

EZ-2R

Recessed Emergency Lights 10.8W, 14.4W

Features

- Easy installation in wall or ceiling
- Compact, low-profile design
- All metal recessed housing
- Flame-rated, thermoplastic lamp housing and mounting plate
- Maintenance-free battery
- Glare-free lampheads
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

Standard Model	Spectron Self-Testing Model
EZ-2R	**EZ-2RI**

Wall mounted EZ-2R unit

Accessories (Order Separately)

F-CBM	Troffer mounting kit (suspended ceilings)
WGEL	Wire guard

EZ-2R suspended ceiling installation using F-CBM accessory kit

Product Selector Guide

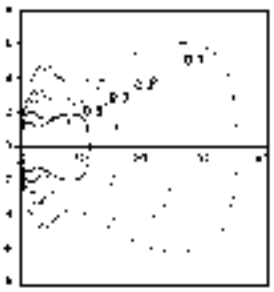
Base Catalog Number	Electrical						
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
EZ-2R	6	10.8	—	—	—	5.4W	No
EZ-2RI*	6	14.4	—	—	—	7.2W	No

* Includes Spectron® self-testing/self-diagnostic electronics with time-delay relay (TDR) standard

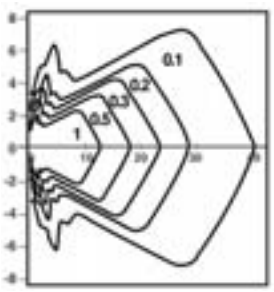
Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 5.4 Watt SBT Lamp

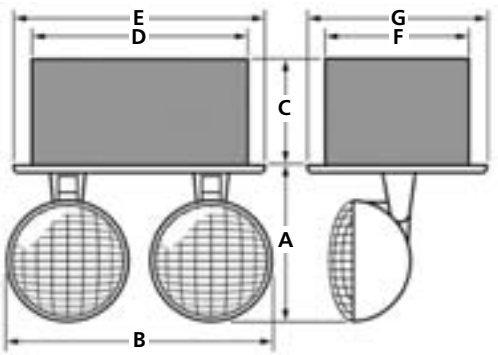


6 Volt, 7.2 Watt SBT Lamp



Photometrics measured by independent testing laboratory

Dimensions



A	5 3/4" (14.6 cm)
B	11" (27.9 cm)
C	3 7/8" (9.8 cm)
D	7 3/4" (19.7 cm)
E	9 1/8" (23.2 cm)
F	5" (12.7 cm)
G	6 1/8" (15.6 cm)

Recessed T-Grid Emergency Lights 15W to 50W

Features

- Easy to install T-Grid lay-in design
- Maintenance-free battery
- 6 and 12 volt models
- Heavy 20 gauge steel housing
- Standard white finish
- Standard with two glare-free lampheads
- Dual voltage – 120V/277VAC
- Fully automatic, solid-state charger
- Thermally compensated charger
- Regulated charge voltage
- Automatic low voltage disconnect
- Reverse polarity protection
- Filtered charger output
- Short circuit protection
- AC lockout
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

Standard Models	**TG15**	**TG30**	**TG50-12V**
NiCad Battery Models	**TG15N**	**TG30N**	**TG50N-12V**

Options (Add suffix to model)

I	Spectron self-testing electronics (1)
-V	Voltmeter
-3	Unit supplied with three lighting heads (2)
-0	Unit supplied with no lighting heads

(1) Spectron not available with NiCad battery models.

(2) Not available on TG15 and TG15N models.

Optional Lamps

To order two nonstandard lamps on the fixture, suffix catalog number. See "Remote Heads and Fixtures" section for available lamps. Example: **TG30-SRHSW**0612.

Accessories (Order Separately)

SRHSW	Matching remote head - single *
SRHDW	Matching remote head - twin *

** Supplied with round mounting plate. Specify voltage and wattage when ordering.*
Example: SRHSW1212. See "Remote Heads and Fixtures" section for available lamps.

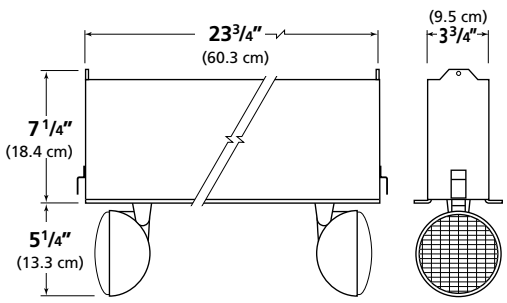
SRH Series Matching Remote Lighting Heads

Product Selector Guide

Standard Models	NiCad Battery Models	Electrical									
		Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	AC Input* Volts	Amps	Watts	Standard Lamp	Remote Capability
TG15	TG15N	6	15	11	8	6	120	.064 (.070)	7.0 (7.6)	7.2W	No
							277	.029 (.032)	7.4 (8.0)		
TG30	TG30N	6	30	22	15	12	120	.064 (.114)	7.0 (12.3)	7.2W	Yes
							277	.029 (.051)	7.4 (12.7)		
TG50-12V	TG50N-12V	12	50	38	25	20	120	.120 (.250)	12.6 (27.0)	7.2W	Yes
							277	.051 (.108)	12.9 (26.9)		

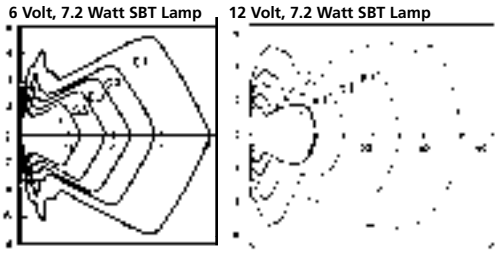
** AC Input figures in parenthesis are for NiCad battery models.*

Dimensions



Photometrics

Horizontal Isofootcandle Distribution



EXT

Recessed Gimbal Emergency Light 8W

Features

- Easy recessed installation in suspended ceilings
- Built-in hanger bar
- Compact, low-profile design
- All metal housing and gimbal assembly
- Ceiling white trim ring
- Lamp adjusts in two planes to 26˚
- High-output, 8 watt halogen lamphead
- Maintenance-free battery
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

EXT-122-EM-K

EXT-122-EM-K unit shown installed using built-in hanger bars

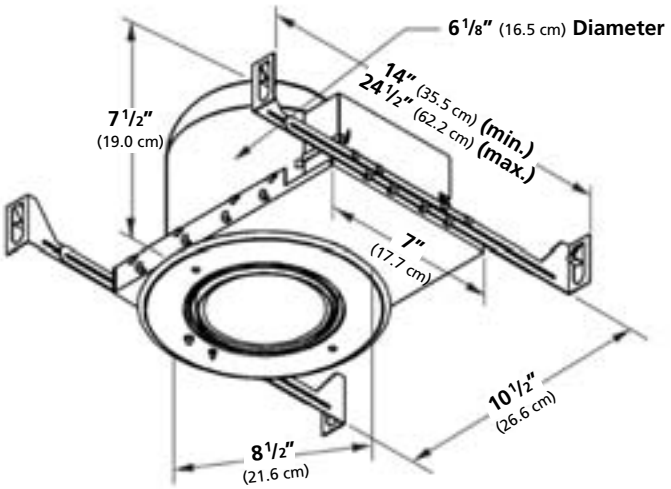
Accessories (Order Separately)

WGLX Wire guard

Product Selector Guide

Base Catalog Numbers	Electrical						
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
EXT-122-EM-K	6	8	—	—	—	8W Hal.	No

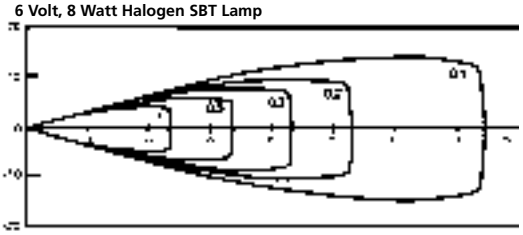
Dimensions



Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 8 Watt Halogen SBT Lamp



DUAL LITE

Lite/forms

Emergency Lighting Square Units 10W to 30W

Lite²

Features

- Easy to install
- Matte-white frame and satin-black housing
- Available in single and twin lamp models
- Maintenance-free battery
- Prismatic lens for uniform illumination
- Polished alzak reflector
- Remote capability (ERS models only)
- Matching remote fixtures
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

Standard Models				Spectron Self-Testing Models			
EDS	Single lamp unit	**EDS-2**	Twin lamp unit	**ESS-I**	Single lamp unit	**ESS-I-2**	Twin lamp unit
ERS	Single lamp unit	**ERS-2-2**	Twin lamp unit	**ERS-I**	Single lamp unit	**ERS-2I-2**	Twin lamp unit
ERS-3	Single lamp unit			**ERS-3I**	Single lamp unit		

Options (Add suffix to model)

-V	Voltmeter *
-FRM	Fully recessed option

** Not available with fully recessed models.*

Accessories (Order Separately)

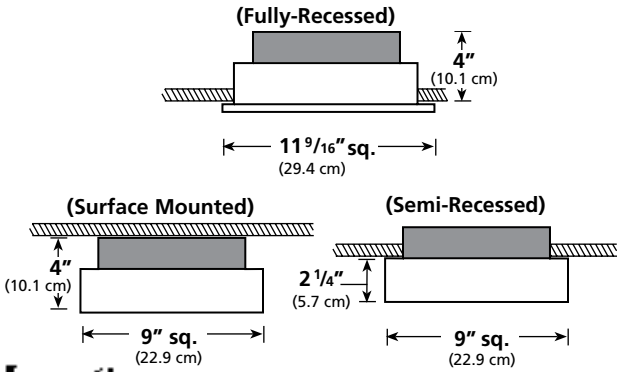
F-SRM	Semi-recessed mounting kit
WG-MLT	Wire guard
RERS-1-0609	Matching remote fixture - single lamp
RERS-2-0607	Matching remote fixture - twin lamps

Product Selector Guide

Catalog Numbers	Electrical							
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	No. Lamps	Standard Lamps	Remote Capability
EDS, ESS-I*	6	10	—	—	—	1	9W	No
ERS, ERS-I*	6	20	10	—	—	1	9W	Yes
ERS-3, ERS-3I*	6	30	22	15	—	1	9W	Yes
EDS-2, ESS-I-2*	6	14.4	—	—	—	2	7.2W	No
ERS-2-2, ERS-2I-2*	6	30	22	15	—	2	7.2W	Yes

* Includes Spectron® self-testing/self-diagnostic electronics with time-delay relay (TDR) standard

Dimensions




Semi-recessed model


Fully-recessed model

Delite

Emergency Lighting Cylinder Units 12W, 31W

Features

- Easy to install
- Attractive matte-white cylinders on contrasting black swivel
- Brushed aluminum base plate
- Multidirectional swivel lighting heads
- Maintenance-free battery
- Matching remote fixture
- 120/277VAC operation standard
- Fully automatic solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

ESC2-0

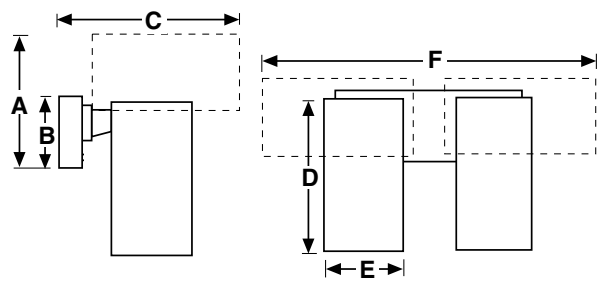
Accessories (Order Separately)

F-TMK	Ceiling recess mounting kit
41G	Wire guard

Product Selector Guide

Base Catalog Numbers	Electrical							
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	No. Cyls.	Standard Lamp(s)	Remote Capability
ESC2-0	6	12	—	—	—	2	6W Halogen	No

Dimensions



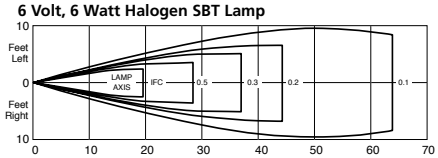
Unit Model Number	Dimensions					
	A	B	C	D	E	F
ESC2-0	10″ 25.4 cm	4 3/4″ 12.0 cm	10 1/2″ 26.7 cm	8 1/2″ 21.6 cm	5″ 12.7 cm	22″ 55.9 cm

Dotted lines show heads in maximum horizontal position.

Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 6 Watt Halogen SBT Lamp



DUAL LITE

Lightforms

Harsh Environment Emergency Lights 15W to 100W

N4X

Features

- Gasketed construction
- Corrosion resistant hardware
- Charcoal grey thermoplastic case
- Available in 6- or 12-volt versions
- Fully adjustable lampheads
- Maintenance-free battery
- Capacities up to 100W
- Matching remote fixture
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 90 minute operation
- Temperature range: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed
- UL 924 Damp Location Listed

An ULTREX Severe Conditions Product Line

Corrosive Damp(1)

Ordering Information

N4X2 N4X4 N4X7 N4X7-12V N4X14 N4X14-12V

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-0	Unit supplied without lighting heads (1)
-1	Unit supplied with one lighting head (1)
-A31	Auxiliary 3-conductor AC line cord (120V)
-A32	Auxiliary 3-conductor AC line cord (277V)

(1) Not available on N4X2 model.

Optional Lamps

To order two nonstandard lamps on the fixture, suffix catalog number. See "Remote Heads and Fixtures" section for available lamps. Example: **N4X4-GNXSB**0612.

Accessories (Order Separately)

40G	Wire guard
GNXSB	Matching remote head - single (a)
GNXDB	Matching remote head - twin (a)

*(a) Supplied with mounting plate. Specify voltage and wattage when ordering. Example: **GNXSB**0618. See "Remote Heads and Fixtures" section for available lamps.*

Lamps With Optional Shatter Containment Feature

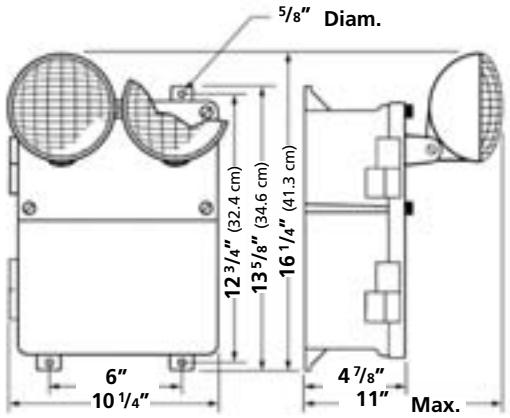
Protective lamp cover safely contains glass lamp fragments in the event of accidental breakage in sensitive areas such as food preparation or hospitals. To order N4X unit with shatter containment option, suffix the catalog number. See "Remote Heads and Fixtures" section for available lamps (1). Example: **N4X4-GNXSB0608-L**.

(1) Excludes 6V, 7.2W and 12V, 9W lamps.

Product Selector Guide

Base Catalog Numbers	Electrical						
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamps	Remote Capability
N4X2	6	15	—	—	—	7.2W	No
N4X4	6	31	22	15	—	7.2W	Yes
N4X7	6	50	36	29	22	7.2W	Yes
N4X7-12V	12	50	36	29	22	9W	Yes
N4X14	6	100	79	61	44	7.2W	Yes
N4X14-12V	12	100	79	61	44	9W	Yes

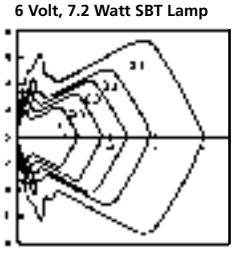
Dimensions



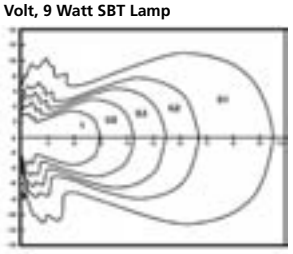
Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 7.2 Watt SBT Lamp



12 Volt, 9 Watt SBT Lamp



AS

Industrial Emergency Lights 75W to 360W

Features

- Easy to install
- NEMA 1 steel cabinet with dark brown enamel finish
- 1/2" and 3/4" wiring KOs provided
- Wet-cell and maintenance-free battery models
- 6-, 12- and 24-volt models
- 12- and 24-volt models allow longer wiring runs
- Glare-free lampheads
- Available with third lamphead
- Available without lampheads
- Matching remote fixtures
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

See Product Selector Guide for available models

SRH Series Matching Remote Lighting Head

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics (1)
-V	Voltmeter
-C	Ammeter (1)
-0	Unit supplied without lampheads
-1	Unit supplied with one lamphead
-2	Unit supplied with two lampheads (2)
-3	Unit supplied with three lampheads
-A31	Auxiliary 3-conductor AC line cord (120V)
-A32	Auxiliary 3-conductor AC line cord (277V)

(1) Not available with all models. Consult factory.

(2) Available for use with 12EDC and 12EDN models only. All other models are supplied standard with two lampheads.

Accessories (Order Separately)

WB-6	Wall mounting hanger bracket (all models)
6000	Heavy-duty mounting shelf (Enclosure 1 models)
L-6	Mounting shelf (Enclosure 1 models)
L-12-S	Mounting shelf (Enclosure 2 models)
40G	Wire guard (Enclosure 1 models)
41G	Wire guard (Enclosure 2 models)
SRHSB	Matching remote lighting head - single *
SRHDB	Matching remote lighting head - twin *

* *Supplied with round mounting plate. Specify voltage and wattage when ordering. Example: **SRHSB**0612. See "Remote Heads and Fixtures" section for available lamps.*

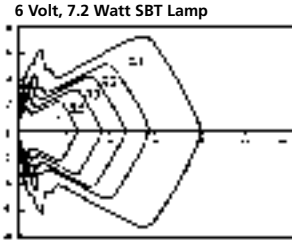
Optional Lamps

To order two nonstandard lamps on the fixture, suffix catalog number. See "Remote Heads and Fixtures" section for available lamps. Example: **AS130-SRHSB**0612.

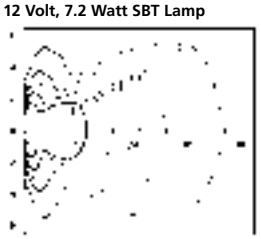
Photometrics

Horizontal Isofootcandle Distribution

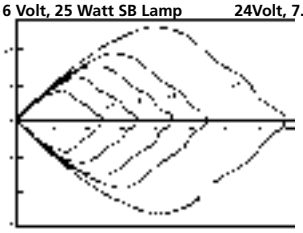
6 Volt, 7.2 Watt SBT Lamp



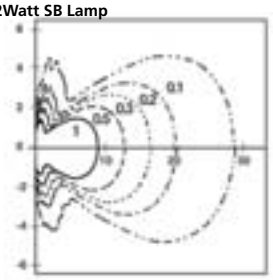
12 Volt, 7.2 Watt SBT Lamp



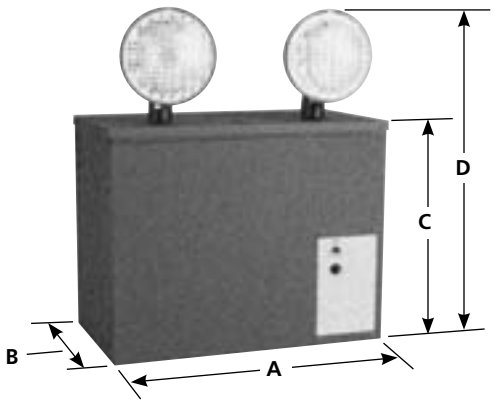
6 Volt, 25 Watt SB Lamp



24Volt, 7.2Watt SB Lamp



Dimensions



Enclosure Style	Enclosure Ga.	A	B	C	D
1	20 Ga. (.036")	14" 35.5 cm	8" 20.3 cm	11 1/2" 29.2 cm	18 3/4" 47.6 cm
2	20 Ga. (.036")	16" 40.6 cm	8" 20.3 cm	11 1/2" 29.2 cm	18 3/4" 47.6 cm

DUAL LITE

Lite/forms

Product Selector Guide

Maintenance-Free Battery Models

Base Catalog Numbers	Enclosure Style	Electrical						
		Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
AS80	1	6	80	62	43	33	7.2W	Yes
AS130	1	6	130	101	70	54	7.2W	Yes
AS180-12V	1	12	180	144	112	77	7.2W	Yes
AS270-12V	1	12	270	227	168	116	7.2W	Yes
AS360-12V	1	12	360	288	230	172	7.2W	Yes
AS180-24V	1	24	180	144	112	77	9.0W	Yes
AS270-24V	1	24	270	227	168	116	9.0W	Yes
AS360-24V	1	24	360	288	230	172	9.0W	Yes

NOTE: Batteries for all Maintenance-Free models are shipped with the units.

Wet-Cell Lead-Calcium Battery Models

Base Catalog Numbers	Enclosure Style	Electrical						
		Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
ALC-X-30	1	6	78	57	42	28	25W	Yes
ALC-X-60	1	6	144	108	81	54	25W	Yes
ALC-X-100	1	6	162	121	91	61	25W	Yes
12EDC-X-36S	2	12	200	165	125	86	(*)	Yes
12EDC-X-60S	2	12	240	192	153	115	(*)	Yes
12EDC-X-120S	2	12	350	280	224	168	(*)	Yes

(*) These models supplied standard without lampheads

NOTE: Batteries for all Wet-Cell Lead-Calcium models are shipped separately.

Wet-Cell Nickel-Cadmium Battery Models

Base Catalog Numbers	Enclosure Style	Electrical						
		Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
AS75	1	6	75	57	42	28	25W	Yes
AS145	1	6	110	85	59	46	25W	Yes
AS210	1	6	145	112	84	54	25W	Yes
12EDN-10S	2	12	48	38	25	20	(*)	Yes
12EDN-18S	2	12	100	76	54	44	(*)	Yes
12EDN-30S	2	12	150	115	86	57	(*)	Yes

(*) These models supplied standard without lampheads

NOTE: Batteries for all Wet-Cell Nickel-Cadmium models are shipped separately.

IPS

An ULTREX Severe Conditions Product Line

UL 844 Hazardous | Damp | Wet | Corrosive

Wet Location Emergency Lights 36W, 72W

Features

- Suitable for wet or damp applications
- Designed for Class I, Div 2 locations
- Compact, factory assembled system
- Sealed and gasketed NEMA 3R construction
- Corrosion resistant hardware
- Black thermoplastic case with battery vent
- Available in 6- or 12-volt versions
- Fully adjustable 8 watt halogen sealed beam lampheads
- Maintenance-free battery
- Matching remote fixtures
- 120/220/240/277VAC operation standard
- Fully automatic, solid-state charger
- Automatic 15-minute retransfer delay
- Low-voltage battery disconnect
- Transformer isolation protection
- Test switch and AC-On light
- T-6 100°C (212°F) lamphead rating
- 120 minute operation
- Temperature range: 0°C to 40°C (32°F to 104°F)
- UL Listed to Standard 924 and Standard 844 (Hazardous Locations)

NEMA 3R Enclosures (NEMA Standards 250)
Enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain and sleet, undamaged by the formation of ice on the enclosure.

Ordering Information

C1D2-6V36 C1D2-6V72 C1D2-12V36 C1D2-12V72

Options (Add suffix to model)

-0 Unit supplied without lampheads
-1 Unit supplied with one lamphead
-12 Unit supplied with 12 watt halogen lamps

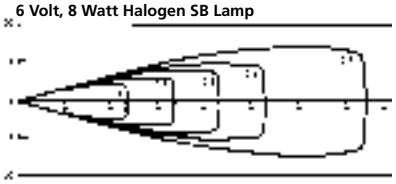
Product Selector Guide

Base Catalog Numbers	Electrical					
	Output Volts	Output Watts 2 Hours	3 Hours	4 Hours	Standard Lamps	Remote Capability
C1D2-6V36	6	36	24	19	8W Hal.	Yes
C1D2-6V72	6	72	50	39	8W Hal.	Yes
C1D2-12V36	12	36	24	19	8W Hal.	Yes
C1D2-12V72	12	72	50	39	8W Hal.	Yes

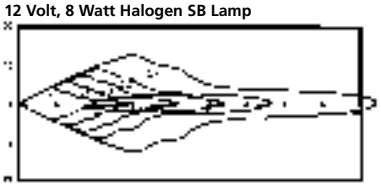
Photometrics

Horizontal Isofootcandle Dist.

6 Volt, 8 Watt Halogen SB Lamp



12 Volt, 8 Watt Halogen SB Lamp



Photometrics measured by independent testing laboratory

Accessories (Order Separately)

Matching single and twin head remote lighting fixtures

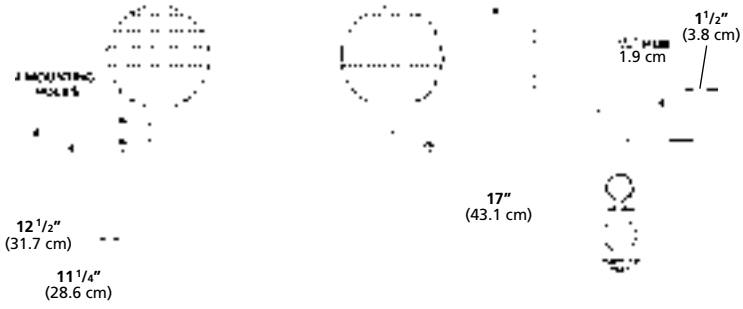
Remote Lighting Heads

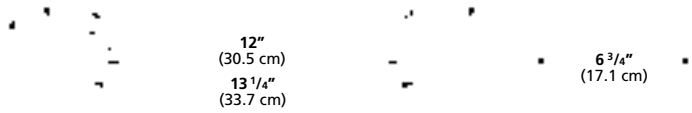
Lamp		Single-Head Model Numbers		
Volts	Watts	Hub Left Side	Hub Right Side	Hub Both Sides
6	8	C1D2R-6V8W	C1D2R-6V8WR	C1D2R-6V8WF
6	12	C1D2R-6V12W	C1D2R-6V12WR	C1D2R-6V12WF
12	8	C1D2R-12V8W	C1D2R-12V8WR	C1D2R-12V8WF
12	12	C1D2R-12V12W	C1D2R-12V12WR	C1D2R-12V12WF

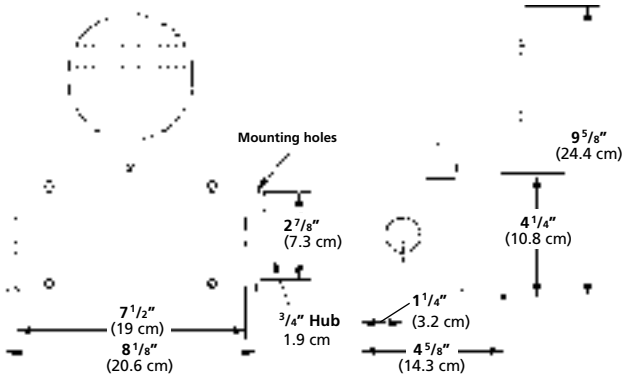
Lamps		Twin-Head Model Numbers		
Volts	Watts	Hub Left Side	Hub Right Side	Hub Both Sides
6	8	C1D2TR-6V8W	C1D2TR-6V8WR	C1D2TR-6V8WF
6	12	C1D2TR-6V12W	C1D2TR-6V12WR	C1D2TR-6V12WF
12	8	C1D2TR-12V8W	C1D2TR-12V8WR	C1D2TR-12V8WF
12	12	C1D2TR-12V12W	C1D2TR-12V12WR	C1D2TR-12V12WF

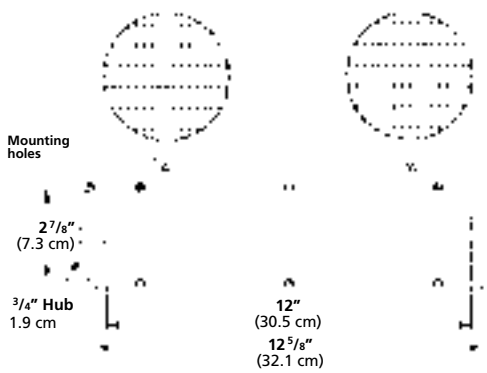
** PAR 36 Halogen sealed beam lamps.*

Dimensions









XPB

Explosion-Proof Emergency Lights 75W

An ULTREX Severe Conditions Product Line
(Class I, Divisions I & II, Groups C through G)

Explosion-Proof | Corrosive

Features

- Suitable for Class I, Div. I & II applications
- High-strength, copper-free aluminum housing
- Quick access thread-on cover
- Test switch included
- AC-On indicator light
- Maintenance-free battery
- 6- and 12-volt models
- Capacity for remote fixtures
- 120/277VAC operation standard
- Fully automatic, solid-state charger
- Low-voltage battery disconnect
- Transformer isolation protection
- Optional fixtures available for a wide range of hazardous environments
- 90 minute operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL Listed to Standard 924 and Standard 844 (Hazardous Locations)

Ordering Information

XPB-75P **12XPB-75P**

Options (Add suffix to model)

-TDR 15-minute retransfer delay (*120VAC only*)

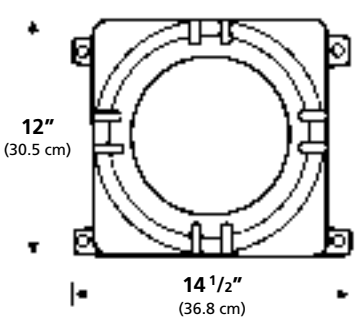
Product Selector Guide

Base Catalog Numbers	Electrical						
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	Standard Lamp	Remote Capability
XPB-75P	6	75	57	42	28	(*)	Yes
12XPB-75P	12	75	57	42	28	(*)	Yes

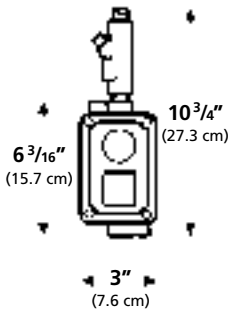
(*) Unit is supplied without lighting fixtures. Unit must operate at least one lighting fixture (unit mounted or remote) to meet UL Standard 924 requirements. See following page for explosion-proof lighting fixtures and accessories.

XPB-75P shown with EX-1CD unit-mounted lighting fixtures

Dimensions

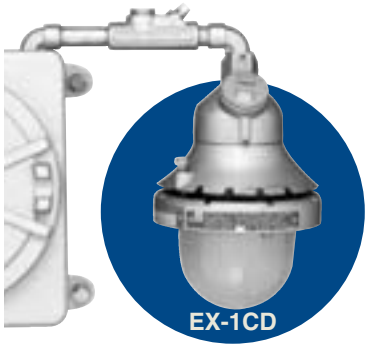


Depth = 8" (20.3 cm)



Depth = 5 9/16" (14.1 cm)

Explosion-Proof Fixtures (1)



Fixtures for direct mounting to XPB Series Unit

EX-1CD

All fittings required for unit mounting supplied standard. Up to three fixtures may be connected (unit mounted and/or remote).

Catalog Number	Lamp Voltage	Lamp Wattage
EX-1CD618	6	18
EX-1CD628	6	28

Catalog Number	Lamp Voltage	Lamp Wattage
EX-1CD1218	12	18
EX-1CD1228	12	28

Fixtures for remote mounting

REX1CDP*

Fixture for pendant mounting; one 1/2" hub, rigid or flexible mounting.

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDP618	6	18
REX1CDP628	6	28

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDP1218	12	18
REX1CDP1228	12	28

REX1CDC*

Fixture for ceiling mounting; four 1/2" hubs, three close-up plugs.

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDC618	6	18
REX1CDC628	6	28

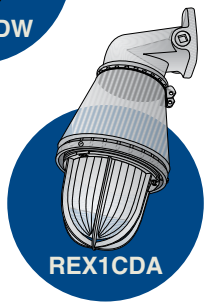
Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDC1218	12	18
REX1CDC1228	12	28

REX1CDW*

Fixture for wall mounting; four 1/2" hubs, three close-up plugs.

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDW618	6	18
REX1CDW628	6	28

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDW1218	12	18
REX1CDW1228	12	28



REX1CDA*

Fixture for angled (15°) wall mounting; two 1/2" hubs, one close-up plug.

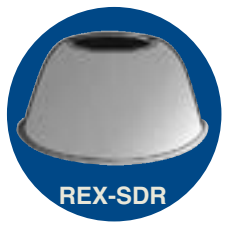
Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDA618	6	18
REX1CDA628	6	28

Catalog Number	Lamp Voltage	Lamp Wattage
REX1CDA1218	12	18
REX1CDA1228	12	28

** Fixtures shown with optional "XWG" globe guards.*

(1) When connected to XPB emergency units, lighting fixtures will operate in the "normally-off" mode.

Fixture Accessories



XWG Aluminum (copper-free) globe guard. Protects fixture lens from accidental impact damage. Two-coat, baked epoxy, medium-gray enamel finish.

EX100CD Auxiliary housing with "EXIT" legend for "normally off" operation only. Housing constructed of 18-gauge sheet metal; medium-gray enamel finish. Glass face with 6" high, 3/4" stroke red letters on white background. (Lighting fixture not included).

REX-SDR Standard dome reflector. Steel, with white porcelain enamel finish.

REX-AR Angled (30°) reflector. Steel, with white porcelain enamel finish.

Lampak

UFO-3, 4, 5, 6

An ULTREX Severe Conditions Product Line

Damp

Fluorescent Power Packs

Features

- Compatible with electronic, standard magnetic, energy saving, and dimming AC ballasts
- Compatible with most standard T8, T10 or T12, energy-saving or rapid start, (4-pin) long compact fluorescent lamp
- Easy installation with versatile mounting capability inside of ballast channel, on top of or remote from fixture
- Operates one or two lamps in emergency mode
- Can be used with switched or unswitched lighting fixtures
- Battery case made of heavy 22-gauge steel
- Reliable, high-frequency inverter
- Sealed nickel-cadmium battery
- Universal 120/277VAC operation
- Test switch and LED charge indicator light supplied standard
- Provides 90 minutes of emergency lighting
- Low power consumption
- Temperature range: 0°C to 50°C (32°F to 122°F)
- UL 924 Listed (Emergency Lighting)
- UL 924 Damp Location Listed

Ordering Information

Standard Models
UFO-3AW, UFO-4W, UFO-5W, UFO-5AW, UFO-6W

Self-Testing Spectron Model
UFO-6WI

Extended Temperature Model*
UFO-6W-CLD

** Extends temperature range to -20°C to 55°C (-4°F to 131°F)*

Accessories (Order Separately)

F-WC	Wire bundle cover (1)
SPRTS	Remote test switch/charge indicator module (2)

(1) Encloses exposed wiring harness when power pack is externally mounted on the lighting fixture. One required per fixture.

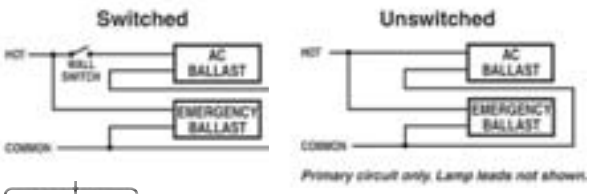
(2) Fits single-gang box.

Product Selector Guide

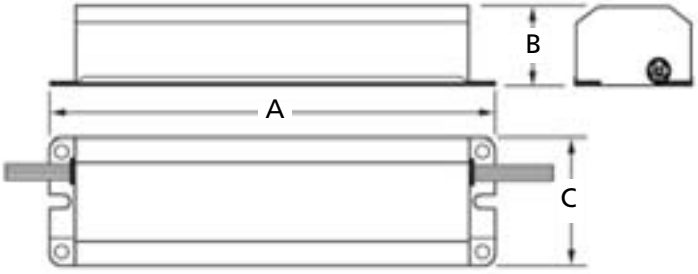
Base Catalog Number	Electrical				
	Output Wattage	Initial Lumens	Number of Lamps Operated	Lamp Sizes	Input Wattage
UFO-3AW	9.6	350-450	1	2′-4′	3.5
UFO-4W	14.4	500-600	1	2′-4′	3.5
UFO-5W	14.4	600-700	1	2′-8′	3.5
UFO-5AW	14.4	600-700	1 or 2	2′-8′	3.5
UFO-6W, UFO-6WI	24.0	1100-1400	1 or 2	2′-8′	4.0
UFO-6W-CLD	24.0	Up to 1200	1 or 2	2′-8′	4.0

Installation

Lampak UFO 3, 4, 5 and 6 emergency power packs do not affect normal fixture operation and may be used with either switched or unswitched fixtures. UFO-3, 4, 5 and 6 packs may be installed inside, on top of, or remote from the fixture. The fluorescent pack may be remotely installed up to half the distance from the lamp the AC ballast manufacturer recommends, or up to 50 feet, whichever is less. UFO-3, 4, 5 and 6 packs are not suitable for installation in heated air outlet fixtures and wet or hazardous location fixtures. Installation is not recommended with fixtures where the ambient temperature may fall below 0°C (32°F).



Dimensions



Model	A	B	C
UFO-3AW, 4W, 5W, 5AW	9 3/8″ (23.8 cm)	1 1/2″ (3.8 cm)	2 3/8″ (6.0 cm)
UFO-6W, -6WI & -6-CLD	13 3/8″ (33.9 cm)	1 1/2″ (3.8 cm)	2 3/8″ (6.0 cm)

DUAL LITE

Lightforms

High Lumen Fluorescent Power Packs

Lampak

UFO-7

Features

- Standard and Spectron self-testing/ self-diagnostic models offered.
- Compatible with electronic, standard magnetic, energy saving, and dimming AC ballasts
- Compatible with most standard 2 - 8 foot, T8, T9, T10 or T12 and rapid-start (4-pin) long compact fluorescent lamps
- Easy installation on top of or remote from fixture
- Operates one or two lamps depending on fixture
- Can be used with switched or unswitched lighting fixtures
- Battery case made of 22-gauge steel
- Reliable, high-frequency inverter
- Premium sealed nickel-cadmium battery
- Universal 120/277VAC operation
- Test switch and LED charge indicator light supplied standard
- 90 minutes emergency operation
- Low power consumption
- Temperature range: 0°C to 40°C (32°F to 104°F)
- UL 924 Listed (Emergency Lighting)
- UFO-7WI Model UL 924 Damp Location Listed

An ULTREX Severe Conditions Product Line

Damp

* UFO-7W*I* Model Only

Ordering Information

UFO-7W (Standard Model)
UFO-7WI (Self-Testing Model)

Accessories (Order Separately)

F-WC	Wire bundle cover (1)
SPRTS	Remote test switch/charge indicator module (2)

(1) Encloses exposed wiring harness when power pack is externally mounted on the lighting fixture. One required per fixture.

(2) Fits single-gang box.

Product Selector Guide

Base Catalog Number	Electrical				
	Output Wattage	Initial Lumens	Number of Lamps Operated	Lamp Sizes	Input Wattage
UFO-7W	57.6	1450-3500	1 or 2	2'-8'	8.0
UFO-7WI	57.6	1800-3500	1 or 2	2'-8'	8.0

Table 1 (Models UFO-7W, UFO-7WI)*

Lamp Diameter	Base Type	Power (Length)	No. of Lamps Operated (Emerg.)
(1", 1 1/8", 1 1/4", 1 1/2") T8, T9, T10, T12	Single or Bipin	17 - 40W (2' to 4')	1 or 2
		40 - 215W (5' to 8')	1
Long Compact	4-Pin (2G11)	18 - 39W	1 or 2
		40 - 55W	1
Compact	4-Pin (G24q, GX24q)	18 - 42W	1 or 2

** Partial listing of lamps operated*

Table 2*

Lamp Type	Lumens	
	1 Lamp	2 Lamps
FO25, FBO24 T8	2250	2600
FO32, FBO31 T8	3000	3000
FO40 T8	2400	--
FO96 T8	3000	--
F40 T12, F40/U	3000	3000
F40 T12ES (34W)	2700	2700
F48 T12/HO	3000	--
F96 T12	2800	--
F96 T12/HO	2900	--
F96 T12/VHO	3300	--

Table 2* (Continued)

Lamp Type	Lumens	
	1 Lamp	2 Lamps
PL-L 24W, F27/24BX Dulux L 27W	1800	2300
PL-L 36W, F39/36BX Dulux L 39W	2900	3500
PL-T 42W/4P	3200	3500
PL-L 40W, F40/30BX F50BX, Dulux L 55W	1800	--
F28 2D/4P	2050	2800
F38 2D/4P	1450	2800

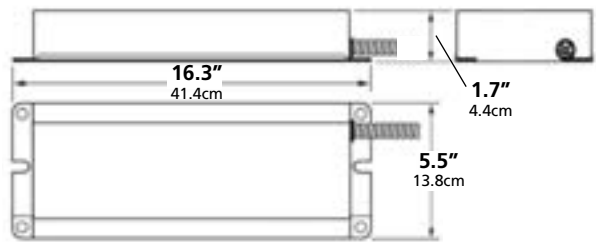
** Partial listing of lamps operated.* Initial lumen output measured at 25°C ambient temperature.

Installation

LAMPAK UFO-7W Series emergency power packs do not affect normal fixture operation and may be used with either switched or unswitched fixtures. UFO-7W Series models may be installed on top of, or remote from the fixture. The emergency ballast may be remotely installed up to half the distance from the lamp the AC ballast manufacturer recommends, or up to 50 feet, whichever is less.

UFO-7W Series emergency power packs are not suitable for installation in heated air outlet fixtures and wet or hazardous location fixtures. Installation is not recommended with fixtures where the ambient temperature may fall below 0°C (32°F).

Dimensions



Lampak

UFO-12

An ULTREX Severe Conditions Product Line

Damp

Compact Fluorescent Power Packs

Features

- Compatible with electronic, standard magnetic, energy saving, and dimming AC ballasts
- Compatible with most 13W to 42W rapid start, 4-pin compact twin, quad or triple twin tube fluorescent lamps
- Easy installation on top of or remote from fixture
- Operates one or two lamps in emergency mode
- Can be used with switched or unswitched lighting fixtures
- Battery case made of heavy 22-gauge steel
- Reliable, high-frequency inverter
- Premium sealed nickel-cadmium battery
- Universal 120/277VAC operation
- Test switch and LED charge indicator light supplied standard
- 90 minute operation
- Low power consumption
- Temperature range: 0°C to 50°C (32°F to 122°F)
- UL 924 Listed (Emergency Lighting)
- UL 924 Damp Location Listed

Ordering Information

UFO-12W

Accessories (Order Separately)

F-WC Wire bundle cover (1)
SPRTS Remote test switch/charge indicator module (2)

(1) Encloses exposed wiring harness when power pack is externally mounted on the lighting fixture. One required per fixture.

(2) Fits single-gang box.

Product Selector Guide

Base Catalog Number	Electrical					
	Ballast Compat.	Initial Lumens	Number of Lamps Operated	Lamp Type	Base Types	Input Wattage
UFO-12W	Magnetic, Electronic, Energy Saving & Dimming	See Table 1	See Table 1	13W through 42W quad and triple tube lamps without integral starters (4-pin lamps)	G24q-2, G24q-3 GX24q-3, GX24q-2	3.5

Table 1*

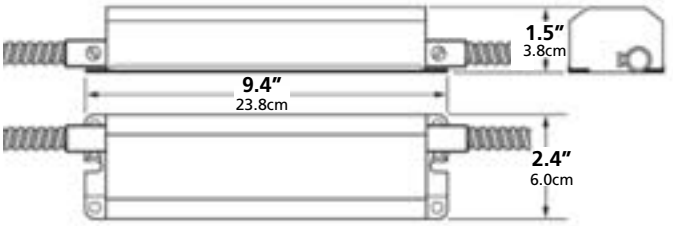
Lamp Type (4-Pin)	Lumens 1 Lamp	Lumens 2 Lamps
PL-T 42W/4P, Dulux T/E 42W	750	--
PL-T 32W/4P, Dulux T/E 32W	575	750
PL-T 26W/4P, Dulux T/E 26W, F26TBX/4P	450	725
PL-T 18W/4P, Dulux T/E 18W, F18TBX/4P	300	525
PL-C 26W/4P, Dulux D/E 26W, F26DBX/4P	600	700
PL-C 18W/4P, Dulux D/E 18W, F18DBX/4P	475	575
PL-C 13W/4P, Dulux D/E 13W, F13DBX/4P	350	425
PL-L 40W, Dulux L 40W, F40/30 BX/4P	650	--
PL-L 36W, Dulux L 39W, F39/36 BX/4P	575	750
PL-L 24W, Dulux L 27W, F27/24 BX/4P	475	550
PL-L 18W, Dulux L 18W, F18 BX	300	400
F3 82D/4P	525	650
FO25, FBO24 T8	525	700
FQL 28	600	700
FO17, FBO16 T8	425	500

** Partial listing of lamps operated*
Initial lumen output measured at 25°C ambient temperature.

Application

LAMPAK Series UFO-12W emergency power pack does not affect normal fixture operation and may be used with either a switched or unswitched fixture. The UFO-12W may be installed on top of, or remote from the fixture. The emergency ballast may be remotely installed up to half the distance from the lamp the AC ballast manufacturer recommends, or up to 50 feet, whichever is less. UFO-12W emergency power packs are not suitable for installation in heated air outlet fixtures and wet or hazardous location fixtures. Installation is not recommended with fixtures where the ambient temperature may fall below 0°C (32°F).

Dimensions



DUAL LITE

Lightforms

Low-Profile Fluorescent Power Packs

Lampak
UFO-LP

Features

- Low profile design
- Compatible with electronic (including those containing end-of-life shutdown circuits), standard magnetic, energy saving, and dimming AC ballasts
- Compatible with most standard and HO T5 miniature bipin, T8 bipin and rapid-start (4-pin) long compact lamps
- Easy ballast channel installation
- Operates one lamp
- Can be used with switched or unswitched lighting fixtures
- Compact battery case
- Reliable, high-frequency inverter
- Premium sealed nickel-cadmium battery
- Universal 120/277VAC operation
- Test switch and LED charge indicator light supplied standard
- Provides 90 minutes of emergency lighting
- Low power consumption
- Temperature range: 0°C to 50°C (32°F to 122°F)
- UL 924 Listed (Emergency Lighting)

Ordering Information

UFO-LP1 (Standard Output Model)
UFO-LP2 (High Output Model)

Accessories (Order Separately)

SPRTS Remote test switch/charge indicator module (1)

(1) Fits single-gang box.

Product Selector Guide

Base Catalog Number	Electrical			
	Lumen Output	Number of Lamps Operated	Lamp Types	Input Wattage
UFO-LP1	See Table 1	1	T5 HO, T5, T8 HO, T8, 4-pin Compact	3.2
UFO-LP2	See table 2	1	T5 HO, T5, T8 HO, T8, 4-pin Compact	3.0

Table 1 (UFO-LP1)*

Lamp Type	Lumens
FP54, F54 T5/HO	700
FP39, F39 T5/HO	620
FP24, F24 T5/HO	390
FP28, F28 T5	700
FP21, F21 T5	620
FP14, F14 T5	430
F32 T8 (4')	635
F40 T8 (5')	570
F48 T8/HO (4') (44W)	470
PL-L 50W, F50BX/RS, Dulux L 55W	510
PL-L 40W, F40/30BX, Dulux L 55W	625
PL-L 36W, F39/36BX, Dulux L 55W	610

** Partial listing of lamps operated.* Initial lumen output measured at 25°C ambient temperature.

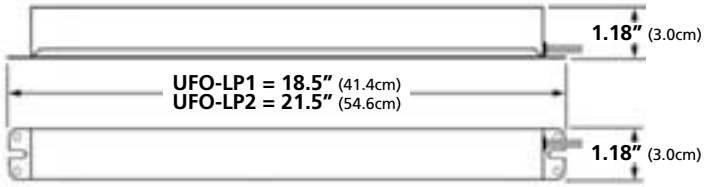
Table 2 (UFO-LP2)*

Lamp Type	Lumens
FP54, F54 T5/HO	1250
FP39, F39 T5/HO	1125
FP24, F24 T5/HO	725
FP28, F28 T5	1325
FP21, F21 T5	1025
FP14, F14 T5	750
F17 T8	650
F25 T8	750
F32 T8 (4')	1100
F40 T8 (5')	1325
F48 T8/HO (4') (44W)	1100
F60 T8/HO (5') (55W)	1275
PL-L 50W, F50BX/RS, FT55DL	1050
PL-L 40W/RS, F40/30BX, FT40DL/RS	925
PL-L 36W, F39/36BX, FT36DL	900

Application

Dual-Lite Lampak UFO-LP Series low-profile fluorescent emergency ballasts work in conjunction with a low-profile or standard-size electronic AC ballast containing an end-of-life shut down circuit to convert new or existing standard or high output T5 fluorescent fixtures into unobtrusive emergency lighting. Model UFO-LP1 can be used with one 14 - 28W standard or 24 - 54W high output T5; one 32W (4'), 40W (5') and 44W H0 (4') T8 fluorescent lamp; or one 36 - 55W (4-pin) long compact fluorescent lamp (see Table 1). Model UFO-LP2 can be used with one 14 - 54W (2' - 4') standard or high output T5, 17 -55W (2' - 5') standard or high output T8, 36 - 55W (4-pin) long compact fluorescent lamp (see Table 2). UFO-LP Series models are also compatible with most 1, 2, 3, and 4-lamp electronic (including those containing end-of-life shutdown circuits), standard, energy saving, and dimming AC ballasts. If used in an emergency-only fixture, no AC ballast is necessary. UFO-LP Series models are suitable for use in indoor-dry locations except air handling heated air outlet fixtures, and wet, damp, or hazardous location fixtures. For information about specific lamp and ballast compatibility, please contact the factory.

Dimensions



Lampak

UFO-MH

An ULTREX Severe Conditions Product Line

Damp

HID Backup Ballast

Features

- Catches and maintains the arc of metal halide HID lamps
- Provides two minutes of continuous arc maintenance
- Maintains lamp at 20-30% normal operating power
- Multiple catches from one recharging
- Works with standard constant wattage autotransformer (CWA) magnetic ballasts
- Compatible with most standard 150 to 400 watt probe-start metal halide M57, M58 and M59 HID lamps
- Easy remote installation
- Battery case made of heavy 22-gauge steel
- Reliable, high-frequency inverter
- Premium sealed nickel-cadmium battery
- Universal 120/277VAC operation
- LED charge indicator light
- Low power consumption
- Temperature range: 0°C to 55°C (32°F to 131°F)
- UL 924 Listed (Auxiliary Lighting)
- UL Damp Location Listed

Ordering Information

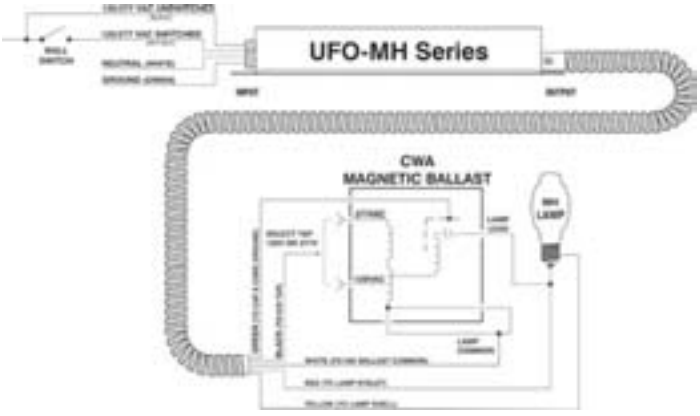
UFO-MH175
UFO-MH250
UFO-MH400

Product Selector Guide

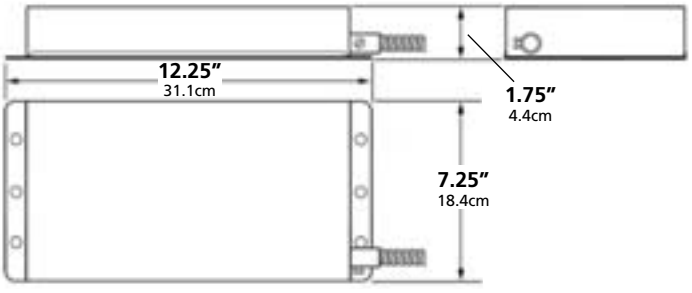
Base Catalog Number	Electrical			
	Maximum Distance From Lamp	Arc Maintenance Period	Lamp Types Operated	Input Wattage
UFO-MH175	30 Feet	2 Minutes	175W or 150W energy saving MH (M57)	6W @ 120VAC 10W @ 277VAC
UFO-MH250	50 Feet	2 Minutes	250W or 225W energy saving MH (M58)	
UFO-MH400	80 Feet	2 Minutes	400W or 360W energy saving MH (M59)	

Application

The Dual-Lite Lampak UFO-MH Series devices are battery-operated backup ballasts that catch and maintain the arc of one metal halide HID lamp during AC power sags, interruptions or failures. The UFO-MH Series device works in conjunction with standard constant wattage autotransformer (CWA) magnetic ballasts. The UFO-MH device detects AC power line disturbances and operates the HID lamp with sufficient power to keep the lamp arc from extinguishing during power line disturbances. The lamp arc, in a typical HID lamp, will extinguish if an AC power failure persists for more than four milliseconds. The UFO-MH unit detects AC power line disturbances, then supplies supplemental power to the lamp within approximately two milliseconds, thereby maintaining the lamp arc. The UFO-MH Series is suitable for damp location use. It is also for use with listed indoor fixtures EXCEPT air handling heated air outlets and wet or hazardous location fixtures. The UFO-MH Series may be used with an auxiliary generator or inverter power system and the unit's two-minute time limit allows more than ample time for an auxiliary generator to pick up and support the metal halide lamp for emergency lighting purposes.

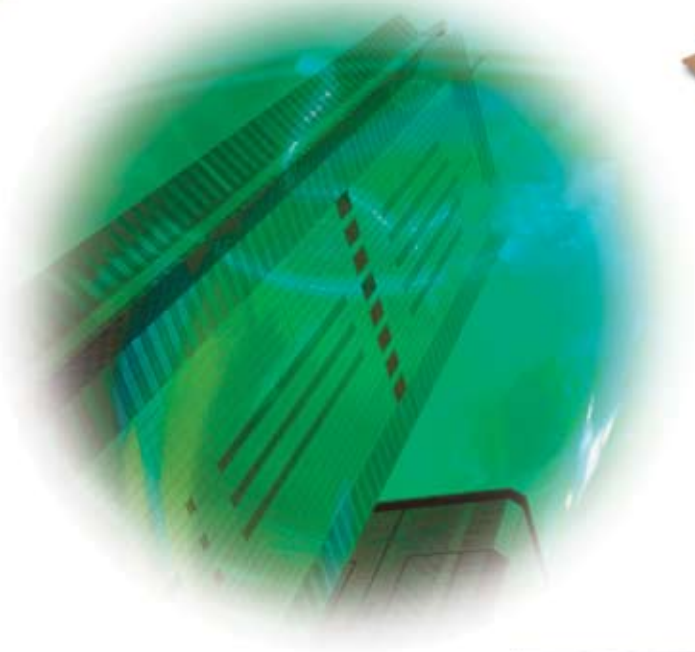


Dimensions



DUAL LITE

Liteforms® Collection



Exit Signs

LX Series	*Designer LED Exit Signs*	**40**
DK Series	*AC Incandescent Exit Signs*	**41**
LT Series	*Designer Tandem Units*	**42, 43**
NYXC Series	*New York Tandem Units*	**44**
SMC Series	*Tandem Units with Side Mounted Heads*	**45**
Sempra Series	*Diecast LED Exit Signs*	**47**
Sempra MR	*Master/Remote Diecast LED Exit Signs*	**48, 49**
Sempra SC	*Severe Conditions Diecast LED Exit Signs*	**50, 51**
Sempra SCWL	*Wet Location Diecast LED Exit Signs*	**52**
Sempra SERS	*Recessed Diecast LED Exit Signs*	**53**
NYDC Series	*New York Diecast LED Exit Signs*	**54**
LN4X Series	*Wet Location LED Exit Signs*	**55**
Freedom LED	*Aluminum LED Exit Signs*	**56**
LEDS Series	*Low-Profile Aluminum LED Exit Signs*	**57**
NYX Series	*New York LED Exit Signs*	**58**
CMX Series	*Chicago Exit Signs*	**59**
LE Series	*Recessed Mounting Edge-Lit LED Exit Signs*	**60, 61**
LES Series	*Surface Mounting AC Edge-Lit LED Exit Signs*	**62, 63**
NYE Series	*New York Recess Mounted Edge-Lit LED Exit Signs*	**64**
NYES Series	*New York Surface Mounted Edge-Lit LED Exit Signs*	**65**
DEX Series	*Special Wording Incandescent Exit Signs*	**66**

LX

Designer LED Exit Signs

Features

All Models

- UV-stable thermoplastic housing
- Compact, low-prof le design
- Easy to install
- Long-life LED lamps
- Bright, even illumination
- Red and green letters
- Universal single/double face
- White and black models offered
- Push-in wiring connectors
- Universal end/ceiling/wall mount
- Universal snap-in, chevron arrows
- Damp location listed
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 2 hour emergency operation
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Temperature range: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

LX U R W E -FAP

Series

Faces
U - Universal Single/Double Face

Letter Color
R - Red
G - Green

Housing Finish
W - White
B - Black

Operation
Blank - AC Only
E - Emergency

Options

Also available in black finish

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-2C	2-circuit operation (2)(6)
-FAP	Fire alarm panel interface (3)(5)(6)
-FM	Flasher module (1)(5)
-AF	Audible/Flasher module (1)(5)
-DC	Remote DC operation (2)(4)(5)
-24K	220-240VAC, 60 Hz. operation
-SA	"SALIDA" stencil face

(1) For specification with emergency models only.
(2) For use with AC models only.
(3) Operates with 24-volt AC or DC fire alarm panels.
(4) For emergency illumination of sign from remote 6-24 VDC power sources.
(5) -FAP, -FM, -AF or -DC options may not be specified together.
(6) -2C and -FAP options may be specified together.

Accessories (Order Separately)

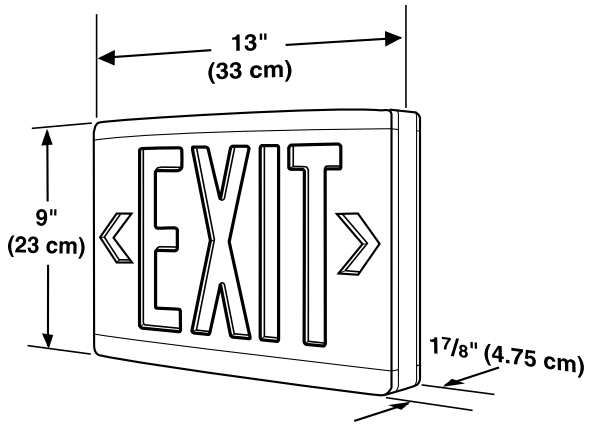
FX2-E	Emergency operation conversion module (red)
FX-E	Emergency operation conversion module (green)
PMLXW	12 1/2" Pendant mounting kit (white)
PMLXB	12 1/2" Pendant mounting kit (black)
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)
VRS3	Vandal resistant shield

Power Consumption

	120VAC	277VAC
Red AC Only Models	2.6 watts	2.6 watts
Green AC Only Models	2.1 watts	2.1 watts
Red Emergency Models	3.8 watts	3.8 watts
Green Emergency Models	3.5 watts	3.5 watts

Power factor, average: .8 (lagging)

Dimensions



Incandescent Exit Sign

Features

- High impact thermoplastic housing with steel faceplate
- Universal directional chevron arrow knockouts
- Tamper resistant screws supplied
- AC illumination provided by two 145V, 15T6 incandescent lamps
- May be wall, ceiling or end mounted
- Universal single/double face
- White f nish
- Red letter models
- 120V standard
- Suitable for damp locations
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

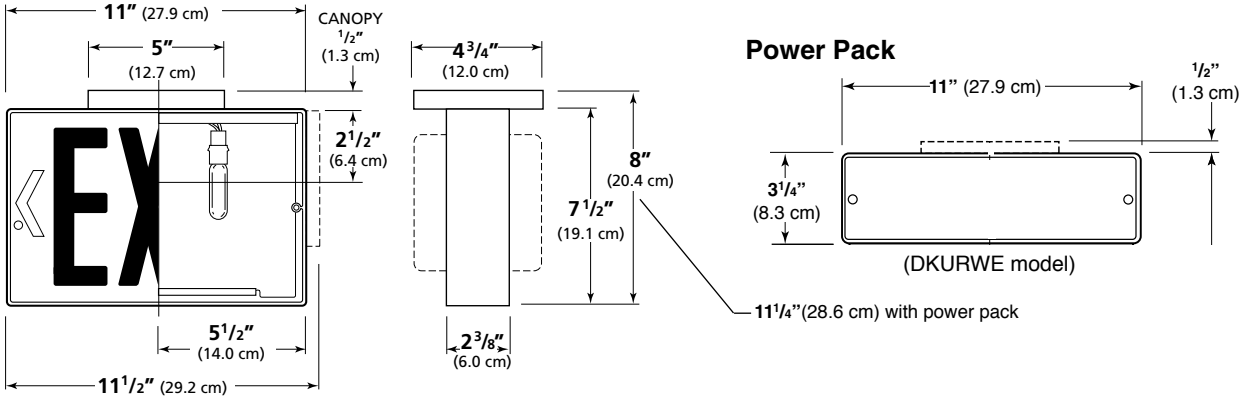
Model Number	Description
DKURW	120V, AC-Only, single or twin face – universal mount, white f nish
DKURWE	120/277V, emergency, single or twin face – universal mount, white f nish

Emergency model with power pack

Accessories (Order Separately)

PMEXW	12" pendant stem and canopy kit – white
WG-MLT	Wire guard (wall mount)
WGLXC	Wire guard (ceiling or end mount)
VRS3	Vandal resistant shield

Dimensions



LT

Designer Tandem Units

Features

- Factory assembled emergency unit/LED exit sign
- UV-stable thermoplastic housing
- Eyeball style lighting heads
- High-output halogen lamps
- White or black f nishes offered
- Remote capacity and damp location listed models available
- 120/277VAC, 60 Hz operation
- Solid-state charger
- Maintenance-free battery
- Low-voltage disconnect
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Long-life LED lamps
- Bright, even illumination
- Universal single/double face
- Red and green letter models
- Snap-in, chevron arrows
- Ceiling or wall mount models standard. Optional side mounting requires accessory kit
- Temperature range: 20°C to 30°C (68°F to 86°F)
  (Damp location models: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

LT U R B D -AF

Series

Faces
U - Universal Single/Double Face

Letter Color
R - Red
G - Green

Housing Finish
W - White
B - Black

Application
Blank - Standard model
3 - Remote capacity model
D - Damp location model

Options

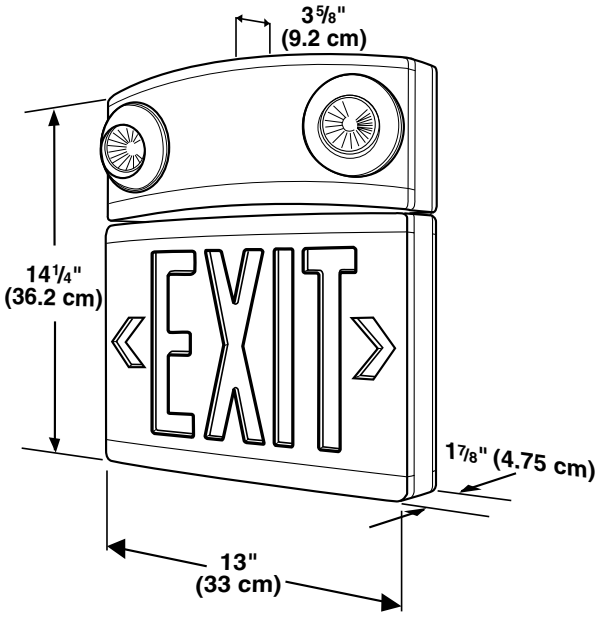
Also available in black finish

Power Consumption

	120VAC	277VAC
Red Emergency Models	5.0 watts	5.0 watts
Green Emergency Models	5.0 watts	5.0 watts

Power factor, average: .8 (lagging)

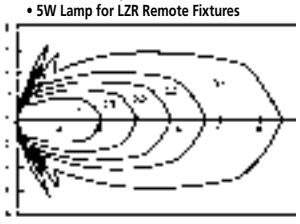
Dimensions



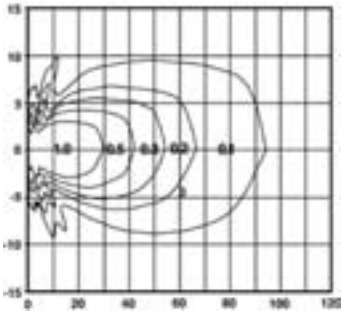
Photometrics

High-Output Halogen Lamp
Horizontal Isofootcandle Distribution

5W MR-16 Lamp
- Standard Lamp for LT unit
- 5W Lamp for LZR Remote Fixtures



10W MR-16 Lamp
- 10W Lamp for LZR Remote Fixtures



Product Selector Guide

Standard Models	Remote Capacity Models(1)	Damp Location Models	Colors			Description
			Exit Letters	Housing	Stencil Face(s)	
LTURW	LTURW3	LTURWD	Red	White	White	Single/double face tandem unit
LTURB	LTURB3	LTURBD	Red	Black	Black	Single/double face tandem unit
LTUGW	LTUGW3	LTUGWD	Green	White	White	Single/double face tandem unit
LTUGB	LTUGB3	LTUGBD	Green	Black	Black	Single/double face tandem unit

(1) Operates the integral unit heads plus one additional 5 watt lighting fixture or exit sign.

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics (4)
-0	Unit supplied without lighting heads (3)
-FAP	Fire alarm panel interface (1)(2)
-FM	Flasher module (2)
-AF	Audible/Flasher module (2)
-24K	220-240VAC, 60 Hz operation
-SA	"SALIDA" stencil face

(1) Operates with 24-volt AC or DC fire alarm panels.
(2) -FAP, -FM, or -AF options may not be specified together.
(3) Available with remote capacity (LTXXX3) models only.
(4) Only available on remote capacity and damp location models.

Accessories (Order Separately)

FTSMKW	Side mount f eld kit (white) (a)
FTSMKB	Side mount f eld kit (black) (a)
PMLZTW	12½" Pendant mounting kit (white)
PMLZTB	12½" Pendant mounting kit (black)
WGTW	Wire guard (Wall mount)
WGTCE	Wire guard (Ceiling or end mount)
VRS2	Vandal resistant shield (b)
OMSSW0605	Outdoor remote lighting head - 6 Volt, 5 Watt sealed-beam type lamp - White f nish
OMSSB0605	Outdoor remote lighting head - 6 Volt, 5 Watt sealed-beam type lamp - Black Finish

(a) FTSMKW and FTSMKB field kits are required for side mounting on all models. Accommodates left side mounting only.

(b) For use with wall mounted units only.

OMS Series outdoor lighting heads

Matching Remote Fixtures

A complete line of 6- and 12-volt matching remote f xtures in single and tandem lamp conf gurations is available for use with LZ Series high-capacity units or any other 6- or 12-volt DC emergency lighting remote power sources.
All remote f xtures are offered in black and white textured f nishes with a choice of 5- or 10-watt halogen lamps.

White Single	Black Single	Volts	Watts
LZRSW0605	LZRSB0605	6	5
LZRSW0610	LZRSB0610	6	10
LZRSW1205	LZRSB1205	12	5
LZRSW1210	LZRSB1210	12	10

NYXC

New York City Tandem Unit

Features

- Designed to meet New York City specif cations
- Heavy 20 gauge metal enclosure with white or black f nish
- Exit plaques secured by channels
- Single face eight inch high letters
- Knockout directional chevron arrows
- Available with two or three fully adjustable and lockable 7.2 watt thermoplastic lighting heads
- High output LED lamps
- Universal 120/277VAC operation
- Wall mounting
- Completely self-contained
- 90-Minute emergency operation
- Environmentally coated, fully automatic solid state charger
- Automatic low voltage battery disconnect
- Charge rate indicator and test switch
- Maintenance free battery
- Temperature range: 0°C to 40°C (32°F to 104°F)
- Listed to UL 924

Ordering Information

NYXC S R B E 2 -TR

- **Series**
- **Faces**
  - **S** - Single
  - **D** - Double
- **Letter Color**
  - **R** - Red
- **Housing Finish**
  - **W** - White
  - **B** - Black
- **Operation**
  - **E** - Emergency
- **Number of Lighting Heads**
  - **2** - Two
  - **3** - Three
- **Options**

Options (Add suffix to model)

-0612 12 watt lamps (1)

-TR Tamper resistant option (2)

(1) 12 watt high-output lamps available on two-headed models only.
(2) Provides two stainless steel tamper resistant locking screws.

Accessories (Order Separately)

40G Wire guard (wall mount)

Power Consumption

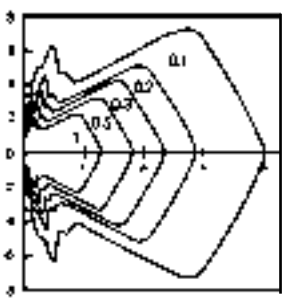
	120VAC	277VAC
All Models	7.0W	7.2W

* *Wattage figures include LED lamps, transformers and electronics power requirements.*

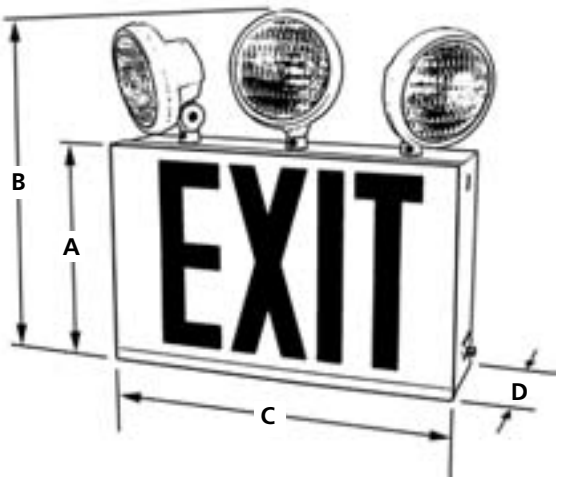
Photometrics

Horizontal Isofootcandle Distribution

Standard 6V, 7.2W SBT Lamp



Dimensions



A	B	C	D
9 5/8"	15 1/2"	15"	4 1/4"
24.4 cm	*39.4 cm*	*38.1 cm*	*10.8 cm*

DUAL LITE

Lite/forms

Combination LED Exit/Emergency Light

SMC

Features

- Combines emergency light with energy saving LED exit
- Adjustable 5.4 watt incandescent lampheads
- Maintenance-free battery
- Dual voltage – 120V/277VAC
- Fast, easy installation
- Snap together, modular construction
- All components are integral to the exit housing, including battery
- Accessible compartments add to ease of maintenance
- Consumes as little as 4 watts for either a single or twin face sign
- Uniform illumination of exit legend
- Snap-out directional chevrons
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

SMC | 3 | R | E | CB | W

Series

Faces
3 - Universal Single or Double

Letter Color
R - Red
G - Green

Operation
E - Emergency

Mounting
CB - Ceiling/Back
E - End

Housing Finish
W - White
B - Black

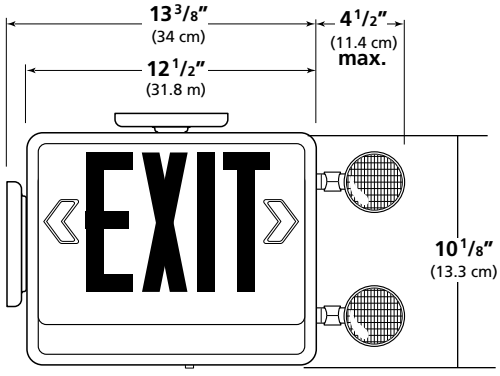
Available March 1, 2006

Accessories (Order Separately)

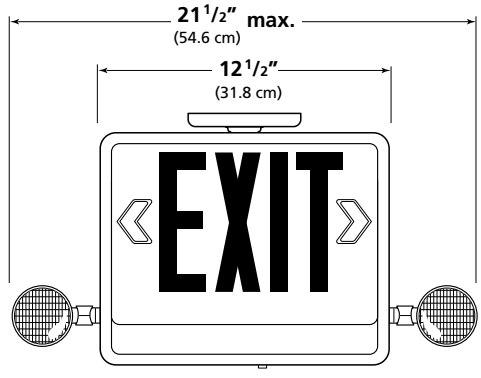
41G Wire guard (wall or ceiling mount)

Dimensions

End Mount



Ceiling or Back Mount



Sempra

DIECAST LED EXIT SIGN

LIFETIME WARRANTY ON ALL SPECTRON MODELS

FEATURES

All Models

- High-strength cast aluminum
- Low-prof le architectural styling
- 5-minute installation
- Long-life LED lamps
- Bright, even illumination
- Red and green letters
- Single and double face models
- White, black and black or white with brushed face f nishes
- Push-in wiring connectors
- Universal end/ceiling/wall mount
- Break-out, chevron arrows and mounting KOs
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 2-hour emergency operation
- Test switch and AC-On indicator
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Lifetime warranty on LED strip, electronics and battery with **Spectron®** self-testing/self-diagnostic models
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

ORDERING INFORMATION

See Product Selector Guide for available models

SPECIAL WORDING DIFFUS-

Special Wording Open Face Diffuser Table*

Option No.	Description	Option No.	Description
-SW1	TO EXIT	-SW12	AREA OF RESCUE ASSISTANCE
-SW2	NOT AN EXIT	-SW13	AREA OF RESCUE ASSISTANCE (w/wheelchair symbol)
-SW3	IN USE		
-SW4	XRAY IN USE	-SW14	ELEVATOR
-SW5	DARKROOM IN USE	-SW15	RESTROOMS
-SW6	CAUTION	-SW16	MEN
-SW7	DO NOT ENTER	-SW17	MEN (w/symbol)
-SW8	TEST IN PROGRESS	-SW18	WOMEN
-SW9	ON AIR	-SW19	WOMEN (w/symbol)
-SW10	AREA OF REFUGE	*Other special wording diffusers available, consult factory.*	
-SW11	AREA OF REFUGE (w/wheelchair symbol)		

* *To order special wording diffusers, add Option Number suffix to model number. Ex: SEDRWE-SW(10)*

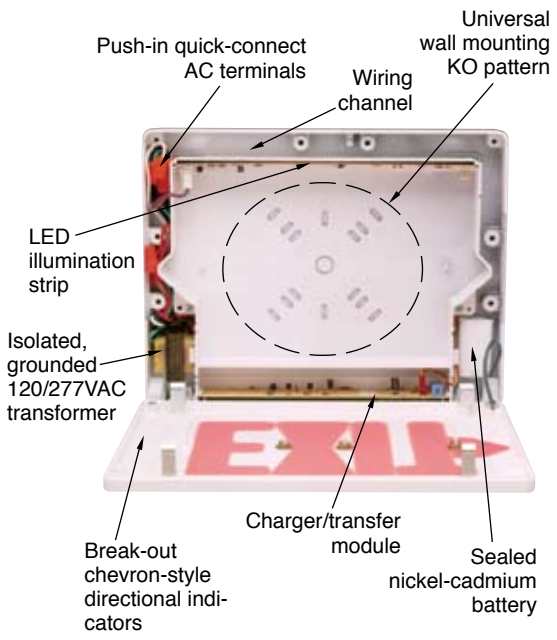
POWER CONSUMPTION

	120VAC	277VAC
Red AC Only Models:	2.6 watts	2.6 watts
Green AC Only Models:	2.1 watts	2.1 watts
Red Emergency Models:	3.8 watts	3.8 watts
Green Emergency Models:	3.5 watts	3.5 watts

**Wattage figures include LED lamps, transformer and electronics power requirements. LED lamp assemblies (red or green) consume less than 1 watt. Power factor, average: .8 (lagging)*

Lifetime Warranty

Sempra cast-aluminum emergency exit signs with the Spectron self-testing/self-diagnostic electronics system are guaranteed by Dual-Lite under normal and proper use, against defects in material and workmanship for the life of the product. The warranty covers all electronics, LED light strip and unit battery.



Product Selector Guide

AC Model Numbers	Emergency Model Numbers	Number of Faces	Colors		
			Exit Letters	Housing	Stencil Face(s)
SESRW	**SESRWE**	Single	Red	White	White
SESGW	**SESGWE**	Single	Green	White	White
SESRWN	**SESRWNE**	Single	Red	White	Brushed
SESGWN	**SESGWNE**	Single	Green	White	Brushed
SESRB	**SESRBE**	Single	Red	Black	Black
SESGB	**SESGBE**	Single	Green	Black	Black
SESRBN	**SESRBNE**	Single	Red	Black	Brushed
SESGBN	**SESGBNE**	Single	Green	Black	Brushed
SEDRW	**SEDRWE**	Double	Red	White	White
SEDGW	**SEDGWE**	Double	Green	White	White
SEDRWN	**SEDRWNE**	Double	Red	White	Brushed
SEDGWN	**SEDGWNE**	Double	Green	White	Brushed
SEDRB	**SEDRBE**	Double	Red	Black	Black
SEDGB	**SEDGBE**	Double	Green	Black	Black
SEDRBN	**SEDRBNE**	Double	Red	Black	Brushed
SEDGBN	**SEDGBNE**	Double	Green	Black	Brushed

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-DC	Remote DC operation (1)(4)(5)
-2C	2-circuit operation (1)(5)
-FAP	Fire alarm panel interface (3)(5)
-FM	Flasher module (2)(5)
-AF	Audible/Flasher module (2)(5)
-24K	220/240VAC, 60 Hz. operation

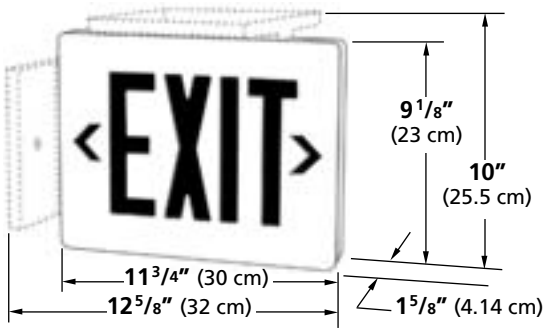
(1) For use with AC models only.
(2) For use with emergency models only.
(3) Operates with 24-volt AC or DC fire alarm panels.
(4) For emergency illumination of sign from remote 6-24 VDC power sources.
(5) -DC, -2C, -FAP, -FM, -AF options may not be specified together.

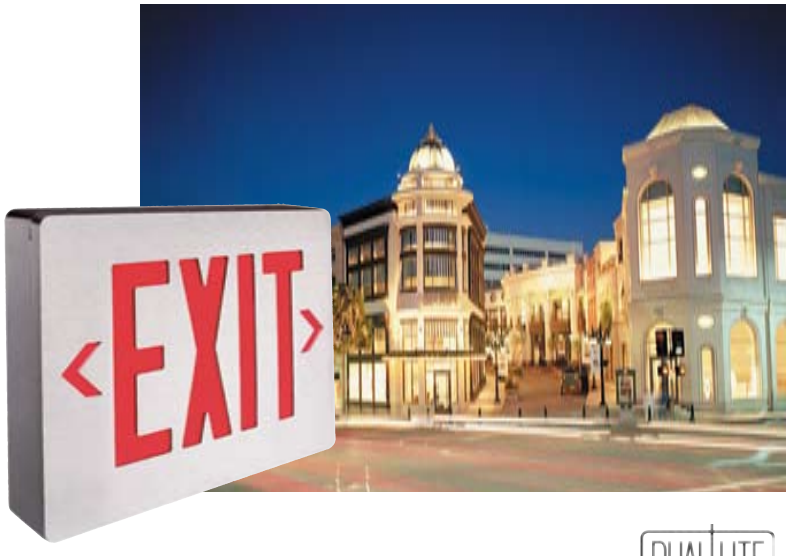
Accessories (Order Separately)

SER-E	Emergency operation module (red models) *
SEG-E	Emergency operation module (green models) *
PMCW	12½" Pendant mounting kit (white)
PMCB	12½" Pendant mounting kit (black)
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)

** For factory-equipped emergency models, see Product Selector Guide above.*

Dimensions





Sempra MR

Master/Remote Diecast LED Exit Signs

LIFETIME WARRANTY ON ALL SPECTRON MODELS

Features

All Models

- High-strength, low-prof le cast aluminum housing
- Supplied as 2-sign, Master/Remote sets
- 5-minute installation
- Long-life LED lamps
- Bright, even illumination
- Red or green letters
- Single and double face models
- White, black and black or white with brushed face f nishes
- Push-in wiring connectors
- Universal end/ceiling/wall mount
- Break-out, chevron arrows
- 120/277VAC, 60 Hz operation

Master Signs

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 90 minute emergency operation
- Test switch and AC-On indicator
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Lifetime warranty on LED strip, electronics and battery with **Spectron®** self-testing/self-diagnostic models
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Remote Signs

- Surface mounts to standard electrical boxes
- Connects to Master sign using conventional wiring methods

Ordering Information

SEMR S R W E -FAP

Series

Faces
S - Single
D - Double

Letter Color
R - Red
G - Green

Housing Finish
W - White
B - Black
WN - White with brushed face
BN - Black with brushed face

Operation
Blank - AC Only
E - Emergency

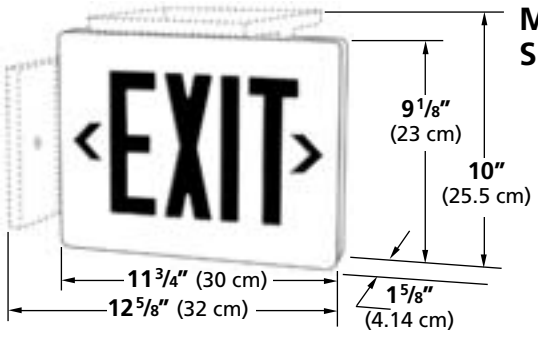
Options

Lifetime Warranty

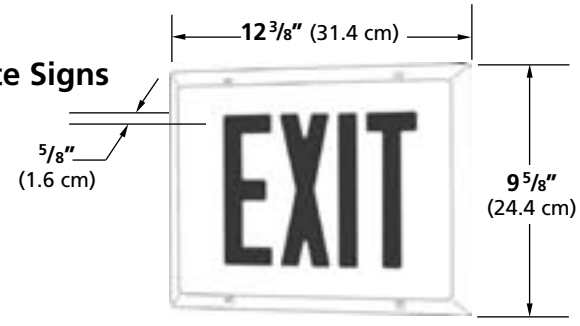
Sempra cast-aluminum emergency exit signs with the Spectron self-testing/self-diagnostic electronics system are guaranteed by Dual-Lite under normal and proper use, against defects in material and workmanship for the life of the product. The warranty covers all electronics, LED light strip and unit battery.

Dimensions

Master Signs



Remote Signs



DUAL LITE

Lite/forms

Product Selector Guide

AC Model Numbers	Emergency Model Numbers	Number of Faces	Colors		
			Exit Letters	Housing	Stencil Face(s)
SEMRSRW	SEMRSRWE	Single	Red	White	White
SEMRSGW	SEMRSGWE	Single	Green	White	White
SEMRSRWN	SEMRSRWNE	Single	Red	White	Brushed
SEMRSGWN	SEMRSGWNE	Single	Green	White	Brushed
SEMRSRB	SEMRSRBE	Single	Red	Black	Black
SEMRSGB	SEMRSGBE	Single	Green	Black	Black
SEMRSRBN	SEMRSRBNE	Single	Red	Black	Brushed
SEMRSGBN	SEMRSGBNE	Single	Green	Black	Brushed
SEMRDRW	SEMRDRWE	Double	Red	White	White
SEMRDGW	SEMRDGWE	Double	Green	White	White
SEMRDRWN	SEMRDRWNE	Double	Red	White	Brushed
SEMRDGWN	SEMRDGWNE	Double	Green	White	Brushed
SEMRDRB	SEMRDRBE	Double	Red	Black	Black
SEMRDGB	SEMRDGBE	Double	Green	Black	Black
SEMRDRBN	SEMRDRBNE	Double	Red	Black	Brushed
SEMRDGBN	SEMRDGBNE	Double	Green	Black	Brushed

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-DC	Remote DC operation (1)(4)(5)
-2C	2-circuit operation (1)(5)
-FAP	Fire alarm panel interface (3)(5)
-FM	Flasher module (2)(5)
-AF	Audible/Flasher module (2)(5)
-24K	220/240VAC, 60 Hz. operation
-VTR	Vandal/tamper resistant option (6)

(1) For use with AC models only.
(2) For use with emergency models only.
(3) Operates with 24-volt AC or DC fire alarm panels.
(4) For emergency illumination of sign from remote 6-24 VDC power sources.
(5) -DC, -2C, -FAP, -FM, -AF options may not be specified together.
(6) Provides polycarbonate face shield and tamper-proof screws. Meets UL listing requirements for floor proximity use.

Sempra MR signs equipped with -VTR vandal/tamper resistant option shield and hardware.

Accessories (Order Separately)

PMCW	Pendant mounting kit (white) (a)
PMCB	Pendant mounting kit (black) (a)
WGLX	Wire guard (Wall mount) (a)
WG-MLT	Wire guard (Wall mount) (a)
WGLXC	Wire guard (Ceiling mount) (a)
WGLXE	Wire guard (End mount) (a)

(a) For use with Master exit signs only.

Beveled, low-profile design on Remote signs meet ADA requirements and UL Listing requirements for floor proximity use with -VTR option

Power Consumption

	120VAC	277VAC
Red AC Only Models:	2.6 watts	2.6 watts
Green AC Only Models:	2.1 watts	2.1 watts
Red Emergency Models:	3.8 watts	3.8 watts
Green Emergency Models:	3.5 watts	3.5 watts

**Wattage figures include LED lamps, transformer and electronics power requirements. LED lamp assemblies (red or green) consume less than 1 watt. Power factor, average: .8 (lagging)*

Sempra SC

Severe Conditions Diecast LED Exit Signs

An ULTREX Severe Conditions Product Line

LIFETIME WARRANTY ON ALL SPECTRON MODELS

Features

All Models

- High-strength cast aluminum
- Low-prof le architectural styling
- 5-minute installation
- Polycarbonate face shield provides additional protection against vandalism
- Tamper-resistent screws prevent entry by unauthorized personnel
- Long-life LED lamps
- Bright, even illumination
- Red and green letters
- Single and double face models
- White, black and black or white with brushed face f nishes
- Push-in wiring connectors
- Universal end/ceiling/wall mount
- Break-out, chevron arrows and mounting KOs
- UL Damp Location listed
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 90 minute emergency operation
- Test switch and AC-On indicator
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Lifetime warranty on LED strip, electronics and battery with **Spectron®** self-testing/self-diagnostic models
- Temperature ranges:
  - AC models: -20°C to 50°C (-4°F to 122°F)
  - Emergency models: 0°C to 40°C (32°F to 104°F)
  - Emergency models with -XTR option: -20°C to 50°C (-4°F to 122°F)
- UL 924 Listed

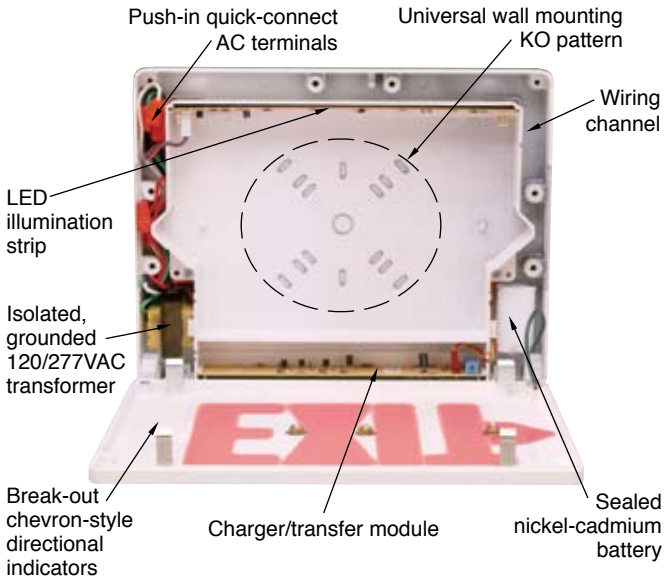
Ordering Information

See Product Selector Guide for available models

Polycarbonate face shield provided standard on all Sempra SC models

Lifetime Warranty

Sempra SC cast-aluminum emergency exit signs with the Spectron self-testing/self-diagnostic electronics system are guaranteed by Dual-Lite under normal and proper use, against defects in material and workmanship for the life of the product. The warranty covers all electronics, LED light strip and unit battery.



Power Consumption

	120VAC	277VAC
Red AC Only Models:	2.6 watts	2.6 watts
Green AC Only Models:	2.1 watts	2.1 watts
Red Emergency Models:	3.8 watts	3.8 watts
Green Emergency Models:	3.5 watts	3.5 watts

**Wattage figures include LED lamps, transformer and electronics power requirements. LED lamp assemblies (red or green) consume less than 1 watt. Power factor, average: .8 (lagging)*

Product Selector Guide

AC Model Numbers	Emergency Model Numbers	Number of Faces	Colors		
			Exit Letters	Housing	Stencil Face(s)
SCSRW	SCSRWE	Single	Red	White	White
SCSGW	SCSGWE	Single	Green	White	White
SCSRWN	SCSRWNE	Single	Red	White	Brushed
SCSGWN	SCSGWNE	Single	Green	White	Brushed
SCSRB	SCSRBE	Single	Red	Black	Black
SCSGB	SCSGBE	Single	Green	Black	Black
SCSRBN	SCSRBNE	Single	Red	Black	Brushed
SCSGBN	SCSGBNE	Single	Green	Black	Brushed
SCDRW	SCDRWE	Double	Red	White	White
SCDGW	SCDGWE	Double	Green	White	White
SCDRWN	SCDRWNE	Double	Red	White	Brushed
SCDGWN	SCDGWNE	Double	Green	White	Brushed
SCDRB	SCDRBE	Double	Red	Black	Black
SCDGB	SCDGBE	Double	Green	Black	Black
SCDRBN	SCDRBNE	Double	Red	Black	Brushed
SCDGBN	SCDGBNE	Double	Green	Black	Brushed

Options (Add suffix to model)

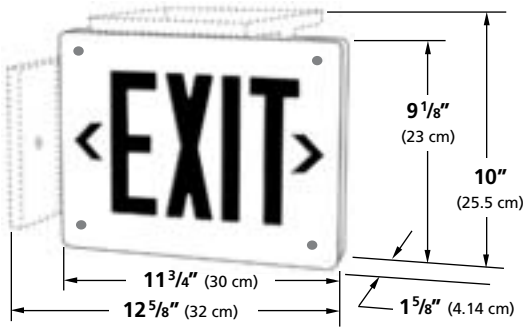
I	Spectron self-testing/self-diagnostic electronics
-DC	Remote DC operation (1)(4)(5)
-2C	2-circuit operation (1)(5)
-FAP	Fire alarm panel interface (3)(5)
-FM	Flasher module (2)(5)
-AF	Audible/Flasher module (2)(5)
-24K	220/240VAC, 60 Hz. operation
-XTR	Extreme temperature operation (2)(6)

(1) For use with AC models only.
(2) For use with emergency models only.
(3) Operates with 24-volt AC or DC fire alarm panels.
(4) For emergency illumination of sign from remote 6-24 VDC power sources.
(5) -DC, -2C, -FAP, -FM, -AF options may not be specified together.
(6) For use with Sempra SC emergency models only (Spectron models excluded).

Accessories (Order Separately)

PMCW	12½" Pendant mounting kit (white)
PMCB	12½" Pendant mounting kit (black)
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)

Dimensions



Sempra SC
Wet Location

Wet Location Environmental LED Exit Sign

An ULTREX Severe Conditions Product Line

Damp | Wet | Cold* | Corrosive

*With Heater Option

Features

All Models

- Designed for wet location and high abuse applications
- Full neoprene gasket
- Durable cast aluminum housing in black f nish
- Polycarbonate face shields secured with stainless hardware
- Universal ceiling, end or wall surface mounting
- 120/277VAC operation standard
- Bright, even illumination
- Red and green letter models
- Snap-out chevron arrows
- High output, long-life LED lamps
- Temperature range: 0°C to 45°C (32°F to 114°F)

Emergency Models

- Completely self-contained
- Fully automatic, environmentally coated charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On indicator
- 90 minute operation
- Optional 120 minute operation
- Temperature range: 0°C to 45°C (32°F to 114°F)
- Temperature range with heater option: -40°C to 45°C (-40°F to 114°F)
- Vandal-resistant housing with tamper-resistant screws
- Listed to UL 924

Availability To Be Announced

Ordering Information

SCWL	S	R	B	E	U	-AA
Series	Faces	Letter Color	Exit Housing Color	Operation	Mounting	Options

- **S** - Single, **D** - Double
- **R** - Red, **G** - Green
- **B** - Black, **W** - White
- **Blank** - AC Only, **E** - Emergency
- **U** - Universal

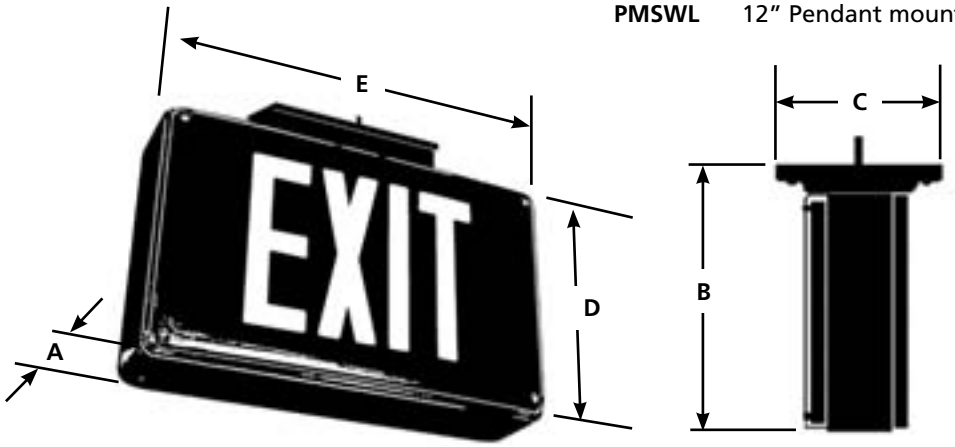
Options (Add suffix to model)

-AA	Audible alarm (1)(2)
-FM	Flasher module (1)(2)
-AR120	120 minute emergency operation (2)
-HTR1	Internal heater - 120VAC (1)(2)
-HTR2	Internal heater - 277VAC (1)(2)

(1) -AA, -FM, -HTR1, and -HTR2 options may not be specified together.
(2) For use with emergency models only.

Dimensions

A	B	C	D	E
4"	10"	6.2"	9"	14"
10.2 cm	*25.4 cm*	*15.8 cm*	*22.9 cm*	*35.6 cm*



Accessories (Order Separately)

PMSWL 12" Pendant mounting kit

Recessed Cast Aluminum LED Exit Sign

Sempra SERS

Features

All Models

- High-strength cast aluminum
- Compact, low-prof le style
- Fast, easy installation
- Long-life LED lamps
- Bright, even illumination
- Red and green letters
- Rigid, high impact acrylic letter panel
- White, black and black or white with brushed face f nishes
- Plug-together wiring connectors
- Break-out, chevron arrows and mounting KOs
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 2-hour emergency operation
- Test switch and AC-On indicator
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Lifetime warranty on LED strip, electronics and battery with **Spectron®** self-testing/self-diagnostic models
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

LIFETIME WARRANTY ON ALL SPECTRON MODELS

Ordering Information

SERS R WN E -AF

- **Series**
- **Letter Color**
  - **R** - Red
  - **G** - Green
- **Housing Finish**
  - **W** - White
  - **B** - Black
  - **WN** - White with brushed face
  - **BN** - Black with brushed face
- **Operation**
  - **Blank** - AC Only
  - **E** - Emergency
- **Options**

Lifetime Warranty

Sempra cast-aluminum emergency exit signs with the Spectron self-testing/self-diagnostic electronics system are guaranteed by Dual-Lite under normal and proper use, against defects in material and workmanship for the life of the product. The warranty covers all electronics, LED light strip and unit battery.

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics
-DC	Remote DC operation (1)(4)(5)
-2C	2-circuit operation (1)(5)
-FAP	Fire alarm panel interface (3)(5)
-FM	Flasher module (2)(5)
-AF	Audible/Flasher module (2)(5)
-VTR	Vandal/tamper resistant option (6)
-LRBB	Sign assembly less rough-in back box (7)

(1) For use with AC models only.
(2) For use with emergency models only.
(3) Operates with 24-volt AC or DC fire alarm panels.
(4) For emergency illumination of sign from remote 6-24 VDC power sources.
(5) -DC, -2C, -FAP, -FM, -AF options may not be specified together.
(6) Provides polycarbonate face shield and tamper-resistant screws. Meets UL listing requirements for floor proximity use.
(7) Allows ordering of rough-in back box separately for installation prior to sign shipment. Add "-LRBB" suffix to exit model number if RBB accessory kit is to be ordered separately.

Accessories (Order Separately)

RBB	Rough-in back box kit
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)

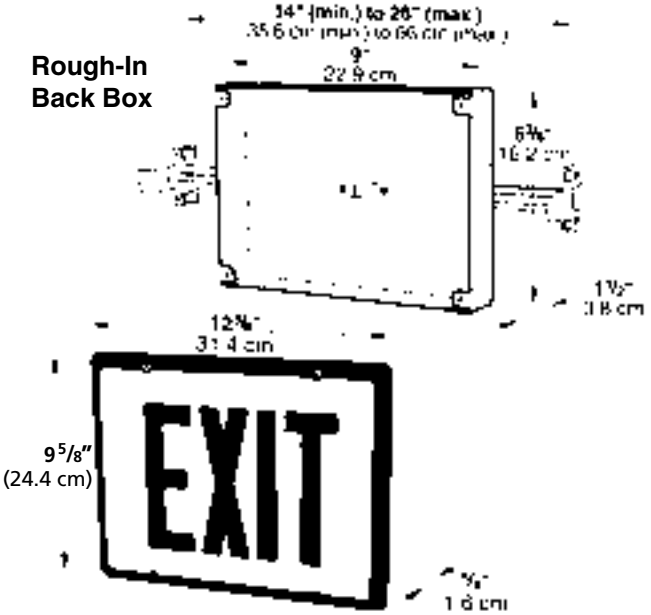
Power Consumption

	120VAC	277VAC
Red AC Only Models:	2.6 watts	2.6 watts
Green AC Only Models:	2.1 watts	2.1 watts
Red Emergency Models:	3.8 watts	3.8 watts
Green Emergency Models:	3.5 watts	3.5 watts

**Wattage figures include LED lamps, transformer and electronics power requirements. LED lamp assemblies (red or green) consume less than 1 watt. Power factor, average: .8 (lagging)*

Dimensions

Rough-In Back Box



NYDC

New York City Cast Aluminum LED Exit

Features

AC Models

- Designed to meet New York City specif cations
- All diecast aluminum construction
- White, black and black with brushed face f nishes
- Break-out directional chevrons
- Single and double face models with eight inch letters
- Wall/ceiling/end mounting
- Dual voltage – 120/277VAC
- Bright and even illumination
- Long-life LED lamps

Emergency Models

- Long life NiCad battery
- 90 minute emergency operation
- Test switch and AC-On indicator
- Environmentally coated, fully automatic charger
- Temperature range: 0°C to 45°C (32°F to 113°F)
- Listed to UL 924

Ordering Information

NYDC S R B A -FM

Series

Faces
S - Single
D - Double

Letter Color
R - Red

Housing Finish
W - White
B - Black
BN - Black with brushed face

Operation
A - AC Only
E - Emergency

Options

Available in white, black and black with brushed face finishes

Options (Add suffix to model)

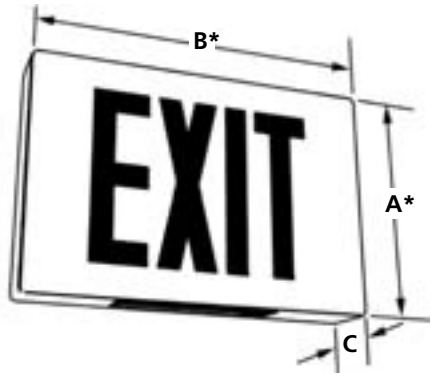
-FM Flasher module (1)(2)
-AA Audible alarm module (1)(2)

(1) For use with emergency models only.
(2) -FM and -AA options may not be specified together.

Accessories (Order Separately)

PMNYW Pendant mounting kit (white)
PMNYB Pendant mounting kit (black)
WGTW Wire guard (Wall mount)
WGTCE Wire guard (Ceiling mount)

Dimensions



* Add 1" (2.5 cm) for mounting canopy on ceiling or end mounted models

A	B	C
11"	16 1/4"	2 5/8"
27.9 cm	*41.3 cm*	*6.7 cm*

Power Consumption

	120VAC	277VAC
AC Only Models	2.4W	2.4W
Emergency Models	3.4W	3.5W

* *Wattage figures include LED lamps, transformers and electronics power requirements.*

Wet Location LED Exit Signs

LN4X

Features

AC Models

- UL type 4X enclosure for indoor/outdoor use
- Easily installed to wall surfaces
- Suitable for use in damp, wet, hose-down and corrosive locations
- Polycarbonate housing
- 120/277VAC operation standard
- Bright, even illumination
- Red and green letter models
- Snap-in chevron arrows
- Long-life LED lamps
- Temperature range: 0°C to 40°C (32°F to 104°F)

Emergency Models

- Suitable for use in damp, wet and corrosive locations
- Completely self-contained
- Fully automatic, solid-state charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On light
- Available with **Spectron**® self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- 120 minute operation
- Temperature range: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

An ULTREX

Severe Conditions Product Line

Ordering Information

LN4X R W E -FAP

- **Series**
- **Letter Color**
  - **R** - Red
  - **G** - Green
- **Exit Face Color**
  - **W** - White
- **Operation**
  - **Blank** - AC Only
  - **E** - Emergency
- **Options**

Options (Add suffix to model)

I	Spectron self-testing/self-diagnostic electronics (1)(2)
-XTR	Extreme temperature operation (2)(8)(9)
-2C	2-circuit operation (3)(7)
-FAP	Fire alarm panel interface (4)(6)(7)
-XTRFAP	Extreme temperature operation f re alarm panel interface (2)(4)(6)(7)(8)(9)
-FM	Flasher module (2)(6)
-DC	Remote DC operation (3)(5)(6)
-TR	Tamper-proof cover screws (includes tool)

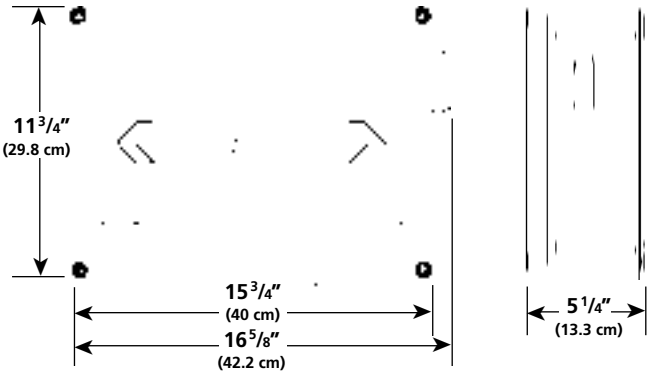
(1) Add "I" Spectron self-testing/self-diagnostic option suffix immediately after base model number. Example: LN4XRWEI
(2) For specification with emergency models only.
(3) For use with AC models only.
(4) Operates with 24-volt AC or DC fire alarm panels.
(5) For emergency illumination of sign from remote 6-24 VDC power sources.
(6) -FAP, -XTRFAP, -FM or -DC options may not be specified together.
(7) -2C and -XTRFAP or -FAP options may be specified together.
(8) Not for use with self-testing Spectron models.
(9) Provides an operating temperature range of -20°C to 50°C (-4°F to 122°F)

Power Consumption

	120VAC	277VAC
Red AC Only Models	2.6 watts	2.6 watts
Green AC Only Models	2.1 watts	2.1 watts
Red Emergency Models	3.8 watts	3.8 watts
Green Emergency Models	3.5 watts	3.0 watts

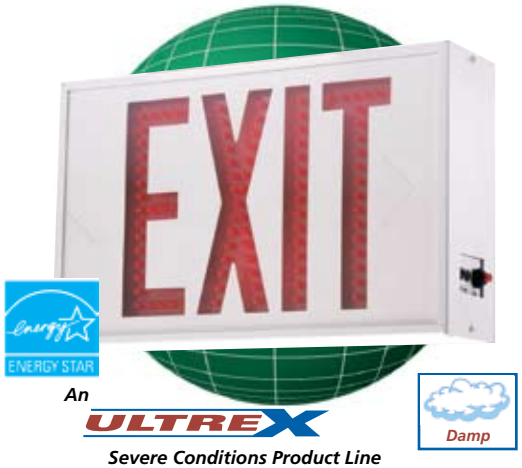
Power factor, average: .8 (lagging)

Dimensions



Freedom LED

Aluminum LED Exit Signs



Features

All Models

- Vinyl-clad aluminum housing
- Polycarbonate face shield standard
- Easy to install
- Long-life LED lamps
- Red and green letters
- Single and double face models
- Six decorator f nishes offered
- End, ceiling or wall mount
- Snap-out, chevron arrows
- Damp location listed
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- 6-volt, maintenance-free battery
- User-selectable constant on or f ashing emergency illumination
- Up to 12 hour operation
- Test switch, AC-On and charge indicator lights
- Temperature range: 10°C to 40°C (50°F to 104°F)
- Damp location listed
- UL 924 Listed

Ordering Information

LED 2 EM R WW -TR

Series

Faces
1 - Single Face
2 - Double Face

Operation
AC - AC Only
EM - Emergency

Letter Color
R - Red
G - Green

Housing Finish
WW - White
WA - White with Brushed Aluminum Face
BB - Black
BA - Black with Brushed Aluminum Face
TT - Brass
ZZ - Antique Brass

Options

Discharge Times

	Single Face	Double Face
Flashing Mode	12 Hours	8 Hours
Constant On Mode	6 Hours	4 Hours

Available Colors

Options (Add suffix to model)

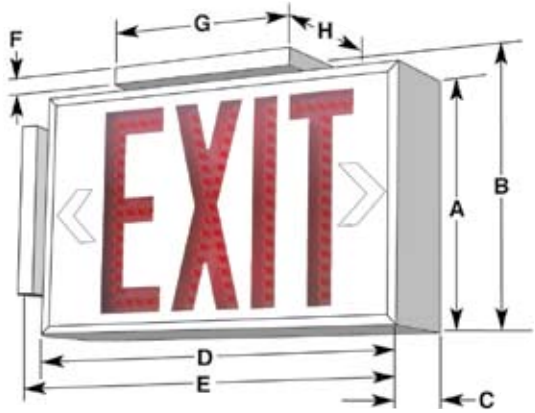
-DC Remote DC operation(2)(3)(5)
-TR Tamper resistent screws
-2C 2-circuit operation(2)(3)(6)
-FAP Fire alarm panel interface (f asher)(4)(5)(6)
-BPR Beeper module(1)(6)

(1) For specification with emergency models only.
(2) For use with AC models only.
(3) For emergency illumination of sign from remote 12 through 48 VDC power sources.
(4) Operates with 24-volt AC or DC fire alarm panels.
(5) -FAP, and -DC options may not be specified together.
(6) -2C, -BPR and -FAP options may be specified together.

Accessories (Order Separately)

VRS3 Vandal resistant shield
WGTCE Wire guard (Ceiling/End mount)
WGTW Wire guard (Wall mount)

Dimensions



A	B	C	D	E	F	G	H
7 1/2"	8.0"	3 1/8"	12 1/8"	12 5/8"	1/2"	6.0"	4 1/4"
19 cm	*20 cm*	*7.9 cm*	*30.8 cm*	*32.1 cm*	*1.3 cm*	*15.2 cm*	*10.8 cm*

Power Consumption

	Single Face Models		Double Face Models	
	120VAC	277VAC	120VAC	277VAC
Red AC Only Models	4.47 watts	4.47 watts	6.80 watts	6.80 watts
Green AC Only Models	4.68 watts	4.64 watts	6.70 watts	6.70 watts
Red Emergency Models	4.99 watts	4.99 watts	7.27 watts	7.22 watts
Green Emergency Models	4.96 watts	4.93 watts	7.65 watts	7.67 watts

Power factor, average: .8 (lagging)

Low-Profile Aluminum LED Exit Signs

Features

All Models

- Vinyl-clad aluminum housing
- Compact, low-prof le style
- Easy to install
- Long-life LED lamps
- Red and green letters
- Single, double and universal single/double face models
- Six decorator f nishes offered
- End, ceiling or wall mount
- Snap-out, chevron arrows
- Damp location listed
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free Ni-Cad battery
- 90-minute emergency operation
- Test switch and AC-On indicator light
- Temperature range: 10°C to 40°C (50°F to 104°F)
- Damp location listed
- UL 924 Listed

Ordering Information

LEDS U AC R BA -TR

- **Series**
- **Faces**
  - **1** - Single Face
  - **2** - Double Face
  - **U** - Universal Single/Double Face
- **Operation**
  - **AC** - AC Only
  - **EM** - Emergency
- **Letter Color**
  - **R** - Red
  - **G** - Green
- **Housing Finish**
  - **WW** - White
  - **WA** - White with Brushed Aluminum Face
  - **BB** - Black
  - **BA** - Black with Brushed Aluminum Face
  - **TT** - Brass
  - **ZZ** - Antique Brass
- **Options**

Available Colors

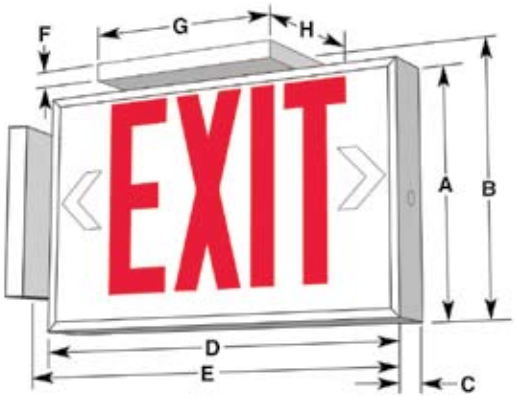
Options (Add suffix to model)

-TR	Tamper resistent screws

Accessories (Order Separately)

VRS3	Vandal resistant shield
WGLX	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)

Dimensions



A	B	C	D	E	F	G	H
7 1/2"	8.0"	1 5/8"	12 1/8"	12 5/8"	1/2"	6.0"	4 1/4"
19 cm	*20 cm*	*4.1 cm*	*30.8 cm*	*32.1 cm*	*1.3 cm*	*15.2 cm*	*10.8 cm*

NYX

New York City LED Exit Sign

Features

AC Models

- Designed to meet New York City specif cations
- 20 gauge metal enclosure
- White or black f nish
- Break-out directional chevrons
- Universal single/double face models with eight inch letters
- Wall/ceiling/end mounting
- Dual voltage – 120/277VAC
- Bright and even illumination
- Long-life LED lamps

Emergency Models

- Long life NiCad battery
- 90 minute emergency operation
- Test switch and AC-On indicator
- Environmentally coated, fully automatic charger
- Temperature range: 0°C to 45°C (32°F to 113°F)
- Listed to UL 924

Ordering Information

NYX U R W E -FM

- **Series**
- **Faces**
  - **U** - Universal single/double face
- **Letter Color**
  - **R** - Red
- **Housing Finish**
  - **W** - White
  - **B** - Black
- **Operation**
  - **A** - AC Only
  - **E** - Emergency
- **Options**

Options (Add suffix to model)

-FM	Flasher module (1)(2)
-AA	Audible alarm module (1)(2)
-TR	Tamper resistant option (3)

(1) For use with emergency models only.
(2) -FM and -AA options may not be specified together.
(3) Provides two tamper-resistant locking screws.

Accessories (Order Separately)

PMNYW	Pendant mounting kit (white)
PMNYB	Pendant mounting kit (black)
WGTW	Wire guard (Wall mount)

Power Consumption

	120VAC	277VAC
AC Only Models	2.4W	2.4W
Emergency Models	3.4W	3.5W

* *Wattage figures include LED lamps, transformers and electronics power requirements.*

Dimensions

* Add 1" (2.5 cm) for mounting canopy on ceiling or end mounted models

A	B	C
10 1/2"	14 1/2"	2 3/8"
26.7 cm	*36.8 cm*	*6.0 cm*

Chicago Low Profile Exit Sign

CMX

Features

All Models

- City of Chicago approved
- 22-gauge metal enclosure with white or black f nish
- Translucent glass diffuser
- Six-inch letters
- Full length, silkscreened directional arrows
- Standard, incandescent AC lamps (Fluorescent lamps optional)
- Standard 120 VAC (277 VAC optional on AC models)
- Wall, end or ceiling mounting
- Downlighting aperture

Emergency Models

- Completely self-contained emergency power pack
- 120-minute operation
- Fully automatic, solid-state charger
- Automatic, low-voltage battery disconnect
- AC-On indicator and test switch
- Maintenance-free long-life lead-acid battery
- Universal 120/277VAC operation
- UL Listed

City of Chicago Approval No. 9823

Ordering Information

CMX S E 6 -AF

Series

Faces
S - Single Face
D - Double Face

Operation
Blank - AC Only
E - Emergency

Options

Exit Legend

Single face models
3 - "EXIT" (no arrows)
6 - "EXIT" (right arrow)
9 - "EXIT" (left arrow)
12 - "EXIT" (double arrow)
2 - "STAIRS" (no arrows)
5 - "STAIRS" (right arrow)
8 - "STAIRS" (left arrow)
11 - "STAIRS" (double arrow)

Double face models
18 - "EXIT" (no arrows)
21 - "EXIT" (right/left arrow)
24 - "EXIT" (double arrow)
17 - "STAIRS" (no arrows)
20 - "STAIRS" (right/left arrow)
23 - "STAIRS" (double arrow)

Options (Add suffix to model)

-277V	277 VAC operation (1)
-DC6	6 VDC emergency socket and lamp (1)
-DC12	12 VDC emergency socket and lamp (1)
-B	Black f nish
-FL	7 watt f uorescent AC lamps
-FAP	Fire alarm panel interface (2)(3)(4)
-AF	Audible f asher alarm (3)(4)(5)
-PH	Phosphorescent glass diffuser panel

(1) For use with AC models only.
(2) Operates with 24-volt AC or DC fire alarm panels.
(3) -FAP and -AF options may not be specified together.
(4) -FAP and -AF options not available with fluorescent lamp models.
(5) -AF option for use with emergency models only.

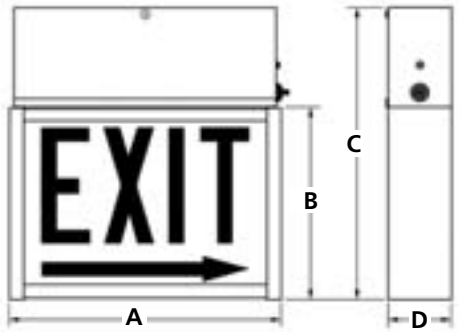
Accessories (Order Separately)

CKW	Canopy mounting kit (white)
CKB	Canopy mounting kit (black)
PMKW	Pendant mounting kit (white)
PMKB	Pendant mounting kit (black)
WGMLT	Wire guard (wall mount - AC models)
WGTW	Wire guard (wall mount - emergency models)
WGTCE	Wire guard (ceiling/end mount - AC and emergency models)
VRS2	Vandal resistant shield (f ts all models)

Power Consumption

	Incandescent Models	Fluorescent Models
	120/277VAC	120/277VAC
AC Only Exits	40 watts	18 watts
Emergency Exits	50 watts	28 watts

Dimensions



A	B	C	D
12 3/4"	9 1/2"	14 1/2"	2 1/2"
32.4 cm	*24.1 cm*	*36.8 cm*	*6.4 cm*

LE

Recessed Mounting Edge-Lit LED Exit Signs

Features

AC Models

- Ceiling, wall or end mounted models for recessed installations
- Extruded aluminum construction
- Available in six color f nishes
- Molded acrylic plaque
- Red and green letter models
- Clear, white or mirror background
- Silkscreened chevron arrows
- Long life LED lamps
- Bright, even letter illumination
- Energy-saving operation
- Universal rough-in box
- Easy to install
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On light
- Available with **Spectron®** self-testing/self-diagnostic electronics with time-delay relay (TDR) standard
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

LE C D R C N E -FM

Series
LE - Recessed mount

Mounting
C - Ceiling mount
W - Wall mount
E - End mount

Faces
S - Single
D - Double*
* *Not for use with wall mounted models*

Letter Color
R - Red
G - Green

Directional Arrows
X - No arrows **EXIT**
R - Right arrow* **EXIT>**
L - Left arrow* **<EXIT**
D - Double arrows **<EXIT>**
C - L/R arrows** **<EXIT/EXIT>**
* *Not for use with double face models. Use "C" L/R arrow designator*
** *Double face models only. Provides reversible right or left arrow indicator*

Operation
A - AC only
E - Emergency

Trim/Housing Finish
N - Satin Aluminum
W - White
C - Chrome
B - Black
S - Satin brass
Z - Dark Bronze

Options
See "Options" section

Standard Plaque Backgrounds
Single face models = clear
Double face models = mirror
See "Options" for alternate backgrounds.

Wall mount model

Power Consumption

	Single Face	Double Face
Red AC Only Models	2.2W	3.7W
Green AC Only Models	2.5W	4.4W
Red Emergency Models	3.3W	4.7W
Green Emergency Models	3.6W	5.2W

* *Wattage figures include LED lamps, transformers and electronics*

End mount model

OPTIONS (ADD SUFFIX TO MODEL)

I	Spectron self-testing/self-diagnostic electronics
-XK	Recessed mount exit sign less rough-in kit (1)
-W	White plaque background
-M	Mirror plaque background (2)
-8L	8 inch letter plaque (red letters only) (10)(11)
-2C	2-circuit operation (3)(8)
-FAP	Fire alarm panel interface (5)(7)(8)
-FM	Flasher module (4)(7)
-AF	Audible/f asher module (4)(7)
-DC	Remote DC operation (3)(6)(7)
-24K	220/240VAC, 60 Hz operation (9)

(1) Allows ordering of rough-in kit separately for recessed mount (LE) models. See "Accessories".
(2) For use with single face models only. Standard on double face models.
(3) For use with AC models only.
(4) For specification with emergency models only.
(5) Operates with 24-volt AC or DC fire alarm panels.
(6) For emergency illumination of sign from remote 6-24 VDC power sources.
(7) -FAP, -FM, -AF or -DC options may not be specified together.
(8) -2C and -FAP options may be specified together.
(9) Rough-in kit may not be ordered separately on models specified with -24K option.
(10) LE exit models with 8" plaques registered under NYC-BEC Calendar Number 42135 for use in New York City.
(11) Single face LE exit signs specified with the -8L option are supplied without backgrounds. Double face models specified with the -8L option are supplied with mirror backgrounds.

ACCESSORIES (ORDER SEPARATELY)

URK	Universal rough-in kit (b)
URK2C	Universal 2-circuit rough-in kit (a)(b)(c)

(a) For use with AC models only.
(b) Rough-in kit may not be ordered separately on models specified with -24K option.
(c) Must be ordered in conjunction with -2C option on exit sign

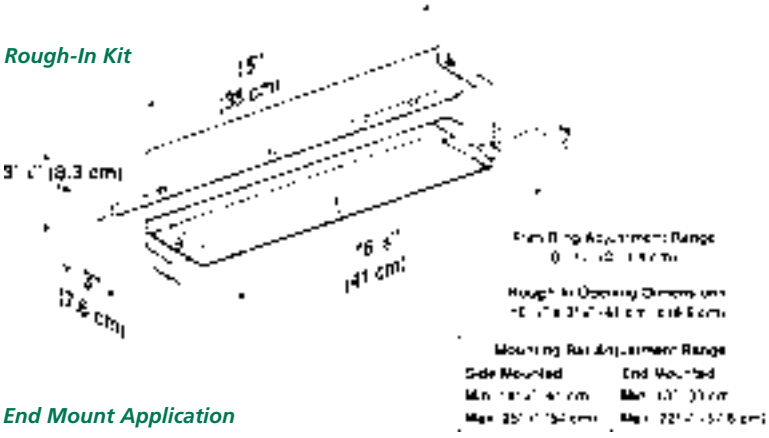
To Order Rough-In Kit Separately

To order rough-in kit only for early installation, add "-XK" option suffix to exit model number and order "URK" or "URK2C" kit separately.

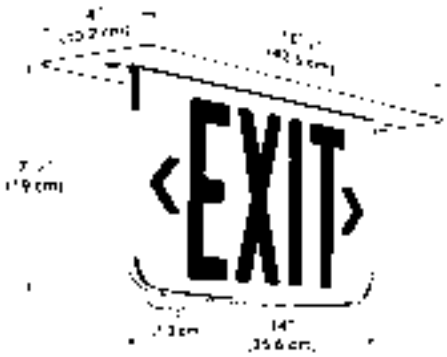
Universal Rough-In Kit

DIMENSIONS

Rough-In Kit



Ceiling Mount Application



End Mount Application

Wall Mount Application

LES

Surface Mounting AC Edge-Lit LED Exit Signs

Features

AC Models

- Ceiling, wall or end mounted models for surface installations
- Extruded aluminum construction
- Available in six color f nishes
- Molded acrylic plaque
- Red and green letter models
- Clear, white or mirror background
- Silkscreened chevron arrows
- Long life LED lamps
- Bright, even letter illumination
- Energy-saving operation
- Easy to install
- 120/277VAC, 60 Hz operation
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL Listed

Ordering Information

LES C S R C N A -M

Series
LES - Surface mount

Mounting
C - Ceiling mount
W - Wall mount
E - End mount

Faces
S - Single
D - Double*
* *Not for use with wall mounted models*

Letter Color
R - Red
G - Green

Directional Arrows
X - No arrows **EXIT**
R - Right arrow* **EXIT>**
L - Left arrow* **<EXIT**
D - Double arrows **<EXIT>**
C - L/R arrows** **<EXIT/EXIT>**
* *Not for use with double face models. Use "C" L/R arrow designator*
** *Double face models only. Provides reversible right or left arrow indicator*

Operation
A - AC only

Trim/Housing Finish
N - Satin aluminum
W - White
C - Chrome
B - Black
S - Satin Brass
Z - Dark bronze

Options
See "Options" section

Standard Plaque Backgrounds
Single face models = clear
Double face models = mirror
See "Options" for alternate backgrounds.

Satin Aluminum

White

Chrome

Black

Satin Brass

Dark Bronze

End mount model

Power Consumption

	Single Face	Double Face
Red AC Only Models	2.5W	4.0W
Green AC Only Models	2.6W	4.5W

* *Wattage figures include LED lamps, transformers and electronics power requirements.*

OPTIONS (ADD SUFFIX TO MODEL)

-W White plaque background
-M Mirror plaque background [1]
-8L 8 inch letter plaque (red letters only) [2][3]

(1) For use with single face models only. Standard on double face models.

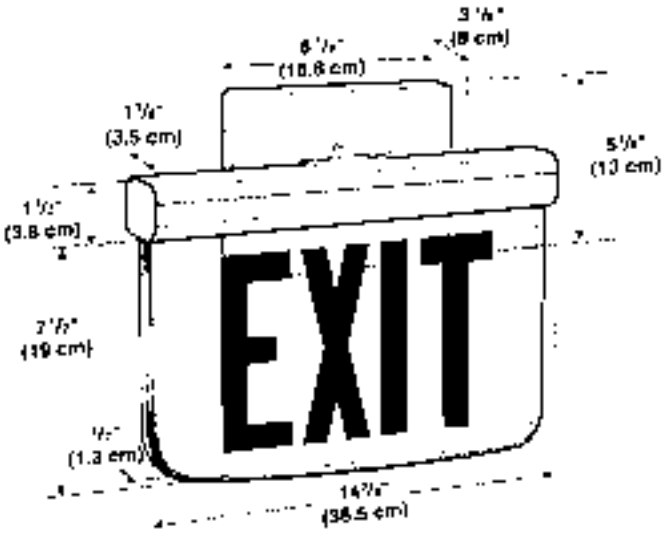
(2) LES exit models with 8" plaques registered under NYC-BEC Calendar Number 42135 for use in New York City.

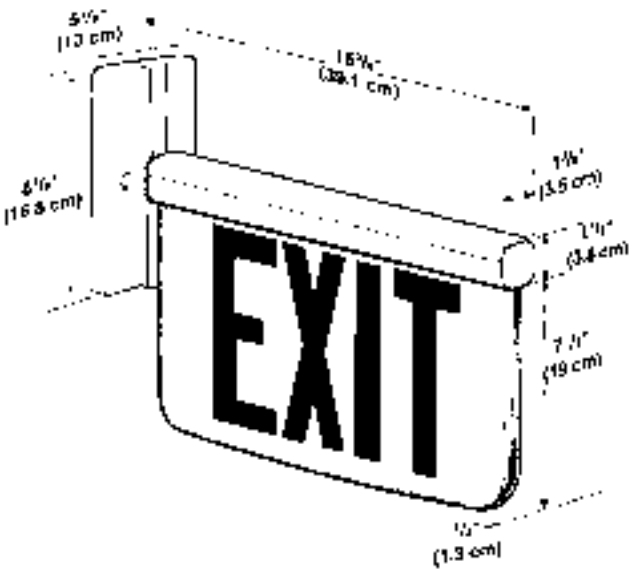
(3) Single face LES exit signs specified with the -8L option are supplied without backgrounds. Double face models specified with the -8L option are supplied with mirror backgrounds.

Ceiling mount model

DIMENSIONS

Ceiling Mount
tion





NYE

New York City Recessed Edge-Lit Exit

Features

AC Models

- Designed to meet New York City specif cations
- Recessed ceiling or wall mount models
- Extruded aluminum construction
- Available in two color f nishes
- Acrylic plaque
- Eight-inch red letter models
- Clear, white or mirror background
- Applique chevron arrows
- Long life LED lamps
- Bright, even letter illumination
- Energy-saving operation
- Easy to install
- 120/277VAC, 60 Hz operation

Emergency Models

- Environmentally coated, fully automatic charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On indicator
- Temperature range: 0°C to 45°C (32°F to 113°F)
- Listed to UL 924

Ordering Information

NYE C D R N E -W

Series
NYE - Recessed mount

Mounting
C - Ceiling
W - Wall

Faces
S - Single
D - Double*
* *Not for use with wall mounted models*

Letter Color
R - Red

Operation
A - AC only
E - Emergency

Trim/Housing Finish
N - Satin aluminum
W - White

Options
See "Options" section

Options (Add suffix to model)

-LRBB	Recessed mount exit sign less rough-in backbox (1)
-W	White exit face background
-M	Mirrored exit face background
(1)	*Allows ordering of rough-in backbox separately. See "Accessories".*

Accessories (Order Separately)

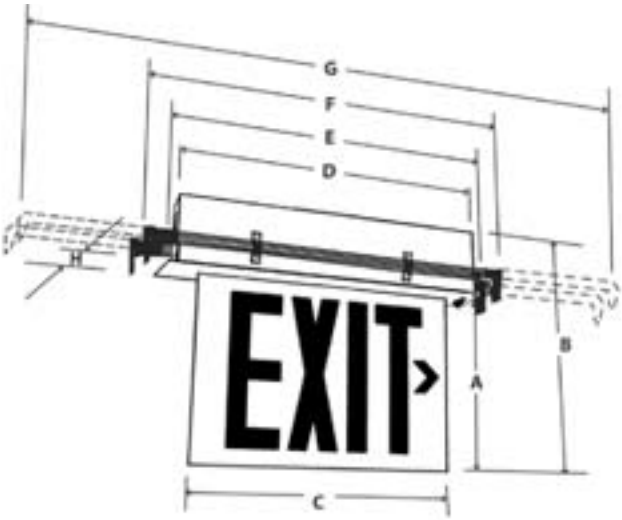
NYC-RBB Rough-in backbox

Power Consumption

	120VAC	277VAC
AC Only Models	3.2W	3.2W
Emergency Models	4.0W	3.9W

* *Wattage figures include LED lamps, transformers and electronics*

Dimensions



A	B	C	D	E	F	G	H
9 3/4"	13 1/2"	14"	16 5/8"	17 3/8"	19 3/16"	30 5/8"	2 3/4"
24.8 cm	*34.2 cm*	*35.6 cm*	*42.2 cm*	*44.1 cm*	*48.8 cm*	*77.8 cm*	*7.0 cm*

New York City Surface Edge-Lit Exit

NYES

Features

AC Models

- Designed to meet New York City specif cations
- Surface mount design
- Wall, ceiling or end mounted models
- Extruded aluminum construction
- Available in two color f nishes
- Acrylic plaque
- Eight-inch red letter models
- Clear, white or mirror background
- Applique chevron arrows
- Long life LED lamps
- Bright, even letter illumination
- Energy-saving operation
- Easy to install
- 120/277VAC, 60 Hz operation

Emergency Models

- Environmentally coated, fully automatic charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On indicator
- Temperature range: 0°C to 45°C (32°F to 113°F)
- Listed to UL 924

Ordering Information

NYES C D R N E -W

Series
NYES - Surface mount

Mounting
C - Ceiling
W - Wall
E - End

Faces
S - Single
D - Double*
* *Not for use with wall mounted models*

Letter Color
R - Red

Trim/Housing Finish
N - Satin aluminum
W - White

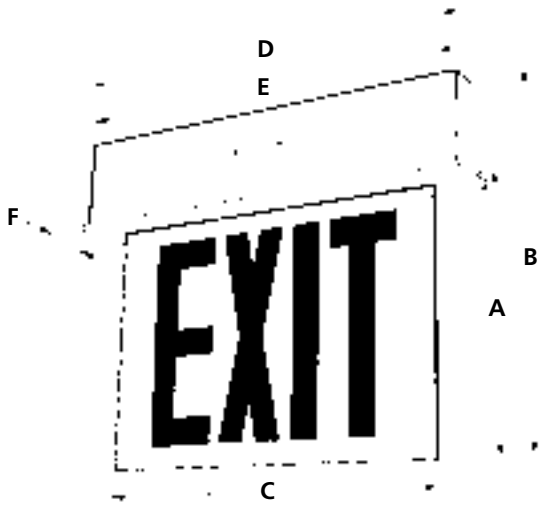
Operation
A - AC only
E - Emergency

Options
See "Options" section

Options (Add suffix to model)

-W	White exit face background
-M	Mirrored exit face background

Dimensions



A	B	C	D	E	F
10"	13 1/2"	14"	17"	16 5/8"	2 1/4"
25.4 cm	*34.3 cm*	*35.6 cm*	*43.2 cm*	*42.2 cm*	*5.7 cm*

Power Consumption

	120VAC	277VAC
AC Only Models	3.2W	3.2W
Emergency Models	4.0W	3.9W

* *Wattage figures include LED lamps, transformers and electronics*

DEX

Special Wording Incandescent Signs

Features

AC Models

- Thermoplastic housing
- Steel faceplate
- Polyester f berglass special wording open face diffuser
- Acrylic downlight lens
- Canopy for ceiling or end mount
- Universal directional chevron arrow knockouts
- Tamper resistant screws supplied
- 120V standard
- AC illumination provided by two 145V, 15T6 incandescent lamps
- Suitable for damp locations (AC models only)

Emergency Models

- Maintenance-free battery
- High impact housing
- Dual voltage – 120V/277VAC
- Two 6V, 3.7W DC lamps for emergency operation
- Temperature range: 20°C to 30°C (68°F to 86°F)

Ordering Information

DEX 1 EMFA R W -SW3

Series

Faces
1 - Single
2 - Double

Operation
Blank – AC-Only 120VAC
EMFA – Emergency 120/277VAC

Letter Color
R – Red
G – Green
W – White
B – Blue

Background Color
R – Red
G – Green
W – White

Special Wording Option No.
See table at right

Special Wording Table

Option

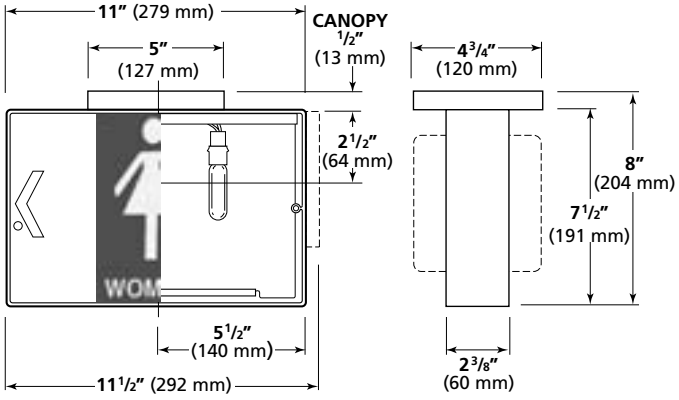
No.*	Description
-SW1	TO EXIT
-SW2	NOT AN EXIT
-SW3	IN USE
-SW4	XRAY IN USE
-SW5	DARKROOM IN USE
-SW6	CAUTION
-SW7	DO NOT ENTER
-SW8	TEST IN PROGRESS
-SW9	ON AIR
-SW10	AREA OF REFUGE
-SW11	AREA OF REFUGE (w/wheelchair symbol)
-SW12	AREA OF RESCUE ASSISTANCE
-SW13	AREA OF RESCUE ASSISTANCE (w/wheelchair symbol)
-SW14	ELEVATOR
-SW15	RESTROOMS
-SW16	MEN
-SW17	MEN (w/symbol)
-SW18	WOMEN
-SW19	WOMEN (w/symbol)

Other Special Wording models available. Consult Factory.
* *To order special wording diffusers, add Option Number suffix to model number. Ex: DEX1EMFARW-SW10*

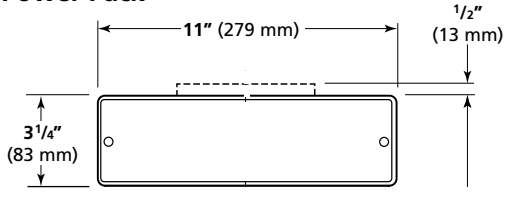
Accessories (Order Separately)

WG-MLT	Wire guard (wall mount - all models)
WGLXC	Wire guard (ceiling mount - AC models only)
WGTCE	Wire guard (end mount - all models)
PMEXW	12" pendant stem and canopy kit – white
PMEXB	12" pendant stem and canopy kit – black
VRS3	Vandal resistant shield

Dimensions



Power Pack



(EMFA models)

DUAL LITE

CLEARVIEW™

Emergency Lighting Products

SlimLite Series	*Fixed Lens Emergency Lights*	**68**
CV Series	*Emergency Lights*	**69**
CVEC Series	*High Capacity Emergency Lights*	**70**
CV3 Series	*LED Exit Signs*	**71**
CVT Series	*Tandem Units*	**72**
CVD Series	*Diecast LED Exit Signs*	**73**
CVER Series	*Recessed Mounting Edge-Lit LED Exit Signs*	**74**

SlimLite

Contemporary Emergency Light 12W

Features

- Easy to install
- Sleek, low prof le design
- Flame rated, UV stable thermoplastic housing
- Bright white f nish
- 6 volt, T-5 incandescent lamps
- Acrylic fresnel lens provides a focused beam pattern
- Adjustable lamp socket
- Maintenance-free battery
- Universal 120/277VAC operation
- Fully-automatic, temperature-compensated, solid-state charger
- Reverse polarity and short circuit protection
- AC lockout
- Low-voltage battery disconnect
- Test switch and AC-On light
- Temperature range: 20°C to 30°C (68°F to 86°F)
- Meets ADA specif cations
- UL 924 Listed

Also available in black finish

Ordering Information

Standard Model	Voltmeter Model
SL1	**SL1-V**

Options (Add suffix to model)

-B	Black housing
-6H	6 watt halogen lamps

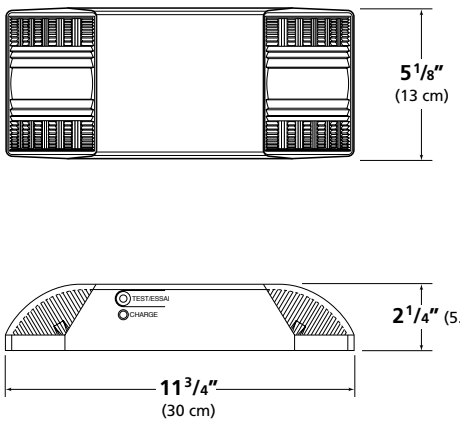
Accessories (Order Separately)

VRS	Vandal resistant shield
WGLZ	Wire guard

Product Selector

Base Catalog Number	Electrical									
	Output Volts	Output Watts 1.5 Hours	2 Hours	3 Hours	4 Hours	AC Input Volts	Amps	Watts	Standard Lamp	Remote Capability
SL1, SL1-V	6	12.0	--	--	--	120	.050	6.0	5.4W	No
						277	.020	6.0		

Dimensions



Designer Emergency Light 11W to 30W

Features

- Fast, easy installation
- Snap-together design
- Compact, low-prof le style
- Injection molded high impact, UV stabilized thermoplastic
- White f nish
- Standard and damp location models
- Remote capacity models
- High output incandescent lamps
- Maintenance-free battery
- Dual voltage – 120/277VAC
- Fully automatic charger
- Automatic low-voltage battery disconnect and transformer isolation protection
- Universal mounting plate
- Test switch and LED AC-On light
- Temperature range: 20°C to 30°C (68°F to 86°F)
  Damp location models: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

Standard Models:	**CV2** (6V, 12W)	**CV3** (6V, 18W)	**CV5** (6V, 30W)
Damp Location Models:	**CV2D** (6V, 12W)	**CV3D** (6V, 18W)	**CV5D** (6V, 30W)

Options (Add suffix to model)

-V Voltmeter

Accessories (Order Separately)

SRHSW0605 Matching remote head - single (white)
SRHDW0605 Matching remote head - twin (white)
OMSSB0605 Single outdoor lighting head (black)
OMSDB0605 Twin outdoor lighting head (black)
PMLZTW Pendant mounting kit (white) (a)
PMLZTB Pendant mounting kit (black) (a)
WGEL Wire guard

(a) Not available for use with CV5 and CV5D models.

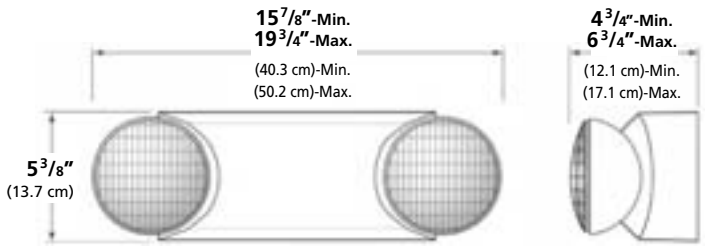

Matching remote head


Outdoor lighting head

Product Selector

Base Catalog Number	Electrical									
	Output Volts	Output Watts				Input Amps		Input Watts	Standard Lamp	Remote Capability
		1.5 Hrs.	2 Hrs.	3 Hrs.	4 Hrs.	120V	277V	120/277V		
CV2	6	12	--	--	--	.040	.020	4.0	5.4W	No
CV3	6	18	13	--	--	.040	.020	4.0	5.4W	Yes
CV5	6	30	22	15	12	.130	.060	14.0	5.4W	Yes
CV2D	6	11	--	--	--	.040	.020	4.0	5.4W	No
CV3D	6	17	12	--	--	.040	.020	4.0	5.4W	Yes
CV5D	6	27	20	13	--	.130	.060	14.0	5.4W	Yes

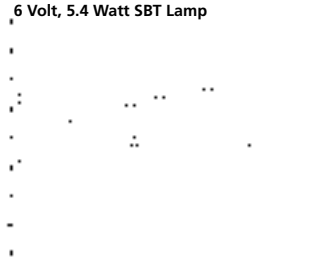
Dimensions



Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 5.4 Watt SBT Lamp



CVEC

Commercial Emergency Light 15W to 100W

Features

- Injection molded high impact, UV stabilized thermoplastic
- Standard white housing
- T-5 incandescent lamps
- Lampheads may be top or side mounted
- Most models capable of powering remote lampheads
- Maintenance-free battery
- Dual voltage – 120/277VAC
- Automatic low voltage disconnect
- Thermally compensated charger
- Regulated charge voltage
- Automatic low voltage disconnect
- Reverse polarity protection
- Filtered charger output
- Universal wall mounting plate
- Short circuit protection
- AC lockout
- Test switch and AC-On light
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

Standard Models: **CVEC15** **CVEC30** **CVEC 50** **CVEC50-12V** **CVEC100-12V**

Options (Add suffix to model)

-V Voltmeter

Accessories (Order Separately)

40G Wire guard [a]
41G Wire guard [b]
SRHSW0607 Matching 6-volt remote head - single
SRHDW0607 Matching 6-volt remote head - twin
SRHSW1207 Matching 12-volt remote head - single
SRHDW1207 Matching 12-volt remote head - twin

(a) For top mounted heads on CVEC 15 and 30 watt models
(b) For top mounted heads on CVEC 50 and 100 watt models and side mounted heads on CVEC 15 and 30 watt models.

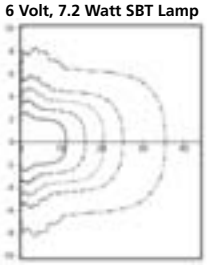
Product Selector

Standard Models	Electrical										
	Output Volts	Output Watts				Input Amps		Input Watts		Standard Lamp	Remote Capability
		1.5 Hrs.	2 Hrs.	3 Hrs.	4 Hrs.	120V	277V	120	277V		
CVEC15	6	15	--	--	--	.07	.03	8.4	8.8	7.2W	No
CVEC30	6	30	22	15	12	.07	.03	8.4	8.8	7.2W	Yes
CVEC50	6	50	38	25	20	.17	.08	20	20	7.2W	Yes
CVEC50-12V	12	50	38	25	20	.11	.05	13	14	9.0W	Yes
CVEC100-12V	12	100	76	54	44	.32	.14	39	28	9.0W	Yes

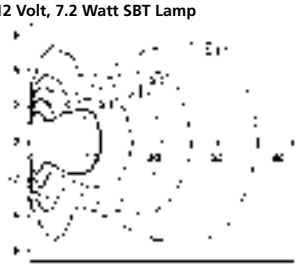
Photometrics

Horizontal Isofootcandle Distribution

6 Volt, 7.2 Watt SBT Lamp

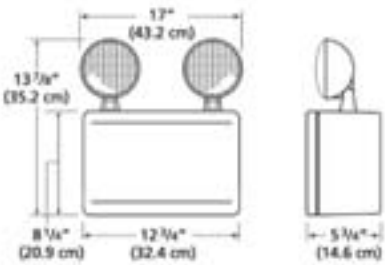


12 Volt, 7.2 Watt SBT Lamp

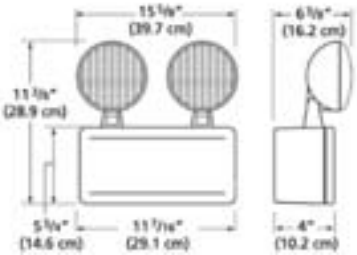


Dimensions

50 and 100W Models



15 and 30W Models



DUAL LITE

CLEARVIEW™

Thermoplastic LED Exit Sign

CV3

Features

All Models

- UV-stable thermoplastic housing
- Compact, low-prof le design
- Easy to install
- Long-life LED lamps
- Bright, even illumination
- Red and green letters
- Universal single/double face
- White f nish
- Push-in wiring connectors
- Universal end/ceiling/wall mount
- Universal snap-in, chevron arrows
- Damp location listed
- 120/277VAC, 60 Hz operation

Emergency Models

- Solid-state charger with low voltage disconnect
- Maintenance-free NiCad battery
- 2 hour emergency operation
- Test switch and AC-On light
- Temperature range: 0°C to 40°C (32°F to 104°F)
- UL 924 Listed

Ordering Information

CV 3 R E W -2C

Series

Faces
3 - Universal Single/Double Face

Letter Color
R - Red
G - Green

Operation
A - AC Only
E - Emergency

Housing Finish
W - White

Options

Options (Add suffix to model)

-2C 2-circuit operation (1)(3)

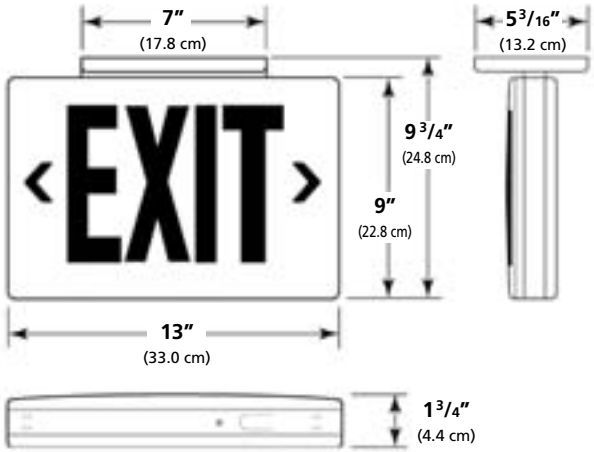
-DC Remote DC operation (1)(2)(3)

(1) For use with AC models only.
(2) For emergency illumination of sign from remote 6-24 VDC power sources.
(3) -2C and -DC options may not be specified together.

Accessories (Order Separately)

PMLXW	Pendant mounting kit (white)
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)
VRS3	Vandal resistant shield

Dimensions



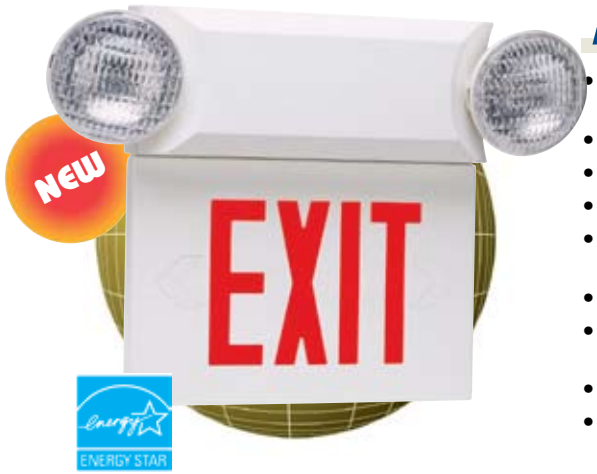
Power Consumption

	120VAC	277VAC
Red AC Only Models	2.7 watts	2.7 watts
Green AC Only Models	2.3 watts	2.3 watts
Red Emergency Models	3.8 watts	3.8 watts
Green Emergency Models	3.5 watts	3.5 watts

Power factor, average: .8 (lagging)

CVT

Thermoplastic Tandem Unit



Features

- Factory assembled emergency unit/LED exit sign
- UV-stable thermoplastic housing
- High-output lighting heads
- White f nish
- Damp location listed models available
- 120/277VAC, 60 Hz operation
- Solid-state charger with low-voltage disconnect
- Maintenance-free battery
- Test switch and LED AC-On light
- Long-life LED lamps
- Bright, even illumination
- Universal single/double face
- Red and green letter models
- Snap-in, chevron arrows
- Ceiling or wall mounting
- Temperature range: 20°C to 30°C (68°F to 86°F)
  Damp location models: 10°C to 40°C (50°F to 104°F)
- UL 924 Listed

Ordering Information

CVT 3 R W 5 D

Series

Faces
3 - Universal Single or Double

Letter Color
R - Red
G - Green

Housing Finish
W - White

Remote Heads
Blank - No remote capability
3 - Operates one additional 5.4 watt remote head
5 - Operates up to three additional 5.4 watt remote heads

Application
Blank - Standard model
D - Damp location model*
** Only available on 3-head models*

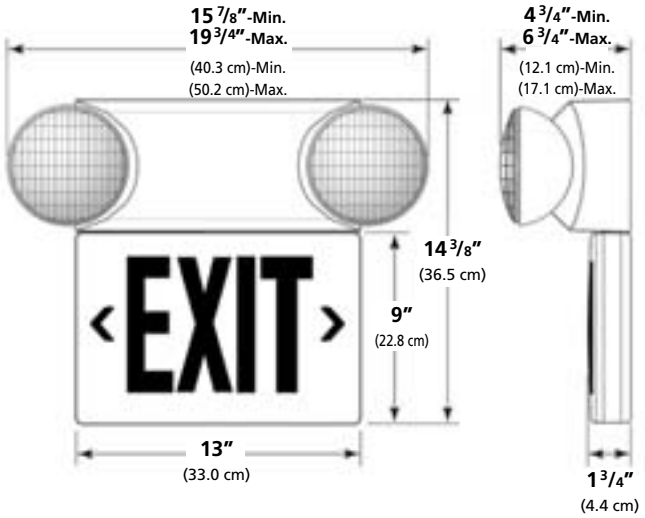
	120VAC	277VAC
Input Amps	.05	.02
Input Watts	5.0	5.0

Accessories (Order Separately)

SRHSW0605	Matching remote head - single (white)
SRHDW0605	Matching remote head - twin (white)
OMSSB0605	Single outdoor lighting head (black)
OMSDB0605	Twin outdoor lighting head (black)
PMLZTW	Pendant mounting kit (white) (a)
WGTW	Wire guard (Wall mount)
WGTCE	Wire guard (Ceiling mount)

(a) Not available for use with 5-head models

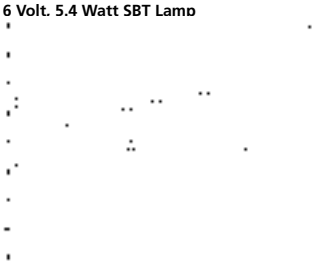
Dimensions



Photometrics

Horizontal Isofootcandle Distribution

6 Volt. 5.4 Watt SBT Lamp



Cast Aluminum LED Exit Sign

CVD

Features

AC Models

- All diecast aluminum construction
- Soft edges and corners
- White and black with brushed face f nishes
- Break-out directional chevrons
- Universal mounting KO pattern
- Back/ceiling/end mounting
- Dual voltage – 120/277VAC
- Bright and even illumination
- Long-life LED lamps

Emergency Models

- Long life NiCad battery
- 90 minute emergency operation
- Test switch and AC-On indicator
- Reverse polarity, short circuit and brownout protection
- Thermally compensated charger
- AC lockout
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed

Ordering Information

CVD 1 R A BN -2C

Series

Faces
1 - Single
2 - Double

Letter Color
R - Red
G - Green

Operation
A - AC Only
E - Emergency

Housing Finish
W - White
BN - Black with brushed face

Options

Options (Add suffix to model)

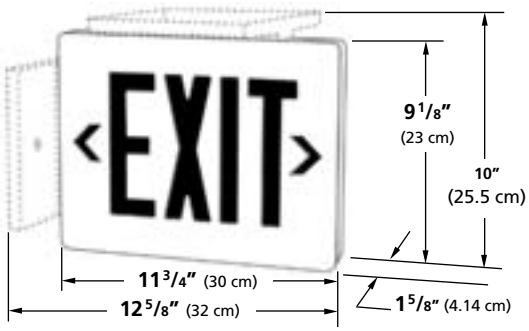
-DC	Remote DC operation (1)
-2C	2-circuit operation (1)

(1) For use with AC models only.

Accessories (Order Separately)

PMCW	12½" Pendant mounting kit (white)
PMCB	12½" Pendant mounting kit (black)
WGLX	Wire guard (Wall mount)
WG-MLT	Wire guard (Wall mount)
WGLXC	Wire guard (Ceiling mount)
WGLXE	Wire guard (End mount)

Dimensions



Power Consumption

	120VAC	277VAC
Red AC Only Models:	2.6 watts	2.6 watts
Green AC Only Models:	2.1 watts	2.1 watts
Red Emergency Models:	3.8 watts	3.8 watts
Green Emergency Models:	3.5 watts	3.5 watts

**Wattage figures include LED lamps, transformer and electronics power requirements. LED lamp assemblies (red or green) consume less than 1 watt. Power factor, average: .8 (lagging)*

CVER

Recessed Mount Edge-Lit LED Exit Sign

Features

AC Models

- Ceiling mounted models for recessed installation
- Metal construction
- Available in two color f nishes
- Clear acrylic plaque
- Red and green letter models
- Applique chevron arrows
- Long life LED lamps
- Bright, even letter illumination
- Energy-saving operation
- Easy to install
- 120/277VAC, 60 Hz operation

Emergency Models

- Fully automatic charger
- Maintenance-free NiCad battery
- Low voltage disconnect
- Test switch and AC-On light
- Temperature range: 20°C to 30°C (68°F to 86°F)
- ETL Listed

Availability To Be Announced

Ordering Information

CVER 1 R N E

Series
CVER - Recessed mount

Faces
1 - Single
2 - Double*
* *Provided standard with mirror background.*

Letter Color
R - Red
G - Green

Operation
A - AC only
E - Emergency

Trim/Housing Finish
N - Satin aluminum
W - White

Fully-adjustable universal mounting bar system allows installations in standard construction and suspended ceiling applications.

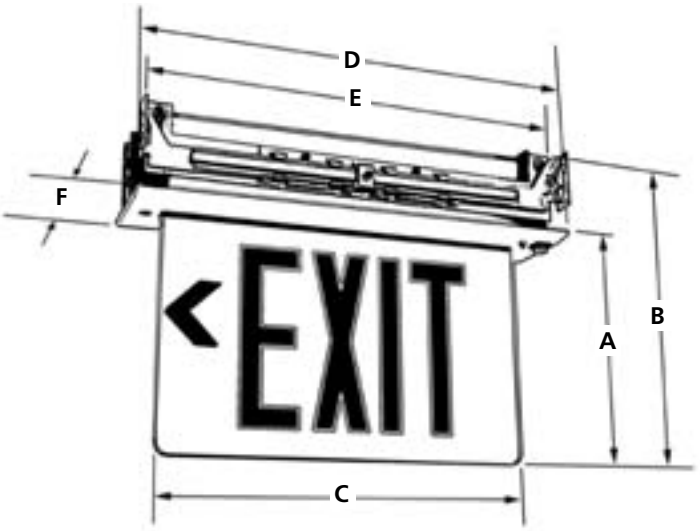
Field installable chevrons provide for all possible directional arrow requirements.

Power Consumption

	120VAC	277VAC
Red AC Only Models	2.2W	3.7W
Green AC Only Models	2.5W	4.4W
Red Emergency Models	3.3W	4.7W
Green Emergency Models	3.6W	5.2W

* *Wattage figures include LED lamps, transformers and electronics power requirements.*

Dimensions



A	B	C	D	E	F
7 7/8"	11"	12 5/8"	15"	14 3/8"	4 1/8"
20.0 cm	27.9 cm	32.1 cm	38.1 cm	36.5 cm	10.5 cm

DUAL LITE

Remote Heads, Fixtures and Accessories

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NFPA 101 Life Safety Code 84, 85
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Remote Heads and Fixtures

Standard Remote Lighting Heads

SRH Series

Injection molded thermoplastic lamphead/round mounting plate assemblies. Mounts to 3½" octagonal or single gang boxes. For use with most commercial or industrial emergency f xtures. Standard f nish is available in white or black. Single and twin lamp f xtures with a choice of incandescent or halogen PAR 36 lamps.

Lamp photometrics and IES files available on the web at www.dual-lite.com

	White		Black				
	Single Head With Mounting Plate	Twin Head With Mounting Plate	Single Head With Mounting Plate	Twin Head With Mounting Plate	Lamp Voltage	Lamp Wattage	Lamp Part No.
Incandescent PAR 36 Sealed Beam	SRHSW0605	SRHDW0605	SRHSB0605	SRHDB0605	6	5.4	0110258*
	SRHSW0607	SRHDW0607	SRHSB0607	SRHDB0607	6	7.2	0110213*
	SRHSW0618	SRHDW0618	SRHSB0618	SRHDB0618	6	18	0110127
	SRHSW0625	SRHDW0625	SRHSB0625	SRHDB0625	6	25	0110041
	SRHSW1207	SRHDW1207	SRHSB1207	SRHDB1207	12	7.2	0110289*
	SRHSW1218	SRHDW1218	SRHSB1218	SRHDB1218	12	18	0110128
	SRHSW1225	SRHDW1225	SRHSB1225	SRHDB1225	12	25	0110132
	SRHSW1235	SRHDW1235	SRHSB1235	SRHDB1235	12	35	0110233
	SRHSW2409	SRHDW2409	SRHSB2409	SRHDB2409	24	9	0110230*
Halogen PAR 36 Sealed Beam	SRHSW0608	SRHDW0608	SRHSB0608	SRHDB0608	6	8	0110162
	SRHSW0612	SRHDW0612	SRHSB0612	SRHDB0612	6	12	0110159
	SRHSW0620	SRHDW0620	SRHSB0620	SRHDB0620	6	20	0110157
	SRHSW1208	SRHDW1208	SRHSB1208	SRHDB1208	12	8	0110189
	SRHSW1212	SRHDW1212	SRHSB1212	SRHDB1212	12	12	0110190

** Sealed Beam type lamp*

Outdoor Remote Lighting Heads

OMS Series

Outdoor aluminum spot with sealed lamp and swivel assembly. Furnished with round gasketed aluminum mounting plate. Mounts to 3½" octagonal boxes.

Lamp photometrics and IES files available on the web at www.dual-lite.com

	White		Black				
	Single Head With Mounting Plate	Twin Head With Mounting Plate	Single Head With Mounting Plate	Twin Head With Mounting Plate	Lamp Voltage	Lamp Wattage	Lamp Part No.
Incandescent PAR 36 Sealed Beam	OMSSW0605	OMSDW0605	OMSSB0605	OMSDB0605	6	5.4	0110258*
	OMSSW0607	OMSDW0607	OMSSB0607	OMSDB0607	6	7.2	0110213*
	OMSSW0618	OMSDW0618	OMSSB0618	OMSDB0618	6	18	0110127
	OMSSW0625	OMSDW0625	OMSSB0625	OMSDB0625	6	25	0110041
	OMSSW1207	OMSDW1207	OMSSB1207	OMSDB1207	12	7.2	0110289*
	OMSSW1218	OMSDW1218	OMSSB1218	OMSDB1218	12	18	0110128
	OMSSW1225	OMSDW1225	OMSSB1225	OMSDB1225	12	25	0110132
	OMSSW1235	OMSDW1235	OMSSB1235	OMSDB1235	12	35	0110233
Halogen PAR 36 Sealed Beam	OMSSW0608	OMSDW0608	OMSSB0608	OMSDB0608	6	8	0110162
	OMSSW0612	OMSDW0612	OMSSB0612	OMSDB0612	6	12	0110159
	OMSSW0620	OMSDW0620	OMSSB0620	OMSDB0620	6	20	0110157
	OMSSW1208	OMSDW1208	OMSSB1208	OMSDB1208	12	8	0110189
	OMSSW1212	OMSDW1212	OMSSB1212	OMSDB1212	12	12	0110190

** Sealed Beam type lamp*

Remote Heads and Fixtures

All Metal Remote Lighting Heads

AHD

Stamped aluminum housing with metal swivel. Standard f nish available in white or black. Choice of incandescent or halogen PAR 36 lamps.

Lamp photometrics and IES files available on the web at www.dual-lite.com

	White		Black				
	Single Head With Mounting Plate	Twin Head With Mounting Plate	Single Head With Mounting Plate	Twin Head With Mounting Plate	Lamp Voltage	Lamp Wattage	Lamp Part No.
Incandescent PAR 36 Sealed Beam	AHDSW0605	AHDDW0605	AHDSB0605	AHDDB0605	6	5.4	0110258*
	AHDSW0607	AHDDW0607	AHDSB0607	AHDDB0607	6	7.2	0110213*
	AHDSW0618	AHDDW0618	AHDSB0618	AHDDB0618	6	18	0110127
	AHDSW0625	AHDDW0625	AHDSB0625	AHDDB0625	6	25	0110041
	AHDSW1207	AHDDW1207	AHDSB1207	AHDDB1207	12	7.2	0110289*
	AHDSW1218	AHDDW1218	AHDSB1218	AHDDB1218	12	18	0110128
	AHDSW1225	AHDDW1225	AHDSB1225	AHDDB1225	12	25	0110132
	AHDSW1235	AHDDW1235	AHDSB1235	AHDDB1235	12	35	0110233
	AHDSW2407	AHDDW2407	AHDSB2407	AHDDB2407	24	7.2	0110212*
	AHDSW2413	AHDDW2413	AHDSB2413	AHDDB2413	24	13	0110009*
	AHDSW2418	AHDDW2418	AHDSB2418	AHDDB2418	24	18	0110010*
	AHDSW2428	AHDDW2428	AHDSB2428	AHDDB2428	24	28	0110011*
	AHDSWLV30	AHDDWLV30	AHDSBLV30	AHDDBLV30	120	30	0110021*
Halogen PAR 36 Sealed Beam	AHDSW0608	AHDDW0608	AHDSB0608	AHDDB0608	6	8	0110162
	AHDSW0612 (1)	AHDDW0612 (1)	AHDSB0612	AHDDB0612	6	12	0110159
	AHDSW0620	AHDDW0620	AHDSB0620	AHDDB0620	6	20	0110157
	AHDSW1208	AHDDW1208	AHDSB1208	AHDDB1208	12	8	0110189
	AHDSW1212 (1)	AHDDW1212 (1)	AHDSB1212	AHDDB1212	12	12	0110190

** Sealed Beam type lamp*
(1) Matches LM City of Chicago models.

Environmental Lighting Head

GNX Series

Moisture resistant thermoplastic head in black f nish with coated lamp terminals and sealed swivel assembly. Furnished with mounting plate. Available with a choice of incandescent or halogen PAR 36 lamps. Matches N4X series units.

Available with shatter containment option. Add "-L" to model number for Sealed Beam Lamps PAR36 only. Example: ***GNXSB0625-L***

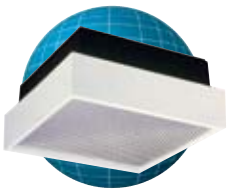
Lamp photometrics and IES files available on the web at www.dual-lite.com

	N4X Remote Head Models		Lamp Volts	Lamp Watts	Lamp Part No.
	Single	Twin			
Incandescent PAR 36 Sealed Beam	GNXSB0605	GNXDB0605	6	5.4	0110258*
	GNXSB0607	GNXDB0607	6	7.2	0110213*
	GNXSB0618	GNXDB0618	6	18	0110127
	GNXSB0625	GNXDB0625	6	25	0110041
	GNXSB1209	GNXDB1209	12	9	0110202*
	GNXSB1218	GNXDB1218	12	18	0110128
	GNXSB1225	GNXDB1225	12	25	0110132
	GNXSB1235	GNXDB1235	12	35	0110233
Halogen PAR 36 Sealed Beam	GNXSB0608	GNXDB0608	6	8	0110162
	GNXSB0612	GNXDB0612	6	12	0110159
	GNXSB0620	GNXDB0620	6	20	0110157
	GNXSB1208	GNXDB1208	12	8	0110189
	GNXSB1212	GNXDB1212	12	12	0110190

** Sealed Beam Type lamp*

Remote Heads and Fixtures

Square



RERS

Injection molded housing. Surface mounted. Semi-recessed or recessed mounting available with kit. Black box, white trim. Single (RERS-1) and twin (RERS-2) lamp models. Dimensions and mounting kits same as **Lite²**.

Catalog No.	Lamp Part No.
RERS-1-0609	0110163
RERS-2-0607	0110213

F-SRM Semi-recessed mounting kit

-FRM Fully-recessed option

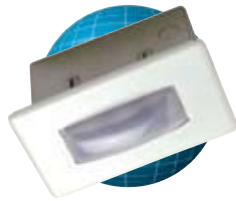
Recessed Eyeball

133

Adjustable to 42° and rotated through 358°. White standard, other f nishes upon request. Dimensions: Trim ring: 4⅞" dia. Back box: 4³⁄₁₆" deep x 4" dia.

Catalog No.	Lamp Part No.
133-0618	0110002
133-1218	0110006

Recessed Rectangle



124R

Recessed mounted f xture with frosted lens. White trim. Dimensions: 8³⁄₁₆" x 4½" x 4".

Catalog No.	Lamp Part No.
124R-0628	0110003
124R-1228	0110007

Gimbal

122

Adjustable (60° max.) recessed mounted f xture. Matte white trim. Dimensions: 8½" dia. x 4½".

Incandescent PAR 36 Lamp Models Catalog No.	Lamp Part no.
122SB-0625	0110041
122SB-1225	0110132
Halogen PAR 36 Lamp Models **Catalog No**	**Lamp Part No.**
122SB-T-0608	0110162
122SB-T-0612	0110159
122SB-T-0620	0110157
122SB-T-1208	0110189
122SB-T-1212	0110190
Bayonet Base Lamp Models **Catalog No.**	**Lamp Part No.**
122-2407	0110212
122-2413	0110009
122-2418	0110010
122-2428	0110011

LZ Series Matching Remote Lighting Heads

LZR

Architectural/commercial design. High performance MR-16 halogen lamps standard. Mounts to standard electrical boxes using universal mounting plate provided. Fixture housing mounts to back plate in a choice of four mounting positions. Housings secured using locking screws provided.

Single Remote Head -White	Single Remote Head - Black	Lamp Volts	Lamp Watts	Lamp Part No.
LZRSW0605	**LZRSB**0605	6	5	0110256
LZRSW0610	**LZRSB**0610	6	10	0110261
LZRSW1205	**LZRSB**1205	12	5	0110263
LZRSW1210	**LZRSB**1210	12	10	0110264

Twin Remote Head -White	Twin Remote Head - Black	Lamp Volts	Lamp Watts	Lamp Part No.
LZRDW0605	**LZRDB**0605	6	5	0110256
LZRDW0610	**LZRDB**0610	6	10	0110261
LZRDW1205	**LZRDB**1205	12	5	0110263
LZRDW1210	**LZRDB**1210	12	10	0110264

Lamp photometrics and IES files available on the web at www.dual-lite.com

IPS Series Matching Remote Lighting Heads

C1D2R/C1D2TR

Suitable for wet and damp location applications. Rated for NEC Class I, Division 2, Groups B, C and D as well as Class I, Zone 2, Group IIB + H_2 environments. Black housing and head assemblies. Single (C1D2R) and twin (C1D2TR) head models.

UL® 3R Listed

Lamps *		Model Numbers	
		Single Head	Twin Head
Volts	Watts	Hub Left Side(1)(2)	Hub Left Side(1)(2)
6	8	**C1D2R-6V8W**	**C1D2TR-6V8W**
6	12	**C1D2R-6V12W**	**C1D2TR-6V12W**
12	8	**C1D2R-12V8W**	**C1D2TR-12V8W**
12	12	**C1D2R-12V12W**	**C1D2TR-12V12W**

** PAR 36 Halogen sealed beam lamps.*

(1) Hub Right Side - add "R" to end of model number. Example C1D2R-6V8WR.

(2) Hubs Both Sides - add "F" to end of model number. Example C1D2R-

Consult factory for additional voltage and wattage configurations for remote fixtures.

Lamp Selector Guide

MR16 Lamps

Dual-Lite Part Number	Lamp Number	Lamp Type	Lamp Volts	Lamp Watts
0110256	MR16 6V5W	Halogen	6	5
0110261	MR16 6V10W	Halogen	6	10
0110263	MR16 12V5W	Halogen	12	5
0110264	MR16 12V10W	Halogen	12	10

PAR 36 Sealed Beam Lamps

Dual-Lite Part Number	Lamp Number	Lamp Type	Lamp Volts	Lamp Watts
0110127	4014	Incandescent	6	18
0110041	4510	Incandescent	6	25
0110128	4414	Incandescent	12	18
0110132	4446	Incandescent	12	25
0110233	4411	Incandescent	12	35
0110162	H7551	Halogen	6	8
0110159	H7553	Halogen	6	12
0110157	H7554	Halogen	6	20
0110189	H7555	Halogen	12	8
0110190	H7557	Halogen	12	12

Double Contact Bayonet Base Lamps

Dual-Lite Part Number	Lamp Number	Lamp Type	Lamp Volts	Lamp Watts
0110212	304	Incandescent	24	7.2
0110009	1692	Incandescent	24	13
0110010	308	Incandescent	24	18
0110011	310	Incandescent	24	28
0110021	30S11/93	Incandescent	125	30

Wedge Base Lamps

Dual-Lite Part Number	Lamp Number	Lamp Type	Lamp Volts	Lamp Watts
0110258	939	Incandescent	6	5.4
0110213	927	Incandescent	6	7.2
0110289	KB-AN	Incandescent	12	7.2
0110202	915	Incandescent	12	9
0110230	-	Incandescent	24	9

Voltage Drop Tables

The National Electrical Code limits voltage drop to a maximum of 5% of nominal. Circuit runs must be of suff cient capacity to maintain operating voltage when remote f xtures and/or exit signs are connected to the emergency lighting

TABLE A - IMPORTANT ELECTRICAL INSTALLATION INFORMATION

Total Watts on Wire Run	12 Volt System Wire Gauge #12	#10	#8	#6	Total Watts on Wire Run	6 Volt System Wire Gauge #12	#10	#8	#6
	Max. Length of Wire Run (Feet)					Max. Length of Wire Run (Feet)			
6	378	600	955	1518	6	94	150	238	379
7	324	515	818	1301	7	81	129	204	325
8	283	450	716	1138	8	70	112	179	284
10	226	360	570	910	10	56	90	143	227
12	178	283	450	715	12	44	70	112	178
14	162	257	409	650	14	40	64	102	162
16	133	212	338	538	16	33	53	84	134
18	119	189	300	477	18	30	47	75	119
20	113	180	286	455	20	28	45	71	114
21	108	171	273	434	21	27	43	68	108
24	89	141	225	357	24	24	38	60	95
25	86	136	216	344	25	21	34	54	86
30	75	120	190	303	30	19	30	48	76
35	65	103	164	260	35	15	25	39	63
40	53	85	135	214	40	13	21	33	53
48	44	70	112	178	48	11	17	28	44
50	43	68	108	172	50	11	17	27	43
75	28	45	72	115	75	7	11	18	29
100	21	34	54	86	100	5	8	14	21
125	17	27	43	69	125	4	7	11	17
150	14	23	36	57	150	3	5	9	14
175	12	19	31	49	175	3	5	8	12
200	10	16	27	42	200	2	4	6	10
225	10	16	25	40	225	2	4	6	10
250	9	14	22	36	250	2	3	5	9

Values not shown in Table A may be calculated using the following formulas:

I. Maximum Length (Feet) = $\frac{\text{Table B Constant Value}}{\text{Maximum Load (Watts)}}$

Example: Find the maximum circuit length for #8 wire on a 24 volt system with an 80 watt load.
Maximum Length (Feet) = 21613 ÷ 80 = **270** feet.

II. Maximum Load (Watts) = $\frac{\text{Table B Constant Value}}{\text{Maximum Length (Feet)}}$

Example: Find the maximum circuit load for 540 feet of #12 wire on a 32 volt system.
Maximum Load (Watts) = 15197 ÷ 540 = **28** watts.

Table B

Constant Values per Voltage System Wire Size (Maximum Voltage Drop 5%)

System	6 Volt				12 Volt					24 Volt				
Wire Size	#12	#10	#8	#6	#12	#10	#8	#6	#4	#12	#10	#8	#6	#4
Constant	534	849	350	2148	2137	3397	5403	8590	13660	8548	13588	21613	34363	54641

System	32 Volt					48 Volt					110 Volt					
Wire Size	#12	#10	#8	#6	#4	#12	#10	#8	#6	#4	#12	#10	#8	#6	#4	#2
Constant	15197	24157	38423	61090	97140	34193	54353	86452	137454	218565	179575	285450	454025	721875	1147850	1824900

Uniform Loads
The maximum circuit length data in Table A (and derived from Table B) assumes that 100% of the load is concentrated at the end of the run. If equally sized loads can be equally spaced along the run, maximum circuit length can be increased by the multipliers shown in Table C.

Table C

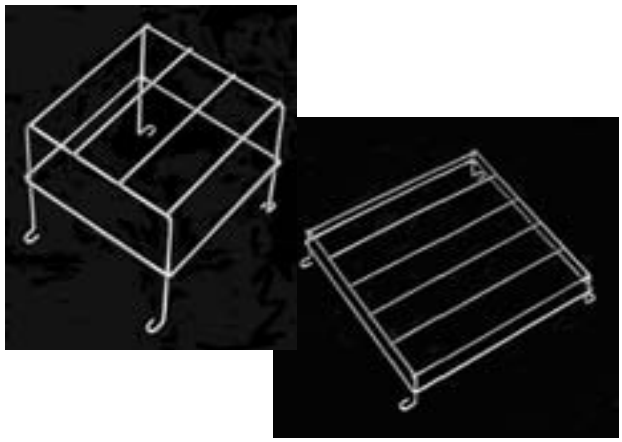
Multipliers for Equally Sized, Equally Spaced Loads (Maximum Voltage Drop 5%)

Number of Fixtures	2	3	4	5	6	7	8	9	10	n
Multiply Distance By	1.333	1.500	1.600	1.670	1.714	1.750	1.777	1.800	1.818	2n/(n+1)

Unit Accessories

Wire Guards

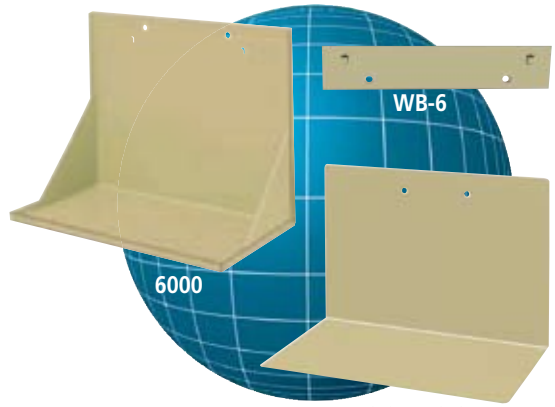
Offered for most Dual-Lite emergency lights and exits. Constructed of heavy gauge steel, all wire guards are standard with chrome plating. Order as separate line item.



Wire Guards		
Cat. No.	For Use With	Dimensions (Inside)
WGLZ	LZ Series (except High-Capacity models)	6¼" H x 14" L x 4¼" D
S6WG	Remote heads	8" H x 8" L x 8" D
WGEL	EZ-2, EZ-2R and LZ High-Capacity Series, Remote heads, CV Series	8" H x 20" L x 8" D
40G	LM Series with top mounted heads, AS Series (enclosure 1 models), N4X Series, CVEC Series (15 and 30 watt models) and NYXC tandem units	18½" H x 20" L x 12" D
41G	AS Series (enclosure 2 models), Delite Cylinder Series, SMC exits and CVEC Series (50 and 100 watt models)	21" H x 23" L x 15" D
WGLX	EXT-122-EM-K, Wall mount LX, LED and Sempra Series exits, Wall Mount CV3 Series	10" H x 14" L x 2¼" D
WGLXC	Ceiling mount LX, LED, Sempra and CV3 Series exits	10¼" H x 13¾" L x 3½" D
WGLXE	End mount LX, LED and Sempra, CV3 and CVD Series exits	10½" H x 14½" L x 3½" D
WGTW	Wall mount LT, Freedom LED, CVT NYDC and NYX Series exits	16" H x 20" L x 7⅞" D
WGTCE	Ceiling or end mount LT, CVD, CVT and Freedom LED Series exits. Ceiling mount NYDC and NYX Series exits	20" H x 16⅞" L x 8" D
WG-MLT	Lite² Series, Wall mount LX, DK, Sempra DEX, CV3 and CVD Series exits	11⅝" H x 13⅝" L x 7" D

Mounting Brackets and Shelves

For mounting of AS Series industrial emergency lighting units.



Mounting Brackets and Shelves			
Cat. No.	For Use With	Type	Dimensions
WB-6	All enclosure 1 & 2 models	Bracket	--
6000	Enclosure 1 models only	Shelf	11" H x 14" L x 8⅛" D
L-6	Enclosure 1 models only	Shelf	11" H x 14" L x 8⅛" D
L-12-S	Enclosure 2 models only	Shelf	11" H x 16" L x 8⅛" D

Vandal Resistant Shields

For protection against vandalism or accidental damage. Prevents tampering with mountings and lamps.

Vandal Shields		
Cat. No.	For Use With	Dimensions (Outside)
VRS VRS-4X*	EZ-2, LZ, LZ High Capacity, EXT-122-EM-K, EZ-2R Series and CV Series	20" L x 10½" H x 7¾" D
VRS2	Lite² Series, LT Series exits	21¼" L x 19¾" H x 6¼" D
VRS3	LX, DK, Sempra and CV3 Series exits	15½" L x 11½" H x 4½" D

* *VRS-4X supplied with a neoprene wall gasket*

National Electric Code

NEC (NFPA 70) - 2005

I. General

700.1 Scope. The provisions of this article apply to the electrical safety of the installation, operation, and maintenance of emergency systems consisting of circuits and equipment intended to supply, distribute, and control electricity for illumination, power, or both, to required facilities when the normal electrical supply or system is interrupted. Emergency systems are those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction. These systems are intended to automatically supply illumination, power, or both, to designated areas and equipment in the event of failure of the normal supply or in the event of accident to elements of a system intended to supply, distribute, and control power and illumination essential for safety to human life.

FPN No. 1: For further information regarding wiring and installation of emergency systems in health care facilities, see Article 517.

FPN No. 2: For further information regarding performance and maintenance of emergency systems in health care facilities, see NFPA 99-2002, Standard for Health Care Facilities.

FPN No. 3: Emergency systems are generally installed in places of assembly where artif cial illumination is required for safe exiting and for panic control in buildings subject to occupancy by large numbers of persons, such as hotels, theaters, sports arenas, health care facilities, and similar institutions. Emergency systems may also provide power for such functions as ventilation where essential to maintain life, f re detection and alarm systems, elevators, f re pumps, public safety communications systems, industrial processes where current interruption would produce serious life safety or health hazards, and similar functions.

FPN No. 4: For specif cation of locations where emergency lighting is considered essential to life safety, see NFPA 101®-2003, Life Safety Code®.

FPN No. 5: For further information regarding performance of emergency and standby power systems, see NFPA 110®- 2002, Standard for Emergency and Standby Power Systems.

700.2 Application of Other Articles. Except as modif ed by this article, all applicable articles of this Code shall apply.

700.3 Equipment Approval. All equipment shall be approved for use on emergency systems.

700.4 Tests and Maintenance.
(A) Conduct or Witness Test. The authority having jurisdiction shall conduct or witness a test of the complete system upon installation and periodically afterward.
(B) Tested Periodically. Systems shall be tested periodically on a schedule acceptable to the authority having jurisdiction to ensure the systems are maintained in proper operating condition.
(C) Battery Systems Maintenance. Where battery systems or unit equipments are involved, including batteries used for starting, control, or ignition in auxiliary engines, the authority having jurisdiction shall require periodic maintenance.
(D) Written Record. A written record shall be kept of such tests and maintenance.
(E) Testing Under Load. Means for testing all emergency lighting and power systems during maximum anticipated load conditions shall be provided.

FPN: For testing and maintenance procedures of emergency power supply systems (EPSSs), see NFPA 110-2002, Standard for Emergency and Standby Power Systems.

700.5 Capacity.
(A) Capacity and Rating. An emergency system shall have adequate capacity and rating for all loads to be operated simultaneously. The emergency system equipment shall be suitable for the maximum available fault current at its terminals.
(B) Selective Load Pickup, Load Shedding, and Peak Load Shaving. The alternate power source shall be permitted to supply emergency, legally required standby, and optional standby system loads where the source has adequate capacity or where automatic selective load pickup and load shedding is provided as needed to ensure adequate power to
(1) the emergency circuits, (2) the legally required standby circuits, and (3) the optional standby circuits, in that order of priority. The alternate power source shall be permitted to be used for peak load shaving, provided these conditions are met. Peak load-shaving operation shall be permitted for satisfying the test requirement of 700.4(B), provided all other conditions of 700.4 are met. A portable or temporary alternate source shall be available whenever the emergency generator is out of service for major maintenance or repair.

700.6 Transfer Equipment.
(A) General. Transfer equipment, including automatic transfer switches, shall be automatic, identif ed for emergency use, and approved by the authority having jurisdiction. Transfer equipment shall be designed and installed to prevent the inadvertent interconnection of normal and emergency sources of supply in any operation of the transfer equipment. Transfer equipment and electric power production systems installed to permit operation in parallel with the normal source shall meet the requirements of Article 705.
(B) Bypass Isolation Switches. Means shall be permitted to bypass and isolate the transfer equipment. Where bypass isolation switches are used, inadvertent parallel operation shall be avoided.
(C) Automatic Transfer Switches. Automatic transfer switches shall be electrically operated and mechanically held.
(D) Use. Transfer equipment shall supply only emergency loads.

700.7 Signals. Audible and visual signal devices shall be provided, where practicable, for the purpose described in 700.7(A) through 700.7(D).
(A) Derangement. To indicate derangement of the emergency source.
(B) Carrying Load. To indicate that the battery is carrying load.
(C) Not Functioning. To indicate that the battery charger is not functioning.
(D) Ground Fault. To indicate a ground fault in solidly grounded wye emergency systems of more than 150 volts to ground and circuit-protective devices rated 1000 amperes or more. The sensor for the ground-fault signal dewwwvices shall be located at, or ahead of, the main system disconnecting means for the emergency source, and the maximum setting of the signal devices shall be for a ground-fault current of 1200 amperes. Instructions on the course of action to be taken in event of indicated ground fault shall be located at or near the sensor location.

FPN: For signals for generator sets, see NFPA 110-2002,Standard for Emergency and Standby Power Systems.

700.8 Signs.
(A) Emergency Sources. A sign shall be placed at the service entrance equipment, indicating type and location of on-site emergency power sources. Exception: A sign shall not be required for individual unit equipment as specif ed in 700.12(F).
(B) Grounding. Where the grounded circuit conductor connected to the emergency source is connected to a grounding electrode conductor at a location remote from the emergency source, there shall be a sign at the grounding location that shall identify all emergency and normal sources connected at that location.

II. Circuit Wiring

700.9 Wiring, Emergency System.
(A) Identification. All boxes and enclosures (including transfer switches, generators, and power panels) for emergency circuits shall be permanently marked so they will be readily identif ed as a component of an emergency circuit or system.
(B) Wiring. Wiring of two or more emergency circuits supplied from the same source shall be permitted in the same raceway, cable, box, or cabinet. Wiring from an emergency source or emergency source distribution overcurrent protection to emergency loads shall be kept entirely independent of all other wiring and equipment, unless otherwise permitted in (1) through (4):
(1) Wiring from the normal power source located in transfer equipment enclosures
(2) Wiring supplied from two sources in exit or emergency luminaires (lighting f xtures)
(3) Wiring from two sources in a common junction box, attached to exit or emergency luminaires (lighting f xtures)
(4) Wiring within a common junction box attached to unit equipment, containing only the branch circuit supplying the unit equipment and the emergency circuit supplied by the unit equipment
(C) Wiring Design and Location. Emergency wiring circuits shall be designed and located so as to minimize the hazards that might cause failure due to f ooding, f re, icing, vandalism, and other adverse conditions.
(D) Fire Protection. Emergency systems shall meet the additional requirements in 700.9(D)(l) and (D)(2) assembly occupancies for not less than 1000 persons or in buildings above 23 m (75 ft) in height with any of the following occupancy classes: assembly, educational, residential, detention and correctional, business, and mercantile.
(1) Feeder-Circuit Wiring. Feeder-circuit wiring shall meet one of the following conditions:
(1) Be installed in spaces or areas that are fully protected by an approved automatic f re suppression system
(2) Be a listed electrical circuit protective system with a minimum l-hour f re rating
(3) Be protected by a listed thermal barrier system for electrical system components
(4) Be protected by a f re-rated assembly listed to achieve a minimum f re rating of 1 hour
(5) Be embedded in not less than 50 mm (2 in.) of concrete
(6) Be a cable listed to maintain circuit integrity for not less than 1 hour when installed in accordance with the listing requirements
(2) Feeder-Circuit Equipment. Equipment for feeder circuits (including transfer switches, transformers, and panel boards) shall be located either in spaces fully protected by approved automatic f re suppression systems (including sprinklers, carbon dioxide systems) or in spaces with a 1-hour f re resistance rating.

FPN: For the def nition of occupancy classif cation, see Section 6.1 of NFPA 101-2003, Life Safety Code.

III. Sources of Power

700.12 General Requirements. Current supply shall be such that, in the event of failure of the normal supply to, or within, the building or group of buildings concerned, emergency lighting, emergency power, or both shall be available within the time required for the application but not to exceed 10 seconds. The supply system for emergency purposes, in addition to the normal services to the building and meeting the general requirements of this section, shall be one or more of the types of systems described in 700.12(A) through 700.12(E). Unit equipment in accordance with 700.12(F) shall satisfy the applicable requirements of this article. In selecting an emergency source of power, consideration shall be given to the occupancy and the type of service to be rendered, whether of minimum duration, as for evacuation of a theater, or longer duration, as for supplying emergency power and lighting due to an indef nite period of current failure from trouble either inside or outside the building. Equipment shall be designed and located so as to minimize the hazards that might cause complete failure due to f ooding, f res, icing, and vandalism. Equipment for sources of power as described in 700.12(A) through 700.12(E) where located within assembly occupancies for greater than 1000 persons or in buildings above 23 m (75 ft) in height with any of the following occupancy classes — assembly, educational, residential, detention and correctional, business, and mercantile — shall be installed either in spaces fully protected by approved automatic f re suppression systems (sprinklers, carbon dioxide systems, and so forth) or in spaces with a 1-hour f re rating.

FPN No. 1: For the def nition of occupancy classif cation, see Section 6.1 of NFPA 101-2003, Life Safety Code.
FPN No. 2: Assignment of degree of reliability of the recognized emergency supply system depends on the careful evaluation of the variables at each particular installation.

(A) Storage Battery. Storage batteries used as a source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for a minimum period of 1 1/2 hours, without the voltage applied to the load falling below 87-1/2 percent of normal. Batteries, whether of the acid or alkali type, shall be designed and constructed to meet the requirements of emergency service and shall be compatible with the charger for that particular installation. For a sealed battery, the container shall not be required to be transparent. However, for the lead acid battery that requires water additions, transparent or translucent jars shall be furnished. Automotive-type batteries shall not be used. An automatic battery charging means shall be provided.

(B) Generator Set.

(1) Prime Mover-Driven. For a generator set driven by a prime mover acceptable to the authority having jurisdiction and sized in accordance with 700.5, means shall be provided for automatically starting the prime mover on failure of the normal service and for automatic transfer and operation of all required electrical circuits. A time-delay feature permitting a 15-minute setting shall be provided to avoid retransfer in case of short-time reestablishment of the normal source.

(2) Internal Combustion as Prime Movers. Where internal combustion engines are used as the prime mover, an on-site fuel supply shall be provided with an on-premise fuel supply suff cient for not less than 2 hours' full-demand operation of the system. Where power is needed for the operation of the fuel transfer pumps to deliver fuel to a generator set day tank, this pump shall be connected to the emergency power system.

(3) Dual Supplies. Prime movers shall not be solely dependent on a public utility gas system for their fuel supply or municipal water supply for their cooling systems. Means shall be provided for automatically transferring from one fuel supply to another where dual fuel supplies are used.

Exception: Where acceptable to the authority having jurisdiction, the use of other than on-site fuels shall be permitted where there is a low probability of a simultaneous failure of both the off-site fuel delivery system and power from the outside electrical utility company.

(4) Battery Power and Dampers. Where a storage battery is used for control or signal power or as the means of starting the prime mover, it shall be suitable for the purpose and shall be equipped with an automatic charging means independent of the generator set. Where the battery charger is required for the operation of the generator set, it shall be connected to the emergency system. Where power is required for the operation of dampers used to ventilate the generator set, the dampers shall be connected to the emergency system.

(5) Auxiliary Power Supply. Generator sets that require more than 10 seconds to develop power shall be permitted if an auxiliary power supply energizes the emergency system until the generator can pick up the load.

(6) Outdoor Generator Sets. Where an outdoor housed generator set is equipped with a readily accessible disconnecting means located within sight of the building or structure supplied, an additional disconnecting means shall not be required where ungrounded conductors serve or pass through the building or structure.

(C) Uninterruptible Power Supplies. Uninterruptible power supplies used to provide power for emergency systems shall comply with the applicable provisions of 700.12(A) and 700. 12(B)

(D) Separate Service. Where acceptable to the authority having jurisdiction as suitable for use as an emergency source of power, an additional service shall be permitted. This service shall be in accordance with the applicable provisions of Article 230 and the following additional requirements:

(1) Separate service drop or service lateral
(2) Service conductors suff ciently remote electrically and physically from any other service conductors to minimize the possibility of simultaneous interruption of supply

(E) Fuel Cell System. Fuel cell systems used as a source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for not less than 2 hours of full-demand operation. Installation of a fuel cell system shall meet the requirements of Parts II through VIII of Article 692. Where a single fuel cell system serves as the normal supply for the building or group of buildings concerned, it shall not serve as the sole source of power for the emergency standby system.

(F) Unit Equipment. Individual unit equipment for emergency illumination shall consist of the following:

(1) A rechargeable battery
(2) A battery charging means
(3) Provisions for one or more lamps mounted on the equipment, or shall be permitted to have terminals for remote lamps, or both
(4) A relaying device arranged to energize the lamps automatically upon failure of the supply to the unit equipment

The batteries shall be of suitable rating and capacity to supply and maintain at not less than 87-1/2 percent of the nominal battery voltage for the total lamp load associated with the unit for a period of at least l l/2 hours, or the unit equipment shall supply and maintain not less than 60 per cent of the initial emergency illumination for a period of at least 11/2 hours. Storage batteries, whether of the acid or alkali type, shall be designed and constructed to meet the requirements of emergency service. Unit equipment shall be permanently f xed in place (i.e., not portable) and shall have all wiring to each unit installed in accordance with the requirements of any of the wiring methods in Chapter 3. Flexible cord-and-plug connection shall be permitted, provided that the cord does not exceed 900 mm (3 ft) in length. The branch circuit feeding the unit equipment shall be the same branch circuit as that serving the normal lighting in the area and connected ahead of any local switches. The branch circuit that feeds unit equipment shall be clearly identif ed at the distribution panel. Emergency luminaires (illumination f xtures) that obtain power from a unit equipment and are not part of the unit equipment shall be wired to the unit equipment as required by 700.9 and by one of the wiring methods of Chapter 3.

Exception: In a separate and uninterrupted area supplied by a minimum of three normal lighting circuits, a separate branch circuit for unit equipment shall be permitted if it originates from the same panelboard as that of the normal lighting circuits and is provided with a lock-on feature.

IV. Emergency System Circuits for Lighting and Power

700.15 Loads on Emergency Branch Circuits. No appliances and no lamps, other than those specif ed as required for emergency use, shall be supplied by emergency lighting circuits.

700.16 Emergency Illumination. Emergency illumination shall include all required means of egress lighting, illuminated exit signs, and all other lights specif ed as necessary to provide required illumination. Emergency lighting systems shall be designed and installed so that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave in total darkness any space that requires emergency illumination. Where high-intensity discharge lighting such as high and low-pressure sodium, mercury vapor, and metal halide is used as the sole source of normal illumination, the emergency lighting system shall be required to operate until normal illumination has been restored.

Exception: Alternative means that ensure emergency lighting illumination level is maintained shall be permitted.

700.17 Circuits for Emergency Lighting. Branch circuits that supply emergency lighting shall be installed to provide service from a source complying with 700.12 when the normal supply for lighting is interrupted. Such installations shall provide either of the following:

(l) An emergency lighting supply, independent of the general lighting supply, with provisions for automatically transferring the emergency lights upon the event of failure of the general lighting system supply

(2) Two or more separate and complete systems with independent power supply, each system providing suff cient current for emergency lighting purposes unless both systems are used for regular lighting purposes and are both kept lighted, means shall be provided for automatically energizing either system upon failure of the other. Either or both systems shall be permitted to be a part of the general lighting system of the protected occupancy if circuits supplying lights for emergency illumination are installed in accordance with other sections of this article.

700.18 Circuits for Emergency Power. For branch circuits that supply equipment classed as emergency, there shall be an emergency supply source to which the load will be transferred automatically upon the failure of the normal supply.

V. Control—Emergency Lighting Circuits

700.20 Switch Requirements. The switch or switches installed in emergency lighting circuits shall be arranged so that only authorized persons have control of emergency lighting.

Exception No. 1: Where two or more single-throw switches are connected in parallel to control a single circuit, at least one of these switches shall be accessible only to authorized persons.

Exception No. 2: Additional switches that act only to put emergency lights into operation but not disconnect them shall be permissible.

Switches connected in series or 3- and 4-way switches shall not be used.

700.21 Switch Location. All manual switches for controlling emergency circuits shall be in locations convenient to authorized persons responsible for their actuation. In facilities covered by Articles 518 and 520, a switch for controlling emergency lighting systems shall be located in the lobby or at a place conveniently accessible thereto. In no case shall a control switch for emergency lighting to be placed in a motion-picture projection booth or on a stage or platform.

Exception: Where multiple switches are provided, one such switch shall be permitted in such locations where arranged so that it can only energize the circuit, but cannot de-energize the circuit.

700.22 Exterior Lights. Those lights on the exterior of a building that are not required for illumination when there is suff cient daylight shall be permitted to be controlled by an automatic light-actuated device.

VI. Overcurrent Protection

700.25 Accessibility. The branch-circuit overcurrent devices in emergency circuits shall be accessible to authorized persons only.

700.26 Ground-Fault Protection of Equipment. The alternate source for emergency systems shall not be required to have ground-fault protection of equipment with automatic disconnecting means. Ground-fault indication of the emergency source shall be provided per 700.7(D).

700.27 Coordination. Emergency system(s) overcurrent devices shall be selectively coordinated with all supply side overcurrent protective devices.

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Section 4.6 General Requirements

4.6.13 Maintenance and Testing.
4.6.13.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of this *Code,* such device, equipment, system, condition, arrangement, level of protection, or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the authority having jurisdiction.
4.6.13.2* Existing life safety features obvious to the public, if not required by the *Code,* shall be either maintained or removed.
4.6.13.3 Equipment requiring periodic testing or operation to ensure its maintenance shall be tested or operated as specif ed elsewhere in this *Code* or as directed by the authority having jurisdiction.
4.6.13.4 Maintenance and testing shall be performed under the supervision of a responsible person who shall ensure that testing and maintenance are made at specif ed intervals in accordance with applicable NFPA standards or as directed by the authority having jurisdiction.

7.8 Illumination of Means of Egress.

7.8.1 General
7.8.1.1* Illumination of means of egress shall be provided in accordance with Section 7.8 for every building and structure where required in Chapter 11 through Chapter 42. For the purposes of this requirement, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and exit passage ways leading to a public way.
7.8.1.2 Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use, unless otherwise provided in 7.8.1.2.2.
7.8.1.2.1 Artif cial lighting shall be employed at such locations and for such periods of time as are necessary to maintain the illumination to the minimum criteria values herein specif ed.
7.8.1.2.2 Automatic, motion sensor-type lighting switches shall be permitted within the means of egress, provided that the switch controllers are equipped for fail-safe operation, the illumination timers are set for a minimum 15-minute duration, and the motion sensor is activated by any occupant movement in the area served by the lighting units.
7.8.1.3* The f oors and other walking surfaces within an exit and within the portions of the exit access and exit discharge designated in 7.8.1.1 shall be illuminated as follows:
(1) During conditions of stair use, the minimum illumination for new stairs shall be at least 108 lux (10 ft-candle), measured at the walking surfaces.
(2) The minimum illumination for f oors and walking surfaces, other than new stairs, shall be to values of at least 10.8 lux (1 ft-candle), measured at the f oor.
(3) In assembly occupancies, the illumination of the f oors of exit access shall be at least 2.2 lux (0.2 ft-candle) during periods of performances or projections involving directed light.
(4) * The minimum illumination requirements shall not apply where operations or processes require low lighting levels.
7.8.1.4* Required illumination shall be arranged so that the failure of any single lighting unit does not result in an illumination level of less than 2.2 lux (0.2 ft-candle) in any designated area.
7.8.1.5 The equipment or units installed to meet the requirements of Section 7.10 also shall be permitted to serve the function of illumination of means of egress, provided that all requirements of Section 7.8 for such illumination are met.

7.8.2 Sources of Illumination.
7.8.2.1* Illumination of means of egress shall be from a source considered reliable by the authority having jurisdiction.
7.8.2.2 Battery-operated electric lights and other types of portable lamps or lanterns shall not be used for primary illumination of means of egress. Battery-operated electric lights shall be permitted to be used as an emergency source to the extent permitted under Section 7.9.

7.9 Emergency Lighting.

7.9. 1 General.
7.9.1.1* Emergency lighting facilities for means of egress shall be provided in accordance with Section 7.9 for the following:
(1) Buildings or structures where required in Chapter 11 through Chapter 42
(2) Underground and limited access structures as addressed in Section 11.7
(3) High-rise buildings as required by other sections of this *Code*
(4) Doors equipped with delayed-egress locks
(5) Stair shaft and vestibule of smokeproof enclosures, for which the following also apply:
  (a) The stair shaft and vestibule shall be permitted to include a standby generator that is installed for the smokeproof enclosure mechanical ventilation equipment.
  (b) The standby generator shall be permitted to be used for the stair shaft and vestibule emergency lighting power supply.
7.9.1.2 For the purposes of 7.9.1.1, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of 7.9.1.1, exit discharge shall include only designated stairs, ramps, aisles, walkways, and escalators leading to a public way.
7.9.1.3 Where maintenance of illumination depends on changing from one energy source to another, a delay of not more than 10 seconds shall be permitted.

7.9.2 Performance of System.
7.9.2.1* Emergency illumination shall be provided for not less than 1 1/2 hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 10.8 lux (1 ft-candle) and, at any point, not less than 1.1 lux (0.1 ft-candle), measured along the path of egress at f oor level. Illumination levels shall be permitted to decline to not less than an average of 6.5 lux (0.6 ft candle) and, at any point, not less than 6.5 lux (0.06 ft-candle) at the end of the 1 1/2 hours. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.
7.9.2.2* The emergency lighting system shall be arranged to provide the required illumination automatically in the event of any interruption of normal lighting due to any of the following:
(1) Failure of a public utility or other outside electrical power supply
(2) Opening of a circuit breaker or fuse
(3) Manual act(s), including accidental opening of a switch controlling normal lighting facilities
7.9.2.3 Emergency generators providing power to emergency lighting systems shall be installed, tested, and maintained in accordance with NFPA 110, *Standard for Emergency and Standby Power Systems.* Stored electrical energy systems, where required in this *Code,* shall be installed and tested in accordance with NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems.*
7.9.2.4* Battery-operated emergency lights shall use only reliable types of rechargeable batteries provided with suitable facilities for maintaining them in properly charged condition.
Batteries used in such lights or units shall be approved for their intended use and shall comply with NFPA 70, *National Electrical Code®.*
7.9.2.5 The emergency lighting system shall be either continuously in operation or shall be capable of repeated automatic operation without manual intervention.

7.9.3 Periodic Testing of Emergency Lighting Equipment.
7.9.3.1 Required emergency lighting systems shall be tested in accordance with one of the three options offered by 7.9.3.1.1, 7.9.3.1.2, or 7.9.3.1.3.
7.9.3.1.1 Testing of required emergency lighting systems l shall be permitted to be conducted as follows:
(1) Functional testing shall be conducted at 30-day intervals for not less than 30 seconds.
(2) Functional testing shall be conducted annually for not less than 1 1/2 hours if the emergency lighting system is battery powered.
(3) The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.1 (1) and 7.9.3.1.1 (2).
(4) Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.
7.9.3.1.2 Testing of required emergency lighting systems shall be permitted to be conducted as follows:
(1) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
(2) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall automatically perform not less than once every 30 days a test for not less than 30 seconds and a diagnostic routine.
(3) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall indicate failures by a status indicator.
(4) A visual inspection shall be performed at intervals not exceeding 30 days.
(5) Functional testing shall be conducted annually for not less than 1 1/2 hours.
(6) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 1 1/2 hour test.
(7) Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.
7.9.3.1.3 Testing of required emergency lighting systems shall be permitted to be conducted as follows:
(1) Computer-based, self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
(2) The emergency lighting equipment shall automatically perform not less than once every 30 days a test for not less than 30 seconds and a diagnostic routine.
(3) The emergency lighting equipment shall automatically perform annually a test for not less than 11/2 hours.
(4) The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.3(2) and 7.9.3.1.3(3).
(5) The computer-based system shall be capable of providing a report of the history of tests and failures at all times.

7.10 Marking of Means of Egress.

7.10.1 General.
7.10.1.1 Where Required. Means of egress shall be marked in accordance with Section 7.10 where required in Chapter 11 through Chapter 42.
7.10.1.2* Exits. Exits, other than main exterior exit doors that obviously and clearly are identif able as exits, shall be marked by an approved sign that is readily visible from any direction of exit access.
7.10.1.3 Exit Stair Door Tactile Signage. Tactile signage shall be provided to meet the following criteria, unless otherwise provided in 7.10.1.4:
(1) Tactile signage shall be located at each exit door requiring an exit sign.
(2) Tactile signage shall read as follows: EXIT
(3) Tactile signage shall comply with ICC/ANSI A117.1, *American National Standard for Accessible and Usable Buildings and Facilities.*
7.10.1.4 Existing Exemption. The requirements of 7.10.1.3 shall not apply to existing buildings, provided that the occupancy classif cation does not change.
7.10.1.5 Exit Access.
7.10.1.5.1 Access to exits shall be marked by approved, readily visible signs in all cases where the exit or way to reach the exit is not readily apparent to

the occupants.
7.10.1.5.2* New sign placement shall be such that no point in an exit access corridor is in excess of the rated viewing distance or 30 m (100 ft), whichever is less, from the nearest sign.
7.10.1.6* Floor Proximity Exit Signs. Where f oor proximity exit signs are required in Chapter 11 through Chapter 42, such signs shall be located near the f oor level in addition to those signs required for doors or corridors. The signs shall be illuminated in accordance with 7.10.5. Externally illuminated signs shall be sized in accordance with 7.10.6.1. The bottom of the sign shall be not less than 150 mm (6 in.) but not more than 455 mm (18 in.) above the f oor. For exit doors, the sign shall be mounted on the door or adjacent to the door, with the nearest edge of the sign within 100 mm (4 in.) of the door frame.
7.10.1.7* Floor Proximity Egress Path Marking. Where f oor proximity egress path marking is required in Chapter 11 through Chapter 42, a listed and approved f oor proximity egress path marking system that is internally illuminated shall be installed within 455 mm (18 in.) of the f oor. The system shall provide a visible delineation of the path of travel along the designated exit access and shall be essentially continuous, except as interrupted by doorways, hallways, corridors, or other such architectural features. The system shall operate continuously or at any time the building f re alarm system is activated. The activation, duration, and continuity of operation of the system shall be accordance with 7.9.2.
7.10.1.8* Visibility. Every sign required in Section 7.10 shall be located and of such size, distinctive color, and design that it is readily visible and shall provide contrast with decorations, interior f nish, or other signs. No decorations, furnishings, or equipment that impairs visibility of a sign shall be permitted. No brightly illuminated sign (for other than exit purposes), display, or object in or near the line of vision of the required exit sign that could detract attention from the exit sign shall be permitted.
7.10.1.9 Mounting Location. The bottom of new egress markings shall be located at a vertical distance of not more than 2030 mm (80 in.) above the top edge of the egress opening intended for designation by that marking. Egress markings shall be located at a horizontal distance of not more than the required width of the egress opening, as measured from the edge of the egress opening intended for designation by that marking to the nearest edge of the marking.

7.10.2* Directional Signs. A sign complying with 7.10.3 with a directional indicator showing the direction of travel shall be placed in every location where the direction of travel to reach the nearest exit is not apparent.

7.10.3* Sign Legend.
7.10.3.1 Signs required by 7.10.1 and 7.10.2 shall read as follows in plainly legible letters, or other appropriate wording shall be used:

EXIT

7.10.3.2* Where approved by the authority having jurisdiction, pictograms shall be permitted.

7.10.4* Power Source. Where emergency lighting facilities are required by the applicable provisions of Chapter 11 through Chapter 42 for individual occupancies, the signs, other than approved self luminous signs, shall be illuminated by the emergency lighting facilities. The level of illumination of the signs shall be in accordance with 7.10.6.3 or 7.10.7 for the required emergency lighting duration as specif ed in 7.9.2.1. However, the level of illumination shall be permitted to decline to 60 percent at the end of the emergency lighting duration.

7.10.5 Illumination of Signs.
7.10.5.1* General. Every sign required by 7.10.1.2 or 7.10.1.5, other than where operations or processes require low lighting levels, shall be suitably illuminated by a reliable light source. Externally and internally illuminated signs shall be legible in both the normal and emergency lighting mode.
7.10.5.2* Continuous Illumination.
7.10.5.2.1 Every sign required to be illuminated by 7.10.6.3 and 7.10.7 shall be continuously illuminated as required under the provisions of Section 7.8 unless otherwise provided in 7.10.5.2.2.
7.10.5.2.2* Illumination for signs shall be permitted to f ash on and off upon activation of the f re alarm system.

7.10.6 Externally Illuminated Signs.
7.10.6.1* Size of Signs.
7.10.6.1.1 Externally illuminated signs required by 7.10.1 and 7.10.2, other than approved existing signs, unless otherwise provided in 7.10.6.1.2, shall read EXIT, or other appropriate wording shall be used, in plainly legible letters sized as follows:
(1) For new signs, the letters shall be not less than 150 mm (6 in.) high, with the principal strokes of letters not less than 19 mm (3/4 in.) wide.
(2) For existing signs, the required wording shall be permitted to be in plainly legible letters not less than 100 mm (4 in.) high.
(3) The word EXIT shall be in letters of a width not less than 51 mm (2 in.), except the letter I, and the minimum spacing between letters shall be not less than 9.5 mm (/8 in.) .
(4) Sign legend elements larger than the minimum established in 7.10.6.1.1(1) through 7.10.6.1.1(3) shall use letter widths, strokes, and spacing in proportion to their height.
7.10.6.1.2 The requirements of 7.10.6.1.1 shall not apply to marking required by 7.10.1.3 and 7.10.1.6.
7.10.6.2* Size and Location of Directional Indicator.
7.10.6.2.1 Directional indicators, unless otherwise provided in 7.10.6.2.2, shall comply with the following:
(1) The directional indicator shall be located outside of the EXIT legend, not less than 9.5 mm (3/8 in.) from any letter.
(2) The directional indicator shall be of a chevron type, as shown in Figure 7.10.6.2.1.
(3) The directional indicator shall be identif able as a directional indicator at a distance of 12m (40 ft).
(4) A directional indicator larger than the minimum established for compliance with 7.10.6.2.1(3) shall be proportionately increased in height, width and stroke.
(5) The directional indicator shall be located at the end of the sign for the direction indicated.

FIGURE 7.10.6.2.1 Chevron-Type Indicator.

7.10.6.2.2 The requirements of 7.10.6.2.1 shall not apply to approved existing signs.
7.10.6.3* Level of Illumination. Externally illuminated signs shall be illuminated by not less than 54 lux (5 ft-candles) at the illuminated surface and shall have a contrast ratio of not less than 0.5.

7.10.7 Internally Illuminated Signs.
7.10.7.1 Listing. Internally illuminated signs shall be listed in accordance with UL 924, *Standard for Safety Emergency Lighting and Power Equipment,* unless they meet one of the following criteria:
(1) They are approved existing signs.
(2) They are existing signs having the required wording in legible letters not less than 100mm (4 in.) high.
(3) They are signs that are in accordance with 7.10.1.3 and 7.10.1.6.
7.10.7.2* Photoluminescent Signs.
The face of a photoluminescent sign shall be continually illuminated while the building is occupied. The illumination levels on the face of the photoluminescent sign shall be in accordance with its listing. The charging illumination shall be a reliable light source as determined by the authority having jurisdiction. The charging light source shall be of a type specif ed in the product markings.

7.10.8 Special Signs.
7.10.8.1 Sign Illumination.
7.10.8.1.1 Where required by other provisions of this *Code,* special signs shall be illuminated.
7.10.8.1.2 Where emergency lighting facilities are required by the applicable provisions of Chapter 12 through Chapter 42, the required illumination of special signs shall additionally be provided under emergency lighting conditions.
7.10.8.2 Characters. Special signs, where required by other provisions of this *Code,* shall comply with the visual character requirements of ICC/ANSI A117. 1 *American National Standard* l *for Accessible and Usable Buildings and Facilities.*
7.10.8.3* No Exit.
7.10.8.3.1 Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identif ed by a sign that reads as follows:

NO
EXIT

7.10.8.3.2 The NO EXIT sign shall have the word NO in letters 51 mm (2 in.) high, with a stroke width of 9.5 mm (3/8 in.), and the word EXIT in letters 25 mm (1 in.) high, with the word EXIT below the word NO, unless such sign is an approved existing sign.
7.10.8.4 Elevator Signs. Elevators that are a part of a means of egress *(see 7.2.13.1)* shall have signs with a minimum letter height of 16 mm (5/8 in.) posted in every elevator lobby as follows:
(1) *Signs that indicate that the elevator can be used for egress, including any restrictions on use
(2) *Signs that indicate the operational status of elevators

7.10.9 Testing and Maintenance.
7.10.9.1 Inspection. Exit signs shall be visually inspected for operation of the illumination sources at intervals not to exceed 30 days, or shall be periodically monitored in accordance with 7.9.3.1.3.
7.10.9.2 Testing.
Exit signs connected to or provided with a battery-operated emergency illumination source, where required in 7.10.4, shall be tested and maintained in accordance with 7.9.3.

Limited Warranty

Product	Unit Warranty (Years)	Battery Warranty Full (Years)	Battery Warranty Pro-Rata (Years)
Liteforms Emergency Lighting Units			
LiteScape Series	1	1	5
with Spectron option	5	2	4
nicad battery models	1	1	9
nicad with Spectron option	5	2	4
EZ-2 Series	3	3	3
with Spectron option	5	5	5
LZ Series	1	1	5
with Spectron option	5	5	5
LZ High Capacity Series	1	1	5
with Spectron option	5	2	4
nicad battery models	3	1	9
nicad with Spectron option	5	2	8
LM Series			
lead-calcium battery models	1	1	5
lead-calc. with Spectron option	5	2	4
nicad battery models	3	1	9
nicad with Spectron option	5	2	8
EZ-2R Series	3	3	3
with Spectron option	5	5	5
T-Grid Series	3	3	3
with Spectron option	5	5	5
EXT-122-EM Series	1	1	5
Lite^2 Series	3	3	3
with Spectron option	5	5	5
Delite Series	1	1	5
N4X Series	3	3	3
with Spectron option	5	5	5
AS Series	1	1	5
with Spectron option	5	2	4
wet lead-acid battery models	1	1	9
wet lead-acid with Spectron option	5	2	8
wet nicad battery models	1	1	14
wet nicad with Spectron option	5	2	13
IPS Series	3	3	3
XPB Series	3	3	3
UFO-3AW, UFO-4W models	1	1	–
UFO-5W, UFO-12W models	2	2	–
UFO-5AW models	3	3	–
UFO-6W, UFO-6WI,	5	5	–
UFO-6W-CLD, UFO-7W,	"	"	–
UFO-7WI, UFO-LP	"	"	–
and UFO-MH models	"	"	–
Liteforms Exit Signs			
LX LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
Emergency Spectron models	5	2	8
DK incandescent exit			
AC-Only models	3	–	–
Emergency models	5	1	9
LT combo exit	5	1	5
Spectron models	5	2	4
NYXC combo exit	5	1	5
SMC combo exit	5	1	5
Sempra cast LED exit*			
AC-Only models	5	–	–
Emergency models	5	1	9
Emergency Spectron models	5	Lifetime	
NYDC cast LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
LN4X wet location LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
Emergency Spectron models	5	2	8
Freedom LED aluminum exit			
AC-Only models	5	–	–
Emergency models	5	1	4
LEDS aluminum LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9

** Includes Sempra, Sempra SC, SC-WL, MR and SERS Series exit signs.*

Product	Unit Warranty (Years)	Battery Warranty Full (Years)	Battery Warranty Pro-Rata (Years)
Liteforms Exit Signs			
NYX LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
CMX exit			
AC-Only models	5	–	–
Emergency models	5	1	9
LE edge-lit LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
Emergency Spectron models	5	2	8
LES edge-lit LED exit			
AC-Only models	5	–	–
NYE edge-lit LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
NYES edge-lit LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
DEX special wording exit			
AC-Only models	3	–	–
Emergency models	3	1	5
Clearview Life Safety Products			
SlimLite Series	1	1	5
CV Series	1	1	5
CVEC Series	1	1	5
CV3 LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
CVT Tandem LED exit	5	1	9
CVD cast LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9
CVER edge-lit LED exit			
AC-Only models	5	–	–
Emergency models	5	1	9

Consult factory for warranties available with AC Inverter Systems.

Emergency Lighting Units and Batteries

Dual-Lite warrants to the purchaser that its products have been carefully manufactured and inspected, and are warranted to be free from defect of workmanship and materials when used as intended. See chart at left for duration of warranties for units and batteries (fuses and lamps are excluded from all warranties).

Batteries must be placed in service or recharged within nine (9) months from invoice date or ninety (90) days from recommended recharge date stamped on carton, whichever is longer (NiCad batteries excluded).

The warranties are subject to proper installation and maintenance in accordance with the instructions supplied. Any abuse or misuse contrary to normal operation shall void this warranty.

This warranty does not cover damages caused by installation in areas with other than normal temperatures and environmental conditions per application specifications. Dual-Lite assumes no responsibility for any damage to people, property, apparatus or otherwise resulting from improper installation or maintenance of its emergency lighting units.

Warranty coverage shall not apply to any equipment of another manufacturer used in conjunction with Dual-Lite systems.

Warranty does not cover damages caused by abuse, fire or acts of God.

To obtain prior written approval to return defective items, please contact your local manufacturer's representative. After prior written notification has been given and approval obtained for the return, merchandise may be returned, freight prepaid, to Dual-Lite.

Customer is responsible for secure packaging of returned materials to provide best possible assurance against breakage in shipment.

If, upon inspection, the merchandise is found to be defective replacement or repair shall be made. Dual-Lite's sole obligation under this limited warranty is to repair or replace the defective parts or products, at its discretion, providing such defective parts or products are brought to its attention within the specified warranty time period, and does not include any other costs such as removal of defective parts or product, installation, labor or consequential damages of any kind, the exclusive remedy being to require such new parts or products to be furnished. All other warranties, expressed or implied, including warranties of merchantability or warranties of fitness for any particular purpose we hereby disclaim.

Dual-Lite Distributors and Representatives have no authority to change this warranty without written permission from Dual-Lite.

Dual-Lite reserves the right to determine the best method of correcting warranty problems.

All specifications subject to change without notice.

Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

DUAL LITE

Inverter Power Systems

Synchron Series Single-Phase Inverters ..... 88 to 91
Spectron LSN Series Single-Phase Inverters ..... 92 to 101
Trident Series Three-Phase Inverters ..... 103 to 106
Auxiliary Transfer Switching Device 107

Single Phase Systems

SYNCHRON™
AC INVERTER POWER SYSTEM

Uninterruptible Power

Unstoppable Design

Exceptional Economy

Single Phase Systems

New Non-Stop Safety, Reliability and Value

Dual-lite's new Synchron AC Inverter System provides interruption-free power to all critical life safety loads and other secondary support systems. "No break" switching between utility and inverter power means that all connected equipment will continue to operate normally under emergency conditions. In addition to maximizing safety for occupants, the Synchron saves time, money and space.

Egress Lighting to the "Public Way"

The Synchron lends itself to solving the new requirements to provide lighting to the "Public Way" ...whether that means 10 feet from the building...or 100 feet. The Synchron will operate any Wall Pack or Bollard...at full light output...for the full 90 minutes...lighting the path to safety.

So Sophisticated, It's Simple

With the Synchron, no additional lighting fixtures for emergency illumination are needed, no secondary backup power or lighting equipment is required, and there's no need for special wiring; it connects into your existing electrical panel. Unlike unsightly traditional emergency lighting, this system supplies power to your existing interior and exterior lighting fixtures.

Reduced Maintenance and Service Costs

Having a single inverter unit in a centralized location greatly simplifies maintenance, testing and service. There is only ONE unit to test and service, saving hundreds of dollars per year. The AC-in to AC-out operating efficiency is 98%—well above other central inverter system equipment; this translates to lower energy bills!

Rugged PWM design

- A cost effective alternative to "traditional" emergency lighting
- Reduced maintenance costs
- Improved building aesthetics
- "No break" power
- Off line design for high efficiency—up to 98%
- Pulse width modulated technology
- 100% load compatible with any lighting source, including HID
- AC input breaker
- DC switch
- Multipurpose LED indicators
- Overload protection
- Compact, easy to install wall mounted design
- Meets or exceeds all UL 924 requirements
- Sealed maintenance free batteries
- Two year Warranty
- AC-output breaker standard on 400 and 525VA models
- Push button test switch
- DC fuse

Single Phase Systems

Synchron Sizing Chart						
VA/Watts	400	525	750	1000	1500	2100
Power Factor Range	.8 lead to .75 Lag					
Input/Output Voltage	120/120 or 277/277					
AC Input Circuit Breaker Rating - 120/277V	10/15 Amps			15/15A	20/15A	25/15A
Charger Size	2 Amps					
System DC Voltage	36	36	72	72	72	96
Cabinet Size	22"W x 23"H x 10"D (55.9cm W x 58.4cm H x 25.4cm D)		32"W x 36.5"H x 12"D (81.3cm W x 92.7cm H x 30.5cm D)			
BTU/Hour - Line/Inverter	70/260	92/341	131/382	175/510	263/765	368/886
Weight [lbs. (kg) - including batteries]	143 (65.1)	173 (78.8)	281 (128)	346 (157.6)	400 (182.2)	480 (218.7)

System Status At A Glance....

The Synchron system's three multipurpose LED indicators provide a simple, intuitive interface to notify the user of operating status as well as visual service alerts to operational malfunctions should they occur. Depending on their state of operation, the LED indicators are capable of notifying the user to the following operational conditions:

- *Normal Standby Operation*
- *Inverter On*
- *AC Input Interruption*
- *No Load Connected*
- *Circuit Breaker Tripped*
- *Battery Charger Malfunction*
- *Overload Shutdown*
- *High Temperature Shutdown*
- *Temperature Probe Malfunction*

Electrical Specifications

Input

Input voltage: 120, 277, ±10%
Input frequency: 60Hz ±3%
Synchronizing slew rate: 1 Hz per second nominal
Electronics operating temperature: 0°C to 40°C (32°F to 104°F)

Output

Output voltage: 120, 277
Output regulation: (static) +10/-5% based on a 5%–100% resistive load
Output distortion: Less than 5% THD linear load
Load power factor range: .75 lag to .8 lead
Output frequency: Normally, synchronized to utility, +.05 Hz during emergency
Overload: 115% momentary
Transfer time: No break

Electrical Specifications (con't)

Battery

Battery charger: Automatic, temperature compensated with internal diagnostic indicators
Recharge time: Meets UL 924 requirements
Battery protection: Automatic low-battery voltage disconnect. Automatic restart upon utility return
Standard battery: S-Sealed lead-calcium 10-year life
Battery voltage: 36, 72 or 96VDC (system dependent)
Runtimes: 90 minutes standard. Other runtimes available on request
Relative humidity: 95% non-condensing

Note: *100% battery capacity rated at 25°C (77°F). Optimum system performance between 20°C (68°F) and 29°C (85°F); temperatures outside of this range will affect battery performance and life.*

Single Phase Systems

IMPORTANT:
Features and specifications are subject to change without notice. Contact factory for most recent product information.

WARRANTY
The system is guaranteed, under normal and proper use, against defects in workmanship and materials for a period of two years from the date of shipment. Batteries supplied as part of the system are covered under a separate pro-rata warranty as described below:

Lead-Calcium Batteries
1 year full plus 9 year pro-rata period

IMPORTANT
Failure to connect system batteries to an energized charging circuit within 90 days from the date of shipment will void the warranty.

Ordering Guide

DLS - 750 - 120 - N A 15 03 U

SYNCHRON SERIES	VA/WATTS	INPUT/OUTPUT VOLTAGE	CIRCUIT BREAKER DESIGNATOR (SEE BELOW)

Output Circuit Breakers

400 and 525VA models are supplied standard with one 15 amp normally-on output circuit breaker. Output circuit breakers are optional on all 750 to 2100VA models. Output circuit breakers are available in single-pole configurations for normally-on or normally-off operation. A maximum of six monitored or ten unmonitored normally-on breakers may be specified. Normally-off configurations are limited to a maximum of four circuit breakers and include a built-in 15-minute re-transfer delay to accommodate HID lighting restrike cycles.

Type	Voltage Rating	Ampere Rating	Quantity	Supervision
Blank = Normally-On[1] N = Normally-Off[2][3][4]	A =120VAC B = 277VAC	15 20 30	01 to 10	Blank = Monitored U = Unmonitored

(1) A maximum of 6 monitored or 10 unmonitored normally-on circuit breakers may be specified.
(2) A maximum of four normally-off circuit breakers may be specified.
(3) Maximum rating of normally-off circuit breakers is 20 amperes.
(4) Normally-off output circuit breakers include a built-in 15-minute retransfer delay for HID lighting loads.

Single Phase Systems

Single Phase Systems

SPECTRON® LSN Life Safety Network

The Life Safety Network

The Spectron LSN Life Safety Network is designed to provide:

- *A simplified system approach to emergency lighting and power*
- *"No break" power*
- *Pulse width modulated technology*
- *100% load compatibility*
- *Maximized reliability*
- *Reduced maintenance expense*
- *Enhanced security*
- *Improved building aesthetics*
- *Minimized space requirements*
- *Communications capability*

Most importantly, it delivers optimum safety for building occupants.

Advanced Design

The basic elements of an inverter system are batteries, an inverter, a charger and a transformer. Spectron LSN, however, is unlike traditional IPS, FT or UPS systems because of its innovative design.

This pulse width modulated (PWM) high-frequency inverter utilizes the latest IGBT (Insulated Gate Bipolar Transistor) technology. The AC-in to AC-out operating efficiency is 98%, well above other central inverter system equipment. This outstanding efficiency translates to lower operating costs.

Communications

All Spectron LSN inverter systems are equipped with an RS232 communication interface designed to give the user greater flexibility in monitoring and controlling the system.

Big Performance...Small Footprint

Spectron LSN inverter system's feature-rich design is provided in an incredibly compact package. Spectron LSN system capacities under 5KVA require less than four square feet of floor space; all other systems up to 17.5KVA require less than eight square feet — the smallest footprints in the industry!

The Spectron LSN Advantage...

- *Compatibility*
- *Simplicity*
- *Safety*
- *Security*

It all adds up to confidence.

Plus...

Compatibility

Spectron LSN systems provide 100% compatibility with all connected loads. "No break" sinusoidal output assures that even voltage-sensitive or frequency-sensitive loads will operate normally during emergency operation.

Simplicity

- *Single, centrally located power source*
- *Intelligent, easy-to-use interface panel*
- *Automatic, programmable self-diagnostic operation*
- *Utilizes existing lighting fixtures for emergency illumination*
- *No secondary backup power or lighting equipment required*
- *Connects into existing electrical panel — no special wiring required*

Safety

- *Audio-visual service alarms*
- *Meets or exceeds all UL 924 and UL 1778 requirements*
- *Digitally generated sine wave output*
- *42,000 RMS symmetrical ampere short-circuit rating*
- *Built-in backfeed relay to protect personnel from potential shock hazard*

Security

- *Spectron LSN systems are normally installed in utility areas away from normal public access*
- *Locking cabinetry prevents tampering*
- *Password-protected user interface prevents operation by unauthorized personnel*

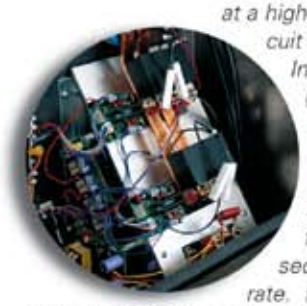
New York City BEC Calendar No. 43323

Single Phase Systems

Spectron LSN – A Major Advance In Life Safety

PWM Technology

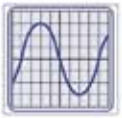
Pulse width modulated (PWM) inverter control is designed to produce the output wave form by switching battery current at a high-frequency rate. The primary circuit of the inverter is made up of four Insulated Gate Bipolar Transistors (IGBT). IGBTs provide the multiple benefits of compactness, high efficiency, low maintenance and long equipment life, as well as maximum adaptability and control. The four IGBTs are sequenced on and off at a 16,000 Hz rate. Because of the inverter's high-frequency switching response time, many compatibility problems with loads such as power factor-corrected ballasts, HID lighting and microprocessor-controlled equipment are eliminated.



PWM design results in:

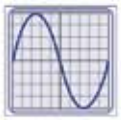
- Higher efficiency, lower operating cost
- Smaller, lighter, more compact design
- Quieter operation
- Improved load compatibility

Interruption-Free Power



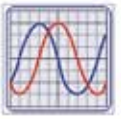
Spectron LSN provides continuous power to all critical life safety loads and other secondary support systems. This "no break" switching between utility and inverter power means that all connected equipment will continue to operate normally under emergency conditions.

Voltage Regulation



Spectron LSN's Boost Tap Regulation protects your loads from "brownouts" and recurrent low-voltage transients by sensing any drop in voltage and "boosting" the voltage back up to nominal without drawing from the batteries and shortening their lives.

Mixed Loads



Spectron LSN's "no break" design provides continuous operation to mixed loads. Capacitive, inductive or resistive loads will operate normally, as will voltage-sensitive or frequency-sensitive equipment.

Self-Testing/Self-Diagnostic Operation

Auto-Testing And Reporting

Self-testing/self-diagnostic electronics perform continuous testing of subsystems, insuring performance to prescribed operating parameters. User-programmable discharge tests are automatically performed on a weekly, monthly and annual basis. Date, time and duration of these tests can be programmed to meet state, local authority and individual requirements. All testing events are automatically logged in memory and can be displayed on the user interface panel.

Reduced Maintenance

With the Spectron LSN system, a single inverter unit in a centralized location greatly simplifies maintenance, testing and service. With its standard self-testing/self-diagnostic feature, most routine testing is accomplished automatically without the need for manual intervention. In the event of system operation outside designed parameters, alarm functions automatically indicate and identify the component requiring service.

Greater Reliability

Tested to stringent NFPA 101 and NEC 700 requirements, Spectron LSN is listed to UL 924 and UL 1778 standards. Spectron LSN design technology meets "real world" performance demands and self-diagnostic operation means years of trouble-free, reliable operation.

Alarms And Meters

Spectron LSN features audible and visual alarms with automatic logging in memory of the 25 most recent alarm events. The conditions monitored include (but are not limited to):

- Charger failures
- Output overload warning
- High/low AC output voltage
- High/low output frequency
- High, low or near low battery voltage
- Ambient temperature
- Battery cabinet temperature
- Heatsink temperature
- Transformer temperature
- Temperature probe failure
- Internal communication failure
- System test failure

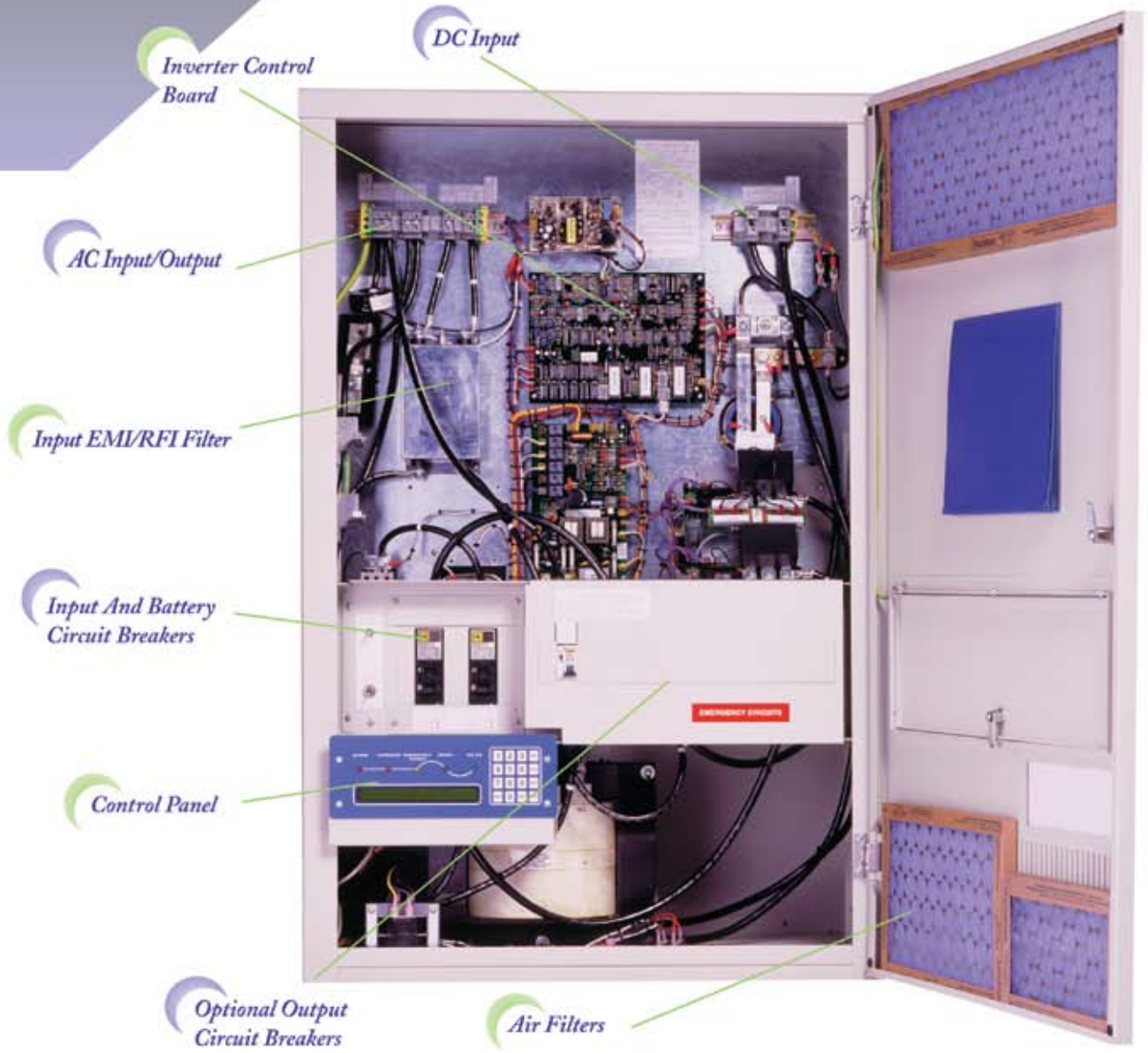
Digital metering of system parameters and operating readings provide assurance of system readiness.

- Input AC volts
- Nominal AC frequency
- Output AC volts
- Output AC frequency
- Output AC amps
- Output watts
- Output volts-amps
- Load percentage
- Power factor
- Ambient temperature
- Battery cabinet temperature
- Heatsink temperature
- Transformer temperature
- Battery volts
- Battery amps
- Approximate runtime remaining
- Time/date
- System hours
- Inverter minutes

Single Phase Systems

SPECTRON® LSN LIFE SAFETY NETWORK

Design Excellence



Plus...

Cost Efficiency

When all factors are considered, including equipment, installation, operating and maintenance costs, Spectron LSN becomes the clear choice to minimize a facility's total expense for providing life safety power and lighting.

Aesthetics

Traditional solutions for life safety egress lighting include unit equipment on walls or ceilings. This approach detracts from interior design aesthetics. Spectron LSN supplies power to existing lighting fixtures, eliminating the need for special emergency lighting fixtures.

Security

Centrally located in a utility area, Spectron LSN is secure and safe. Locked cabinetry and a password-protected control panel prevent tampering or system operation by unauthorized personnel.

Single Phase Systems

Control Panel

Display Functions

LED Status Indicators

AC-On - *AC power is present at output terminals*
Ready - *Unit is ready for emergency operation*
Emergency Power - *Unit is operating on battery power*
Charging - *Unit battery is being charged*
Alarm - *Operation outside of pre-programmed operating parameters detected*

Display Readout

- *Large, easy-to-read characters*
- *2-line x 40-character LCD display*
- *Provides continuous scrolling of 20 metered functions*

Control Keys

Enter Key (ENT)
Allows users to enter commands to the system

Clear Key (CLR)
Clears the last entered character and cancels or resumes scrolling display feature

Program Key (PRG)
Allows authorized users to change system programming with the use of "Hot Keys"

Previous Key (PRV)
Returns the display to the previous menu screen

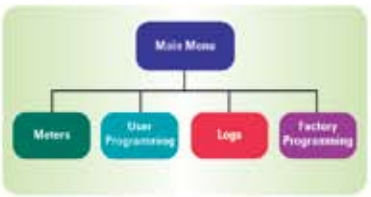
Display Key (DSP)
Allows users to use "Hot Keys" to display system parameters

Main Menu Key (MAN)
Returns the display to the main menu

Intuitive, User-Friendly Design

Located on the inverter cabinet's front door, the user interface panel allows the user to monitor and control the Spectron LSN system. The microprocessor-controlled display includes an array of LED indicator lights, a 2-line x 40-character digital display and a coded keypad to display over 250 system parameters, operating modes, alarms and stored logs.

Menu-Driven Display



The Spectron LSN user interface provides a menu-driven display that allows access to all system information through the following four primary sub-menus:

- ***Meters***
- ***User Programming***
- ***Logs***
- ***Factory Programming***

The menu-driven display provides users with a structured, intuitive method of accessing system information. The display is a user-friendly interface that eliminates the need for confusing manuals while allowing easy access to all system programming, operating parameters, meters and logs. The interface design also allows the selection of "Hot Keys" as an alternate means of accessing frequently requested information.

Password Protection

To ensure that only authorized personnel operate the unit, every Spectron LSN system is password protected. No control functions can be accessed or operating parameter changes made without password authentication.

Stored Test Results

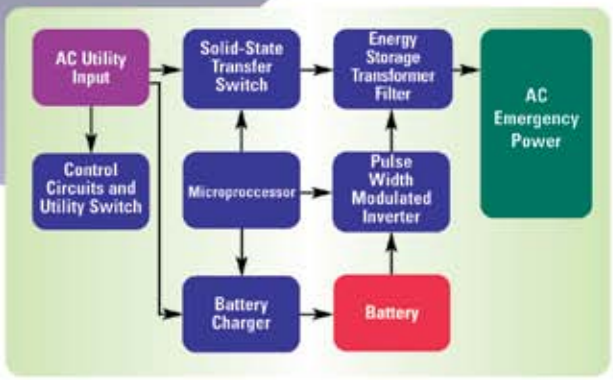
The following system logs and reports are held in system memory and can be viewed at any time:

1. ***Service Log***
   Logs password levels entered and FAX status
2. ***Test Log***
   Logs start times and pass/fail status of all system tests
3. ***Alarm Log***
   Logs last 40 system alarms, their time of activation and duration
4. ***Inverter Log***
   Logs last 20 inverter events, including turn on/turn off times and run duration
5. ***Battery Voltage Log***
   Logs battery system voltage hourly
6. ***Battery Discharge Voltage Log***
   Logs battery voltage and system output VA every five minutes while in inverter mode
7. ***Power Log***
   Continuously logs system power levels
8. ***Peak Value Report***
   Maintains peak system parameter readings for input voltage, output voltage, output current, battery voltage and output VA
9. ***Diagnostic Status Report***
   Continuously monitors and logs internal microprocessor communication status

Single Phase Systems

SPECTRON LSN Life Safety Network

System Features And Design



System Operations

- A solid-state charger transforms the incoming utility voltage into a regulated DC supply voltage to charge the batteries.
- A maintenance-free battery is provided on standard models to maintain power to the inverter. The batteries are fitted with a suitably rated DC switch and fuse to provide overload and short-circuit protection and also allow isolation from the system for maintenance purposes.
- A high-frequency, pulse width modulated inverter transforms the battery energy into low-distortion, no break, sine wave AC voltage to supply the emergency load.
- 90% boost tap for line regulation protects against brownouts and conserves batteries for emergencies.

System Features

- True "no break" power to loads
- Pulse width modulated sine wave output
- Low input current distortion
- Unique "Off-Line" design increases efficiency to 98% and reduces heat output
- Up to 150% momentary overload capacity
- Surge and transient protection circuitry
- 42,000 RMS symmetrical ampere short-circuit rating
- Inverter load versatility — lighting (including fluorescent, incandescent, HID, electronic or power-factor corrected ballasts), fire, security, communication systems and other critical loads
- Provides computer and network backup
- Microprocessor control allows completely automatic self-diagnostic operation to warn of potential problems
- Password protected to prevent unauthorized tampering
- Automatic self-testing and test logging as required by NFPA 101
- Automatic logging of alarm and inverter events
- 2-line x 40-character digital display
- Inverter communication — intelligent, two-way communication capability provided through the system's RS232 terminal
- Built-in backfeed relay to protect personnel from potential shock hazard
- Standard 90-minute battery runtime (optional runtimes available)
- Load flexibility and reliability — use of a building's existing lighting elements for emergency reduces the likelihood of unknown lamp failure
- No additional backup systems to maintain or test
- Intelligent, easy-to-use system
- Display panel monitors and controls all parameters
- Two-year, on-site electronics warranty covers parts and labor
- Batteries carry pro-rata warranty
- Only front access required for service

Electrical Specifications

Input

- **Input voltage:** 120, 208, 240, 277, or 347 VAC +10-15%. Other voltages available on request
- **Input frequency:** 60Hz ±3%
- **Synchronizing slew rate:** 1 Hz per second nominal
- **Operating temperature:** 0°C to 40°C (32°F to 104°F)
- **Input lightning protection:** Meets ANSI 62.41, UL 924 and UL 1778 requirements

Output

- **Output voltage:** 120, 240, 277, 120/240, 120/277, or 347 VAC. Other voltages available upon request
- **Output regulation:** (static) ±5% based on a 5% - 100% resistive load
- **Output distortion:** Less than 5% THD linear load
- **Load power factor:** .75 lag to .8 lead
- **Output frequency:** Normally, synchronized to utility, +.05 Hz during emergency
- **Overload:** 150% momentary. 120% for five minutes
- **Time to transfer to inverter after utility power failure:** No break

Battery

- **Battery charger:** Automatic with internal diagnostic indicators
- **Recharge time:** 24 hours. Meets UL 924 requirements
- **Battery protection:** Automatic low-battery voltage disconnect. Automatic restart upon utility return
- **Battery switch:** Also used as battery isolator
- **Standard battery:** S - Sealed lead-calcium 10-year life
- **Optional batteries:**
  G - Sealed lead-calcium 20-year life
  N - Wet nickel-cadmium 25-year life
- **Battery voltage:** 96VDC or 144VDC (system dependent)
- **Runtimes:** 90 minutes standard. Other runtimes available on request
- **Relative humidity:** 95% non-condensing

Note: 100% battery capacity rated at 25°C (77°F). Optimum system performance between 20°C (68°F) and 29°C (85°F); temperatures outside of this range will affect battery performance and life.

IMPORTANT: Features and specifications are subject to change without notice. Contact factory for most recent product information.

Single Phase Systems

Unit Specifications

KVA/KW Rating	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
Power Factor Rating	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag	.8 lead to .75 lag
Input/Output Voltage Combinations Available — Single Phase	Input VAC: 120, 208, 240, 277, 347 Output VAC: 120, 240, 277, 347, 120/240[1], 120/277 Other voltages available; consult factory [2]							Input VAC: 208, 240, 277, 347 [3] Output VAC: 120, 240, 277, 347, 120/240[1], 120/277 Other voltages available; consult factory [2]				
AC Input Voltage/ Input Circuit Breaker Rating	120/20A 208/15A 240/15A 277/15A 347/15A	120/30A 208/20A 240/15A 277/15A 347/15A	120/40A 208/25A 240/20A 277/20A 347/20A	120/50A 208/30A 240/25A 277/25A 347/20A	120/70A 208/40A 240/35A 277/30A 347/25A	120/70A 208/40A 240/35A 277/30A 347/25A	120/80A 208/50A 240/45A 277/40A 347/30A	— 208/70A 240/60A 277/50A 347/50A	— 208/80A 240/70A 277/60A 347/50A	— 208/100A 240/80A 277/70A 347/60A	— 208/125A 240/100A 277/90A 347/80A	— — 277/100A 347/80A
Output Voltage and Maximum Output Current In Amperes	120/8.3 240/4.2 277/3.6 347/2.9	120/16.6 240/8.3 277/7.2 347/5.8	120/22.5 240/11.3 277/9.7 347/7.8	120/30.8 240/15.4 277/13.4 347/10.7	120/40.0 240/20.0 277/17.3 347/13.4	120/45.8 240/22.9 277/19.9 347/15.9	120/55.0 240/27.5 277/23.8 347/19.0	120/69.1 240/34.6 277/29.9 347/23.9	120/83.3 240/41.7 277/36.1 347/28.8	120/104.1 240/52.1 277/45.1 347/36.0	120/125 240/62.5 277/54.2 347/43.2	120/146 240/72.9 277/63.2 347/50.4
Standard Charger Size (amps)	5	5	5	5	10	10	10	10	10	15	15	15
System DC Voltage	96	96	96	96	96	96	96	144	144	144	144	144
Heat Output (BTU/Hr.)	175	350	473	648	840	963	1,155	1,453	1,750	2,188	2,625	3,063

(1) On systems with 120/240VAC output, loading may not exceed 50% of the system's total KVA rating on any 120V leg. Loading beyond 50% on any 120V leg will cause an unsafe condition and transformer failure will occur. Call our Service Line at 800-848-6439 for alternate load connection configurations.
(2) An external transformer may be required with certain input/output voltage configurations. Consult factory for details.
(3) Input voltage on 17.5KVA model limited to 277 and 347VAC only.

Standard Battery Systems For 90-Minute Runtime

Type S Battery – Maintenance-Free Sealed Lead-Calcium – 10-Year Design Life Expectancy

System Capacity	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
System Configuration	A	A	A	A	A	B	B	B	B	B	C	C
Total Weight (lbs.) *	838	1,116	1,122	1,222	1,492	1,926	2,130	2,475	2,829	2,861	4,121	4,393

Type G Battery – Maintenance-Free Sealed Lead-Calcium – 20-Year Design Life Expectancy

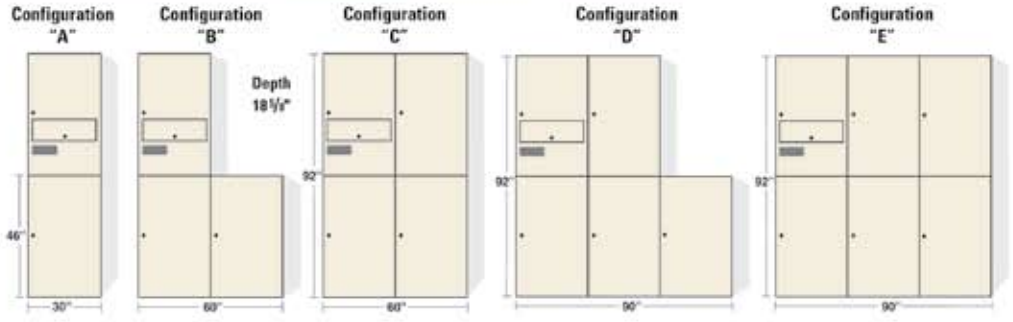
System Capacity	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
System Configuration	A	A	A	A	B	B	B	B	B	C	D	D
Total Weight (lbs.) *	1,365	1,384	1,390	1,472	1,684	2,062	2,630	2,679	3,589	3,657	4,885	5,491

Type N Battery – Wet-Cell Nickel-Cadmium – 25-Year Design Life Expectancy

Systems Capacity	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
System Configuration	B	B	B	B	B	C	C	D	D	E	E	Consult
TotalWeight (lbs.) *	1,075	1,486	1,644	1,894	2,232	2,532	2,812	3,481	3,940	4,720	5,505	Factory

* Approximate system weights

Cabinet Configurations (90-Minute Runtime)



Single Phase Systems

SPECTRON® LSN Life Safety Network

Options

Note: Batteries for all Spectron LSN inverter systems are shipped separately.

Batteries must be installed and energized within six months of shipment or warranty is void.

Batteries

Spectron LSN's batteries provide sufficient power to maintain the output voltage of the inverter for a minimum of 90 minutes. All batteries are enclosed in lockable cabinets. Adequate space is provided to ensure easy routine maintenance.

Standard Batteries

Sealed Lead-Calcium — Type S

Spectron LSN's standard lead-calcium battery is completely sealed and requires no addition of water over its life expectancy. It is constructed with a polypropylene case and cover, which include UL-recognized, low-pressure safety release vents. No gassing will occur in normal use. The elements utilize calcium grid alloy, and the electrolyte is trapped in absorbent glass mat (AGM) separators. Designed life expectancy is 10 years at 77°F/25°C.

Long Life

Sealed Lead-Calcium — Type G

This optional battery is completely sealed and requires no addition of water over its life expectancy. It is constructed with a polypropylene case and cover. The battery case incorporates fold-down handles for safe, easy handling and installation. These batteries utilize a special, long-life Pb/Ca/Sn grid alloy. The plates are separated by a highly porous fiberglass mat, which functions as the electrolyte retainer and provides the highest possible oxygen recombination efficiency. Type G batteries have a life expectancy of 20 years at 80°F/27°C.

Longest Life, Wet-Cell

Nickel-Cadmium — Type N

This optional battery is maintainable and requires the addition of distilled water over its life expectancy. The nickel-cadmium battery provides operation over the widest range of temperatures, from 0°C/32°F to 60°C/140°F. Translucent polypropylene containers are standard. Each cell is provided with a flip-top, flame-arresting, UL-recognized vent cap. Interior cell construction consists of pocket plate nickel-cadmium elements in an alkaline electrolyte. Covers are supplied to provide dead-top isolation. Type N batteries have a 25-year life expectancy at 77°F/25°C.

Single Phase Systems

Options

Communication Options

Fax Modem Option (FAX)

The Computer Fax Modem is an option that automatically notifies the user of system test results and alarm conditions. This is accomplished by sending a detailed fax to up to six preprogrammed phone numbers. Fax Modem can establish communication via RS232 to perform any system function. The Fax Modem Option is comprised of a single board computer with factory-installed software, modem card and associated cables.

The Fax Modem Option allows for remote monitoring via modem connection, notification of alarm conditions by fax to technical support and five additional fax machines, and faxed reports of all UL 924-required system tests of the system.

Entire system is factory installed.

- Requires customer supplied dedicated analog phone line
- Fax machine phone numbers can be programmed locally using the unit keypad or computer terminal or remotely via modem. Numbers can also be programmed at time of installation

The facsimile-modem automatically sends a fax to the numbers programmed whenever:

- The unit performs a monthly or annual system test
- The unit sounds an alarm

Remote Status Panel (RSP)

The Remote Status Panel provides remote annunciation for the Spectron LSN to indicate inverter and alarm status. The Remote Status Panel is supplied in a 4-inch x 5¾-inch electrical box. It consists of five LEDs and an alarm beeper.

Criteria for installation:

- Must be installed within 1,000 feet of the Spectron LSN
- Seven-conductor-minimum, 22AWG wire for connection from options board to Remote Status Panel must be supplied by installer

System Monitoring Terminals (SMT)

The SMT option provides three functional terminal blocks:

- Connection points for Inverter and Alarm relays. Low power contacts change status with either inverter or alarm events.
- Connection points for a Remote Status Panel to allow the addition of an RSP at any time.
- Connection points for an Emergency Power Off (EPO) switch to allow for safe remote shut-down of system regardless of operating mode.

Alternate Runtime (AR)

Runtimes other than the standard 90 minutes may be specified. When ordering alternate runtimes, specify discharge time required in minutes. Example: AR30

Short Battery Cabinet (SBC)

For applications where headroom is limited, the Short Battery Cabinet (SBC) can be used to reduce the overall installation height by 15 inches. The Short Battery Cabinet is available on systems with ratings from 1.0kVA to 6.6kVA. Dimensions are 31" H x 30" W x 18 5/8" D.

Circuit Breaker Options

Output Circuit Breakers with Alarms

A maximum of 14 positions (20 positions without alarms) are available for all models. Single pole, 120VAC and 277VAC breakers occupy one position each. Double pole 240VAC breakers occupy two positions each. See page 101 for ordering information.

Normally-Off Output Circuit Breakers

Used when connected loads are to be energized only during emergency inverter operation. Normally-off circuit breakers are user programmable for a delay of up to 999 seconds. Single pole, 120VAC and 277VAC breakers occupy one position each. Double pole 240VAC breakers occupy two positions each. See page 101 for ordering information.

Internal Bypass Switch (IBS)

The Internal Bypass Switch is a three-position "make before break" service switch mounted inside the cabinet. The IBS is compatible with all input/output combinations and works with any combination or quantity of output circuit breakers.

Accessories

Multiplexer (MX)

The Multiplexer is an external device that enables a single phone line to communicate with up to 16 Spectron LSN units via their built-in RS232 communication ports. This is accomplished by installing a phone line and FAX option in only one of the systems to be monitored. Systems can be installed up to 100 feet away from the Master without the use of Short Haul Modems. The use of a Multiplexer reduces the number of phone lines needed for remote communications, dramatically reducing the cost. Communications with the Multiplexer are identical to those of a Fax Modem.

Short Haul Modem (SHM)

Short Haul Modems are devices that boost signal levels when RS232 communications are installed more than 100 feet away from Spectron LSN. One device is installed next to the Spectron LSN and the other is installed next to the computer communicating with Spectron LSN.

Maintenance Bypass Switches

The Maintenance Bypass Switch is a device that enables power to be removed from the inverter system and remain connected to the load. This allows the inverter system to be completely removed, replaced or repaired without interruption to the load.

External Bypass Switch (MBB and BBM)

The External Maintenance Bypass Switch is supplied in a wall mounted, NEMA 1 type enclosure which cannot be used in conjunction with more than one single-pole output circuit breaker, on units with dissimilar input and output voltages or on models with mixed output voltages.

Description:

MBB = Make-before-break
BBM = Break-before-make

Ordering Guide

How To Develop A Spectron LSN System Control Number

The Spectron LSN system control number provides a description of the emergency lighting power system through a meaningful shorthand. Follow the six simple steps outlined below to specify a Dual-Lite Spectron LSN System.

Six Steps To Developing A Dual-Lite Spectron LSN System Control Number

D	1	2	3	4	5	6
Dual-Lite	Input Voltage	Capacity Rating (KVA)	Battery Type	Output Voltage(s)	Optional Output Circuit Breakers	Options

D120-01S120/240-NB2002U-RSP

Dual-Lite
D

Input Voltage (VAC)
120
208
240
277
347

Capacity Rating
01 = 1.0 KVA
02 = 2.0 KVA
27 = 2.7 KVA
37 = 3.7 KVA
48 = 4.8 KVA
55 = 5.5 KVA
66 = 6.6 KVA
83 = 8.3 KVA
10 = 10.0 KVA
12 = 12.5 KVA
15 = 15.0 KVA
17 = 17.5 KVA*
* 277 and 347VAC input only

Battery Type
S = 10-year Sealed Lead-Calcium
G = 20-year Sealed Lead-Calcium
N = 25-year Nickel-Cadmium

Output Voltage (1)(2) (VAC)
120
120/240(3)
277
347
120/277

(1) Other voltages available. Consult factory.
(2) External transformer may be required.
(3) Loading may not exceed 50% of the system's total KVA rating on any 120V leg.

Optional Output Circuit Breakers

Options

Options
FAX = Fax Modem
RSP = Remote Status Panel
SMT = System Monitoring Terminal
AR = Alternate Runtime*
SBC = Short Battery Cabinet
IBS = Internal Maintenance Bypass Switch (Make Before Break)

Accessories
SHM = Short Haul Modem
MX = Multiplexer
MBB = External Maintenance Bypass Switch (Make Before Break)
BBM = External Maintenance Bypass Switch (Break Before Make)

Service Options
FS = Factory Start-Up
SA = Service Agreement
MP = Monitoring Program
EW = Extended Warranty

*Specify runtime in minutes when ordering. Example: AR120

Type	Voltage Rating	Ampere Rating	Quantity (1)	Supervision
Blank = Normally "On" N = Normally "Off" (2)	A = 120 VAC B = 240 VAC C = 277 VAC	15 20 25 30 35 40 50 60	01 to 20	Blank = Monitored U = Unmonitored

(1) A maximum of 14 monitored or 20 unmonitored normally "on" circuit breakers may be specified. A maximum of eight normally "off" circuit breakers may be specified.
(2) Maximum rating of normally "off" circuit breakers is 20 amperes.

Three Phase Systems

trident®

3-Phase
Inverter Power Systems

Continuous Power... Compatibility... Confidence

TRX Series

TRN Series

The Trident Life Safety Network Advantage

To prevent potential hazards during an emergency, a reliable source of power that can operate all life safety systems is critical. The solution?

A Trident 3-Phase Power System.

Unlike conventional systems, the Trident system offers these advantages:

- Available in capacities up to 130 kVA with either 208 or 480 volt input/output configurations
- 100% compatible with voltage-sensitive loads such as HID lighting
- True double conversion design protects against 100% of power disturbances
- Exceptional reliability - Field proven one million hours critical bus mean time between failures
- Higher efficiency in real-world applications - typically between 92% and 93.5%
- Smallest complete system footprint in the industry
- Discharge times available from 10 minutes to two hours (and beyond)
- Top and bottom cable entry along with cabinet caster feet makes the system easy to handle and install
- Battery self-test insures the system's overall readiness at all times
- Backlit LCD graphic display enables easy navigation between the graphic mimic screen and the menu screens
- Event log can display up to 512 time-and-date stamped alarm events

Greater flexibility, higher reliability, outstanding efficiency, user-friendly design, smaller footprint—that's the Dual-Lite Trident advantage.

TRX Three Phase Systems

trident

3-Phase
Inverter Power Systems

TRX Series

10 to 30 kVA, 3-Phase UPS

Flexibility In Application
The Dual-Lite Trident TRX Series' quiet operation, small footprint and lightweight design is perfect for installation in computer rooms, yet the Trident TRX Series is rugged enough for factory floors or maintenance rooms. Precisely controlled system output is suitable for any lighting or critical life safety loads up to the full rated output capacity.

Outstanding Features
- *Unmatched reliability*
- *Smallest system footprint*
- *Excellent efficiency with nonlinear and partial loads*
- *Outstanding dynamic response*
- *All-digital ActiveStar controls and graphical user interface*
- *Power factor corrected*
- *Harmonic current cancellation*

GENERAL SPECIFICATIONS

INPUT

Voltage:
120/208VAC, 60Hz 3-phase, 4-wire plus ground

Voltage Range: +10%, -20%

Frequency Range: 47-63Hz.

Current Distortion:
4% maximum reflected THD at full load

Current Limit:
125% of full load input current

Walk-In: 20 seconds to full load

Power Factor:
0.99 lagging minimum at full load

Surge Protection:
Sustains input surges without damage, per criteria listed in IEC 1000-4-5

ENVIRONMENTAL

Operating Temperature:
UPS: 32°F to 104°F (0°C to 40°C)
Battery: 68°F to 86°F (20°C to 30°C)

Relative Humidity:
0-95% non-condensing

Operating Altitude:
Up to 3,300 ft. (1,000m) without derating

Acoustical Noise:
Less than 54 dBA typical, measured 3.3 ft. (1 m) from the unit

User Interface Panel

OUTPUT

Voltage:
120/208VAC, 60Hz., 3-phase, 4-wire plus ground

Voltage Adjustment Range: ±5%

Voltage Regulation:
1% for balanced load
2% for 100% unbalanced load

Dynamic Regulation:
±4% deviation for 100% load step
±1% for loss or return of AC input

Transient Response Time:
Recover to ±1% of steady state within 1 cycle

Voltage Distortion:
For linear loads, 1% THD. Less than 4% THD for 100% nonlinear loads without kVA/kW derating

Phasing Balance:
120° ±0.5° for balanced load
120° ±1° for 100% unbalanced load

Frequency Regulation: ±0.1%

Load Power Factor Range:
0.70 lagging to 0.95 leading without derating

Overload:
125% of full load for 10 minutes
150% for one minute, with true sinusoidal waveform

Outstanding Support
Assistance is available from the largest Customer service and Support network in the country.

Standards
Complies with UL 1778 (UPS) and UL 924 (Emergency) standards, and is CSA certified.

TRX Three Phase Systems

Product Selector

Size kVA/kW	UPS Cabinet No.	Battery Cabinet No. (1)
10/8	TRXSAA10114	TRXBATAR141BNR
15/12	TRXSAB10114	TRXBATBR271BNR
20/16	TRXSAC10114	TRXBATCR371BNR
30/24	TRXSAD10114	TRXBATDR311BNR(2)

(1) 90 minute run time. Contact factory for other run times.
(2) Two battery cabinets required on 30 kVA models

Options

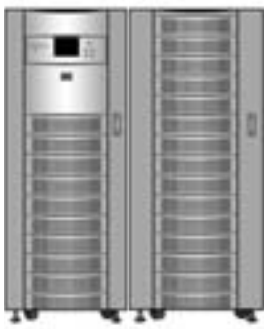
480 VAC Operation (Contact factory for proper configuration)
Intellislot Relay Board
Seismic Floor Kit

Site Planning Data — Trident UPS - 90 Minute Operation — 10-30 kVA, 3-Phase, 60 Hz.

System Rating		AC Voltage (1)		AC Input Current			Battery			AC Output		Mechanical Data			
							Nom.	Battery	Max.	Current		No. Of	Dimensions - WxDxH Weight	Heat Dis	
kVA	kW	Input	Output	Nom.	Max.	OCPD	VDC	kW	Discharge	Nom.	OCPD	Cabinets	inches (mm)	lbs. (kg)	BTU/hr (kWH)
10	8	208	208	28	35	50	288	9	37A	28	50	2	51x32.5x63 (1,295x826x1,600)	2,800 (1,275)	2,800 (0.82)
15	12	208	208	42	53	60	288	13	55A	42	60	2	51x32.5x63 (1,295x826x1,600)	3,350 (1,526)	4,200 (1.23)
20	16	208	208	56	70	80	288	18	73A	56	80	2	83x32.5x63 (2,057x826x1,600)	4,150 (1,890)	5,500 (1.61)
30	24	208	208	83	104	125	288	26	110A	83	125	3	142x32.5x63 (1,981x826x1,600)	6,650 (3,028)	8,300 (2.43)
See Notes For Table (Below):				--	1,3,7	--	--	--	1,3,7	1,3,7	6	--	--	--	--

(1) Contact factory for 480 VAC applications.

Cabinet Configurations



10 and 15 kVA Models

20 kVA Models

30 kVA Models

NOTES FOR TABLE:

1. UPS input and bypass cables must be run in separate conduit from output cables
2. Minimum-sized grounding conductors to be per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15 (b)(4). References are per NEC 1999.
3. Wiring requirements:
   AC Input: 3-phase, 4-wire, plus ground
   AC Output: 3-phase, 3- or 4-wire, plus ground
4. All wiring is to be in accordance with national and local electric codes.
5. Minimum access clearance is 3 ft. (0.9m) front and 18 in. (457mm) above the UPS.
6. Top or bottom cable entry through removable access plates. Punch plate to suit conduit size, then replace.
7. Control wiring and power wiring must be run in separate conduit.

ADDITIONAL NOTES:

- *If site configuration includes a backup emergency generator, it is recommended that the engine generator set be properly sized and equipped for a UPS application. Generator options would typically include an isochronous governor (generator frequency regulation) and a UPS-compatible regulator (generator voltage regulation). Consult generator manufacturer for required generator options and sizing.*
- *If site configuration includes an automatic transfer switch, refer to Power Line titled "Criteria for Application of Automatic Transfer Switches (ATS) With Uninterruptible Power Supply (UPS) Systems," publication 91K-PLT-48-02. It is also recommended that the transfer switch be equipped with auxiliary contacts for UPS "on generator" current limit. Consult transfer switch manufacturer for required transfer switch options and sizing.*
- *If site configuration requires an external isolated maintenance bypass circuit, it should be noted that utility AC input might not be in phase with the UPS AC output. Consult a Dual-Lite sales representative or applications engineer.*

TRN Three Phase Systems

trident

3-Phase
Inverter Power Systems

TRN Series

30 to 130 kVA, 3-Phase UPS

- ***Unmatched heritage of reliability and availability***
- ***Smallest system footprint***
- ***Excellent efficiency with nonlinear loads and partial loads***
- ***Outstanding dynamic response***
- ***All-digital controls and graphical user interface***

Dual-Lite has reinvented the dual-conversion UPS. The Trident™ Series is the result of an international design collaboration and more than a decade of advanced research.

Every aspect of the Trident™ Series shows careful design and attention to detail. The rugged power train and advanced DSP controls were subjected to computer simulations and thermal analysis to ensure reliable performance in every environment.

Even the physical packaging is uniquely efficient, to make fully configured systems more compact than our competitors.

Best of all, it's a Dual-Lite product - designed to deliver an impressive million-hour critical bus MTBF.

GENERAL SPECIFICATIONS

INPUT

Voltage: 208 or 480 VAC, 60 Hz (3-phase, 3-or 4-wire plus ground)
Voltage Range: +10, -15% (no battery discharge at-20%)
Frequency Range: 60 Hz, ± 5
Current Distortion: 10% maximum reflected THD at full load with optional input filter. 30% THD without filter
Current Limit: 115% of full load input current
Current Walk-in: 20 seconds to full load
Power Factor: 0.80 lagging minimum at full load. Up to 0.96 lagging at full load with optional input filter
Surge Protection: Sustains input surges without damage, per criteria listed in ANSI C62.41-1980 (IEEE 587)

ENVIRONMENTAL

Operating Temperature: 0° to 40°C (UPS), 20° to 30°C (battery)
Non-Operating Temperature: -20°C to 70°C
Relative Humidity: 0-95% non-condensing
Operating Altitude: Up to 6,600 feet (2000 meters) without derating
Acoustical Noise: Less than 65 dBA 1 meter from unit (typical)

OUTPUT

Voltage: 208 or 480 VAC (3-phase, 4-wire plus ground)
Voltage Adjustment Range: ±5%
Voltage Regulation:
±0.5% for balanced load
±1.0% for 100% unbalanced load
Dynamic Regulation: ±2.5% deviation for 100% load step.
±1% for loss or return of AC input
Transient Response: Recover to ±1% of steady state within 1 cycle

Voltage Distortion: For linear loads, 1% THD. Less than 2.5% THD for 100% nonlinear loads without kVA/kW derating
Phasing Balance: 120° ±0.5° for balanced load. 120° ±1° for 100% unbalanced load
Frequency Regulation: ±0.1%
Load Power Factor Range: 1.0 to 0.7 lagging without derating
Overload: 125% of full load for ten minutes. 150% for one minute, with true sinusoidal waveform

STANDARDS

Complies with UL 1778 (UPS) and UL 924 (Emergency) standards, and is CSA certified.

Slim-Line Distribution Cabinet

kVA	Dimensions (In.) (WxDxH)	Weight (lb)
All	10 x 32.5 x 71	250

Maintenance Bypass Cabinets

Model	Dimensions (In.) (WxDxH)	Weight (lb) 15-50 kVA	Weight (lb) 65-80 kVA	Weight (lb) 100-130 kVA
L	25 x 32.5 x 71	660	750	800
N	25 x 32.5 x 71	660	750	800
P	31.7 x 32.5 x 71	1,210	1,320	1,540
Q	31.7 x 32.5 x 71	1,210	1,320	1,540

TRN Three Phase Systems

Product Selector

Size kVA/kW	UPS Cabinet No. (480/480)	UPS Cabinet No. (208/208)	Battery Pack No.*
30/24	TRNSAD2026B	TRNSAD1016B	TRNBATDX471BNL
40/32	TRNSAE2026B	TRNSAE1016B	TRNBATEX312BNL
50/40	TRNSAF2026B	TRNSAF1016B	TRNBATFX372BNL
65/52	TRNSAG2026B	TRNSAG1016B	TRNBATGX472BNL
80/64	TRNSAH2026B	TRNSAH1016B	TRNBATHX274BNL
100/80	TRNSAI2026B	TRNSAI1016B	TRNBATIX473BNL
130/104	TRNSAJ2026B	TRNSAJ1016B	TRNBATJX474BNL

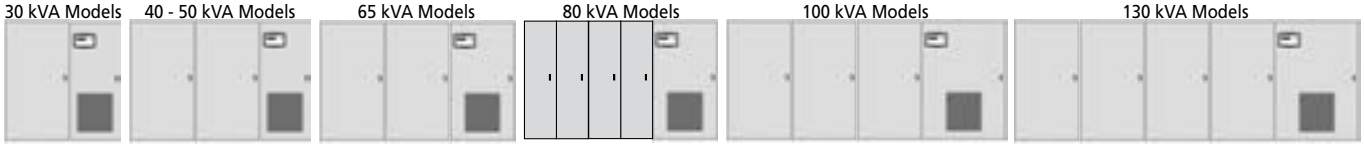
** 90 minute run time. Contact factory for other run times.*

Options

Programmable Relay Board
Internal Modem
Network Interface Card
AS/400 Signal Cable
Remote Alarm Status Panel

Cabinet Configurations

30 kVA Models | 40 - 50 kVA Models | 65 kVA Models | 80 kVA Models | 100 kVA Models | 130 kVA Models



Site Planning Data — Trident UPS - 90 Minute Operation — 30-130 kVA, 3-Phase, 60 Hz.

System Rating		AC Voltage		AC Input Current			Battery			AC Output Current		Mechanical Data			
kVA	kW	Input	Output	Nom.	Max.	OCPD	Nom. VDC	Battery kW	Max. Discharge	Nom.	OCPD	No. Of Cabinets	Dimensions - WxDxH Weight inches (mm)	Heat Dis lbs. (kg)	BTU/hr (kWH)
30	24	208	208	80	92	150	480	26	66A	83	125	2	80.7x32.5x71 (2,050x826x1,803)	7,250 (3,303)	8,500 (2.49)
30	24	480	208	33	38	60	480	26	66A	83	125	2	80.7x32.5x71 (2,050x826x1,803)	7,150 (3,257)	7,500 (2.19)
30	24	480	480	33	38	60	480	26	66A	36	50	2	80.7x32.5x71 (2,050x826x1,803)	6,950 (3,166)	11,000 (3.22)
40	32	208	208	106	122	175	480	34	88A	111	150	3	130x32.5x71 (3,294x826x1,803)	9,600 (4,373)	11,000 (3.22)
40	32	480	208	44	51	80	480	34	88A	111	150	3	130x32.5x71 (3,294x826x1,803)	9,500 (4,328)	10,000 (2.93)
40	32	480	480	44	51	80	480	34	88A	48	60	3	130x32.5x71 (3,294x826x1,803)	9,300 (4,237)	10,000 (2.93)
50	40	208	208	133	153	225	480	43	109A	139	175	3	130x32.5x71 (3,294x826x1,803)	10,200 (4647)	14,000 (4.10)
50	40	480	208	55	63	90	480	43	109A	139	175	3	130x32.5x71 (3,294x826x1,803)	10,100 (4601)	12,000 (3.51)
50	40	480	480	55	63	90	480	43	109A	60	80	3	130x32.5x71 (3,294x826x1,803)	9,900 (4510)	12,000 (3.51)
65	52	208	208	171	196	300	480	55	141A	180	25	3	137.4x32.5x71 (3,490x826x1,803)	12,800 (5831)	18,000 (5.27)
65	52	480	208	70	81	125	480	55	141A	180	225	3	137.4x32.5x71 (3,490x826x1,803)	12,600 (5740)	15,000 (4.39)
65	52	480	480	70	81	125	480	55	141A	78	100	3	137.4x32.5x71 (3,490x826x1,803)	12,400 (5649)	15,000 (4.39)
80	64	208	208	210	241	350	480	68	174A	222	300	5	139.4x32.5x71 (3,541x826x1,803)	14,700 (6697)	22,000 (6.44)
80	64	480	208	87	100	150	480	68	174A	222	300	5	139.4x32.5x71 (3,541x826x1,803)	14,500 (6606)	18,000 (5.27)
80	64	480	480	87	100	150	480	68	174A	96	125	5	139.4x32.5x71 (3,541x826x1,803)	14,300 (6515)	18,000 (5.27)
100	80	208	208	261	300	500	480	85	218A	278	350	4	196.2x32.5x71 (3,713x826x1,803)	18,950 (8633)	26,000 (7.61)
100	80	480	208	108	124	200	480	85	218A	278	350	4	196.2x32.5x71 (3,713x826x1,803)	18,750 (8542)	21,000 (6.14)
100	80	480	480	108	124	200	480	85	218A	120	150	4	196.2x32.5x71 (3,713x826x1,803)	18,550 (8451)	21,000 (6.14)
130	104	208	208	339	390	600	480	111	283A	361	450	5	245.2x32.5x71 (6,228x826x1,803)	24,000 (10934)	33,000 (9.66)
130	104	480	208	140	161	250	480	111	283A	361	450	5	245.2x32.5x71 (6,228x826x1,803)	23,800 (10843)	27,000 (7.90)
130	104	480	480	140	161	250	480	111	283A	156	200	5	245.2x32.5x71 (6,228x826x1,803)	23,600 (10751)	27,000 (7.90)
See Notes For Table (Below):				--	1,3,7	--	--	--	1,3,7	1,3,7	--	--	8	8	--

NOTES FOR TABLE:

1. The unit's input and bypass cables must be run in separate conduit from output cables.
2. Minimum-sized grounding conductors to be per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15(b)(4). References are per NEC 1999.
3. Wiring requirements:
   AC Input: 3-phase, 3-wire plus ground or 3-phase, 4-wire plus ground
   AC Output: 3-phase, 4-wire plus ground
   DC Input: 2-wire (positive and negative), plus ground
4. All wiring is to be in accordance with national and local electrical codes.
5. Minimum access clearance is 3 feet front and 1 foot above the unit.
6. Top or bottom cable entry through removable access plates. Cut plate to suit conduit size then replace.
7. Control wiring and power wiring must be run in separate conduit.
8. Weights and dimensions shown include battery cabinets.
9. OCPD-Overcurrent Protection Device.

ADDITIONAL NOTES:

- If site configuration includes a back-up emergency generator, it is recommended that the engine generator set be properly sized and equipped for the unit's application. Generator options would typically include an isochronous governor (generator frequency regulation) and a UPS-compatible regulator (generator voltage regulation). Consult generator manufacturer for required generator options and sizing.
- If site configuration includes an automatic transfer switch, refer to the Power Line titled "Criteria for Application of Automatic Transfer Switches (ATS) with Uninterruptible Power Supply (UPS) Systems" publication 91K-PLT-48-02. It is also recommended that the transfer switch be equipped with auxiliary contacts for the unit's "on generator" current limit. Consult transfer switch manufacturer for required transfer switch options and sizing.
- If site configuration requires an external isolated maintenance bypass circuit, it should be noted that utility AC input may not be in phase with the unit's AC output. Consult local sales representative or applications engineer.

Auxiliary Transfer Switching Device

ATSD

Features

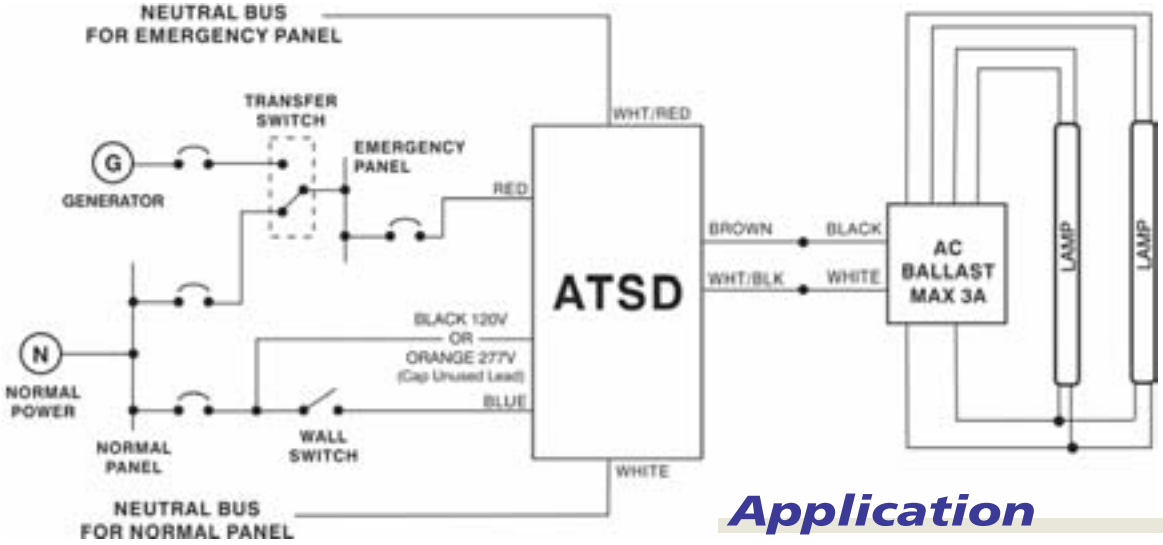
- Device allows generator or inverter supplied egress lighting fixtures to be switched
- For factory or field installation
- Compatible with all fluorescent fixtures
- Easy installation inside of ballast channel
- For use with switched fluorescent lighting fixtures
- Battery case made of galvanized steel
- Universal 120/277VAC operation
- Low power consumption
- Temperature range: 0°C to 50°C (32°F to 122°F)
- UL Listed

Ordering Information

ATSD

Installation

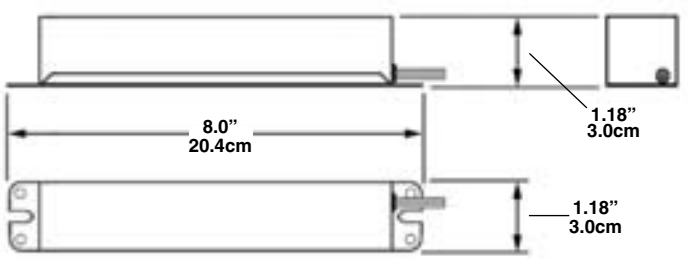
The ATSD auxiliary transfer device does not affect normal fixture operation and comes fully assembled to mount in the fixture ballast channel. In addition to available wiring, the device requires a direct, unswitched connection to a generator- or inverter-supplied emergency panel and an unswitched source on the same branch circuit as the switched supply (see diagram below).



Application

The ATSD auxiliary transfer switching device works in conjunction with an auxiliary generator or inverter power system to power existing fluorescent fixtures for egress lighting ***regardless of fixture wall switch position.*** The device consists of relay switching circuitry and fusing in one compact galvanized steel case. One auxiliary transfer switch device per fixture can be used to bypass fixture wall switch allowing the building's generator to bring on switchable fixtures and not just those on "night-light" circuits. The auxiliary transfer switch device is suitable for use in indoor-dry or damp location fixtures. Recommended applications include: auditoriums, classrooms, or any other location with generator- or inverter-supplied emergency lighting.

Dimensions



Notes

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