Philips Advance Ballast Quick Guide

2009–2010

PHILIPS
ADVANCE

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Lighting solutions for a sustainable future

As concerns about energy utilization and its effect on global climate change continue to make headlines, your customers are looking for ways to cost-effectively reduce their impact on the environment and comply with current energy efficiency regulations.

With the latest energy-efficient ballast technology and years of industry experience, we're helping customers achieve their sustainability goals and boost their productivity and profitability through innovative products, tools, and resources we call Smart Solutions.™

When you see the Smart Solutions indication in the following pages, you'll know your customers are getting the best the industry has to offer.

And we're here to provide you with the support you need to help your customers reduce their energy consumption with sustainable lighting solutions. Whether it's on the phone or online, answers are always available.

SMART™ SOLUTIONS

Call 800-372-3331 or visit www.philips.com/advance for:

- Product information and support — features, specifications, wiring diagrams, and more
- Dynamic cross-reference tool — find equivalent Philips Advance products for 24 different manufacturers
- Warranty information — details on our industry-leading PLUS 90 Protection®
- Sustainability information — get the latest information on energy regulations, rebate programs, and recycling options
- Advance University — online ballast-related training courses accredited by NALMCO, NAILD, AEE, and NCQLP

It's all part of the value we bring to our partnership with Grainger.

T8

Offices | Classrooms | Hallways | Restrooms | Healthcare Facilities

F32T8 Optanium® High-Efficiency Instant Start Electronic Fluorescent Ballasts

Engineered to optimize lighting performance and maximize energy savings, Optanium ballasts fully support the wide variety of T8 fluorescent lamps on the market. They are also one of the charter products of the NEMA Premium® Ballast Program.

	No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Lamps Operated							Philips Advance Model	Grainger SKU
						F17T8	F25T8	F32T8/ES (25W)	F32T8/ES (28W)	F32T8/ES (30W)	F32T8	F40T8		
●	1	120-277	25	0.22-0.10	0.77	1	1	1	1	1	1		IOPA1P32LWSC	3HCX1
●	1	120-277	28	0.25-0.11	0.87	1	1	1	1	1	1		IOPA1P32SC	3HCW9
●	1	120-277	39-38	0.33-0.14	1.18	1	1	1	1	1	1		IOPA1P32HLSC	4TLK4
●	2	120-277	48	0.41-0.17	0.77	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1	IOPA2P32LWSC	3HCX3
●	2	120-277	55-54	0.47-0.20	0.87	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1	IOPA2P32SC	3HCX2
●	2	120-277	74-72	0.62-0.26	1.18	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1	IOPA2P32HLSC	4TLK5
●	3	120-277	73-71	0.62-0.27	0.77	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2	IOPA3P32LWSC	3HCX5
●	3	120-277	82-80	0.70-0.30	0.87	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2	IOPA3P32SC	3HCX4
●	3	120-277	110-107	0.91-0.39	1.18	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2	IOPA3P32HLSC	4TLK6
●	4	120-277	96-94	0.81-0.35	0.77	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3	IOPA4P32LWSC	3HCX5
●	4	120-277	109-106	0.92-0.39	0.87	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3	IOPA4P32SC	3HCX6
●	4	120-277	146-143	1.23-0.53	1.18	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3	IOP4P32HL90CG	1FEW4

F32T8 Optanium High-Efficiency Programmed Start Electronic Fluorescent Ballasts

Programmed start ignition provides extended lamp life in frequent switching applications, such as those where occupancy sensors or motion detectors are being used.

	No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Lamps Operated							Philips Advance Model	Grainger SKU
						F17T8	F25T8	F32T8/ES (25W)	F32T8/ES (28W)	F32T8/ES (30W)	F32T8	F40T8		
●	1	120-277	25	0.20-0.09	0.72	1	1	1	1	1	1		IOP1S32LWSC	
●	1	120-277	28	0.24-0.10	0.88	1	1	1	1	1	1		IOP1S32SC	
●	2	120-277	47-46	0.38-0.17	0.71	2	2	2	2	2	2		IOP2S32LWSC	1FEV7
●	2	120-277	56-55	0.47-0.20	0.88	2	2	2	2	2	2		IOP2S32SC	1FEV4
●	3	120-277	71-70	0.59-0.21	0.71	3	3	3	3	3	3		IOP3S32LWSC	1FEV8
●	3	120-277	83-81	0.70-0.30	0.88	3	3	3	3	3	3		IOP3S32SC	1FEV5
●	4	120-277	93-91	0.77-0.33	0.71	4	4	4	4	4	4		IOP4S32LWSC	1FEV9
●	4	120-277	110	0.92-0.40	0.88	4	4	4	4	4	4		IOP4S32SC	1FEV6

F96T8 Optanium Instant Start Electronic Fluorescent Ballasts

These Philips Advance Optanium high-efficiency electronic ballasts are engineered to optimize lighting performance with Slimline lamps.

	No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Slimline Lamps Operated							Philips Advance Model	Grainger SKU
						F72T8	F96T8/ES	F96T8						
●	1 or 2	120-277	107	0.91-0.39	0.87	1 or 2	1 or 2	1 or 2					IOP2P59SC	1XWJ3

● Smart Solution

Optanium high-efficiency ballasts

Philips Advance Optanium high-efficiency electronic ballasts represent a breakthrough in fluorescent T8 system components. Engineered to optimize lighting performance and maximize energy savings, these innovative ballasts bring sustainable performance to recessed lighting, direct/indirect, or strip lighting applications in virtually any business setting.

As a charter product in the NEMA Premium Ballast Program, Optanium ballasts are recognized as supporting energy-efficient lighting objectives and often qualify for utility rebates. The National Electrical Manufacturers Association (NEMA) has created this program to help lighting professionals and end users recognize the market's highest-performing ballast products. For more information, visit www.philips.com/advance and click on the "Sustainability" tab.

Philips Advance Optanium electronic ballast 3HCX2

Offices | Classrooms | Hallways | Restrooms | Healthcare Facilities





T8

F32T8 Centium® Instant Start Electronic Fluorescent Ballasts

Reliable and energy-efficient, Centium high-frequency electronic ballasts offer all the energy-saving properties of our standard electronic line, plus the added benefit of lamp striation reduction technology — making these ballasts compatible with all energy-saving T8 lamps.

No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Lamps Operated							Philips Advance Model	Grainger SKU
					F17T8	F25T8	F32T8/ES (25W)	F32T8/ES (28W)	F32T8/ES (30W)	F32T8	F40T8		
1	120-277	31	0.26-0.12	0.90	1	1	1	1	1	1		ICN1P32N	3HHH4
1	120-277	30	0.25-0.11	0.88	1	1			1	1		ICN1I32MC	5KB44
2	120-277	59	0.49-0.22	0.88	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1	ICN2P32N	2MCX5
2	120-277	59	0.50-0.21	0.88	2	2			2	2		ICN2M32MC	5KB46
3	120-277	85	0.71-0.31	0.88	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2	ICN3P32SC	1VN21
4	120-277	112	0.94-0.41	0.88	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3	ICN4P32SC	1VN22

F32T8 Mark 5™ Programmed Start Electronic Fluorescent Ballasts

Designed for easy installation in new construction and retrofit settings, our new and improved Mark 5 ballasts for 1, 2, and 3 32W, 25W, and 17W T8 lamps offer a wide range of features for specialized lighting applications.

No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Lamps Operated							Philips Advance Model	Grainger SKU
					F17T8	F25T8	F32T8/ES (25W)	F32T8/ES (28W)	F32T8/ES (30W)	F32T8	F40T8		
1	120-277	32	0.28-0.12	0.88	1	1			1	1		IIC132SC	5KB54
2	120-277	61	0.51-0.22	0.88	2	2			2	2		IIC2S32SC	5KB50
3	120-277	91	0.76-0.32	0.88	3	3			3	3		IIC3S32SC	5KB52

No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8 Slimline Lamps Operated							Philips Advance Model	Grainger SKU
					F72T8	F96T8/ES	F96T8						
1 or 2	120-277	107	0.91-0.39	0.87	1 or 2	1 or 2	1 or 2					IOP2P59SC	1XWJ3

F96T8/HO Centium Programmed Start Electronic Fluorescent Ballasts

Reliable and energy-efficient, this Centium ballast is optimized for use with high-output T8 lamps.

No. of Lamps	Input Volts	Input Power	Line Current	Ballast Factor	Other T8/HO Lamps Operated							Philips Advance Model	Grainger SKU
					F48T8/HO	F60T8/HO	F72T8/HO	F96T8/HO					
1 or 2	120-277	185	1.57-0.68	0.95	1 or 2	1 or 2	1 or 2	1 or 2				ICN2S86	5KB48

● Smart Solution

Centium high-frequency ballasts

Centium high-frequency electronic ballasts offer all of the energy-saving properties of the standard electronic line plus the added benefits of low THD% and IntelliVolt technology (120–277V operation). The lamp striation reduction technology in Centium ballasts makes them compatible with energy-saving 25W and 28W T8 lamps, which are becoming very popular with customers looking to save energy and qualify for utility rebates.

In addition, Centium ballasts for 1-4 T8 fluorescent lamps have joined our Optanium high-efficiency T8 ballasts in the NEMA Premium Ballast Program, giving you a "better/best" option for your customers.

Philips Advance Centium ballast 2MCX5

T5

Warehouses | Offices | Classrooms | Workshops | Low Bay Retail | Restaurants

T5 and T5/HO Centium Programmed Start Fluorescent Ballasts

Offered in a broad range of fixed light output and dimmable versions, these energy-efficient ballasts are ideal for applications such as hotels, offices, schools, restaurants, and specialty and department stores.

	No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other T5 & T5/HO Lamps Operated							Philips Advance Model	Grainger SKU
								F14T5	F21T5	F28T5	F35T5	F24T5/HO	F39T5/HO	F54T5/HO		
●	1 or 2	120-277	F28T5	Centium	61-60	0.59-0.23	1.00	1 or 2	1 or 2	1 or 2					ICN2S28N	
●	1 or 2	120-277	F24T5/HO	Centium	52	0.49-0.19	1.00					1 or 2	1		ICN2S24	3CE44
●	1 or 2	120-277	F39T5/HO	Centium	87-85	0.73-0.31	1.00					1 or 2	1 or 2		ICN2S39	3CE45
●	1 or 2	120-277	F54T5/HO	Centium	120-117	1.00-0.43	1.00							1 or 2	ICN2S54	3CE46
●	1 or 2	120-277	F54T5/HO	Centium	120-117	1.00-0.43	1.00							1 or 2	ICN2S5490C	4FZN9
●	1 or 2	347-480	F54T5/HO	Centium	120-119	0.35-0.25	1.00							1 or 2	HCN2S5490CWL	2LMW5
●	3 or 4	120-277	F54T5/HO	Centium	240-234	2.00-0.86	1.00							3 or 4	ICN4S5490C2LSG	1FYE5
●	3 or 4	347-480	F54T5/HO	Centium	239-237	0.69-0.50	1.00							3 or 4	HCN4S5490C2LSG	1FYE3
●	1 or 2	120-277	F54T5/HO	Centium IBEAM®	120-117	1.00-0.43	1.00							1 or 2	ICN2S54D	4FZP1
●	3 or 4	120-277	F54T5/HO	Centium IBEAM	240-234	2.00-0.86	1.00							3 or 4	ICN4S542LSH	4FZP2

T5 Preheat Fluorescent Ballasts (separate starter required)

Standard electromagnetic core and coil construction continues to provide reliable 60Hz operation and economy over a wide variety of lighting system applications.

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other T5 Preheat Lamps Operated							Philips Advance Model	Grainger SKU
							F4T5	F6T5	F8T5						
1	120	F8T5	Magnetic	11	0.17	1.08	1	1	1					LC49C	6V834
1	120	F8T5	Magnetic	9	0.14	1.00	1	1	1					LPL59TP	1N120

T5 AmbiStar® Instant Start Fluorescent Ballasts

Specially designed for applications requiring instant flicker-free ignition in smaller lighting fixtures (under-cabinet, task, ambiance, orientation, outdoor residential, and sign lighting), AmbiStar ballasts also meet EPA ENERGY STAR residential and consumer EMI requirements, and offer less than one-second start times.

	No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other T5 Lamps Operated							Philips Advance Model	Grainger SKU
								F8T5	F8 & F13T5	F13T5						
●	1	120	F13T5	AmbiStar	14	0.21	1.00	1		1					RMB1P13S1	2LMV9
●	2	120	F13T5	AmbiStar	27	0.38	0.95	2	1 Each	2					RMB2P13S2	2LMW1

● Smart Solution

Philips Advance
Centium T5/HO ballast
1FYE5

Lobbies | Hallways | Conference Rooms | Accent/Track Lighting | Residential | Hospitality Guest Rooms | Patient Rooms

CFL

CFL (4-Pin) SmartMate® Programmed Start Fluorescent Ballasts

SmartMate electronic ballasts drive a broad range of quad and triple-tube lamps. The energy-efficient design and compact, lightweight housing make them an ideal replacement for incandescent downlighting systems in restaurants, reception areas, and conference and meeting rooms. These ballasts come in kits complete with wires, mounting plates, and hardware.

	No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other CFL (4-Pin) Lamps Operated								Philips Advance Model	Grainger SKU
								13W Quad	13W Triple	18W Quad	18W Triple	26W Quad	26W Triple	32W Triple	42W Triple		
●	1 or 2	120-277	13W 4-Pin	SmartMate	29	0.25-0.11	1.00	1 or 2	1 or 2							ICF2S13H1LDK	4ZZ33
●	1 or 2	120-277	18W 4-Pin	SmartMate	35	0.30-0.13	0.95			1 or 2	1 or 2					ICF2S18H1LDK	4ZZ34
●	1 or 2	120-277	26W 4-Pin	SmartMate	51	0.43-0.19	1.00					1 or 2	1 or 2	1	1	ICF2S26H1LDK	4ZZ35
●	1 or 2	120-277	42W 4-Pin	SmartMate	93	0.78-0.33	0.97					2	2	2	2	ICF2S42M2LDK	5YG67

CFL (4-Pin) AmbiStar Instant Start Fluorescent Ballasts

Specially designed for applications requiring instant flicker-free ignition in smaller lighting fixtures (under-cabinet, task, ambiance, orientation, outdoor residential, and sign lighting), AmbiStar ballasts also meet EPA ENERGY STAR residential and consumer EMI requirements, and offer less than one-second start times.

	No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other CFL (4-Pin) Lamps Operated						Philips Advance Model	Grainger SKU
								7W Twin	9W Twin	13W Quad	13W Triple	18W Quad	18W Triple		
●	1	120	13W 4-Pin	AmbiStar	14	0.20	1.00	1	1	1	1			RMB1P13S1	2LMV9
●	2	120	13W 4-Pin	AmbiStar	25	0.35	0.95	2	2	2	2	1	1	RMB2P13S2	2LMW1

CFL (2-Pin) Magnetic Preheat Fluorescent Ballasts

Standard electromagnetic core and coil construction continues to provide reliable 60Hz operation and economy over a wide variety of lighting system applications.

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other CFL (2-Pin) Lamps Operated						Philips Advance Model	Grainger SKU
							5W Twin	7W Twin	9W Twin	9W Quad	13W Twin	13W Quad		
1	120	9W 2-Pin	Magnetic	10	0.14	0.89	1	1	1	1			LPL59TP	1N120
2	120	13W 2-Pin	Magnetic	16	0.27	0.93					1	1	LC13TP	3JN60
2	120	13W 2-Pin	Magnetic	17	0.29	1.00					1	1	LO1322TP	1N119

Long Twin-Tube (4-Pin) Centium Instant Start Fluorescent Ballasts

Lightweight and compact, these ballasts are ideal for use in various types of office applications in the commercial, retail, hospitality, and healthcare markets. Independent lamp operation keeps the remaining lamps on, even when one lamp goes out.

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other Long Twin-Tube (4-Pin) Lamps Operated						Philips Advance Model	Grainger SKU
							40W Twin							
1	120-277	40W 4-Pin	Centium	39	0.33-0.14	0.88	1						ICN1TTP40SC	1XWJ4
1 or 2	120-277	40W 4-Pin	Centium	67	0.57-0.25	0.88	1 or 2						ICN2TTP40SC	1XWJ5
2 or 3	120-277	40W 4-Pin	Centium	99	0.83-0.35	0.88	2 or 3						ICN3TTP40SC	1XWJ6

● Smart Solution

Philips Advance SmartMate electronic ballast 4ZZ35

Magnetic T12 Conversion to Electronic

Offices Classrooms Hallways Restrooms

T12 Conversion for 4' and 8' Magnetic Ballasts

The Energy Policy Act of 2005 (EPAct 2005) provides a tax deduction for commercial buildings for the certified use of qualifying energy-efficient technologies in both new construction and renovation applications. This act also closes the loop on existing Department of Energy regulations that prohibit the sale of T12 magnetic ballasts after July 2010.

Grainger and Philips Lighting Electronics are leading the way with a complete line of proven T12 electronic ballasts that are excellent replacement options for our industry-leading magnetic fluorescent ballasts.

By converting to Philips Advance T12 electronic ballasts today, you can also enjoy the benefits of the same light output, quieter operation, improved efficiency (up to 30% more efficient than magnetic ballasts) and ENERGY STAR® compatibility (with selected products).

Lamp Information				T12 Electronic Ballasts			T8 Electronic Ballasts			Magnetic Ballast Cross Reference Chart			
Lamp Type	# of Lamps	Lamp Wattage	Input Volts	Philips Advance Model	Grainger SKU	Potential Energy Savings	Philips Advance Model	Grainger SKU	Potential Energy Savings	ADVANCE	GE	ULT	OSRAM
F34T12 F40T12	1	34W 40W	120	● RELB1S40SC*	● 2EKT3*	30%	● IOPA1P32SC^	● 3HCW9^	54%	R140-TP	GEM140RS120	723-L-SLH-TC-P	MB1X40/120RS
			277	VEL1S40SC	2LMW3	30%				V140-TP	N/A	724-L-SLH-TC-P	MB1X40/120RS
	2		120	● RELB2S40SC*	● 1XWJ2*	17%	● IOPA2P32SC^	● 3HCX2^	50%	R2S40-TP	GEM240RS120	446-L-SLH-TC-P	MB2X40/277RS
			277	ICN2S40N	4FZN3	16%				V2S40-TP	GEM240RS277	443-L-SLH-TC-P	MB2X40/277RS
F72T12 F96T12 F96T12/ES	1 or 2	55W 60W 75W	120	REL2P60SA	2JBC4	15% 27%	● IOPA2P59SC	● 1XWJ3	26-32%	R-2E75-S-TP R-2E60-S-TP	GEN296IS120	806-SLH-TC-P	MB2X96/120IS
			277	VEL2P75S	3V972	16% 26%				V-2E75-S-TP V-2E60-S-TP	GEN296IS277	827-SLH-TC-P	MB2X96/277IS
F48T12/HO F60T12/HO F72T12/HO	2	60W 75W 85W 95W	120	REL2S110	3V967	14%	ICN2S86	5KB48	22-25%	R2S110TP	GEM-296HORS120	480-SLH-TC-P	MB1X96/HO/120RS
	1 or 2	110W											
	2	60W 75W 85W 95W	277	VEL2S110	3V973	16%				V2S110TP	GEM-296HORS277	487-SLH-TC-P	MB1X96/HO/277RS
	1 or 2	110W											

^ NEMA Premium
* ENERGY STAR compatible
● Smart Solution

Philips Advance AmbiStar fluorescent ballast 1XWJ2

Offices Classrooms Hallways Restrooms




T12

Our broad line of T12 ballasts includes our standard electromagnetic, standard electronic, Centium, and AmbiStar (residential) lines for all your retrofit applications that use either energy-saving or standard lamps.

T12 Rapid Start Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other Rapid Start Lamps Operated							Philips Advance Model	Grainger SKU
							F13T8	F15T8	F14/15T12	F20T12	F30T12	F34T12	F40T12		
1	120	F20T12	Magnetic	28	0.55	0.83	1	1	1	1				RLQ120TP	5X791
1	120	F20T12	Magnetic	29	0.24	0.83		1	1	1				HM1P20TP	6V830
1	120	F34T12	AmbiStar	35	0.27	0.92					1	1	1	RELB140SC	2EKT3
1	277	F34T12	Standard Electronic	31	0.12	0.88					1	1	1	VEL1S40SC	2LMW3
2	120	F20T12	Magnetic	36	0.49	0.61	2	2	2	2				RL2SP20TP	3X964
2	120	F20T12	Magnetic	53	0.48	0.90		2	2	2				HM2SP20TP	6V832
2	120	F34T12	AmbiStar	62	0.53	0.85					2	2	2	RELB2S40SC	1XWJ2
2	120-277	F34T12	Centium	62	0.55-0.23	0.85					2	2	2	ICN2S40N	4FZN3
4	120	F34T12	Magnetic	144	1.26	0.88						4	4	R4S40ATPAC	3VK01

T12 Preheat Fluorescent Ballasts (separate starter required — except for LX140FTP)

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other Preheat Lamps Operated							Philips Advance Model	Grainger SKU
							F14/15T8	F18/19T8	F14/15T12	F20T12	F30T8	F30T12	F40T12		
1	120	F20T12	Magnetic	21	0.33	0.93	1	1	1	1				LC1420CTP	3JN61
1	120	F20T12	Magnetic	18	0.28	0.77	1	1	1	1				LO1322TP	1N119
1	120	F40T12	Magnetic	41	0.65	0.79					1	1	1	L140FTP	2W769
1	120	F40T12	Magnetic	40	0.63	0.83					1	1	1	LX140FTP	6V840

T12 Slimline Instant Start Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other Slimline Lamps Operated							Philips Advance Model	Grainger SKU
							F24/ F36T12	F42/ F48T12	F60/ F64T12	F72T12	F96T12				
1	120	F48T12	Magnetic	62	0.54	0.90	1	1						SM140STP	6V907
1	120	F96T12	Magnetic	92	0.82	0.94			1	1	1			RSM175STP	3X963
1	277	F96T12	Magnetic	94	0.35	0.94			1	1	1			VSM175STP	6V942
1 or 2	120	F96T12	Standard Electronic	135	1.13	0.88				1 or 2	1 or 2			REL2P60SA	2JBC4
1 or 2	120-277	F96T12	Centium	137/135	1.17/0.50	0.90				1 or 2	1 or 2			ICN2P60SC	
2	120	F48T12	Magnetic	96	0.82	0.90	2	2						SM2E40STP	2W772
2	277	F48T12	Magnetic	98	0.36	0.96		2						VSM2E40STP	6V943

T12/HO Rapid Start Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other HO Lamps Operated							Philips Advance Model	Grainger SKU
							F24/ F36T12	F42/ F48T12	F60/ F64T12	F72T12	F96T12				
1	120	F96T12/HO	Magnetic	140	1.20	0.98	1	1	1	1	1			RS110TP	6V880
1	277	F96T12/HO	Magnetic	145	0.54	1.00	1	1	1	1	1			VS110TP	6V944
1 or 2	120	F72T12/HO	Magnetic	184	1.54	0.91	2	1 or 2	1 or 2	1 or 2	1			RC2S85TP	6V858
1 or 2	277	F72T12/HO	Magnetic	180	0.67	0.90	2	1 or 2	1 or 2	1 or 2	1			VC2S85TP	6V920
1 or 2	120	F96T12/HO	Standard Electronic	205	1.74	0.89		2	2	2	1 or 2			REL2S110	3V967
2	120	F96T12/HO	Magnetic	237	2.00	0.95				2	2			R2S110TP	3X961
2	277	F96T12/HO	Magnetic	245	0.90	0.98				2	2			V2S110TP	3X962
3 or 4	120	F48T12/HO	Magnetic	288	2.40	0.92	3 or 4	3 or 4						RC4S60TP	6V862
3 or 4	120	F72T12/HO	Magnetic	323	2.73	0.75		3 or 4	3 or 4	3 or 4				RC4S85TP	6V863

T12/VHO Rapid Start Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Type	Ballast Family	Input Power	Line Current	Ballast Factor	Other VHO Lamps Operated							Philips Advance Model	Grainger SKU
							F48T12	F60T12	F72T12	F96T12					
1 or 2	120	F48T12/VHO	Magnetic	230	2.20	0.89	1 or 2	1	1	1				RC2S102TP	6V852
1 or 2	277	F48T12/VHO	Magnetic	241	0.94	0.87	1 or 2	1	1	1				VC2S102TP	6V916
2	120	F96T12/VHO	Magnetic	320	2.72	0.80		2	2	2				RC2S200TP	6V855
2	120	F96T12/VHO	Magnetic	358	3.31	0.85			2	2				RS2S200TP	5X790
2	277	F96T12/VHO	Magnetic	442	1.65	0.90			2	2				VS2S200TP	2W774

● Smart Solution

Dimming

Offices | Classrooms | Conference Rooms | Auditoriums | Hospitality Guest Rooms

F32T8 Mark 10® *Powerline* Controllable Programmed Start Electronic Ballasts

Mark 10 *Powerline* electronic dimming ballasts for linear T8 lamps combine the long life and energy efficiency of fluorescent technology with the controllability and full-range dimming of incandescent systems. And they're easy to install because they require no additional wiring.

	No. of Lamps	Input Volts	Ballast Factor	THD (full output)	Line Current (full output)	Input Power (max/min)	Other Lamps Operated						Philips Advance Model	Grainger SKU
							F17T8	F25T8	F32T8	F32T8/ ES30W†	F32T8/ ES28W†	F32T8/ ES25W†		
●	1	120	1.00	<10%	0.29	35/9	1	1	1	1	1	1	REZ132SC	1FYF3
●	1	277	1.00	<10%	0.13	35/9	1	1	1	1	1	1	VEZ132SC	1FYF4
●	2	120	1.00	<10%	0.57	68/15	2	2	2	2	2	2	REZ2S32SC	3VK04
●	2	277	1.00	<10%	0.25	68/15	2	2	2	2	2	2	VEZ2S32SC	
●	3	120	1.00	<10%	0.86	102/20	3	3	3	3	3	3	REZ3S32SC	3VK04
●	3	277	.88	<10%	0.37	102/20	3	3	3	3	3	3	VEZ3S32SC	

F32T8 Mark 7® *0–10V* Controllable Programmed Start Electronic Ballasts

The Mark 7 *0-10V* series of dimmable electronic ballasts for linear fluorescent, 4-pin CFL, and T5/HO are ideal for energy management systems in a broad range of commercial, institutional, and retail applications. They offer full-range continuous dimming and fully support sustainable (green) design.

	No. of Lamps	Input Volts	Ballast Factor	THD (full output)	Line Current (full output)	Input Power (max/min)	Other Lamps Operated						Philips Advance Model	Grainger SKU
							F17T8	F25T8	F32T8	F32T8/ ES30W†	F32T8/ ES28W†	F32T8/ ES25W†		
●	1	120-277	1.00	<10%	0.30-0.13	35/8	1	1	1	1	1	1	IZT132SC	5KB39
●	2	120-277	1.00	<10%	0.57-0.24	70/14	2	2	2	2	2	2	IZT2S32SC	5KB41
●	3	120-277	1.00	<10%	0.86-0.37	102/20	3	3	3	3	3	3	IZT3S32SC	5KB42
●	4	120-277	1.00	<10%	0.98-0.42	116/25	4	4	4	4	4	4	IZT4S32	

CFL (4-Pin) Mark 10® *Powerline* Controllable Programmed Start Electronic Ballasts

Mark 10 *Powerline* electronic dimming ballasts for CFL applications combine the long life and energy efficiency of fluorescent technology with the controllability and full-range dimming of incandescent systems. And they're easy to install because they require no additional wiring.

	No. of Lamps	Input Volts	Ballast Factor	THD (full output)	Line Current (full output)	Input Power (max/min)	Other Lamps Operated						Philips Advance Model	Grainger SKU
							F26 CFL	F32 CFL	F42 CFL					
●	1	120	1.00	<10%	0.41	49/10	1	1	1				REZ1T-42M2LDK	1FYF6
●	1	277	1.00	<10%	0.18	49/10	1	1	1				VEZ1T-42M2LDK	
●	2	120	1.00	<10%	0.48	58/16	2	–	–				REZ2Q26-M2LDK	1FYF5
●	2	277	1.00	<10%	0.21	58/16	2	–	–				VEZ2Q26-M2LDK	

F28T5 Optanium Step-Dim Programmed Start Electronic Ballasts

Designed to meet California's Title 24 requirements, these Optanium ballasts allow end users to reduce power by 50%. Programmed start circuitry provides extended lamp life when used with occupancy sensors or motion detectors, making these ballasts the sustainable choice for many commercial applications.

	No. of Lamps	Input Volts	Ballast Factor (max/min)	THD (full output)	Line Current (full output)	Input Power (max/min)	Other Lamps Operated						Philips Advance Model	Grainger SKU
							F28T5							
●	2	120-277	0.95/0.35	<10%	0.50	58/28	2						IOP2S-2895SCSD	2LMW6
●	2	120-277	1.15/0.48	<10%	0.60	71/35	2						IOP2S-28115SCSD	2LMW7

† Consult lamp manufacturer for operation of energy-saving T8 lamps with dimming ballasts

● Smart Solution

Mark 10 *Powerline*

For situations where fluorescent dimming is required but building controls aren't in place, the Philips Advance Mark 10 *Powerline* makes it a snap to add all the benefits of dimming capability without rewiring. Simply install the ballast, replace the switch with a dimmer, confirm that RS sockets are installed, and your customer is ready to dim the lights.

Mark 7 *0-10V*

Versatile and eco-friendly, Philips Advance's Mark 7 *0-10V* dimmable electronic ballasts represent an affordable and flexible dimming solution for a broad range of commercial, institutional, and retail applications. These energy-efficient ballasts incorporate separate control leads for use with a wide array of controllers, including occupancy sensors, photocell (daylight) controls, and building management systems to deliver full-range continuous dimming.

General Lighting

Outdoor Signage

Circline and Signage

Circline Fluorescent Ballasts

Standard electromagnetic core and coil construction continues to provide reliable 60Hz operation and economy over a wide variety of lighting system applications.

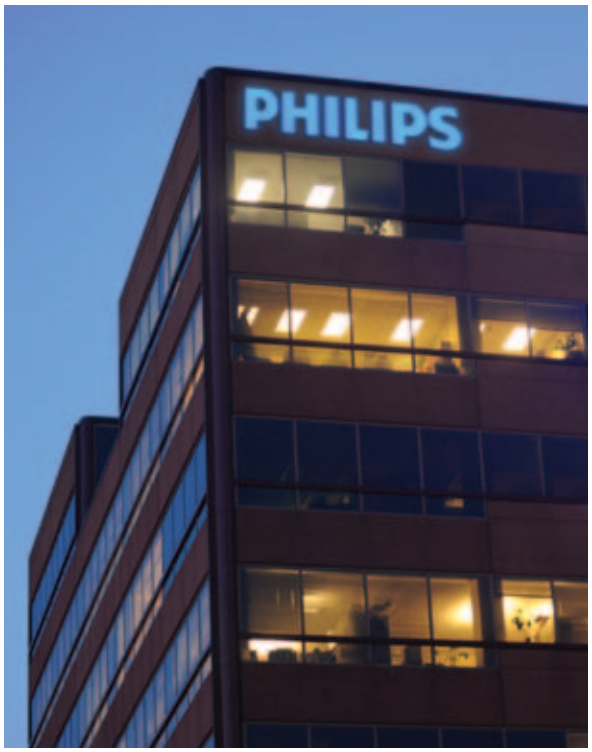
No. of Lamps	Input Volts	Lamp Type	Input Power	Line Current	Ballast Factor	Other Rapid Start Lamps Operated						Philips Advance Model	Grainger SKU
						FC6T9	FC8T9	FC12T9	FC16T9	FC8T9 & FC12T9	FC12T9 & FC16T9		
1	120	FC8T9	25	0.53	0.75	1	1					RLQS122TPW	6V872
1	120	FC16T9	28	0.44	0.50			1	1			RLCS140TPW	6V871
2	120	FC8T9 & FC12T9	46	0.40	0.70					1 Each		RS2232TPW	2W770
2	120	FC12T9 & FC16T9	56	0.76	0.60						1 Each	RS3240TPW	6V885

Sign Ballasts for T12/HO Fluorescent Lamps

With a mere three ballasts covering over 200 different fluorescent lamp combinations, Philips Advance signPRO® electronic ballasts for T12/HO rapid start fluorescent lamps offer a convenient, reliable, and energy-saving alternative to conventional magnetic ballasts. Delivering energy savings of up to 20% when compared to magnetic ballasts, our signPRO electronic sign ballasts run a total of 1 to 6 lamps and operate 4 to 48 feet of total lamp footage.

No. of Lamps	Input Volts	Lamp Type	Input Power	Line Current	Ballast Factor	Min. Start Temp. (F)	Total T12/HO Lamp Footage Operated			Philips Advance Model	Grainger SKU
							Min.	Max.	Type		
1-2	120	T12/HO	175	1.46	0.73	-20	4 feet	16 feet	Electronic	ASB041612E	4FZN4
1-2	120	T12/HO	175	1.48	0.89	-20	4 feet	12 feet	Magnetic	ASB041212BLTP	6V820
2-4	120	T12/HO	350	2.95	0.73	-20	12 feet	32 feet	Electronic	ASB123224E	4FZN5
2-4	120	T12/HO	304	2.56	0.90	-20	6 feet	20 feet	Magnetic	ASB062024BLTP	6V821
2-4	120	T12/HO	312	2.70	0.84	-20	12 feet	24 feet	Magnetic	ASB122424BLTP	6V822
2-4	120	T12/HO	472	4.00	0.80	-20	20 feet	40 feet	Magnetic	ASB204024BLTP	6V824
4-6	120	T12/HO	490	4.17	0.73	-20	20 feet	48 feet	Electronic	ASB204846E	4FZN6
4-6	120	T12/HO	462	3.90	0.78	-20	12 feet	40 feet	Magnetic	ASB124046BLTP	6V823
4-6	120	T12/HO	604	5.19	0.86	-20	24 feet	48 feet	Magnetic	ASB244846BLTP	3V992

Philips Advance
signPRO T12/HO ballast
6V822



HID

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VAL-U-PAK Plus Magnetic HID Replacement Kits

Our VAL-U-PAK Plus magnetic HID replacement kits assemble the required components — including lamp, core and coil, the appropriate capacitor, ignitor (where required), mounting bracket and hardware, and instructions — in one convenient package. This saves valuable time for MRO and contractor applications.

Lamp Watts	ANSI Code	Input Volts	Circuit Type	Watts Input	Max* Input Current	Nom Open Circuit Voltage	Fuse Rating (Amps)	Non-PCB Capacitor			Total Weight (lbs)	Standard Ignitor	U.L Bench Top Rise Code	Philips Advance Model	Grainger SKU
								Mfd	Min Volt	Dry or Oil		Max Dist to Lamp (ft)			
Metal Halide															
70	M98 (Med. Base or M143)	120/208/240/277	HX-HPF	90	1.9/1.0/.9/.8	255	4/3/2/2	8	280	D	5	Yes 15	A/A/A/A	77L5292001D	
100	M90 or M140	120/208/240/277	HX-HPF	129	2.3/1.4/1.2/1.0	265	6/4/3/3	12	280	D	5.5	Yes 20	B/C/A/A	77L5390001D	
150	M102 or M142	120/208/240/277	HX-HPF	185	3.7/2.1/1.8/1.6	265	10/5/5/4	16	280	D	7	Yes 10	C/C/C/C	77L5492001D	
175/150	175: M57 150: M107	120/208/240/277	CWA	210	1.8/1.1/.9/.8	305	5/3/3/2	10	400	D	6.8	No	C/C/D/D	77L5570001D	
250	M58	120/208/240/277/480	CWA	290	2.6/1.5/1.4/1.1/.7	315	8/5/5/3/2	15	400	D	10	No	A/A/B/A/B	77L5750001D	5KB51
400	M59	120/208/240/277/480	CWA	460	4.1/2.3/2.0/1.7/1.0	300	10/7/5/5/3	24	400	D	14	No	D/C/D/C/D	77L6051001D	5KB49
1000	M47	120/208/240/277/480	CWA	1080	9.0/5.6/4.7/4.1/2.4	430	22/15/12/10/6	24	480	O	22	No	D/D/D/C/C	77L6552001	5KB47
High Pressure Sodium															
100	S54	120/208/240/277	HX-HPF	130	2.2/1.3/1.1/0.9	120	7/5/3/3	10	280	D	7.2	Yes 2	D/F/D/D	77L8071001D MED	
150	S55	120/208/240/277	HX-HPF	188	2.8/1.6/1.4/1.3	120	10/5/5/5	14	280	D	7.5	Yes 2	E/D/E/D	77L8172001D MOG	
250	S50	120/208/240/277/480	CWA	300	2.6/1.5/1.3/1.2/0.7	185	10/4/4/3/2	35	240	D	12	Yes 2	B/B/B/B/B	77L8251001D	5KB45
400	S51	120/208/240/277/480	CWA	465	3.9/2.2/1.9/1.7/1.0	195	10/6/5/5/3	55	240	D	16	Yes 2	C/C/D/D/C	77L8453001D	5KB55
1000	S52	120/208/240/277/480	CWA	1100	9.5/5.5/4.8/4.2/2.3	437	25/15/12/10/6	26	525	O	29	Yes 15	C/C/C/C/C	77L8753001	5KB53

Philips Advance VAL-U-PAK Plus replacement kit
5KB49

VAL-U-PAK Plus magnetic HID replacement kits with lamp

These kits eliminate the need for stocking loose components or single-voltage ballasts for 120–480V applications — plus they include a premium-grade clear lamp.

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HID

HID Core and Coil Ballast Kits

Unique to the industry, Philips Advance ballasts are manufactured using an exclusive vacuum impregnation process. This process provides quieter operation and lengthens life, protecting against premature ballast failure and voltage breakdown. Philips Advance ballast kits are compatible with most HID metal halide or high pressure sodium fixtures and come complete with capacitor, core and coil, ignitor (where applicable), mounting bracket and hardware.

Lamp Watts	ANSI Code	Input Volts	Circuit Type	Watts Input	Max* Input Current	Nom Open Circuit Voltage	Fuse Rating (Amps)	Non-PCB Capacitor			Total Weight (lbs)	Standard Ignitor	U.L Bench Top Rise Code	Philips Advance Model	Grainger SKU
								Mfd	Min Volt	Dry or Oil		Max Dist to Lamp (ft)			
Metal Halide															
35	M130	120/277	HX/NPF HX-HPF	56	1.6/.7/.9/.4	230	4/2 3/1	5	280	D	3.3 3.5	Yes 15	B/A	71A5081500D	
50	M110 or M148	120/277	HX-HPF	72	1.0/.5	260	3/2	6	280	D	4	Yes 10	A/A	71A5181001D	
70	M98 (Med. Base or M143)	120/208/240/277	HX-HPF	90	1.9/1.0/.9/.8	255	4/3/2/2	8	280	D	5	Yes 15	A/A/A/A	71A5292001D	3LE31
		120/277/347			1.9/.8/.7	255	4/2/2	8	280	D	5	Yes 15	A/A/A	71A52A2001D	
100	M90 or M140	120/208/240/277	HX-HPF	129	2.3/1.4/1.2/1.0	265	6/4/3/3	12	280	D	5.5	Yes 20	B/C/A/A	71A5390001D	3V555
		120/277/347			2.6/1.2/1.0	280	6/3/2	12	280	D	5.5	Yes 25	B/B/B	71A53A0001D	
150 Pulse Start	M102 or M142	120/208/240/277	HX-HPF	185	3.7/2.1/1.8/1.6	265	10/5/5/4	16	280	D	7	Yes 10	C/C/C/C	71A5492001D	1FYG1
175/150	175: M57 150: M107	120/208/240/277	CWA	210	1.8/1.1/.9/.8	305	5/3/3/2	10	400	D	6.8	No	C/D/D/D	71A5570001D	3A531
		480			0.5	305	2	10	400	D	8.5	No	D	71A5540001D	
		120/277/347			1.8/.8/.7	305	5/2/2	10	400	D	7	No	C/C/D	71A55A0001D	
175 Pulse Start	M137 or M152	120/208/240/277	Super CWA	208	1.9/1.1/.9/.8	275	5/3/3/3	11	370	D	7	Yes 2	C/C/C/C	71A5593001D	
200 Pulse Start	M136	120/208/240/277	Super CWA	232	2.1/1.2/1.0/.9	240	6/4/3/3	15	330	D	8	Yes 2	A/B/A/A	71A5692001D	4PL59
250	M58	120/208/240/277/480	CWA	290	2.6/1.5/1.4/ 1.1/.7	315	8/5/5/3/2	15	400	D	10	No	A/A/B/ A/B	71A5750001D	1FYG2
	M58	120/277/347	CWA	295	2.5/1.1/.9	315	8/3/3	15	400	D	10	No	A/A/A	71A57A0001D	
	M58	120/208/240/277	CWA	294	2.6/1.5/1.3/1.1	300	8/5/5/3	15	400	D	9	No	C/C/D/D	71A5791001D	1N108
	M58	480	CWA	248	0.7	300	2	15	400	D	9	No	H	71A5741001D	
250 Pulse Start	M138 or M153	120/208/240/277	Super CWA	290	2.5/1.4/1.3/1.1	275	8/5/5/3	17	330	D	9.5	Yes 5	A/A/A/B	71A5792001D	5YG60
320 Pulse Start	M132, M154 or M170	277	Linear Reacor HPF	342	1.9	277	5	17.5	280	D	9.5	Yes 15	A	71A5837001D	5YG61
	M132, M154 or M170	120/208/240/277	Super CWA	368	3.3/1.9/1.7/1.4	270	8/6/5/3	21	345	D	11	Yes 2	B/B/B/B	71A5892001D	4PL60
350 Pulse Start	M131 or M171	120/208/240/277	Super CWA	400	3.4/2.0/1.7/1.5	270	10/7/5/5	22.5	345	D	11	Yes 2	D/C/C/C	71A5993001D	4PL62
400	M59	120/208/240/277	CWA	458	4.0/2.3/2.0/1.7	300	10/7/5/5	24	400	D	11.5		D/E/D/E	71A6071001D	1A029
	M59	120/208/240/277/480	CWA	460	4.1/2.3/2.0/ 1.7/1.0	300	10/7/5/ 5/3	24	400	D	14	No	D/C/D/ C/D	71A6051001D	1FYG3
	M59	120/277/347	CWA	460	4.0/1.7/1.4	300	10/5/4	24	400	D	12	No	D/D/D	71A60A1001D	
400 Pulse Start	M135 or M155 or M172	120/208/240/277	Super CWA	452	3.8/2.2/1.9/1.7	265	10/7/5/5	26	330	D	11	Yes 10	D/C/D/D	71A6092001D	4PL63
750 Pulse Start	M149	277/347/480	Super CWA	818	3.0/2.5/1.7	355	8/7/5	28	400	D	17	Yes 15	E/E/E	71A64F2001D	1ND73
														71A6452001D	
1000	M47	120/208/240/277	CWA	1080	9.0/5.2/4.5/3.9	430	20/15/ 10/10	24	480	O	21	No	D/B/B/B	71A6572001	1A030
	M47	120/208/240/277/480	CWA	1080	9.0/5.6/4.7/4.1/2.4	430	22/15/ 12/10/6	24	480	O	22	No	D/D/D/ C/C	71A6552001	1FYD8
	M47	120/277/347	CWA	1080	9.0/3.9/3.2	430	20/10/8	24	480	O	21	No	D/C/C	71A65A2001	
1000 Pulse Start	M141	120/208/240/277	Super CWA	1080	9.0/5.2/4.5/3.9	430	20/15/ 10/10	24	480	O	21	Yes 5	D/B/B/B	71A6593001	
	M141	347/480/120T	Super CWA	1075	3.2/2.4	430	8/6	24	440	O	21	Yes 5	D/D	71A65F3500T	
1500	M48	120/208/240/277	CWA	1605	13.5/7.8/ 6.8/5.9	450	30/25/ 20/15	32	525	O	30	No	G/E/E/G	71A6772001	1XWJ9
	M48	480	CWA	1625	3.4	450	10	32	525	O	31	No	E	71A6742001	

HID

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HID Core and Coil Ballast Kits continued

Lamp Watts	ANSI Code	Input Volts	Circuit Type	Watts Input	Max* Input Current	Nom Open Circuit Voltage	Fuse Rating (Amps)	Non-PCB Capacitor Mfd	Min Volt	Dry or Oil	Total Weight (lbs)	Standard Ignitor Max Dist to Lamp (ft)	U.L Bench Top Rise Code	Philips Advance Model	Grainger SKU
High Pressure Sodium															
35	S76	120	R-HPF	46	0.8	120	2	14	120	D	1.5	Yes 2	A	71A7707001DB	
50	S68	120	R-HPF	62	1.0	120	3	20	120	D	2	Yes 2	A	71A7807001DB	
		120/277	HX-HPF	66	1.0/.5	125	3/1	5	300	D	3.5	Yes 2	A/A	71A7801001D	6V627
70	S62	120/208/240/277	HX-HPF	91	1.4/.9/.8/.7	120	5/3/2/2	7	300	D	5.5	Yes 2	B/C/B/C	71A7971001D	1A975
		120/277/247	HX-HPF	93	1.4/.7/.6	120	5/2/2	7	300	D	5.5	Yes 2	A/B/A	71A79A1001D	
100	S54	120	R-NPF R-HPF	115	3.1 1.8	120	10 5	36	120	D	2.5 2.8	Yes 2	A/A	71A8007001DB	
		120/208/240/277	HX-HPF	130	2.2/1.3/1.1/0.9	120	7/5/3/3	10	280	D	7.2	Yes 2	D/F/D/D	71A8071001D	1A031
		480	HX-HPF	130	0.6	120	3	10	280	D	7.5	Yes 2	E	71A8041001D	
		120/277/347	HX-HPF	130	2.2/.9/.7	120	7/3/3	10	280	D	7.5	Yes 2	C/C/D	71A80A1001D	
150	S55	120	R-HPF	170	2.4	120	8	55	120	D	4	Yes 2	A	71A8107001DB	
		480	HX-HPF	188	0.7	120	2	14	280	D	9	Yes 2	E	71A8142001D	6V760
		120/208/240/277	HX-HPF	188	2.8/1.6/1.4/1.3	120	10/5/5/5	14	280	D	7.5	Yes 2	E/D/E/D	71A8172001D	1A032
		120/277/347	HX-HPF	188	2.8/1.3/.9	120	10/4/3	14	280	D	7.5	Yes 2	D/D/D	71A81A2001D	
250	S50	120/208/240/277/480	CWA	300	2.6/1.5/1.3/1.2/0.7	185	10/4/4/ 3/2	35	240	D	12	Yes 2	B/B/B/ B/B	71A8251001D	1FYD9
		120/208/240/277		295	2.5/1.5/1.3/1.1	185	7/4/4/3	35	240	D	11	Yes 2	B/A/B/B	71A8271001D	1A033
		120/277/347		295	2.7/1.2/.9	185	7/3/2	35	240	D	11.5	Yes 2	C/C/B	71A82A1001D	
400	S51	120/208/240/277/480	CWA	465	3.9/2.2/1.9/ 1.7/1.0	195	10/6/ 5/5/3	55	240	D	16	Yes 2	C/C/D/ D/C	71A8453001D	1FYE1
		120/208/240/277		464	3.8/2.2/1.9/1.7	190	10/8/5/5	55	240	D	13.5	Yes 2	D/D/ D/D	71A8473001D	1A034
		120/277/347		464	3.8/1.7/1.3	190	10/5/5	55	240	D	13.5	Yes 2	D/D/D	71A84A3001D	
1000	S52	480	CWA	1100	2.3	435	6	26	525	O	28	Yes 15	C	71A8743001	6V763
		120/208/240/277		1100	9.5/5.5/4.8/4.2	435	25/15/ 10/10	26	525	O	28	Yes 15	C/B/C/C	71A8773001	6V764
		120/277/347		1100	9.5/4.2/3.3	435	25/15/10	26	525	O	28	Yes 15	C/C/C	71A87A3001	

plus 90 PROTECTION

You can feel confident in the fact that we stand behind our solutions with the industry's best warranty program — PLUS 90 Protection. PLUS 90 Protection matches the published "system" warranty of any major lamp manufacturer, fluorescent or HID, and extends it for an additional 90 days.

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Grainger regional point of contact

Philips Lighting Electronics Sales Representatives

REGIONAL ALIGNMENT

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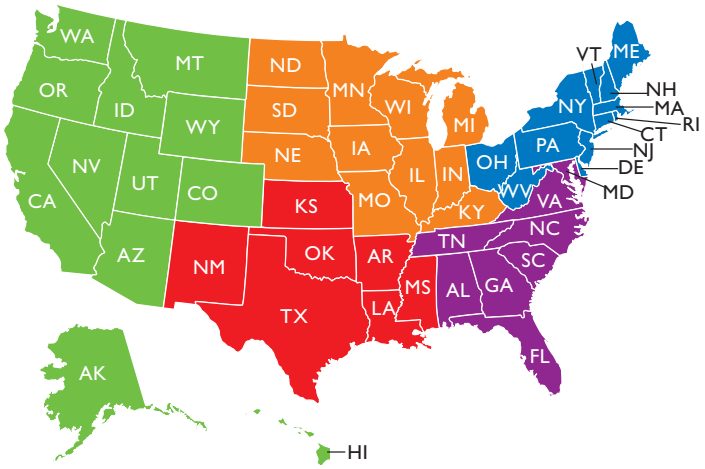
Southern Region

North Central Region

Western Region



Contact	Phone	Regional Responsibility	Email Address
Regional Manager, Mike Berens	**847-714-3436**	**North Central Region**	**michael.berens@philips.com**
Jim McDonough	734-834-4237	MI	jimjr@mcrep.com
Jeff Bluethmann	317-752-2298	IN, KY	jbluethmann@lestersalesco.com
Dave McGreer	314-401-9844	Eastern MO, Southern IL	dmcgreer@meglio.com
Brian Dibley	847-323-9532	IL Chicago North	brian.dibley@philips.com
Silvia Burdi	847-274-0895	IL Chicago Central/South, NW IN	silvia.burdi@philips.com
Scott Bailey	402-499-5579	NE	sbailey@neb.rr.com
Joe Quinn	612-860-0804	MN, SD, ND, Western WI	jquinn@gjsales.com
Lee Cush	262-617-0128	WI	lee.cush@philips.com
Joe Bertsch	319-395-9220	IA	joejr@bertschsales.com

Contact	Phone	Regional Responsibility	Email Address
Regional Manager, Brian Collins	**949-218-5659**	**Western Region**	**brian.collins@philips.com**
Tim Goodman	206-419-2105	Western WA, AK	tgoodman@hksalesllc.com
Bruce Bell	509-499-5508	Eastern WA, Northern ID	bbell@hksalesllc.com
Mike McChesney	360-635-8969	OR	mmcchesney@hksalesllc.com
Mike Murphy	503-360-5141	OR	mmurphy@hksalesllc.com
Brent Hollin	503-936-5677	OR	bhollin@ hksalesllc.com
Michael Lau	808-429-7134	HI	laucompany1@aol.com
Bart Reid	916-417-7947	Northwest NV	bartrei@att.net
Jeff Jones	602-318-4936	Phoenix AZ	jeff@jonesassc.com
Russ McDermott	602-206-5133	Tucson AZ	russ@jonesassc.com
Tim Klinger	720-208-0771	CO, WY	timk@i-pro-online.com
Pete Jones	801-556-0229	NV, UT, Southern ID	pete@emsreps.com
Tim Harmon	406-860-7227	MT	tim@ojsales.com
Dan Castaneda	818-219-1734	CA, Las Vegas NV	dan.castaneda@philips.com

Contact	Phone	Regional Responsibility	Email Address
Regional Manager, Vince Lostumbo	**585-721-6181**	**Northeast Region**	**vince.lostumbo@philips.com**
Randy Pinkofsky	508-894-8900	Eastern MA, ME, VT, NH, RI	rpinkofsky@bnyanow.com
Carol Maguire	774-776-7515	Inside Sales MA, ME, CT, VT, NH, RI	cmaguire@bnyanow.com
Kevin Kossbiel	860-558-1107	Western MA, CT	kkossbiel@aol.com
Rich Pignataro	908-616-2164	Northern NJ, Downstate NY	rich@burgoynesales.com
Bob Trate	610-248-3251	Eastern PA, Southern NJ, DE	btrate@bibensales.com
Robert Gioia	585-739-1921	Upstate NY	rgioia@ostermanassoc.com
David Paolicelli	412-496-9850	Western PA, WV	dpaolicelli@paolicelli.com
Kelley Corrigan	440-543-8257	Inside Sales North OH (Clev, Col, Tol)	kelley@riffle-assoc.com
Dee Johnson	513-771-0002	Inside Sales South OH (Cin, Day)	djohnson@riffle-assoc.com
Dyke Riffle	216-870-9797	OH	cybrdyke@ix.netcom.com
Greg Basler	513-479-4571	OH	gjbass@fuse.net

Contact	Phone	Regional Responsibility	Email Address
Regional Manager, Jim Johnson	**973-220-6933**	**Southeast Region**	**jim.johnson@philips.com**
Janet Thompson	410-987-5990	Inside Sales MD, DC	janet@othall.com
Gary Hall	410-627-6377	MD, DC	gbhall@othall.com
Mike Goleski	804-839-9944	NC, SC, VA	mgoleski@frminc.com
Tom Pierce	704-907-0899	NC, SC, VA	tpierce@frminc.com
Jack Buttery	727-460-0283	North FL	jbuttery@frminc.com
Mark Fink	561-248-2889	South FL	mfink@frminc.com
Steve King	404-786-5108	GA, AL, FL Panhandle	skingbb@hotmail.com
Chris Jackson	404-522-8124	Inside Sales GA, AL, FL Panhandle	cjackson@bishop-brogdon.com
Dan Sumner	615-394-7606	TN East (TN River East)	dan@jenkinsandassoc.com
Nikki Sumner	615-256-7606	Inside Sales TN East	nikki@jenkinsandassoc.com

Contact	Phone	Regional Responsibility	Email Address
Regional VP, Jerry Sharpe	**817-281-7095**	**Southern Region**	**jerry.sharpe@philips.com**
Dean Anderson	214-679-1100	Longview TX	dean.anderson@philips.com
Marc McCord	405-826-1183	OK, Wichita Falls TX	marc.mccord@philips.com
Jeff Techmanski	713-899-5377	Houston – South TX	jtechman@etelinc.com
Dean Jessop	210-861-2477	San Antonio – South TX	djessop@etelinc.com
Mack Johnson	214-244-0658	Midland TX	mackrjohnson@sbcglobal.net
Dan Nottoli	214-502-7026	Dallas TX	dan.nottoli@philips.com
James Dickey	501-834-4400	AR	apclr@swbell.net
Jim Stanker	913-522-5527	KS, MO West	jim.stanker@candoelec.com
Bill Loveless	713-882-6465	Beaumont TX	bloveles@etelinc.com
Gene Tramp	512-914-0858	Austin TX	gtramp@etelinc.com
Jim Henderson	504-542-8533	New Orleans, Baton Rouge LA	jim@gpccorp.com
Brad Childress	601-259-7641	Central MS, Northern LA	brad@gpccorp.com
Mike Le Compte	504-542-3688	Gulf Coast MS and LA	mike@gpccorp.com
Craig Coleman	505-250-6872	El Paso TX	ccoleman@s-squire.com
Tom Bollman	505-270-7935	Albuquerque NM	tbollman@s-squire.com
Mark Miller	731-460-1224	TN West, MS North	markut@bellsouth.net