

ELECTRONIC FLUORESCENT BALLASTS

Fluorescent Ballasts - Electronic - Optanium

High-efficiency electronic ballasts for a broad range of T5 and T8 lamps

Optanium ballasts for T5 and T8 lamps are part of our effort to promote environmental responsibility through Smart Solutions - energy efficient products, lighting systems, services and expertise through Philips Advance branded products. They are also one of the charter products of the NEMA Premium® Ballast Program. All of this makes these ballasts part of an overall high-efficiency lighting system that may help you achieve LEED certification, meet ASHRAE standards, become compliant with California Title 24 Energy Efficiency Standards, or any other local energy code you or your customers need to be in compliance.

Optanium ballasts will help you and your customers meet a variety of application challenges including luminaire design, installation, maintenance, and evolving lamp technology. Optanium ballasts are available in a standard light output, low-watt, and a high light output design. Also these ballasts come in options with cold-starting capability down to -20°F (with standard fluorescent lamps). These two features combined make it ideal for just about any T5 or T8 fixture design and application. These ballasts are available in either instant start or programmed start ignition for extended lamp life in frequent switching applications such as those where occupancy sensors or motion detectors are being used. Optanium ballasts are also available in program start with parallel wiring.

Setting Industry Standards for Ballast Efficiency

As a charter product in the NEMA Premium® Ballast Program, Optanium ballasts are recognized as supporting energy-efficient lighting objectives. 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 on the NEMA Premium Ballast Program, visit www.philips.com/advance and click on the "Sustainability" tab and then click on "NEMA Premium."

Striation-reduction technology

Reduces the likelihood of striation often associated with energy-saving lamps, for consistent light output

Cold temperature lamp ignition down to -20°F for instant or program start ballasts

Brings energy-efficient T5 and T8 performance to a variety of new applications such as parking garages, warehouses, and cold storage areas

Arc-reduction technology — UL Type CC

UL Type CC* (on certain ballasts)

Program start parallel (PSP)

Program start ballasts with parallel wiring delivers independent lamp operation preventing premature lamp shut down ultimately reducing maintenance

High efficiency design

Maximize energy savings with improved ballast efficiency



The following ballasts are NEMA Premium®:

IOP-1P32-SC	IOP-3P32-HL-90C-SC	IOPA-2P32-HL-N
IOP-1P32-LW-SC	IOP-4P32-SC	IOPA-2P32-HL-SC
IOP-2P32-SC	IOP-4P32-LW-SC	IOPA-3P32-N
IOP-2P32-LW-SC	IOPA-4P32-HL-90C-G	IOPA-3P32-LW-N
IOP-2P32-HL-SC	IOPA-1P32-N	IOPA-3P32-HL-N
IOP-3P32-SC	IOPA-1P32-LW-N	IOPA-4P32-N
IOP-3P32-LW-SC	IOPA-2P32-N	IOPA-4P32-LW-N
		IOPA-4P32-HL-SC

* When operating standard non-energy saving lamps

As a licensee in the NEMA Premium Ballast Program, Philips Lighting Electronics N.A. has determined that these products meet the NEMA Premium specification for premium energy efficiency.

ELECTRONIC FLUORESCENT BALLASTS

Ordering Information

How to Order

Philips Lighting Systems and Controls has developed the industry's broadest distribution system for electronic ballasts. More than 3000 stocking distributors nationwide. For information on the distributor best able to serve your needs, please call 800-372-3331.

Electronic Ballast Part Number Breakdown

I	CF	-	2	S	26	-	HI	-	LD
CFL Mounting/Connector Options BL = Bottom leads BLS = Bottom leads with mounting studs BS = Bottom mounting studs with single entry color coded connectors EL = End leads LD = Length mounting feet with SmartMate® dual entry color coded connectors QS = QuikStart Linear Fluorescent Mounting/Connector Options 2LS = 2 Level Switching									
CFL Can Description H1 = Hybrid metal / plastic case, size 1 M1 = Metal case, size 1 M2 = Metal case, size 2 M3 = Metal case, size 3 M4 = Metal case, size 4 M5 = Metal case, size 5 M6 = Metal case, size 6 Linear Fluorescent Can Description 90C = 90°C maximum case temperature rating A = 'A' can D = 'D' can G = 'G' can HL = High light output L = 'L' can LW = Low watt MC = Micro can N = 'N' can SC = Small can									
Lamp Watts (Primary lamp)									
Wiring Configuration D = 2D, series M = Modified parallel** P = Parallel PSP = Programmed Start Parallel Q = Quad CFL, series S = Series T = Triple CFL, series TTS = Long twin tube, series TTP = Long twin tube, parallel									
Maximum Number of Lamps									
Family Name CF = Compact Fluorescent DA = ROVR EB = AmbiStar EZ = Mark 10® Powerline MB = AmbiStar TR = EssentialLine Powerline ZT = Mark 7® 0-10V CN = Centium DL = ROVR ELB = AmbiStar LV = EssentialLine 0-10V OP = Optanium UV = PureVolt									
Input Voltage G = 347V H = IntelliVolt 347V to 480V 50/60 Hz I = IntelliVolt 120V to 277V 50/60 Hz R = 120V V = 277V									

Corporate Offices
(800) 322-2086

Customer Support/Technical Service
(800) 372-3331
(+) | 847 390-5000 (International)

Visit our web site at
www.philips.com/advance

- Plan your lighting installation carefully; consider using the services of a qualified lighting designer
- Consult your local electric utility regarding demand side management rebate programs.
- Select the Philips Advance electronic ballast which best matches the requirements of your application. The technical specifications in this catalog (located on pages 9-6 to 9-13) will be useful in obtaining bids from electrical contractors.
- Contact your local Philips Lighting distributor. You will find them to be a helpful supplier of both products and information.

* Many current and all future electronic ballast part numbers will not use the "RH-TP" suffixes even though these ballasts will be thermally protected.

** Parallel Wiring Configuration. However, if one lamp fails, all other lamps in the circuit will extinguish.

ELECTRONIC FLUORESCENT BALLASTS

	Allowed Wiring Configuration			Maximum Lead Length (Feet) for Tandem or Through Wiring (Total length of all wires between ballast and lamp sockets)						Application Note
	Remote (max length)	Tandem	Through	Blue	Red	Yellow	Blue/White	Brown	Orange	
ICN-2S40-N	20'	Yes	Yes	4'	10'	10'				2
ICN-2S54	20'	Yes	Yes	20'	4'	20'				3
ICN-2S54-N	20'	Yes	Yes	20'	4'	20'				3
ICN-2S54-90C-SC	20'	Yes	Yes	20'	4'	20'				3
ICN-2S86	12'	Yes	Yes	12'	4'	12'				3 (b)
ICN-2S110-SC	20'	Yes	Yes	4'	20'	20'				2
ICN-2TTP40-SC	20'	Yes	Yes	20'	20'					1
ICN-3P32-N	20'	Yes	Yes	20'	20'					1 (e)
ICN-3S14-D	No	No	No							5
ICN-3TTP40-SC	20'	Yes	Yes	20'	20'					1
ICN-4P32-N	20'	Yes	Yes	20'	20'	20'				1 (e)
ICN-4S54-90C-2LS-G	20'	Yes	Yes	20'	4'	4'	20'	20'	20'	7
IDA-128-D	6'	NA	NA							4
IDA-132-SC	No	NA	NA							5
IDA-154	No	NA	NA							5
IDA-2S28-D	6'	Yes	Yes	6'	6'	6'				1
IDA-2S32-SC	No	No	Yes	5'	4'	4'				3
IDA-2S54	No	No	Yes	5'	4'	4'				3
IDA-3S32-G	No	No	No							5
IDA-4S32	No	No	Yes-8'	1'	1.25'	5.2'	1.25'	4.2'		3
IDL-2S26-M5-BS	No	No	No							5
IDL-2S26-M5-LD	No	No	No							5
IDL-2T42-M5-BS	No	No	No							5
IDL-2T42-M5-LD	No	No	No							5
IEZ-2S24-D	No	No	Yes	3'	2'	2'				3
ILV-2S32-SC	6'	Yes	Yes	6'	6'	6'				1
ILV-4S32-G	No	No	Yes-8'	1'	1.25'	5.2'	1.25'	4.2'		3
IOP-1P32-HL-SC	20'	NA	NA							1 (e)
IOP-1P32-LW-SC	20'	NA	NA							1 (e)
IOP-1P32-SC	20'	NA	NA							1 (e)
IOP-1S32-LW-SC	10'	NA	NA							4
IOP-1S32-SC	10'	NA	NA							4
IOP-2P32HL-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P32-LW-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P32-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P59-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2PSP32-LW-SC	20'	Yes	Yes	20'	20'	18'				1 (e)
IOP-2PSP32-SC	20'	Yes	Yes	20'	20'	18'				1 (e)
IOP-2PSP54-SC	20'	Yes	Yes	20'	20'	15'				1
IOP-2S28-95-SC-SD	7'	Yes	Yes	7'	7'	7'				1
IOP-2S28-115-SC-SD	7'	Yes	Yes	7'	7'	7'				1
IOP-2S28-95-SC	20'	Yes	Yes	20'	20'	20'				1
IOP-2S28-115-SC	20'	Yes	Yes	20'	20'	20'				1
IOP-2S32-LW-SC	10'	Yes	Yes	4'	10'	10'				2 (d)
IOP-2S32-SC	10'	Yes	Yes	4'	10'	10'				2 (d)
IOP-3P32-HL-90C-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3P32-LW-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3P32-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3PSP32-LW-SC	20'	Yes	Yes	20'	20'	18'	18'			1 (e)

**T8****ELECTRONIC FLUORESCENT BALLASTS****For 32W Lamps**

HIGH POWER FACTOR SOUND RATED A

Electronic
Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.	
F32T8, FBO31T8, F32T8/U6 (32W)												
2	120	IS	AmbiStar [‡]	REB-2P32-SC	56	0.88	120	0.80	0/-18	B	64	
		RS	PowrKut	RK-2S32-TP	66	0.86	15	0.60	50/10	A	21	
	277	RS	PowrKut	VK-2S32-TP	66	0.85	15	0.26		0/-18	A2	64
	120-277	IS	Centium	ICN-2M32-MC	59	0.88	10	0.50-0.21	N		*65	
				ICN-2P32-N	59	0.88	10	0.49-0.22				
				ICN-3P32-N	65	1.01	10	0.54-0.24				
		Optanium	IS	IOP-2P32-LW-SC	48	0.77	10	0.41-0.17	B	64		
				IOPA-2P32-LW-N					N			
				IOP-2P32-SC	55-54	0.87	10	0.47-0.20			B	
				IOPA-2P32-N							N	
				IOP-2P32-HL-SC	74-72	1.18	10	0.62-0.26			B	
				IOPA-2P32HL-N							N	
				IOP-3P32-LW-SC	55-54	0.85	10	0.46-0.20		B	*65	
				IOPA-3P32LW-N						N		
				IOP-3P32-SC	63-62	1.00	10	0.53-0.23		B		
				IOPA-3P32-N						N		
				IOP-3P32-HL-90C-SC	80-79	1.38	10	0.67-0.29		B		
				IOPA-3P32-HL-N						N		
				PS	IOP-2PSP32-LW-SC	46-45	0.71	10	0.40-0.17	0/-18	B	77
					IOP-2PSP32-SC	58	0.85	10	0.48-0.21			
					IOP-2PSP32-HL-SC	78-75	1.18	10	0.66-0.28			
					IOP-2S32-LW-SC	47-46	0.71	10	0.38-0.17			
					IOP-2S32-SC	56-55	0.88	10	0.47-0.20			
								21				
	347	PS	Optanium	GOP-2PSP32-SC	57	0.88	10	0.17	0/-18	B	77	
				GOP-2PSP32-LW-SC	52	0.71	10	TBD				
		IS		GOPA-2P32-LW-SC	48	0.78	10	0.14	-20/-29		64	
				GOPA-2P32-SC	54	0.88	10	0.16				
				GOPA-3P32-LW-SC	55	0.86	10	0.16				
				GOPA-3P32-SC	63	1.00	10	0.18			*65	
347/480	PS			HOP-2PSP32-HL-SC	TBD	1.18	10	TBD	0/-18			77

[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'

See pages I-2 and I-3 for specific SKU's that meet the NEMA Premium Standard

Refer to page I-38 and I-39 for dimensions

Refer to page I-58 and I-59 for wiring diagrams

Refer to pages 9-23 to 9-27 for lead lengths and shipping data



For 32W Lamps

HIGH POWER FACTOR SOUND RATED A

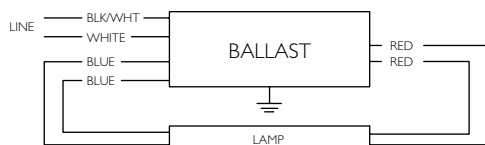


No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.	
F32T8, FBO3IT8, F32T8/U6 (32W)												
3	120	IS	AmbiStar [‡]	REB-4P32-SC	80	0.84	125	1.36	0/-18	B	*66	
	120-277	IS	Centium	ICN-3P32-N	85	0.88	10	0.71-0.31		N	65	
				ICN-4P32-N	93	1.00	10	0.78-0.33		N	*66	
			Optanium	IOP-3P32-LW-SC	73-71	0.77	10	0.62-0.27	B	65		
				IOPA-3P32LW-N					N			
				IOP-3P32-SC	82-80	0.87	10	0.70-0.30			B	
				IOPA-3P32-N							N	
				IOP-3P32-HL-90C-SC							B	
				IOPA-3P32-HL-N	110-107	1.18	10	0.91-0.39			N	
				IOP-4P32-LW-SC						B	*66	
				IOPA-4P32-LW-N						N		
				IOP-4P32-SC	90-88	0.97	10	0.75-0.32		B		
				IOPA-4P32-N						N		
				IOPA-4P32-HL-90C-G	120-119	1.26	10	1.02-0.44	G	71		
				IOPA-4P32-HL-SC	122-120	1.29	10	1.02-0.44	B			
		PS	Optanium	IOP-3PSP32-LW-SC	74	0.71	10	0.63-0.27	0/-18	B	178	
				IOP-3PSP32-HL-SC	113-110	1.18	10	0.94-0.40				
				IOP-4PSP32-HL-G	TBD	TBD	10	TBD				
				IOP-3PSP32-SC	85	0.88	10	0.71-0.31				30
				IOP-3S32-LW-SC	71-70	0.71	10	0.59-0.21				
				IOP-3S32-SC	83-81	0.88	10	0.70-0.30				
				GOP-4PSP32-SC	93	0.93	10	0.23			0/-18	B
	GOP-3PSP32-SC			TBD	0.88	10	TBD	65				
	GOP-3PSP32-LW-SC	TBD		0.71	10	TBD	-20/-29					
	GOPA-3P32-LW-SC	74		0.77	10	0.21	*66					
	GOPA-3P32-SC	84		0.88	10	0.24						
	GOPA-4P32-LW-SC	77		0.81	10	0.23						
	GOPA-4P32-SC	89		0.96	10	0.26	0/-18	G	178			
	HOP-3PSP32-HL-SC	TBD		1.18	10	TBD						
	HOP-4PSP32-HL-G	TBD		TBD	10	TBD						

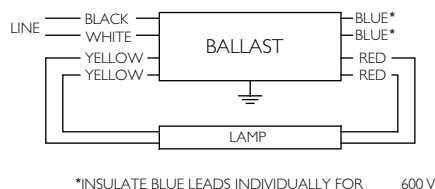
[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'



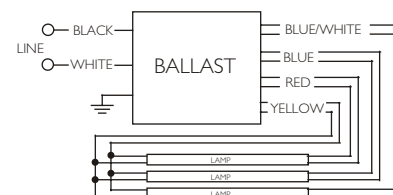
See pages I-2 and I-3 for specific SKU's that meet the NEMA Premium Standard



Diag. 20



Diag. 77



Diag. 178

Refer to page I-38 and I-39 for dimensions
 Refer to page I-59 for additional wiring diagrams
 Refer to pages 9-23 to 9-27 for lead lengths and shipping data

ELECTRONIC FLUORESCENT BALLASTS

Fluorescent Ballasts - Electronic - Optanium

High-efficiency electronic ballasts for a broad range of T5 and T8 lamps

Optanium ballasts for T5 and T8 lamps are part of our effort to promote environmental responsibility through Smart Solutions - energy efficient products, lighting systems, services and expertise through Philips Advance branded products. They are also one of the charter products of the NEMA Premium® Ballast Program. All of this makes these ballasts part of an overall high-efficiency lighting system that may help you achieve LEED certification, meet ASHRAE standards, become compliant with California Title 24 Energy Efficiency Standards, or any other local energy code you or your customers need to be in compliance.

Optanium ballasts will help you and your customers meet a variety of application challenges including luminaire design, installation, maintenance, and evolving lamp technology. Optanium ballasts are available in a standard light output, low-watt, and a high light output design. Also these ballasts come in options with cold-starting capability down to -20°F (with standard fluorescent lamps). These two features combined make it ideal for just about any T5 or T8 fixture design and application. These ballasts are available in either instant start or programmed start ignition for extended lamp life in frequent switching applications such as those where occupancy sensors or motion detectors are being used. Optanium ballasts are also available in program start with parallel wiring.

Setting Industry Standards for Ballast Efficiency

As a charter product in the NEMA Premium® Ballast Program, Optanium ballasts are recognized as supporting energy-efficient lighting objectives. 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 on the NEMA Premium Ballast Program, visit www.philips.com/advance and click on the "Sustainability" tab and then click on "NEMA Premium."

Striation-reduction technology

Reduces the likelihood of striation often associated with energy-saving lamps, for consistent light output

Cold temperature lamp ignition down to -20°F for instant or program start ballasts

Brings energy-efficient T5 and T8 performance to a variety of new applications such as parking garages, warehouses, and cold storage areas

Arc-reduction technology — UL Type CC

UL Type CC* (on certain ballasts)

Program start parallel (PSP)

Program start ballasts with parallel wiring delivers independent lamp operation preventing premature lamp shut down ultimately reducing maintenance

High efficiency design

Maximize energy savings with improved ballast efficiency



The following ballasts are NEMA Premium®:

IOP-1P32-SC	IOP-3P32-HL-90C-SC	IOPA-2P32-HL-N
IOP-1P32-LW-SC	IOP-4P32-SC	IOPA-2P32-HL-SC
IOP-2P32-SC	IOP-4P32-LW-SC	IOPA-3P32-N
IOP-2P32-LW-SC	IOPA-4P32-HL-90C-G	IOPA-3P32-LW-N
IOP-2P32-HL-SC	IOPA-1P32-N	IOPA-3P32-HL-N
IOP-3P32-SC	IOPA-1P32-LW-N	IOPA-4P32-N
IOP-3P32-LW-SC	IOPA-2P32-N	IOPA-4P32-LW-N
		IOPA-4P32-HL-SC

* When operating standard non-energy saving lamps

As a licensee in the NEMA Premium Ballast Program, Philips Lighting Electronics N.A. has determined that these products meet the NEMA Premium specification for premium energy efficiency.

ELECTRONIC FLUORESCENT BALLASTS

Ordering Information

How to Order

Philips Lighting Systems and Controls has developed the industry's broadest distribution system for electronic ballasts. More than 3000 stocking distributors nationwide. For information on the distributor best able to serve your needs, please call 800-372-3331.

Electronic Ballast Part Number Breakdown

I	CF	-	2	S	26	-	HI	-	LD
CFL Mounting/Connector Options BL = Bottom leads BLS = Bottom leads with mounting studs BS = Bottom mounting studs with single entry color coded connectors EL = End leads LD = Length mounting feet with SmartMate® dual entry color coded connectors QS = QuikStart Linear Fluorescent Mounting/Connector Options 2LS = 2 Level Switching									
CFL Can Description H1 = Hybrid metal / plastic case, size 1 M1 = Metal case, size 1 M2 = Metal case, size 2 M3 = Metal case, size 3 M4 = Metal case, size 4 M5 = Metal case, size 5 M6 = Metal case, size 6 Linear Fluorescent Can Description 90C = 90°C maximum case temperature rating A = 'A' can D = 'D' can G = 'G' can HL = High light output L = 'L' can LW = Low watt MC = Micro can N = 'N' can SC = Small can									
Lamp Watts (Primary lamp)									
Wiring Configuration D = 2D, series M = Modified parallel** P = Parallel PSP = Programmed Start Parallel Q = Quad CFL, series S = Series T = Triple CFL, series TTS = Long twin tube, series TTP = Long twin tube, parallel									
Maximum Number of Lamps									
Family Name CF = Compact Fluorescent DA = ROVR EB = AmbiStar EZ = Mark 10® Powerline MB = AmbiStar TR = EssentialLine Powerline ZT = Mark 7® 0-10V CN = Centium DL = ROVR ELB = AmbiStar LV = EssentialLine 0-10V OP = Optanium UV = PureVolt									
Input Voltage G = 347V H = IntelliVolt 347V to 480V 50/60 Hz I = IntelliVolt 120V to 277V 50/60 Hz R = 120V V = 277V									

Corporate Offices
(800) 322-2086

Customer Support/Technical Service
(800) 372-3331
(+) | 847 390-5000 (International)

Visit our web site at
www.philips.com/advance

- Plan your lighting installation carefully; consider using the services of a qualified lighting designer
- Consult your local electric utility regarding demand side management rebate programs.
- Select the Philips Advance electronic ballast which best matches the requirements of your application. The technical specifications in this catalog (located on pages 9-6 to 9-13) will be useful in obtaining bids from electrical contractors.
- Contact your local Philips Lighting distributor. You will find them to be a helpful supplier of both products and information.

* Many current and all future electronic ballast part numbers will not use the "RH-TP" suffixes even though these ballasts will be thermally protected.

** Parallel Wiring Configuration. However, if one lamp fails, all other lamps in the circuit will extinguish.

ELECTRONIC FLUORESCENT BALLASTS

	Allowed Wiring Configuration			Maximum Lead Length (Feet) for Tandem or Through Wiring (Total length of all wires between ballast and lamp sockets)						Application Note
	Remote (max length)	Tandem	Through	Blue	Red	Yellow	Blue/White	Brown	Orange	
ICN-2S40-N	20'	Yes	Yes	4'	10'	10'				2
ICN-2S54	20'	Yes	Yes	20'	4'	20'				3
ICN-2S54-N	20'	Yes	Yes	20'	4'	20'				3
ICN-2S54-90C-SC	20'	Yes	Yes	20'	4'	20'				3
ICN-2S86	12'	Yes	Yes	12'	4'	12'				3 (b)
ICN-2S110-SC	20'	Yes	Yes	4'	20'	20'				2
ICN-2TTP40-SC	20'	Yes	Yes	20'	20'					1
ICN-3P32-N	20'	Yes	Yes	20'	20'					1 (e)
ICN-3S14-D	No	No	No							5
ICN-3TTP40-SC	20'	Yes	Yes	20'	20'					1
ICN-4P32-N	20'	Yes	Yes	20'	20'	20'				1 (e)
ICN-4S54-90C-2LS-G	20'	Yes	Yes	20'	4'	4'	20'	20'	20'	7
IDA-128-D	6'	NA	NA							4
IDA-132-SC	No	NA	NA							5
IDA-154	No	NA	NA							5
IDA-2S28-D	6'	Yes	Yes	6'	6'	6'				1
IDA-2S32-SC	No	No	Yes	5'	4'	4'				3
IDA-2S54	No	No	Yes	5'	4'	4'				3
IDA-3S32-G	No	No	No							5
IDA-4S32	No	No	Yes-8'	1'	1.25'	5.2'	1.25'	4.2'		3
IDL-2S26-M5-BS	No	No	No							5
IDL-2S26-M5-LD	No	No	No							5
IDL-2T42-M5-BS	No	No	No							5
IDL-2T42-M5-LD	No	No	No							5
IEZ-2S24-D	No	No	Yes	3'	2'	2'				3
ILV-2S32-SC	6'	Yes	Yes	6'	6'	6'				1
ILV-4S32-G	No	No	Yes-8'	1'	1.25'	5.2'	1.25'	4.2'		3
IOP-1P32-HL-SC	20'	NA	NA							1 (e)
IOP-1P32-LW-SC	20'	NA	NA							1 (e)
IOP-1P32-SC	20'	NA	NA							1 (e)
IOP-1S32-LW-SC	10'	NA	NA							4
IOP-1S32-SC	10'	NA	NA							4
IOP-2P32HL-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P32-LW-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P32-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2P59-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-2PSP32-LW-SC	20'	Yes	Yes	20'	20'	18'				1 (e)
IOP-2PSP32-SC	20'	Yes	Yes	20'	20'	18'				1 (e)
IOP-2PSP54-SC	20'	Yes	Yes	20'	20'	15'				1
IOP-2S28-95-SC-SD	7'	Yes	Yes	7'	7'	7'				1
IOP-2S28-115-SC-SD	7'	Yes	Yes	7'	7'	7'				1
IOP-2S28-95-SC	20'	Yes	Yes	20'	20'	20'				1
IOP-2S28-115-SC	20'	Yes	Yes	20'	20'	20'				1
IOP-2S32-LW-SC	10'	Yes	Yes	4'	10'	10'				2 (d)
IOP-2S32-SC	10'	Yes	Yes	4'	10'	10'				2 (d)
IOP-3P32-HL-90C-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3P32-LW-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3P32-SC	20'	Yes	Yes	20'	20'					1 (e)
IOP-3PSP32-LW-SC	20'	Yes	Yes	20'	20'	18'	18'			1 (e)

**T8****ELECTRONIC FLUORESCENT BALLASTS****For 32W Lamps**

HIGH POWER FACTOR SOUND RATED A

Electronic
Fluorescent Ballasts

No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.	
F32T8, FBO31T8, F32T8/U6 (32W)												
2	120	IS	AmbiStar†	REB-2P32-SC	56	0.88	120	0.80	0/-18	B	64	
		RS	PowrKut	RK-2S32-TP	66	0.86	15	0.60	50/10	A	21	
	277	RS	PowrKut	VK-2S32-TP	66	0.85	15	0.26		0/-18	A2	64
	120-277	IS	Centium	ICN-2M32-MC	59	0.88	10	0.50-0.21	N		*65	
				ICN-2P32-N	59	0.88	10	0.49-0.22				
				ICN-3P32-N	65	1.01	10	0.54-0.24				
		Optanium	IOP-2P32-LW-SC	48	0.77	10	0.41-0.17	B	64			
								IOPA-2P32-LW-N		N		
			IOP-2P32-SC	55-54	0.87	10	0.47-0.20			B		
			IOPA-2P32-N							N		
			IOP-2P32-HL-SC	74-72	1.18	10	0.62-0.26			B		
			IOPA-2P32HL-N							N		
			IOP-3P32-LW-SC	55-54	0.85	10	0.46-0.20		B	*65		
			IOPA-3P32LW-N						N			
			IOP-3P32-SC	63-62	1.00	10	0.53-0.23		B			
			IOPA-3P32-N						N			
			IOP-3P32-HL-90C-SC	80-79	1.38	10	0.67-0.29		B			
			IOPA-3P32-HL-N						N			
			PS	Optanium	IOP-2PSP32-LW-SC	46-45	0.71	10	0.40-0.17	0/-18	B	77
					IOP-2PSP32-SC	58	0.85	10	0.48-0.21			21
					IOP-2PSP32-HL-SC	78-75	1.18	10	0.66-0.28			
					IOP-2S32-LW-SC	47-46	0.71	10	0.38-0.17			
					IOP-2S32-SC	56-55	0.88	10	0.47-0.20			
	347	PS	Optanium	GOP-2PSP32-SC	57	0.88	10	0.17	0/-18	B	77	
				GOP-2PSP32-LW-SC	52	0.71	10	TBD				
		IS		GOPA-2P32-LW-SC	48	0.78	10	0.14	-20/-29		64	
				GOPA-2P32-SC	54	0.88	10	0.16			*65	
				GOPA-3P32-LW-SC	55	0.86	10	0.16				
				GOPA-3P32-SC	63	1.00	10	0.18				
	347/480	PS	HOP-2PSP32-HL-SC	TBD	1.18	10	TBD	0/-18	77			

† The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'



See pages I-2 and I-3 for specific SKU's that meet the NEMA Premium Standard

Refer to page I-38 and I-39 for dimensions
 Refer to page I-58 and I-59 for wiring diagrams
 Refer to pages 9-23 to 9-27 for lead lengths and shipping data



For 32W Lamps

HIGH POWER FACTOR SOUND RATED A

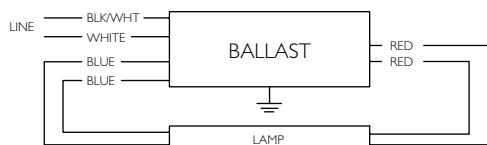


No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.	
F32T8, FBO3IT8, F32T8/U6 (32W)												
3	120	IS	AmbiStar [‡]	REB-4P32-SC	80	0.84	125	1.36	0/-18	B	*66	
	120-277	IS	Centium	ICN-3P32-N	85	0.88	10	0.71-0.31		N	65	
				ICN-4P32-N	93	1.00	10	0.78-0.33		N	*66	
			Optanium	IOP-3P32-LW-SC	73-71	0.77	10	0.62-0.27	B	65		
				IOPA-3P32LW-N					N			
				IOP-3P32-SC	82-80	0.87	10	0.70-0.30			B	
				IOPA-3P32-N							N	
				IOP-3P32-HL-90C-SC							B	
				IOPA-3P32-HL-N	110-107	1.18	10	0.91-0.39			N	
				IOP-4P32-LW-SC						B	*66	
				IOPA-4P32-LW-N						N		
				IOP-4P32-SC	90-88	0.97	10	0.75-0.32		B		
				IOPA-4P32-N						N		
				IOPA-4P32-HL-90C-G	120-119	1.26	10	1.02-0.44	G			
				IOPA-4P32-HL-SC	122-120	1.29	10	1.02-0.44	B	71		
		PS	Optanium	IOP-3PSP32-LW-SC	74	0.71	10	0.63-0.27	0/-18	B	178	
				IOP-3PSP32-HL-SC	113-110	1.18	10	0.94-0.40				
				IOP-4PSP32-HL-G	TBD	TBD	10	TBD				
				IOP-3PSP32-SC	85	0.88	10	0.71-0.31			30	
				IOP-3S32-LW-SC	71-70	0.71	10	0.59-0.21				
				IOP-3S32-SC	83-81	0.88	10	0.70-0.30				
				GOP-4PSP32-SC	93	0.93	10	0.23	0/-18	B		
	347	PS		GOP-3PSP32-SC	TBD	0.88	10	TBD				
				GOP-3PSP32-LW-SC	TBD	0.71	10	TBD				
				GOPA-3P32-LW-SC	74	0.77	10	0.21	-20/-29		65	
		IS		GOPA-3P32-SC	84	0.88	10	0.24			*66	
				GOPA-4P32-LW-SC	77	0.81	10	0.23				
				GOPA-4P32-SC	89	0.96	10	0.26				
	347/480	PS		Optanium	HOP-3PSP32-HL-SC	TBD	1.18	10	TBD	0/-18	G	178
					HOP-4PSP32-HL-G	TBD	TBD	10	TBD			

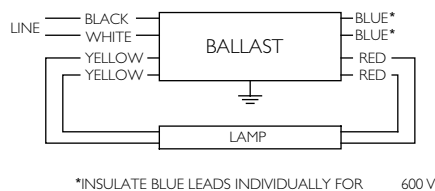
[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'



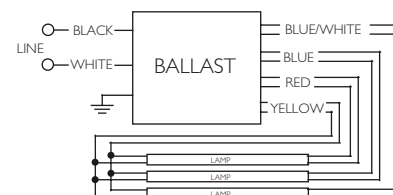
See pages I-2 and I-3 for specific SKU's that meet the NEMA Premium Standard



Diag. 20



Diag. 77



Diag. 178

Refer to page I-38 and I-39 for dimensions
Refer to page I-59 for additional wiring diagrams
Refer to pages 9-23 to 9-27 for lead lengths and shipping data