

ELECTRONIC FLUORESCENT CONTROLLABLE BALLASTS

Fluorescent Ballasts – Electronic - EssentialLine Family

EssentialLine Family of Electronic Dimming Ballasts for Linear Fluorescent T8 Lamps

The Philips Advance EssentialLine family of dimmable ballasts offer an alternative-feature set ballast for both Powerline and 0-10V dimming systems. They provide a lower up-front cost while achieving similar energy savings as other solutions over the life of the system. These ballasts optimize the benefits of such popular sustainable lighting techniques as daylight harvesting, occupancy sensing and load shedding to satisfy the need for a more affordable and flexible controllable lighting solution.

The EssentialLine family of ballasts are designed for use with a wide array of controllers, including wallbox dimmers, daylight harvesting controls, and building management systems from more than 30 control manufacturers.

The Powerline versions provide an easy solution without the need for additional control leads. Simply replace the ballasts, replace the switch, dim the lights, that's all it takes. The 0-10V version of the ballast reduces the number of controls required and allows for a single control to operate across multiple branch circuits. This family of ballasts are ideal for energy savings in such applications as offices, conference rooms, educational facilities, hotels, and retail as well as other new construction or retrofit installations. Dimming system paybacks just got shorter.

Meets NEMA Premium[®], CSA Energy Efficiency, requirements and RoHS compliance

Helps your efforts to create a more sustainable workplace

Continuous dimming range from 100% light output down to 20%

Provides task appropriate lighting, while supporting regulations and performance standards such as LEED

Programmed start operation

Potentially extends lamp life in frequent switching applications such as occupancy sensors and daylight harvesting

EssentialLine Powerline control requirements

Input voltage to dimmer	Control Voltage to Ballast (from Dimmer)	
	Max Light Output	Min Light Output
120V	120V	56V
277V	277V	129V



The following ballasts meet NEMA Premium[®]:
ILV-2S32-SC, ILV-4S32-G, RTR-2S32-SC, VTR-2S32-SC

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.

Note: Easy way to test dimming functionality for the 0-10V ballasts is to 'short' together the violet and grey control wires. If the lamps go to full dim, then the ballast is dimming fine.



T8

For 17 - 32W Lamps

EssentiaLine 0-10V Dimming Ballast



No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Max/Min		Full Light Output		Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.
					Input Power ANSI (Watts)	Ballast Factor	THD %	Line Current (Amps)			
F17T8, FBO16T8 (17W)											
2	120-277	PS	EssentiaLine	ILV-2S32-SC	32/13	0.88/0.20	20	0.25 - 0.11	50/10	B	175A
F25T8, FBO24T8 (25W)											
2	120-277	PS	EssentiaLine	ILV-2S32-SC	44/15	0.88/0.20	20	0.37 - 0.16	50/10	B	175A
F32T8, FBO31T8, F32T8/U6 (32W)											
2	120-277	PS	EssentiaLine	ILV-2S32-SC	59/18	0.88/0.20	20	0.50 - 0.21	50/10	B	175A
4				ILV-4S32-G				1.00 - 0.43		G	176



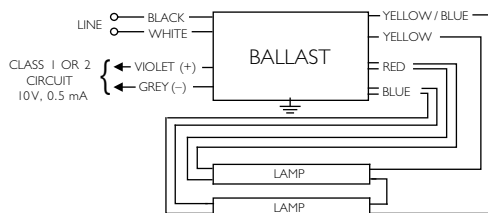
EssentiaLine
Controllable Ballasts

EssentiaLine Powerline Dimming Ballast

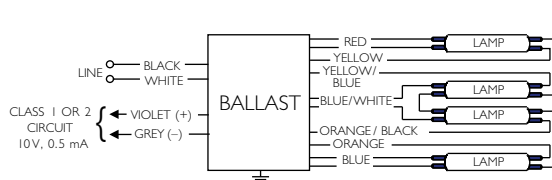
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					Input Power ANSI (Watts)	Ballast Factor	THD %	Line Current (Amps)			
F17T8, FBO16T8 (17W)											
2	120	PS	EssentiaLine	RTR-2S32-SC	32/14	0.88/0.20	20	0.27	50/10	B	180
	277			VTR-2S32-SC				0.12			
F25T8, FBO24T8 (25W)											
2	120	PS	EssentiaLine	RTR-2S32-SC	46/17	0.88/0.20	20	0.39	50/10	B	180
	277			VTR-2S32-SC				0.17			
F32T8, FBO31T8, F32T8/U6 (32W)											
2	120	PS	EssentiaLine	RTR-2S32-SC	59/20	0.88/0.20	20	0.50	50/10	B	180
	277			VTR-2S32-SC				0.22			



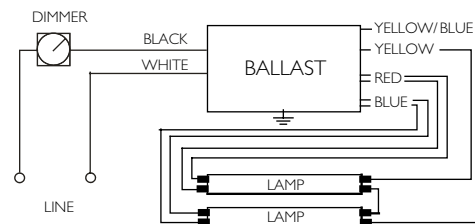
Some lamp manufacturers recommend burning in new lamps 100 hours at full light output before dimming. Consult lamp manufacturer.



Diag. 175A



Diag. 176



Diag. 180

EssentiaLine 0-10V DC Control Wiring (Grey and Violet)

Wire Size	Maximum Length (Ft.)
AWG-16	800
AWG-18	500
AWG-20	320
AWG-22	200
AWG-24	120

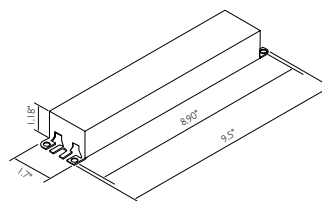


Fig. B

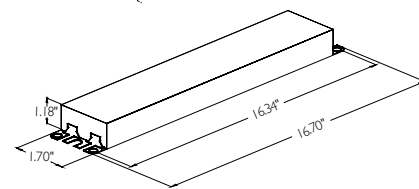


Fig. G

ONLY USE RAPID-START SOCKETS

Refer to pages 1-15 to 1-19 for information on remote/tandem wiring and lead length extension
Refer to pages 9-23 to 9-27 for lead lengths and shipping data

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														
<p>CFL Mounting/Connector Options</p> <p>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</p> <p>Linear Fluorescent Mounting/Connector Options</p> <p>2LS = 2 Level Switching</p>																							
<p>CFL Can Description</p> <p>HI = 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</p> <p>Linear Fluorescent Can Description</p> <p>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</p>																							
<p>Lamp Watts (Primary lamp)</p>																							
<p>Wiring Configuration</p> <p>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</p>																							
<p>Maximum Number of Lamps</p>																							
<p>Family Name</p> <table border="0"> <tr> <td>CF = Compact Fluorescent</td> <td>CN = Centium</td> </tr> <tr> <td>DA = ROVR</td> <td>DL = ROVR</td> </tr> <tr> <td>EB = AmbiStar</td> <td>ELB = AmbiStar</td> </tr> <tr> <td>EZ = Mark 10® Powerline</td> <td>LV = EssentiaLine 0-10V</td> </tr> <tr> <td>MB = AmbiStar</td> <td>OP = Optanium</td> </tr> <tr> <td>TR = EssentiaLine Powerline</td> <td>UV = PureVolt</td> </tr> <tr> <td>ZT = Mark 7® 0-10V</td> <td></td> </tr> </table>										CF = Compact Fluorescent	CN = Centium	DA = ROVR	DL = ROVR	EB = AmbiStar	ELB = AmbiStar	EZ = Mark 10® Powerline	LV = EssentiaLine 0-10V	MB = AmbiStar	OP = Optanium	TR = EssentiaLine Powerline	UV = PureVolt	ZT = Mark 7® 0-10V	
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<p>Input Voltage</p> <p>G = 347V H = IntelliVolt 347V to 480V 50/60 Hz I = IntelliVolt 120V to 277V 50/60 Hz R = 120V V = 277V</p>																							

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)