



549 Series

Fluorescent Lamp Driver Unit (72V DC)

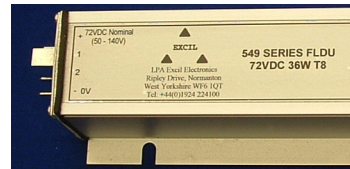
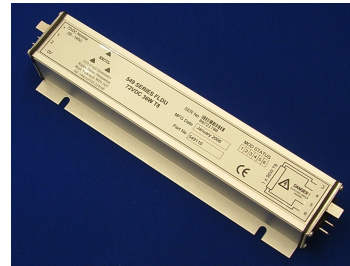


Long Life Reliability
does not cost the earth

LPA-EXCIL ELECTRONICS

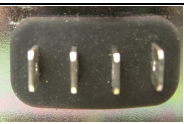
Feature Summary

- High power output—variants available capable of driving 60 and 70W lamps.
- Advanced Electronic Lamp Drive incorporates True Soft-Start technology to prolong lamp life.
- High reliability design. All variants >187,000 hours MTBF (32 years)*
- Automatic shutdown gives enhanced passenger comfort.
- Variants available for a wide variety of different lamp types.



Product Codes

- Due to the wide range† of options available, individual products in the 549 series range are referred to by product code below.

549 Product Range Standard Features		
Enclosure Type	Standard UIC555 Enclosure (Figure 1)	
Input/Output Connectors	0.25" Faston Blades x 8	
Supply Voltage	72V DC	

Single Lamp Variants			
Lamp Type	Product Code #	Lamp Type	Product Code #
28W 2D	549160	58W T8	549152
60W CIRC.	549142	36W T8	549110
22W CIRC.	549126	30W T8	549118
13W T5	549168	18W T8	549122
8W T5	549134	15W T8	549130
70W T8	549138		

Twin Lamp Variants	
Lamp Type	Product Code #
18W T8	549157
15W T8	549148

* MTBF calculated using US MIL-217F GM standard.

† The most popular 549 series variants are shown in the table above. Other variants are available on request - contact us for more details.

Input Specification

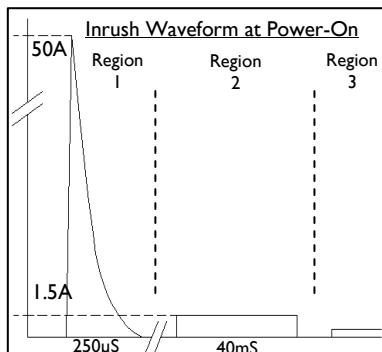
Input Voltage and Current Data

All Variants		
Nominal Device Supply Voltage	72	V DC
Input Supply Voltage Range	50-90	
Input voltage limit without damage	154	

72V DC Products			
Lamp Type		Input Current Single Lamp*	Input Current Twin Lamp*
2D	28W	489	NA
	60W	778	NA
CIRC.	22W	295	NA
	13W	220	397
T5	8W	140	280
	70W	990	NA
T8	58W	808	NA
	36W	530	NA
	30W	465	NA
	18W	335	670
	15W	255	510
			mA DC

Power On Inrush Data

All Variants		
Peak Inrush Current	50 (@ 90V DC)	A
Time to Half Value	200 (@ T=25°C)	µs



Region 1: All variants incorporate an inductor to limit the peak value of the input capacitor charging current.

Region 2: The input supply voltage is boosted to a regulated value via a current controlled process. During this process the input current is limited to 1.5A.

Region 3: The input current drops to quiescent levels until the lamp drive is activated and steady state current consumption results.

* Input current values across the entire operational voltage range are available on request



Output Specification*

	All variants	
Arc Current Crest Factor†	< 1.5, all variants	
Minimum Must Strike Temp.	-30‡	°C
Lamp Strike Switch Cycles	Whole range >100,000 strikes, in accordance with UIC555-1 2.13/3.5	

Environmental Specification

		All Variants	
Unit Weight		450	g
Dry Heat (Steady State)	RIA13 1990	70	°C
		6	Hrs
Sealing		IP65	
Shock and Vibration		EN50155 & EN61373	
Operating Temperature Range		-30 to +55 (58W & 70W)	°C
		-30 to +70 (all other variants)	
MTBF - Ground Mobile @ 40°C (16 hours/day)		187,000	Hrs
		32	Yrs

Compliance

The 549 Series FLDUs comply with the following standards:

- EN50121-3-2
- EN61373
- EN50155
- EN60529 to IP65

* Further details of lamp drive output parameters are available on request.

† The 549 Series FLDU will strike the lamp without the requirement for a 'Striking Aid' within the above temperature limit.

‡ All EMC immunity tests for the 549 series product range comply with performance criteria 'A'

Safety Specification

All 549 Series variants come equipped with the following protection circuitry as standard:

- DC Input voltage reverse protection (non-destructive).
- Lamp misconnection and failure protection.
- No lamp, no strike feature.
- Under voltage cut-off.

Installation Guide

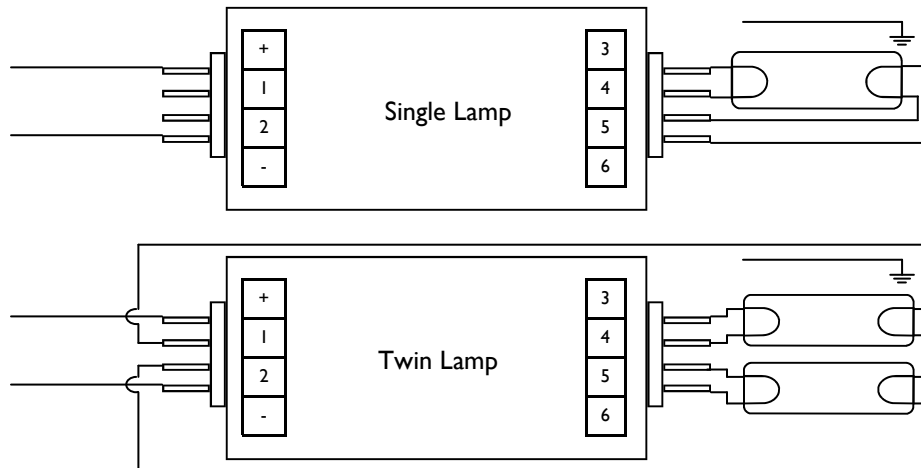
Maximum Supply Cable Impedance		
No. FLDU's	Input Voltage V DC	Impedance Ω^*
1	50-65	1
	65-75	2
	75-90	4

Recommended Cable Size	
On input side (Supply/Control Signal)	1.0-2.5mm ²
On lamp side	0.5-1.0mm ²

Maximum Cable Capacitance for Optimum Performance and EMC Suppression		
Max	15pF	between two sets of lamp wires
Max	75pF	between one set of lamp wires and earth

Maximum Output Cable Length	2m
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Installation Diagram - Faston Connector Devices



* Source impedance value MUST be divided by the number of FLDUs on each supply cable



Input Connector Pin-Out		
Pin ID	Single Lamp Variants	Twin Lamp Variants
+	72V DC +ve	72V DC +ve
1	Not Connected	Electrode Lamp 1
2	Not Connected	Electrode Lamp 2
-	0V DC	0V DC

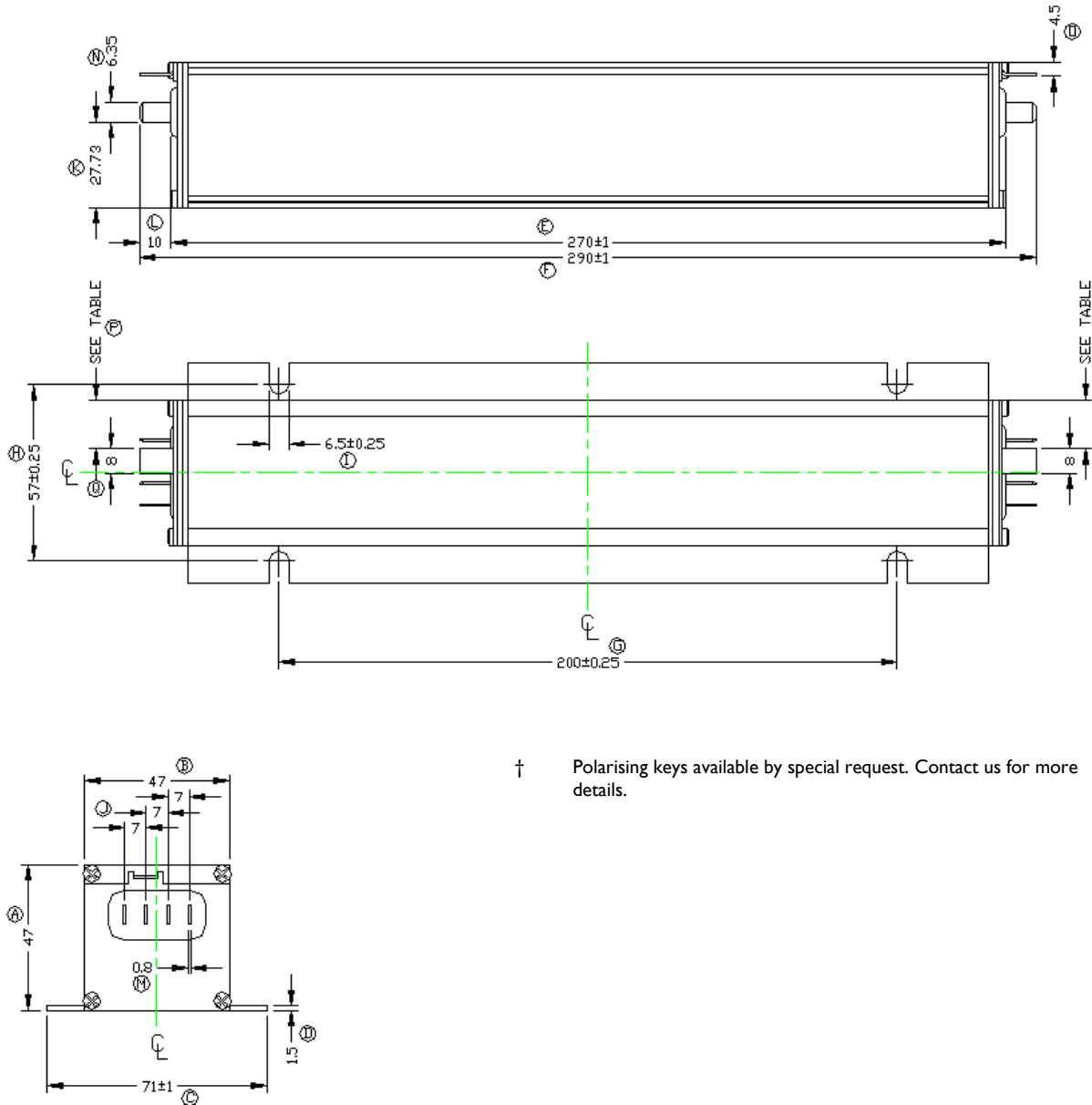
To achieve optimum performance the following output cables must be kept as short as possible:

Faston Blades	Single Lamp	5 & 6
	Twin Lamp	1,2,5 & 6

Mechanical Specification

All Dimensions in mm unless stated otherwise

Figure 1 - 549 Series Enclosure
Aluminium Enclosure, UIC 555 Space Envelope
0.25" Faston connectors†



† Polarising keys available by special request. Contact us for more details.

LPA-Excil makes every effort to ensure the accuracy of the information contained within this datasheet. However we reserve the right to withdraw and re-issue this datasheet at a later date.



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