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Low Voltage Systems

# 12V AC LED-COMPATIBLE CLASS 2 ELECTRONIC DRIVER/TRANSFORMER

## TL602E

Project: \_\_\_\_\_

Fixture Type: \_\_\_\_\_

Location: \_\_\_\_\_

Contact/Phone: \_\_\_\_\_

### PRODUCT SPECIFICATIONS

#### Description

**TL602E 10W:** 12V-10VA Class 2 electronic Driver/Transformer  
 • IC rated for recessed applications and can be buried in insulation  
 • Rated for 0.5-10 watts total load • 120VAC input  
 • Ideally suited for driving Juno Mini LED Downlight/Gimbal and Solo-Task fixtures • May also be used to operate other low wattage LED or incandescent loads.

**TL602E 25W:** 12V-25VA Class 2 electronic Driver/Transformer  
 • IC rated for recessed applications and can be buried in insulation  
 • Rated for 0.5-25 watts total load • 120VAC input  
 • Ideally suited for driving Juno Mini LED Downlight/Gimbal and Solo-Task fixtures • May also be used to operate other low wattage LED or incandescent loads.

**TL602E 60W:** 12V-60VA Class 2 electronic Driver/Transformer  
 • IC rated for recessed applications and can be buried in insulation  
 • Rated for 0.5-60 watts total load • 120VAC input • Ideally suited for driving Juno Mini LED Downlight/Gimbal and Solo-Task fixtures • May also be used to operate other low wattage LED or incandescent loads.

Note: Other TL602E driver/transformer wattages up to 60W are available via special order — consult factory for pricing and availability.

**Construction** 18 gauge die formed steel housing • Low-profile, 1" overall height • Available in standard direct-wire and optional 6' 3-wire cord & plug version • Terminal block provided for direct wire inputs accepts 18-12 AWG • All versions provided with terminal block on output side for quick and secure fixture wiring (Type CL2 or NEC equivalent 18-12 AWG) • Direct-wire versions supplied with die-cast fitting for  $\frac{3}{8}$ " flexible metal conduit • White polyester powder coat paint finish.

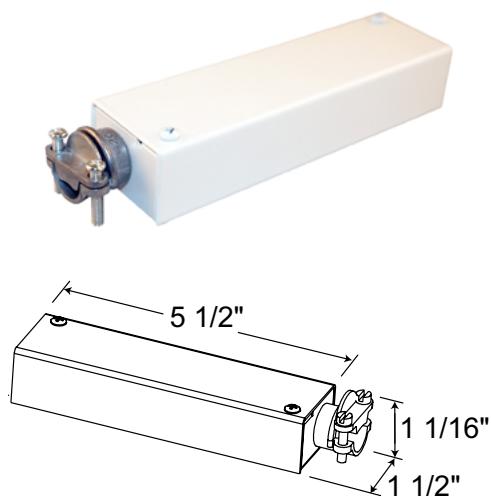
**Dimming** May be dimmed using only dimmers that have been tested and qualified by Juno for use with Juno LED fixtures; reference the following pages for dimmer compatibility • Consult factory to confirm compatibility of other dimmers prior to installation with Juno LED fixtures.

**Installation** Transformer should be located within 4' of first fixture in run • To avoid excessive voltage drop in light output, make sure the fixture voltage at the last fixture is at least 10 volts • Fully loaded run lengths longer than 18' with 12 AWG is not recommended due to voltage drop • Terminal block wiring connections for simpler, faster installation • Provision for ground wire attachment • Two  $\frac{1}{2}$ " #6 wood screws provided for mounting to wood surfaces • IC rated for use in insulated or non-insulated applications.

**Labels** cULus Listed for use in the U.S. (UL 2108) and Canada (CSA C22.2 No. 250.0) • Suitable for damp locations.

Specifications subject to change without notice.

### DIMENSIONS



Note: Fully loaded run lengths longer than 18' with 12 AWG is not recommended due to voltage drop.

### ENGINEERING DATA

	TL602E 10W	TL602E 25W	TL602E 60W
Input Voltage	120VAC	120VAC	120VAC
Input Current Typ.	0.11A	0.29A	0.56A
Nominal Output	11.7V	11.6V	11.5V
Max. Load	10 Watts (VA)	25 Watts (VA)	60 Watts (VA)
Operating Frequency	>20kHz	>20kHz	>20kHz
Power Factor	>.90	>.90	>.90
T.H.D.	<30%	<30%	<30%

### ORDERING INFORMATION

Ordering Examples: TL602E 10W 120 12AC 6CP WH

Series	Wattage	Input Voltage	Output Voltage	Cord Option	Finish
TL602E	10W 10W Maximum 25W 25W Maximum 60W 60W Maximum	120 120 Volt	12AC 12V AC	6CP 6FT Cord & Plug	WH White



# 12V AC LED-COMPATIBLE CLASS 2 ELECTRONIC DRIVER/TRANSFORMER

## TL602E

### APPLICATION

Consideration	12V Electronic Driver/Transformer	12V Magnetic Transformer
• Length	• Use for short to medium fixture run lengths and low to medium wattage systems	• Use for medium to long run lengths and medium to higher wattage systems
• Dimming	• For optimal results, use dimmers specifically designed for use with electronic transformers; transformers used with Juno LED fixtures should only be operated with dimmers pre-qualified for suitability by Juno Lighting Group	• For optimal results, use dimmers specifically designed for use with magnetic transformers; transformers used with Juno LED fixtures should only be operated with dimmers pre-qualified for suitability by Juno Lighting Group
• Transformer Location located close to fixture run.	• For best performance, transformer should be temperature will not exceed 140°F (60°C); • Can be surface mounted or installed in insulation. • Install where ambient temperature will not exceed 120°F (50°C); transformer must be accessible	• Install in well ventilated locations where ambient transformer must be accessible
• Distance to First Fixture	• For best results, should be mounted within 4' to first fixture in run.	• Suitable for remote mounting at long distances

### MINI DOWNLIGHT/GIMBAL-TABLE PREDICTING VOLTAGE AT FIXTURE FOR VARIOUS WIRE LENGTHS, GAUGES AND LOADS

TL602E 60W, 12V AC Electronic Transformer, 120V Input, when used with 5W Mini Downlight/Gimbal fixtures

Distance from Transformer to First Fixture	#12 GAUGE				#14 GAUGE				#18 GAUGE			
	Number of Fixtures				Number of Fixtures				Number of Fixtures			
	1	4	7	10	1	4	7	10	1	4	7	10
1'	12.0	11.7	11.2	10.4	12.0	11.7	11.2	10.3	12.0	11.6	11.1	10.1
2'	12.0	11.6	11.2	10.3	12.0	11.6	11.1	10.2	12.0	11.5	10.9	9.7
4'	12.0	11.6	11.1	10.1	12.0	11.5	10.9	9.8	12.0	11.3	10.7	9.3
6'	12.0	11.6	11.0	9.8	12.0	11.5	10.8	9.4	12.0	11.4	10.5	8.9
8'	12.0	11.4	10.8	9.4	12.0	11.4	10.6	9.0	12.0	11.3	10.2	8.6
10'	12.0	11.5	10.7	9.1	12.0	11.3	10.3	8.7	12.0	11.2	9.9	8.5
12'	12.0	11.4	10.4	8.8	12.0	11.2	10.0	8.6	12.0	11.1	9.6	8.5
14'	12.0	11.3	10.1	8.6	11.9	11.1	9.7	8.5	11.9	10.9	9.2	8.4
16'	11.9	11.1	9.7	8.5	11.9	11.0	9.4	8.4	11.9	10.8	8.9	8.3
18'	11.9	10.9	9.4	8.4	11.9	10.9	9.1	8.4	11.8	10.6	8.7	8.3
20'	11.9	10.9	9.2	8.4	11.9	10.7	8.8	8.3	11.8	10.5	8.6	8.2

#### Notes:

1. Max 10 fixtures
2. For this analysis, 18" of wire was used between fixtures.

The shaded areas represent the suggested operating range of 10.0 to 12.0 volts at the fixture using the TL602E transformer. Do not exceed 12 volts. To ensure less than a 20% drop in light output between the first and last fixture in a run, make sure the fixture voltage at the last fixture is at least 10 volts. Fully loaded, run lengths longer than 18' with 12AWG and transformer remote mounting more than 4' from the first fixture are not recommended due to voltage drop. A voltmeter with high frequency response (such as a Fluke 187 multimeter) should be used to confirm that the proper voltage is present.

### MINI DOWNLIGHT/GIMBAL DIMMER COMPATIBILITY

May be dimmed using the following Juno qualified dimmers: Leviton® Acenti Ace-06-1L, Lutron® Diva DVELV-300P, Lutron® Nova T<sup>2</sup> NTELV 300, Lutron® Skylark SELV-300P, Lutron® Spacer SPSELV-600.

Low Voltage Systems

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## TL602E

### SOLO-TASK LED-TABLE PREDICTING FIXTURE VOLTAGE FOR VARIOUS WIRE LENGTHS, GAUGES AND LOADS

TL602E 60W, 12V AC Electronic Transformer, 120V Input, when used with 4.2W Solo-Task LED fixtures

Distance from Transformer to First Fixture	#14 GAUGE				#18 GAUGE			
	Number of Fixtures				Number of Fixtures			
	1	4	8	12	1	4	8	12
1'	12.0	11.8	11.3	10.3	12.0	11.7	11.2	10.1
2'	12.0	11.7	11.2	10.2	12.0	11.6	11.0	9.7
4'	12.0	11.6	11.0	9.8	12.0	11.4	10.8	9.3
6'	12.0	11.6	10.9	9.4	12.0	11.4	10.6	8.9
8'	12.0	11.5	10.8	9.0	12.0	11.3	10.3	8.6
10'	12.0	11.4	10.6	8.7	12.0	11.3	10.0	8.5
12'	12.0	11.3	10.3	8.6	12.0	11.2	9.7	8.5
14'	12.0	11.2	10.1	8.5	11.9	11.0	9.4	8.4
16'	12.0	11.1	9.8	8.4	11.9	10.9	9.1	8.3
18'	11.9	11.0	9.5	8.4	11.9	10.8	8.8	8.3
20'	11.9	10.9	9.2	8.3	11.9	10.6	8.6	8.2

Notes:

1. Max 12 fixtures
2. For this analysis, 18" of wire was used between fixtures.

The shaded areas represent the suggested operating range of 10.0 to 12.0 volts at the fixture using the TL602E transformer. Do not exceed 12 volts. To ensure less than a 20% drop in light output between the first and last fixture in a run, make sure the fixture voltage at the last fixture is at least 10 volts. Fully loaded, run lengths longer than 18' with 12AWG and transformer remote mounting more than 4' from the first fixture are not recommended due to voltage drop. A voltmeter with high frequency response (such as a Fluke 187 multimeter) should be used to confirm that the proper voltage is present.

### SOLO-TASK DIMMER COMPATIBILITY

May be dimmed using the following Juno qualified dimmers: Leviton® Illumatech IPE04, Lutron® Diva DVELV-300P, Lutron® Nova T☆NTELV 300, Lutron® Skylark SELV-300P, Lutron® Spacer SPSELV-600, Lutron® Maestro MAELV-600.