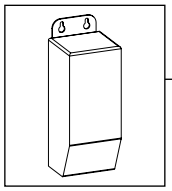


TR60 SERIES™
120V Magnetic Transformer

Installation Instructions


Warning


Hot Surface


High Voltage

TOOLS NEEDED:	Waterproof Wire Connectors Mounting Hardware
By Others	

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY TO PERSONS IMPORTANT SAFETY INSTRUCTIONS

Lighted lamp is HOT!
WARNING - To reduce the risk of FIRE OR INJURY TO PERSONS:
Turn off/unplug and allow to cool before replacing lamp.
Lamp gets HOT quickly! Contact only switch/plug when turning on.
Do not touch hot lens, guard, or enclosure (see diagram/picture).
Keep lamp away from materials that may burn.
Do no touch the lamp at any time. Use a soft cloth. Oil from skin may damage lamp.
Do not operate the luminaire fitting with a missing or damaged shield.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INFORMATION - READ, FOLLOW, AND SAVE ALL SAFETY AND INSTALLATION INSTRUCTIONS

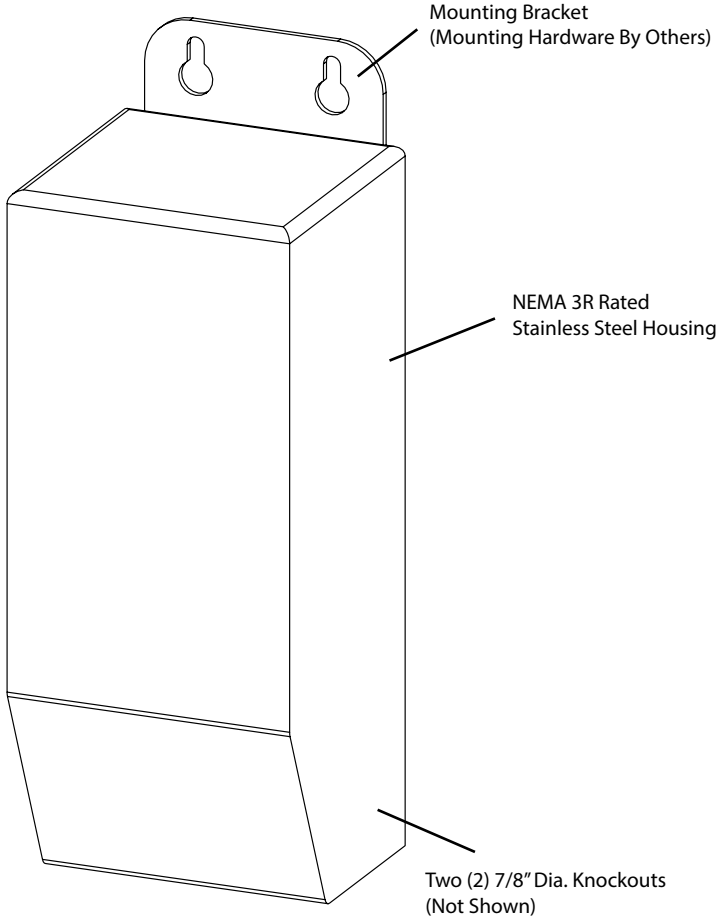
- Product must be installed by a qualified person in a manner consistent with its intended use and in compliance with the National Electrical Code, Canadian Electrical Code, and all Local and Provincial Codes.
- Follow product label information and instructions.
- Qualified Personnel must perform all servicing or relamping of this product.
- Before wiring to power supply and during servicing or relamping, turn off power at fuse or circuit breaker before service.
- The use of accessory equipment not recommended by the manufacturer or installed contrary to instructions may cause an unsafe condition. The use of damaged components may cause an unsafe condition and void product warranty.
- Do not block light emanating from product in whole or part, as this may cause an unsafe condition.
- Never operate the fixture with missing or damaged lens. Lens must be cleaned on regular basis.
- Entire fixture may become extremely hot. Do not touch hot lens or fixture body. Do not touch the lamp at any time. Use a clean, dry, soft cloth to handle the lamp. Oil from skin may damage the lamp and cause it to rupture.
- Replace lamp only with correct wattage and type of lamp marked on fixture label.
- All gaskets, o-rings and sealing surfaces must be kept clean during installation and service; failure to do this may cause an unsafe condition and void product warranty.

IMPORTANT LISTINGS AND CERTIFICATIONS

- **Suitable for wet locations**

Please refer to the low voltage design guide at www.bklighting.com/lvguide before installation for proper wire selection.

For LED sourced products, do not exceed more than 80% of the maximum load of the transformer.

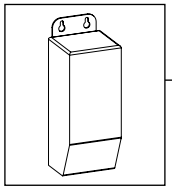


TR60-120

IMPORTANT SAFETY INFORMATION - READ, FOLLOW, AND SAVE THESE INSTALLATION INSTRUCTIONS

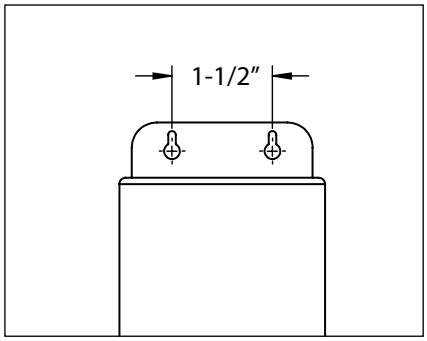
B-K LIGHTING
40429 Brickyard Drive • Madera, CA 93636 • USA
559.438.5800 • FAX 559.438.5900
www.bklighting.com • info@bklighting.com

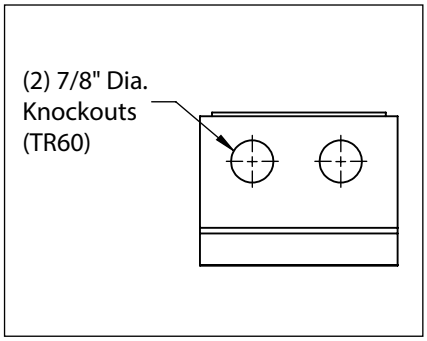
RELEASED 02-06-18
REFERENCE NUMBER INS-2454-00



TR60 SERIES™
120V Magnetic Transformer

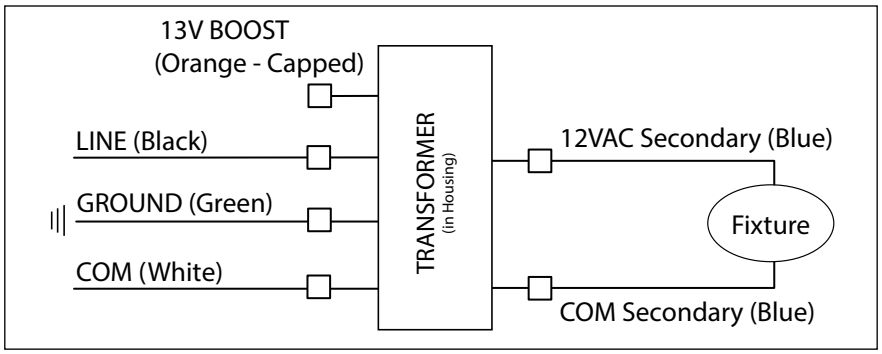
Installation Instructions





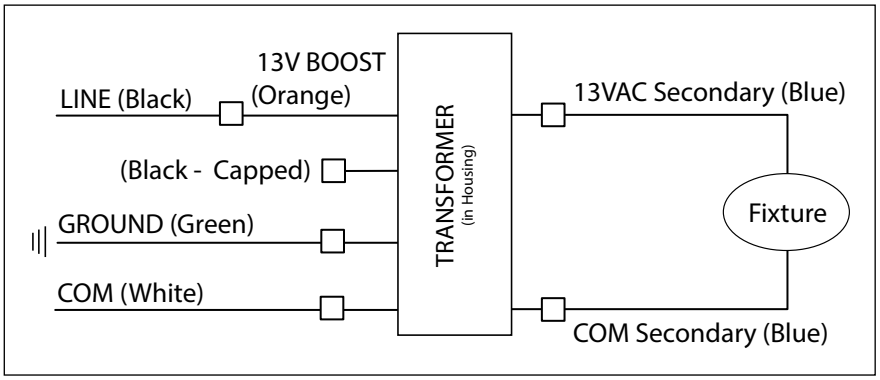
1. Mount transformer stainless steel housing with proper hardware for surface (Hardware By Others). Clearance holes are 1-2/2″ apart on center.

2. Stainless steel housing has two (2) 7/8″ diameter knockouts located on bottom of housing.



WIRING DIAGRAM - 12V Output

3A. For 12V output wiring: Ground incoming primary ground wire to green wire from TR60 housing. Make watertight connections from incoming primary line voltage (black) to black primary side of transformer. Connect incoming primary common (white) to white primary side of transformer. Orange boost wire from primary side of transformer must be capped for 12V wiring. Connect secondary side of transformer (blue wires) to fixture leads. **See wiring diagram.**



WIRING DIAGRAM - 13V Output

3B. For 13V output wiring: Ground incoming primary ground wire to green wire from TR60 housing. Make watertight connections from incoming primary line voltage (black) to orange boost wire from primary side of transformer. Connect incoming primary common (white) to white primary side of transformer. Black wire from transformer primary side must be capped for 13V wiring. Connect secondary side of transformer (blue wires) to fixture leads. **See wiring diagram.**

IMPORTANT SAFETY INFORMATION LISTED ON REVERSE
READ, FOLLOW, AND SAVE ALL SAFETY AND INSTALLATION INSTRUCTIONS

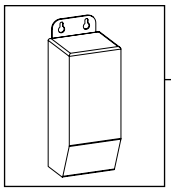
c UL us

B-K LIGHTING

40429 Brickyard Drive • Madera, CA 93636 • USA
559.438.5800 • FAX 559.438.5900
www.bklighting.com • info@bklighting.com

RELEASED 02-06-18

REFERENCE NUMBER INS-2454-00



TR60 SERIES™
277V Magnetic Transformer

Installation Instructions


Warning


Hot Surface


High Voltage

TOOLS NEEDED:	Waterproof Wire Connectors Mounting Hardware
By Others	

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY TO PERSONS IMPORTANT SAFETY INSTRUCTIONS

Lighted lamp is HOT!
WARNING - To reduce the risk of FIRE OR INJURY TO PERSONS:
Turn off/unplug and allow to cool before replacing lamp.
Lamp gets HOT quickly! Contact only switch/plug when turning on.
Do not touch hot lens, guard, or enclosure (see diagram/ picture).
Keep lamp away from materials that may burn.
Do no touch the lamp at any time. Use a soft cloth. Oil from skin may damage lamp.
Do not operate the luminaire fitting with a missing or damaged shield.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INFORMATION - READ, FOLLOW, AND SAVE ALL SAFETY AND INSTALLATION INSTRUCTIONS

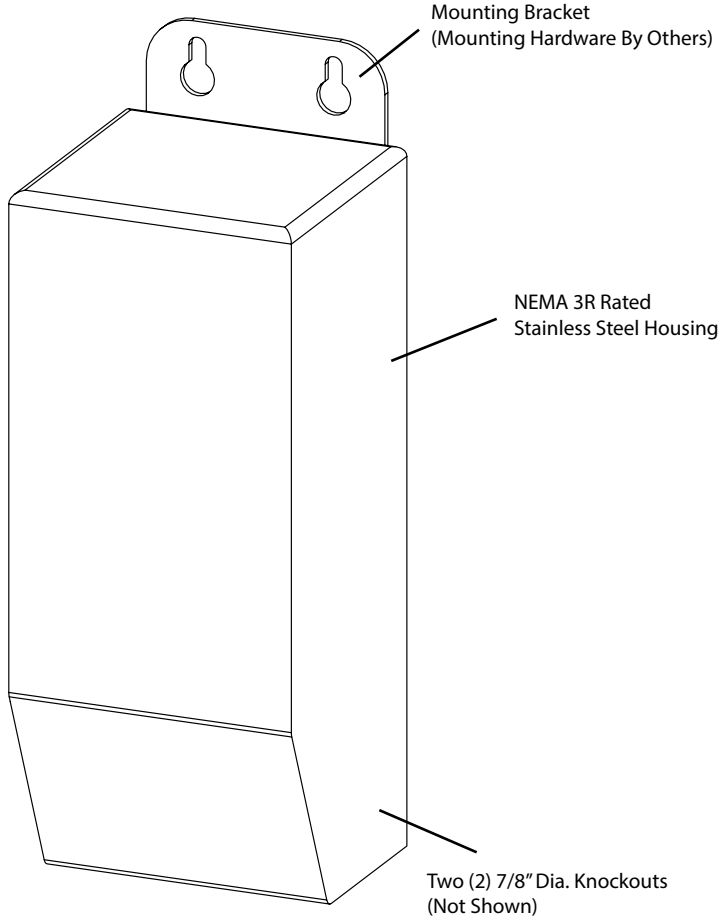
- Product must be installed by a qualified person in a manner consistent with its intended use and in compliance with the National Electrical Code, Canadian Electrical Code, and all Local and Provincial Codes.
- Follow product label information and instructions.
- Qualified Personnel must perform all servicing or relamping of this product.
- Before wiring to power supply and during servicing or relamping, turn off power at fuse or circuit breaker before service.
- The use of accessory equipment not recommended by the manufacturer or installed contrary to instructions may cause an unsafe condition. The use of damaged components may cause an unsafe condition and void product warranty.
- Do not block light emanating from product in whole or part, as this may cause an unsafe condition.
- Never operate the fixture with missing or damaged lens. Lens must be cleaned on regular basis.
- Entire fixture may become extremely hot. Do not touch hot lens or fixture body. Do not touch the lamp at any time. Use a clean, dry, soft cloth to handle the lamp. Oil from skin may damage the lamp and cause it to rupture.
- Replace lamp only with correct wattage and type of lamp marked on fixture label.
- All gaskets, o-rings and sealing surfaces must be kept clean during installation and service; failure to do this may cause an unsafe condition and void product warranty.

IMPORTANT LISTINGS AND CERTIFICATIONS

- **Suitable for wet locations**

Please refer to the low voltage design guide at www.bklighting.com/lvguide before installation for proper wire selection.

For LED sourced products, do not exceed more than 80% of the maximum load of the transformer.

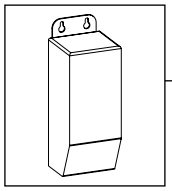


TR60-277

IMPORTANT SAFETY INFORMATION - READ, FOLLOW, AND SAVE THESE INSTALLATION INSTRUCTIONS

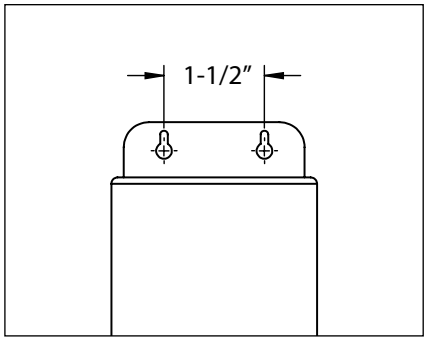
B-K LIGHTING
40429 Brickyard Drive • Madera, CA 93636 • USA
559.438.5800 • FAX 559.438.5900
www.bklighting.com • info@bklighting.com

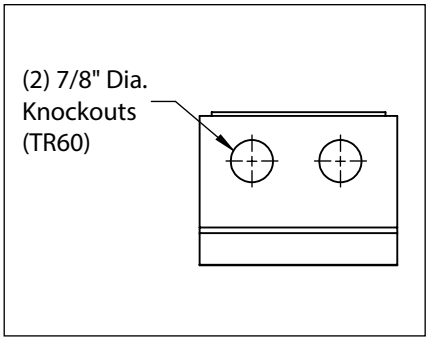
RELEASED 02-06-18
REFERENCE NUMBER INS-2458-00



TR60 SERIES™
277V Magnetic Transformer

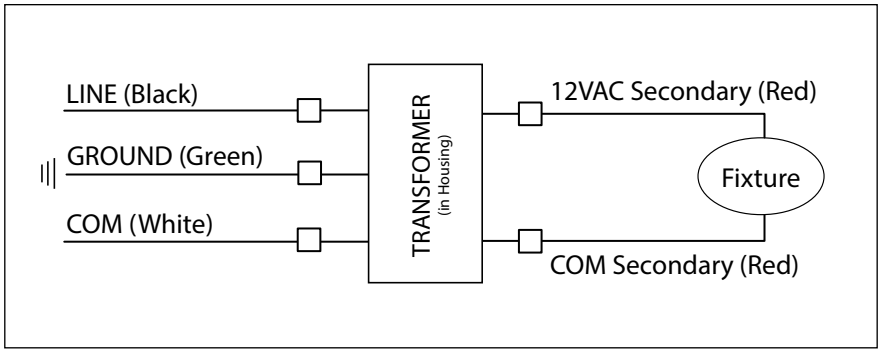
Installation Instructions





1. Mount transformer stainless steel housing with proper hardware for surface (Hardware By Others). Clearance holes are 1-1/2″ apart on center.

2. Stainless steel housing has two (2) 7/8″ diameter knockouts located on bottom of housing.



WIRING DIAGRAM - 12V Output

3A. Ground incoming primary ground wire to green wire from TR60 housing. Make watertight connections from incoming primary line voltage (black) to black primary side of transformer. Connect incoming primary common (white) to white primary side of transformer. Connect secondary side of transformer (red wires) to fixture leads. **See wiring diagram.**

IMPORTANT SAFETY INFORMATION LISTED ON REVERSE
READ, FOLLOW, AND SAVE ALL SAFETY AND INSTALLATION INSTRUCTIONS

c UL us

B-K LIGHTING

40429 Brickyard Drive • Madera, CA 93636 • USA
559.438.5800 • FAX 559.438.5900
www.bklighting.com • info@bklighting.com

RELEASED 02-06-18

REFERENCE NUMBER INS-2458-00

LVG LOW VOLTAGE GUIDE

Many B-K Lighting fixtures operate on 12 volts. Taking advantage of these energy-saving fixtures requires appropriate care in planning the electrical wiring system. To maintain expected lamp performance, we recommend the following procedures in sizing your low-voltage wiring system.

SIZING OF LOW VOLTAGE WIRING

1. Locate and plot fixtures on plan. Choose the lighting equipment necessary to create the desired lighting effects. Mark lamp wattage for each fixture location.
2. Identify potential transformer locations. The ideal locations are those which provide for the shortest possible low voltage distances (inconspicuous areas, behind rocks, shrubbery, etc., within the landscape). UPM™, Power Pipe™, Power Pipe II™, or, if available, electronic transformers integral in the fixture are good ways to hide the transformer and reduce voltage drop problems.
3. Add the total wattage for the proposed low voltage run. Measure the wire lengths from the transformer to the fixture locations. Find the distance to the "CENTER OF LOAD" of the low voltage run.

$$\text{CENTER OF LOAD} = \frac{\text{Distance from first to last fixture}}{\text{(2) Two}} + \text{Distance from transformer to first fixture}$$

4. Using the B-K Lighting Wire Selection Table, select the wattage column which applies. Look down the column stopping at a distance, in feet, that is equal or greater than the "CENTER OF LOAD" distance. Look across to find the proper wire size for your layout.

Note: In the event of multiple runs from a given transformer, treat each run separately.

12-VOLT WIRE SELECTION TABLE

WIRE SIZE	TOTAL WATTAGE																
	12	20	24	35	40	50	60	70	80	100	105	120	140	150	160	200	250
12	178	106	89	60	53	42	35	30	26	21	20	17	15	13	—	—	—
10	283	169	141	96	85	67	56	48	42	33	32	28	24	22	19	17	13
8	450	269	225	154	135	107	90	77	67	54	51	45	38	36	31	27	21
6	715	428	357	245	214	171	143	122	107	85	81	71	61	57	49	42	34
	CENTER OF LOAD WIRING DISTANCES IN FEET																

The Wire Selection Table provided is based on a maximum allowable voltage drop of 5%. Electrical designs which allow greater than 5% voltage drop, reduce rated light output beyond acceptable levels.

The importance of the proper wire selection is demonstrated below. Both examples have the same total watts and identical overall lengths of wire run, yet require different wire sizes, or multiple wire runs, to operate within the 5% maximum voltage drop B-K Lighting criteria.

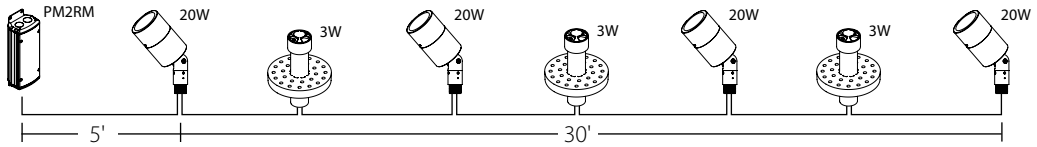
Note: Acceptable voltage range is 11.4 VAC minimum and 12.6 VAC maximum.

EXAMPLE:

Total wattage:
(20w x 4) + (3w x 3) = 89 watts

CENTER OF LOAD:
$(\frac{30'}{2}) + 5' = 20'$

SINGLE WIRE RUN:
12 gauge

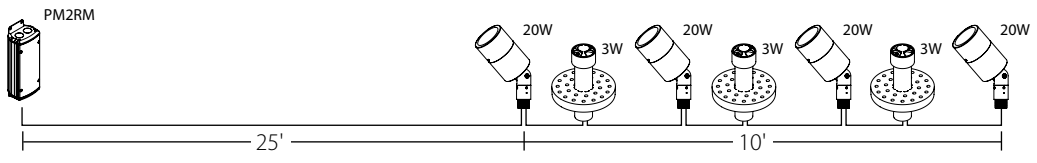


EXAMPLE

Total wattage:
(20w x 4) + (3w x 3) = 89 watts

CENTER OF LOAD:
$(\frac{10'}{2}) + 25' = 30'$

SINGLE WIRE RUN:
10 gauge



ELECTRONIC TRANSFORMERS

For areas which are far reaching from fixtures, running 120 volt power to each fixture location with individual electronic transformers, such as TRSS75 or TRSS150, provides an excellent economic solution to voltage drop. These transformers can also be specified in the UPM™, Power Pipe™, Power Pipe II™ and Power Canopy™ transformer housings.

MAGNETIC TRANSFORMERS

For LED sourced products, do not exceed more than 80% of the maximum load of the transformer.

Note: Installations should be in accordance with the National Electric Code and applicable local codes.