



TRAC 12, TRAC 12/25, FLEX 12

Low Voltage Systems

12V REMOTE MOUNT MAGNETIC TRANSFORMERS

TL575, TL549N, TL550N,
TL554N and TF5150

Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

PRODUCT SPECIFICATIONS

Description

TL575-20-BL: 12V-20VA Remote Magnetic Transformer • Rated for 0.5-20 watts for incandescent or LED loads • 120VAC input.

TL575-20-277-BL: Same as above with 277VAC input.

TL575-40-BL: 12V-40VA Remote Magnetic Transformer • Rated for 0.5-40 watts for incandescent or LED loads • 120VAC input.

TL575-40-277-BL: Same as above with 277VAC input.

TL575-75-BL: 12V-75VA Remote Magnetic Transformer • Rated for 0.5-75 watts for incandescent or LED loads • 120VAC input.

TL575-75-277-BL: Same as above with 277VAC input.

TL554N-BL: 12V-150VA Remote Magnetic Transformer • Rated for 50-150 watts for incandescent loads, 75-150 watts for LED loads • 120VAC input.

TL554N-277-BL: Same as above with 277VAC input.

TL549N-BL: 12V-240VA Remote Magnetic Transformer • Rated for 120-240 watts for incandescent or LED loads • 120VAC input.

TL549N-277-BL: Same as above with 277VAC input.

TL550N-BL: 12V-480VA Dual Circuit Remote Magnetic Transformer • Contains two 240VA circuits, each rated for 120-240 watts for incandescent or LED loads • 120VAC input.

TL550N-277-BL: Same as above with 277VAC input.

TF5150BL: 12V-150VA Remote Magnetic Transformer • Rated for 50-150 watts for incandescent loads, 75-150 watts for LED loads • 120VAC input • Similar to TL554N but with terminal block wiring connections to facilitate installation.

TF5150BL-277: Same as above with 277VAC input.

Construction Potted core and coil • 13 volt boost tap • Thermally protected primary • Manually resettable, fast-acting magnetic circuit breaker on secondary • Primary and secondary circuits physically and electrically isolated.

Circuit Breaker Resettable magnetic circuit breaker • Provides faster short circuit protection than standard thermal circuit breakers • Provides overload protection which is unaffected by ambient operating conditions • Eliminates false overload failures due to elevated ambient temperatures which can occur with thermal circuit breakers • Enables transformer to be mounted in any position.

Dimming 120V installations only – consult factory for 277V dimming applications • Incandescent loads can be dimmed with high quality dimmers designed specifically for use with magnetic transformer • LED loads may be dimmed using only dimmers that have been tested and qualified by Juno for use with Juno LED fixtures including: Lutron Diva DVLV-600P, Lutron Nova NLV-600, Lutron Ceana CNLV-600P, Lutron Skylark SLV-600P – consult factory to confirm compatibility of other dimmers prior to installation with Juno LED fixtures.

Installation Easy access front located wiring compartment • Wire nut terminations for input and output circuits (except TF5150)

• Operate in accessible locations with ambient temperatures below 140° F.

Labels UL/CUL listed • New York City Approved.

Product specifications subject to change without notice.

OPTIONS

(Add as suffix to catalog number)

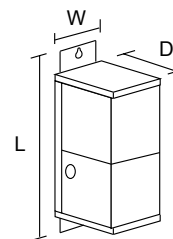
| Catalog Number | Description |
|----------------|-------------|
|----------------|-------------|

| | |
|------|---|
| -CP6 | 6ft. Cord & Plug (120VAC Only), factory installed |
|------|---|

Ordering Example: TL554N-BL-CP6

REV-8/11

DIMENSIONS



| TRANSFORMER DIMENSIONS | | | |
|------------------------|----------------------------------|---------------------------------|---------------------------------|
| Catalog Number | Length (L) | Width (W) | Depth (D) |
| TL575-XX-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL575-XX-277-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL554N-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL554N-277-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL549N-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL549N-277-BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TL550N-BL | 11 ³ / ₈ " | 5 ³ / ₈ " | 5 ¹ / ₈ " |
| TL550N-277-BL | 11 ³ / ₈ " | 5 ³ / ₈ " | 5 ¹ / ₈ " |
| TF5150BL | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |
| TF5150BL-277 | 10 ³ / ₄ " | 4 ³ / ₈ " | 4 ¹ / ₈ " |

PRODUCT CODES

| Catalog Number | Finish | Input Voltage | Description |
|-----------------|--------|---------------|--|
| TL575-20-BL | Black | 120VAC | 20W Magnetic 12V Transformer |
| TL575-20-277-BL | Black | 277VAC | 20W Magnetic 12V Transformer |
| TL575-40-BL | Black | 120VAC | 40W Magnetic 12V Transformer |
| TL575-40-277-BL | Black | 277VAC | 40W Magnetic 12V Transformer |
| TL575-75-BL | Black | 120VAC | 75W Magnetic 12V Transformer |
| TL575-75-277-BL | Black | 277VAC | 75W Magnetic 12V Transformer |
| TL554N-BL | Black | 120VAC | 150W Magnetic 12V Transformer |
| TL554N-277-BL | Black | 277VAC | 150W Magnetic 12V Transformer |
| TL549N-BL | Black | 120VAC | 240W Magnetic 12V Transformer |
| TL549N-277-BL | Black | 277VAC | 240W Magnetic 12V Transformer |
| TL550N-BL | Black | 120VAC | 480W Magnetic 12V Transformer (Dual Circuit) |
| TL550N-277-BL | Black | 277VAC | 480W Magnetic 12V Transformer (Dual Circuit) |
| TF5150BL | Black | 120VAC | 150W Magnetic 12V Transformer |
| TF5150BL-277 | Black | 277VAC | 150W Magnetic 12V Transformer |

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APPLICATION

| Consideration | 12V Magnetic Transformer | 12V Electronic Driver/Transformer |
|------------------------|--|--|
| • Trac run length | • Use for medium to long run lengths and medium to high wattage systems | • Use for short to medium run lengths and low to medium wattage systems |
| • Dimming | • 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 Engineering | • 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 Engineering |
| • Transformer Location | • Install in well ventilated locations where ambient temperature will not exceed 140°F (60°C); transformers must be accessible. | • Install surface mount units in well-ventilated location where ambient temperature will not exceed 120°F (50°C) |

VOLTAGE DROP CALCULATIONS (FOR MAGNETIC TRANSFORMERS)

Voltage drop is a function of the following factors:

Wire Length:

As the wire length from the supply to the fixture becomes longer, voltage drop increases.

Wire Diameter:

As the wire cross-sectional area becomes smaller, voltage drop increases (this is related to the resistance per foot of wire).

Amperage of the Electrical Load:

As the amperage of the electrical load increases, voltage drop also increases.

Voltage drop in 12 volt systems is 10 times greater than in 120 volt systems.

This is because a load of the same wattage has 10 times greater amperage in 12 volts as compared to 120 volts.

This is illustrated by the formula:

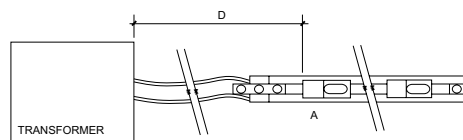
$$\text{WATTS} = \text{VOLTS} \times \text{AMPS}$$

Assuming a 120 watt electrical load:

$$120 \text{ WATTS} = 12 \text{ VOLTS} \times \underline{10 \text{ AMPS}}$$

$$120 \text{ WATTS} = 120 \text{ VOLTS} \times \underline{1 \text{ AMP}}$$

Voltage drop from a magnetic transformer to the first lampholder on 12V Trac 12 can be calculated as follows:



$$\text{VOLTAGE DROP} = 2D \times A \times \Omega$$

WHERE:

D = Distance in feet from transformer to 1st lamp

A = Total amperage load of all lampholders on the trac

$$\left(A = \frac{\text{WATTS}}{\text{VOLTS}} = \frac{\text{WATTS}}{12} \right)$$

Ω = Resistance per foot of wire per the following chart:

| Wire Gauge | Resistance Per Foot of Wire (OHMS) |
|------------|------------------------------------|
| #8 | .00065 |
| #10 | .00104 |
| #12 | .00166 |

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12V VOLTAGE DROP INFORMATION (for 75VA Remote Mount Magnetic Transformers)

Table predicting voltage at first lamp for various wire lengths, gauges, inputs and loads

| Distance from Transformer to 1st Lamp | Standard Tap | | | | | | Boost Input | | | |
|---------------------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| | 12V, 6.3A, 75W | | 12V, 3.3A, 40W | | 12V, 1.7A, 20W | | 12V, 6.3A, 75W | | 12V, 3.3A, 40W | |
| | #12 | #10 | #12 | #10 | #12 | #10 | #12 | #10 | #12 | #10 |
| 5' | 11.53 | 11.56 | 11.71 | 11.73 | 11.89 | 11.90 | 12.18 | 12.21 | 12.43 | 12.46 |
| 10' | 11.46 | 11.51 | 11.66 | 11.70 | 11.87 | 11.88 | 12.09 | 12.15 | 12.37 | 12.43 |
| 15' | 11.39 | 11.47 | 11.62 | 11.67 | 11.85 | 11.87 | 12.00 | 12.10 | 12.31 | 12.39 |
| 20' | 11.31 | 11.42 | 11.57 | 11.64 | 11.83 | 11.86 | 11.91 | 12.04 | 12.26 | 12.35 |
| 25' | 11.24 | 11.38 | 11.53 | 11.61 | 11.81 | 11.85 | 11.82 | 11.99 | 12.20 | 12.32 |
| 30' | 11.17 | 11.33 | 11.48 | 11.58 | 11.79 | 11.83 | 11.73 | 11.93 | 12.14 | 12.28 |
| 40' | 11.03 | 11.24 | 11.39 | 11.52 | 11.75 | 11.81 | 11.56 | 11.82 | 12.03 | 12.21 |
| 45' | 10.95 | 11.20 | 11.34 | 11.49 | 11.73 | 11.79 | 11.47 | 11.76 | 11.97 | 12.17 |
| 65' | 10.67 | 11.02 | 11.16 | 11.38 | 11.65 | 11.74 | 11.11 | 11.54 | 11.74 | 12.03 |
| 75' | 10.52 | 10.92 | 11.05 | 11.31 | 11.58 | 11.69 | 10.93 | 11.43 | 11.63 | 11.95 |
| 100' | 10.17 | 10.70 | 10.84 | 11.18 | 11.51 | 11.65 | 10.49 | 11.15 | 11.34 | 11.77 |

The shaded areas represent the suggested operating range of 11.0 to 12.0 volts at the first lamp on the trac. Juno suggests that the voltage measured at the first lamp be between 11.0 and 11.8 volts for 12V incandescent lamps and between 11.4 and 12.0 volts for 12V LED fixtures. Do not exceed 12 volts. A voltmeter should be used to confirm that the proper voltage is present.

12V VOLTAGE DROP INFORMATION (for 150VA Remote Mount Magnetic Transformers)

Table predicting voltage at first lamp for various wire lengths, gauges, inputs and loads

| Distance from Transformer to 1st Lamp | Standard Tap | | | | Boost Tap | | | |
|---------------------------------------|------------------|-------|-----------------|-------|------------------|-------|-----------------|-------|
| | 12V, 12.5A, 150W | | 12V, 6.25A, 75W | | 12V, 12.5A, 150W | | 12V, 6.25A, 75W | |
| | #12 | #10 | #12 | #10 | #12 | #10 | #12 | #10 |
| 5' | 11.22 | 11.29 | 12.04 | 12.08 | 12.02 | 12.09 | 12.86 | 12.92 |
| 10' | 11.04 | 11.18 | 11.94 | 12.01 | 11.83 | 11.97 | 12.73 | 12.85 |
| 15' | 10.86 | 11.07 | 11.84 | 11.95 | 11.65 | 11.86 | 12.61 | 12.79 |
| 20' | 10.68 | 10.96 | 11.74 | 11.89 | 11.46 | 11.74 | 12.48 | 12.72 |
| 25' | 10.50 | 10.85 | 11.64 | 11.82 | 11.28 | 11.63 | 12.36 | 12.66 |
| 30' | 10.32 | 10.74 | 11.54 | 11.76 | 11.09 | 11.51 | 12.23 | 12.59 |
| 40' | 9.96 | 10.52 | 11.34 | 11.63 | 10.72 | 11.28 | 11.98 | 12.46 |
| 50' | 9.60 | 10.30 | 11.14 | 11.51 | 10.35 | 11.05 | 11.73 | 12.33 |
| 60' | 9.24 | 10.08 | 10.94 | 11.38 | 9.98 | 10.82 | 11.48 | 12.20 |
| 80' | 8.52 | 9.64 | 10.54 | 11.12 | 9.24 | 10.36 | 10.98 | 11.94 |
| 100' | 7.80 | 9.20 | 10.14 | 10.87 | 8.50 | 9.90 | 10.48 | 11.68 |
| 120' | 7.08 | 8.76 | 9.74 | 10.62 | 7.76 | 9.44 | 9.98 | 11.42 |
| 140' | 6.36 | 8.32 | 9.34 | 10.36 | 7.02 | 8.98 | 9.48 | 11.16 |

The shaded areas represent the suggested operating range of 11.0 to 12.0 volts at the first lamp on the trac. Juno suggests that the voltage measured at the first lamp be between 11.0 and 11.8 volts for 12V incandescent lamps and between 11.4 and 12.0 volts for 12V LED fixtures. Do not exceed 12 volts. A voltmeter should be used to confirm that the proper voltage is present.



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12V VOLTAGE DROP INFORMATION (for 240VA Remote Mount Magnetic Transformers)

Table predicting voltage at first lamp for various wire lengths, gauges, inputs and loads

| Distance from Transformer to 1st Lamp | Standard Tap | | | | Boost Tap | | | |
|---------------------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| | 12V, 20A, 240W | | 12V, 10A, 120W | | 12V, 20A, 240W | | 12V, 10A, 120W | |
| | #12 | #10 | #12 | #10 | #12 | #10 | #12 | #10 |
| 5' | 11.66 | 11.79 | 12.19 | 12.27 | 12.46 | 12.59 | 13.09 | 13.17 |
| 10' | 11.33 | 11.58 | 11.98 | 12.14 | 12.13 | 12.38 | 12.88 | 13.04 |
| 15' | 11.00 | 11.37 | 11.77 | 12.01 | 11.80 | 12.17 | 12.67 | 12.91 |
| 20' | 10.67 | 11.16 | 11.57 | 11.88 | 11.47 | 11.96 | 12.47 | 12.78 |
| 25' | 10.34 | 10.96 | 11.36 | 11.75 | 11.14 | 11.76 | 12.26 | 12.65 |
| 30' | 10.00 | 10.75 | 11.15 | 11.62 | 10.80 | 11.55 | 12.05 | 12.52 |
| 40' | 9.34 | 10.33 | 10.74 | 11.36 | 10.14 | 11.13 | 11.64 | 12.26 |
| 45' | 9.01 | 10.12 | 10.53 | 11.23 | 9.81 | 10.92 | 11.43 | 12.13 |
| 65' | 7.68 | 9.29 | 9.70 | 10.71 | 8.48 | 10.96 | 10.60 | 11.61 |
| 75' | 7.02 | 8.88 | 9.28 | 10.45 | 7.82 | 9.68 | 10.18 | 11.35 |
| 110' | 4.69 | 7.42 | 7.83 | 9.54 | 5.49 | 8.22 | 8.73 | 10.44 |

The shaded areas represent the suggested operating range of 11.0 to 12.0 volts at the first lamp on the trac. Juno suggests that the voltage measured at the first lamp be between 11.0 and 11.8 volts for 12V incandescent lamps and between 11.4 and 12.0 volts for 12V LED fixtures. Do not exceed 12 volts. A voltmeter should be used to confirm that the proper voltage is present.