JUNO

TRAC 12/25, FLEX 12

Low Voltage Systems

Project:

Fixture Type:

Location:

Contact/Phone:

25-AMP, 24V AC REMOTE MOUNT MAGNETIC TRANSFORMERS

TF5600BL-24V and TF51200BL-24V

PRODUCT SPECIFICATIONS

Catalog Number TF5600BL-24V, TF51200BL-24V

Description

TF5600BL-24V: 24V-600VA Remote Magnetic Transformer • Potted core and coil • Rated for 300-600 watts for incandescent loads • 26V boost tap • Thermally protected primary • Manually resettable circuit breaker on secondary • Primary and secondary circuits physically and electrically isolated and grounded • 120VAC input.

TF5600BL277-24V: Same as above with 277VAC input.

TF51200BL-24V: 24V-1200VA Remote Magnetic Transformer • Potted core and coil • Contains two 600VA circuits, each rated for 300-600 watts for incandescent loads • 26V boost tap • Thermally protected primary • Manually resettable circuit breaker on secondary • Primary and secondary circuits physically and electrically isolated and grounded • 120VACinput.

TF51200BL277-24V: Same as above with 277VAC input.

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.

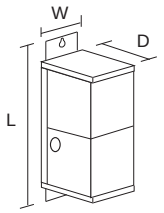
Dimming Use only high quality dimmers designed specifically for use with magnetic transformers.

Installation Easy access front located wiring compartment • Terminal block wiring connections for simpler, faster installation • Operate in accessible locations with ambient temperatures below 140˚ F.

Labels UL/CUL listed • New York City Approved • Compatible only with systems rated for 25-Amp operation.

Product specifications subject to change without notice.

DIMENSIONS



TRANSFORMER DIMENSIONS			
Catalog Number	**Length (L)**	**Width (W)**	**Depth (D)**
TF5600BL-24V	11 3/8"	5 3/8"	5 1/8"
TF5600BL277-24V	11 3/8"	5 3/8"	5 1/8"
TF51200BL-24V	12 1/2"	6 1/8"	5 7/8"
TF51200BL277-24V	12 1/2"	6 1/8"	5 7/8"

PRODUCT CODES

Catalog Number	Finish	Input Voltage	Description
TF5600BL-24V	Black	120VAC	600W Magnetic 24V Transformer
TF5600BL277-24V	Black	277VAC	600W Magnetic 24V Transformer
TF51200BL-24V	Black	120VAC	1200W Magnetic 24V Transformer (Dual Circuit)
TF51200BL277-24V	Black	277VAC	1200W Magnetic 24V Transformer (Dual Circuit)

OPTIONS

(Add as suffix to catalog number)

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

Ordering Example: TF51200BL-24V-CP6

APPLICATION

Consideration	12V Magnetic Transformer	12V Electronic Transformer
• Trac run length	• Use for medium to long and medium to higher wattage systems	• Use for short to medium run lengths and low to medium wattage systems
• Dimming	• Use only dimmers specifically designed for use with magnetic transformers	• Compatible with most standard incandescent dimmers. For optimal results use dimmer designed for low voltage electronics
• Transformer Location	• Install in well ventilated locations where ambient temperature will not exceed 140°F (60°C) Transformers must be accessable.	• Install surface mount units in well-ventilated location where ambient temperature will not exceed 120°F (50°C)

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25-AMP, 24V AC REMOTE MOUNT MAGNETIC TRANSFORMERS

TF5600BL-24V and TF51200BL-24V

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:

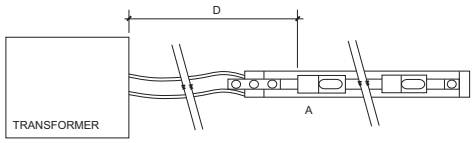
WATTS = VOLTS x AMPS

Assuming a 120 watt electrical load:

120 WATTS = 12 VOLTS x 10 AMPS

120 WATTS = 120 VOLTS x 1 AMP

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



VOLTAGE DROP = 2D x A x Ω

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

24V VOLTAGE DROP INFORMATION (for 600VA 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			
	24V, 25A, 600W		24V, 12.5A, 300W		24V, 25A, 600W		24V, 12.5A, 300W	
	#10	#8	#10	#8	#10	#8	#10	#8
5′	23.74	23.85	24.67	24.73	25.34	25.45	26.47	26.53
10′	23.48	23.70	24.54	26.65	25.08	25.31	26.34	26.45
20′	22.96	23.42	24.28	24.51	24.56	25.01	26.08	26.31
30′	22.44	23.13	24.02	24.36	24.04	24.73	25.82	26.16
38′	22.02	22.89	23.81	24.25	23.62	24.49	25.61	26.05
40′	21.92	22.93	23.76	24.22	23.52	24.43	25.56	26.01
50′	21.40	22.54	23.50	24.07	23.00	24.14	25.30	25.87
75′	20.10	21.81	22.85	23.71	21.70	23.41	24.65	25.51
100′	18.80	21.09	22.20	23.34	20.40	22.69	24.00	25.14
125′	17.50	20.36	21.55	22.98	19.10	21.96	23.35	24.78
175′	14.90	18.90	20.25	22.25	16.50	20.50	22.05	24.05
200′	13.60	18.17	19.60	21.89	15.20	19.77	21.40	23.59
300′	8.40	15.26	17.00	20.43	10.00	16.86	18.80	22.23

The shaded areas represent the suggested operating range of 22.0 to 23.6 volts at the first lamp on the trac. A voltmeter should be used to confirm that the proper voltage is present at the first lamp after installation is complete.

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