



Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

Low Voltage Systems

24V AC REMOTE MOUNT MAGNETIC TRANSFORMERS

MAGXFMR



PRODUCT DESCRIPTION

24VAC Remote Mount Magnetic Transformers double the wattage capacity versus a 12-volt system and are commonly selected for incandescent linear lighting due to their capacity for longer runs per circuit. They are designed to be installed in remote locations such as basements, attics, plenums and electrical closets. The location must be accessible and well ventilated with ambient temperatures below 140°F. They are available with maximum wattage ratings of up to 600W and are available in a 1-circuit configuration. These transformers are designed for 120-volt input, and have premium resettable magnetic circuit breakers, dual-tap standard/boost tap primary input leads to adjust for voltage drop and may be dimmed using dimmers qualified by Juno. Remote Mount Magnetic Transformers may be used to operate 24VAC incandescent loads.

PRODUCT SPECIFICATIONS

Electrical 120VAC input • 24V AC output • May be used to operate incandescent loads.

Load Ratings 250W versions rated for 100-250 watts for incandescent loads • 480W versions rated for 240-480 watts for incandescent loads.

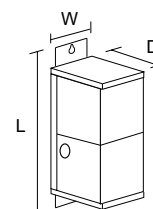
Construction Potted core and coil • 25 volt boost tap • Thermally protected primary • Manually resettable, fast-acting magnetic circuit breaker on secondary • Primary and secondary circuits physically and electrically isolated.

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 • Incandescent loads can be dimmed with high quality dimmers designed specifically for use with magnetic transformer.

Installation Easy access front located wiring compartment • Wire nut or terminal block wiring connections for simple, fast installation • Operate in accessible locations with ambient temperatures below 140° F.

DIMENSIONS



TRANSFORMER DIMENSIONS

Type	Length (L)	Width (W)	Depth (D)
250W	10-3/4"	4-3/8"	4-1/8"
480W, 600W	11-3/8"	5-3/8"	5-1/8"

Government Procurement

BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

Labels UL/CUL listed • New York City Approved • 600VA version is compatible only with systems rated for 25-Amp operation.

Specifications subject to change without notice.

ORDERING INFORMATION

Ordering Example: MAGXFMR 1C 600W 120 24AC BL

Series	Number of Circuits	Wattage	Input Voltage	Output Voltage	Finish
MAGXFMR Remote Magnetic Transformer	1C 1-Circuit	250W 250 Watts 480W 480 Watts 600W 600 Watts	120 120VAC	24AC 24VAC	BL Black

Low Voltage Systems

24V AC

REMOTE MOUNT

MAGNETIC TRANSFORMERS

MAGXFMR

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 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 24 volt systems is 5 times greater than in 120 volt systems.

This is because a load of the same wattage has 5 times greater amperage in 24 volts as compared to 120 volts.

This is illustrated by the formula:

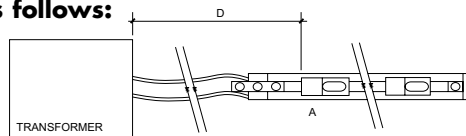
$$\text{WATTS} = \text{VOLTS} \times \text{AMPS}$$

Assuming a 120 watt electrical load:

$$120 \text{ WATTS} = 24 \text{ VOLTS} \times \underline{5 \text{ AMPS}}$$

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

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

$$\left(A = \frac{\text{WATTS}}{\text{VOLTS}} = \frac{\text{WATTS}}{24} \right)$$

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

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

Low Voltage Systems

24V AC REMOTE MOUNT MAGNETIC TRANSFORMERS MAGXFMR

24V VOLTAGE DROP INFORMATION (for 480VA Remote Mount Magnetic Transformers)

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

Distance from Transformer to First Fixture	STANDARD TAP				BOOST TAP			
	24V, 20A, 480W		24V, 10A, 240W		24V, 20A, 480W		24V, 10A, 240W	
	#12	#10	#12	#10	#12	#10	#12	#10
5'	23.66	23.79	24.63	24.69	25.26	25.39	26.43	26.49
10'	23.33	23.58	24.46	24.59	24.93	25.18	26.26	26.39
30'	22.00	22.75	23.80	24.17	23.60	24.36	25.60	25.97
35'	21.67	22.54	23.63	24.07	23.27	24.14	25.43	25.87
40'	21.34	22.33	23.47	23.96	22.94	23.93	25.27	25.76
45'	21.01	22.12	23.30	23.86	22.61	23.72	25.10	25.66
50'	20.68	21.92	23.14	23.76	22.28	23.52	24.94	25.66
55'	20.34	21.71	22.97	23.65	21.94	23.31	24.77	25.45
80'	18.68	20.67	22.14	23.13	20.28	22.27	23.94	24.93
85'	18.35	20.46	21.97	23.03	19.95	22.06	23.77	24.83
90'	18.02	20.25	21.81	22.92	19.62	21.85	23.61	24.72
130'	15.36	18.59	20.48	22.09	16.96	20.19	22.28	24.72
140'	14.70	18.17	20.15	21.88	16.30	19.77	21.95	23.68
220'	9.39	14.84	17.49	20.22	10.99	16.44	19.29	22.02

24V VOLTAGE DROP INFORMATION (for 600VA Magnetic Transformers)

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

Distance from Transformer to First Fixture	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	23.93	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	20.5	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