JUNO

Low Voltage Systems

12V AC CLASS 2 REMOTE MOUNT MAGNETIC TRANSFORMER

MAGXFMR

BAA BABA

Project:

Fixture Type:

Location:

Contact/Phone:

PRODUCT DESCRIPTION

Class 2, 12VAC Remote Mount Magnetic Transformers 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 rated for operation with as little as 0.5 watt total load and all the way up to their maximum rating. All are 120VAC input. Because they are rated UL Class 2, they are ideally suited for driving Juno Mini LED Downlight/Gimbal and Solo-Task fixtures; they may also be used to operate other low wattage LED or incandescent loads. They 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.

PRODUCT SPECIFICATIONS

Electrical 120VAC input • 12V AC Class 2 operation • May be used to operate LED or incandscent loads.

Load Ratings 10W versions rated for 0.5-10 watts for incandescent or LED loads • 25W versions rated for 0.5-25 watts for incandescent or LED loads • 60W versions rated for 0.5-60 watts for incandescent or LED loads.

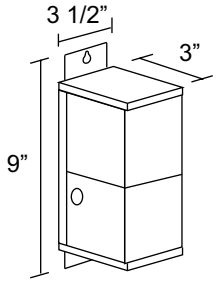
Construction Potted core and coil • 13 volt boost tap • Thermally protected primary • Manually resettable, fast-acting magnetic circuit breaker on secondary • Primary and secondary circuits physically and electrically isolated.

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 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 referenced on the following pages – 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 • Operate in accessible locations with ambient temperatures below 140° F.

DIMENSIONS



ENGINEERING DATA

	10W	25W	60W
Input Voltage	120V	120V	120V
Input Current Typ.	0.21A	0.31A	0.51A
Nominal Output	11.9V	11.6V	11.2V
Max. Load	10W	25W	60W
Operating Frequency	60Hz	60Hz	60Hz
Power Factor	0.70	0.85	0.92
T.H.D.I.	37%	30%	27%

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.

Specifications subject to change without notice.

ORDERING INFORMATION

Ordering Example: MAGXFMR 1C 10W 120 12AC 6CP BL

Series	Number of Circuits	Wattage	Input Voltage	Output Voltage	Factory Installed Options	Finish
MAGXFMR Remote Magnetic Transformer	**1C** 1-Circuit	**10W** 10 Watts [1] **25W** 25 Watts [1] **60W** 60 Watts	**120** 120VAC	**12AC** 12VAC	**6CP** 6FT Cord & Plug	**BL** Black

[1] 6CP option not available with 10W and 25W versions.

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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	• For best performance, transformer should be located close to fixture run. • 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 temperature will not exceed 140°F (60°C); 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

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:

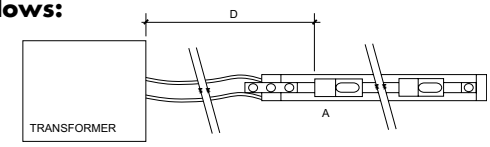
WATTS = VOLTS x AMPS

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

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

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

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

STANDARD TAP

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
5′	11.9	11.6	11.3	11.0	11.9	11.6	11.3	10.9	11.9	11.5	11.0	10.5
10′	11.9	11.6	11.3	10.9	11.9	11.6	11.2	10.8	11.9	11.4	10.8	10.2
15′	11.9	11.6	11.2	10.8	11.9	11.5	11.1	10.7	11.8	11.3	10.4	9.9
20′	11.9	11.5	11.2	10.7	11.9	11.5	11.0	10.5	11.8	11.2	10.4	9.6
25′	11.9	11.5	11.1	10.7	11.9	11.4	10.9	10.4	11.8	11.0	10.2	9.3
30′	11.9	11.4	11.1	10.6	11.8	11.4	10.9	10.3	11.7	10.9	10.0	9.0
40′	11.9	11.4	11.0	10.5	11.8	11.3	10.7	10.1	11.7	10.7	9.6	8.5
50′	11.8	11.4	10.9	10.3	11.8	11.2	10.5	9.9	11.6	10.5	9.2	7.9
60′	11.8	11.3	10.8	10.2	11.8	11.1	10.4	9.6	11.6	10.2	8.8	7.3
80′	11.8	11.2	10.6	9.9	11.7	10.9	10.1	9.2	11.5	9.8	8.0	6.2
100′	11.8	11.1	10.4	9.6	11.7	10.7	9.7	8.7	11.3	9.3	7.2	5.0

BOOST TAP

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
5′	13.1	12.8	12.4	11.9	13.1	12.8	12.3	11.9	13.1	12.7	12.2	11.7
10′	13.1	12.8	12.3	11.8	13.1	12.7	12.3	11.7	13.1	12.6	12.0	11.4
15′	13.1	12.7	12.3	11.8	13.1	12.7	12.2	11.6	13.0	12.5	11.8	11.1
20′	13.1	12.7	12.2	11.7	13.1	12.6	12.1	11.5	13.0	12.4	11.6	10.8
25′	13.1	12.7	12.2	11.6	13.1	12.6	12.0	11.4	13.0	12.2	11.4	10.5
30′	13.1	12.6	12.1	11.5	13.0	12.5	11.9	11.3	12.9	12.1	11.2	10.2
40′	13.1	12.6	12.0	11.4	13.0	12.4	11.8	11.1	12.9	11.9	10.8	9.7
50′	13.0	12.5	11.9	11.3	13.0	12.4	11.6	10.8	12.8	11.7	10.4	9.1
60′	13.0	12.5	11.8	11.1	13.0	12.3	11.4	10.6	12.8	11.4	10.0	8.5
80′	13.0	12.4	11.6	10.8	12.9	12.1	11.2	10.1	12.7	11.0	9.2	7.4
100′	13.0	12.2	11.4	10.5	12.9	10.7	10.8	9.7	12.3	10.5	8.4	6.2

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 chosen 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. 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: Schneider Electric C-Bus, Lutron® Glyder GLV-600, Lutron® Nova T ☆ NTLV-600, Lutron® Skylark SLV-600P, Lutron® Diva DVLV-600P, Lutron® Homeworks QS HQRD-6NA, Lutron® Radio RA2 RRD-10ND.

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

TL576 60W, 12V AC Magnetic Transformer, 120V Input, when used with 4.2W Solo-Task fixtures

STANDARD TAP

Distance from Transformer to First Fixture	#14 GAUGE				#18 GAUGE			
	Number of Fixtures				Number of Fixtures			
	1	4	8	12	1	4	8	12
5′	11.9	11.7	11.3	10.9	11.9	11.6	11.0	10.4
10′	11.9	11.7	11.2	10.8	11.9	11.5	10.8	10.1
15′	11.9	11.6	11.1	10.7	11.9	11.4	10.5	9.8
20′	11.9	11.6	11.1	10.5	11.9	11.3	10.5	9.5
25′	11.9	11.5	11.0	10.4	11.8	11.2	10.3	9.2
30′	11.9	11.4	10.9	10.3	11.8	11.1	10.1	8.9
40′	11.9	11.4	10.8	10.1	11.8	10.9	9.7	8.4
50′	11.9	11.3	10.6	9.6	11.7	10.7	9.3	7.8
60′	11.8	11.2	10.5	9.6	11.7	10.5	8.9	7.2
80′	11.8	11.1	10.2	9.1	11.6	10.1	8.1	6.0
100′	11.8	10.9	9.8	8.7	11.4	9.7	7.3	4.9

BOOST TAP

Distance from Transformer to First Fixture	#14 GAUGE				#18 GAUGE			
	Number of Fixtures				Number of Fixtures			
	1	4	8	12	1	4	8	12
5′	13.1	12.9	12.3	11.8	13.1	12.8	12.2	11.6
10′	13.1	12.8	12.3	11.6	13.1	12.7	12.0	11.3
15′	13.1	12.8	12.2	11.5	13.1	12.6	11.8	11.0
20′	13.1	12.7	12.1	11.4	13.1	12.5	11.7	10.7
25′	13.1	12.7	12.0	11.3	13.0	12.4	11.5	10.4
30′	13.1	12.6	12.0	11.2	13.0	12.3	11.3	10.1
40′	13.1	12.5	11.8	11.0	13.0	12.1	10.9	9.6
50′	13.1	12.5	11.7	10.7	12.9	11.9	10.5	9.0
60′	13.0	12.4	11.5	10.5	12.9	11.7	10.1	8.4
80′	13.0	12.3	11.2	10.0	12.8	11.3	9.3	7.2
100′	13.0	12.1	10.9	9.6	12.5	10.9	8.5	6.1

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