

M-SERIES

24V DC Installation Guide

20W - 300W Magnetic DC Drivers (20W - 96W are Class 2)



General

The transformer is to be installed in accordance with Article 450 of the National Electric Code (NEC). The transformer must be installed in a well-ventilated area, free from explosive gases and vapors. Proper operation requires for free flow of air. Since this transformer is hardwired, it should only be installed by a qualified electrician.

Precautions Before Installation

Check the label and ensure the transformer has the proper input voltage and wattage. Check the wire markings to ensure they match the wiring diagram, below.

Mounting

Select a suitable location capable of supporting the weight of the transformer. Use the two keyholes in the transformer case to mount it. It is recommended that the transformer is mounted vertically, with the wiring compartment pointing downward. If you are installing multiple drivers, keep a minimum space of 5" between each driver.

Boost-Tap (200W-300W Only)

The orange Boost-Tap wire, if available, provides a 10% voltage boost, which can compensate for voltage drop between the driver and the fixture. If the fixture is receiving 21.5V or less, we recommend substituting the black wire with the orange Boost-Tap wire. To calculate voltage drop, please refer to the link below:

<https://magnitudeinc.com/resources/voltage-drop-chart/>

Quick Specs

Input Voltage	120V AC
Output Voltage	24V DC
Max. Ambient Temp.	-30°C to 45°C
Enclosure	NEMA 3R - Damp or Dry
Min. Install. Space Between Drivers	5"

Input Connections / Grounding

Remove the wiring compartment knockouts and install strain reliefs. With the power turned off, route the input wires through a strain relief and connect one wire to black and one wire to white. For all wire connections, use only UL Listed wire nuts and connectors of suitable size and type. The transformer case **MUST** be grounded in accordance with the NEC. Connect the ground wire to the transformer's green wire.

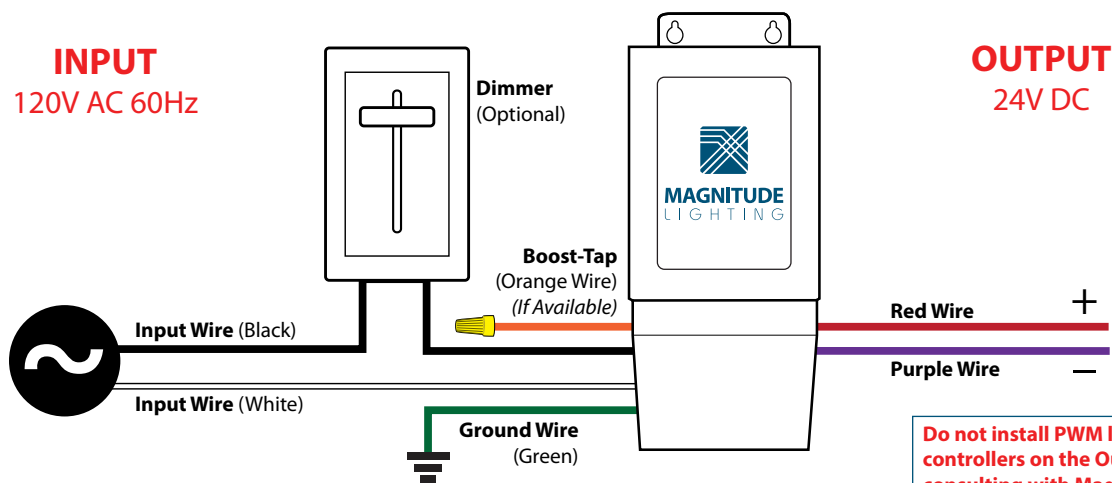
Output Connections

Bring the wires of the light fixture through the other open knockout and connect them to the transformer wires – positive (+) to the red wire and negative (-) to the purple wire.

Dimming

Dimmable with any standard MLV TRIAC (Leading Edge) dimmer switch. The dimmer switch is to be installed on the Input (120VAC) side of the driver. 50% load is required if not being used with a dimmer. Please visit our website for a full dimmer compatibility list (www.magnitudeinc.com).

↓ WIRING DIAGRAM ↓



Do not install PWM low voltage controllers on the Output without consulting with Magnitude Lighting.

M-SERIES 24V DIMMER COMPATIBILITY LIST

About Dimmer Compatibility

The dimmers listed below were tested with the specified Magnitude LED drivers. We are constantly adding to our list of compatible dimmers.

This chart describes the lowest measured electrical output when using the dimmer/driver combination. Some dimmers have wider dimming range. Zero (0%) means dim to off. One percent (1%) and five percent (5%) provide good dimming range. However, these percentages do not accurately describe the perception of the lamp, which is subjective to the individual viewer.

This compatibility list also takes into account other quality considerations such as flicker or pulsation. We do not recommend dimmers with these issues. In those cases where a dimmer is not compatible, we have suggested an alternate Magnitude product.

Minimum Dimming Percentage

DIMMER TYPE	M20L24DC-AR	M40L24DC-AR	M60L24DC-AR	M96L24DC-AR	M150L24DC-AR	M200L24DC	M300L24DC
Lutron Caseta, Wireless PD-6WCL (MLV)	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Maestro, Wireless MRF2-6CL (MLV)	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Legrand Adorne ADWR700MMTU (MLV)	Approved	Approved	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Not Recommended	Not Recommended	Not Recommended
Lutron Radio RA 2 RRD-6ND (MLV)	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Maestro MA-600 (MLV)	Not Recommended	Not Recommended	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Not Recommended	Not Recommended	Not Recommended
Legrand Adorne ADTP703TUW4 (MLV)	Approved	Approved	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Leviton Decore Smart DW6HD (MLV)	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%
Lutron Nova T NTLV-600 (MLV)	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%

Note: M-Series supports MLV (Forward-Phase) dimming only.

M-SERIES 24V

DIMMER COMPATIBILITY LIST

Minimum Dimming Percentage

DIMMER TYPE	M20L24DC-AR	M40L24DC-AR	M60L24DC-AR	M96L24DC-AR	M150L24DC-AR	M200L24DC	M300L24DC
Leviton illumatech IPMO6 (MLV)	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver	Recommend Magnitude's E-Series Driver
Lutron Ariadni AYLV-600P (MLV)	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Lutron Diva DVLV-600P (MLV)	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Caseta, Wireless PD-10NXD (MLV)	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Lutron Diva DVCL-153P (MLV)	Approved Dims to 1%	Approved Dims to 1%	Approved	Approved	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Maestro MA-PRO (MLV/ELV) MLV Result	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Lutron Radio RA2 RRD-PRO (MLV/ELV) MLV Result	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Lutron Caseta, Wireless PD-5NE (MLV/ELV) MLV Result	Approved	Approved	Approved	Approved	Approved	Approved	Approved
LeGrand Tru-Universa RH703PTUW (MLV Mode)	Approved	Approved	Not Recommended	Not Recommended	Approved	Approved	Approved
LeGrand Adorne AADTP700RMTUM1 (MLV)	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Lutron Maestro+ Motion Sensor MSCL-OP153MH	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Caseta Smart Home Plug-in PD-3PCL	Approved	Approved	Approved	Approved	Approved	Approved	Approved

Note: M-Series supports MLV (Forward-Phase) dimming only.

M-SERIES 24V

DIMMER COMPATIBILITY LIST

Minimum Dimming Percentage

DIMMER TYPE	M20L24DC-AR	M40L24DC-AR	M60L24DC-AR	M96L24DC-AR	M150L24DC-AR	M200L24DC	M300L24DC
Lutron Maestro MACL-153P	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Maestro IR MIRLV-600P	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Lutron Maestro MSC-1000M	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Lutron Toggle TGCL-153P	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Lutron Sunnata Touch STCL-153P	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
Leviton Sureslide 6674	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved	Approved	Approved	Approved
Leviton Toggle Slide TSM10-1LI	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
leviton Decora Smart DW1KD-1BZ	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%	Approved Dims to 0%
leviton Decora Digital DDMX1-BLZ	Approved	Approved	Approved	Approved	Approved	Approved	Approved
leviton Decora Digital DDL06-1LZ	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
leviton Decora Slide DSM10	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved	Approved	Approved
leviton Decora Slide DSL06-1LZ	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
GE Z-wave plus ZW3005	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%
HALO Smart HIWAC1BLE40AWH	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended

Note: M-Series supports MLV (Forward-Phase) dimming only.

M-SERIES 24V DIMMER COMPATIBILITY LIST

Minimum Dimming Percentage

DIMMER TYPE	M20L24DC-AR	M40L24DC-AR	M60L24DC-AR	M96L24DC-AR	M150L24DC-AR	M200L24DC	M300L24DC
WeMo WiFi F7C059	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Insteon Smart 2477DH	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
TP-Link Kasa Smart HS220P3	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%	Approved Dims to 1%

Note: M-Series supports MLV (Forward-Phase) dimming only.