



# EPM-DM3D

Universal Dimmer Module

Quick Reference Guide (revision 1.31)

## OVERVIEW

The universal dimmer module EPM-DM3D is designed to control lighting loads. The module can operate in three-channel, two-channel and one-channel modes. The device provides dimming of both forward (leading edge) and reverse (trailing edge) types of phase cut and supports any 220-240 V electronic and magnetic transformers, incandescent, neon/cold cathode, 2-wire dimmable fluorescent, 2-wire dimmable LED lighting loads.

The device has 6 digital inputs to control 3 power outputs. Every channel has a pair of digital inputs to connect external buttons and supports one-button and two-button control modes.

The control, data exchange and configuration are all handled via TCP/IP protocol.

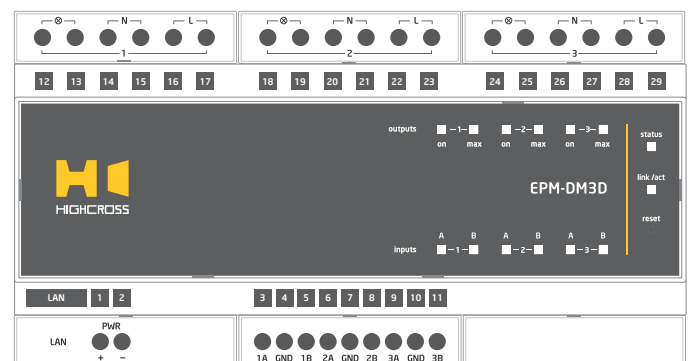
## SPECIFICATIONS

Number of channels	1...3
Number of digital inputs	6 (3 pairs)
Maximum load per output	650 W
Dimming type	Trailing edge cut, Leading edge cut
Overload and short circuit protection	40 A, 100 $\mu$ s
Overheat protection	Yes
Maximum voltage	250 V
Supply voltage (power terminals and PoE)	+12 ... 48 VDC
Consumption current	260 mA at +12 VDC

Network interface	Ethernet (10/100)
Operating temperature	-20°C ... +45°C (-5°F ... +115°F)
Operating humidity	5 ... 80% RH non-condensing
Dimensions	90 x 160 x 58 mm (3.54" x 6.30" x 2.28")
Weight	300 g (0.66 lbs)
Supported data exchange protocols	NetString ModBus TCP ModBus RTU over TCP

## DEVICE CONTROL COMPONENTS

FACE PANEL COMPONENTS	
outputs 1...3	Indicators of output status
inputs 1...3	Indicators of input status
status	Indicates power status and connection to controllers
link/act	Ethernet link and activity indicator
reset	Multifunctional button (reboot, reset, boot-loader)
LOW VOLTAGE TERMINAL BLOCK	
LAN	Ethernet network and PoE power connector
PWR	Power supply terminals (+12...48 VDC)
1A ... 3B	Digital inputs terminals
GND	Ground contact for inputs, electrically connected to PWR "-" contact



HIGH VOLTAGE TERMINAL BLOCK	
LOAD 1...3	Terminals for Load
N	Terminals for Neutral (not used by the device)
L 1...3	Terminals for Phase Line

LED "status" indicates the power connection and connection status with controllers

Off	No power connected
Blink (1 Hz)	No connection with external controllers
Fast blink (4 Hz)	The device is in bootloader mode
On	Connected to external controllers

LED "link" indicates Ethernet network link and activity

Off	No connection to Ethernet network
Blink	Connected to Ethernet network Receiving Ethernet data packets
On	Connected to Ethernet network No network activity

LEDs "1...3 on" display status of output

Off	The output is off
On	The output is on
Blink	No Line or Load

LEDs "1...3 max" display that output power is 100%

Off	The output power is less 100%
On	The output power is 100%

Multifunctional button "reset"

**To reboot the device** push the button for 1 second

**To reset the device to factory defaults** push and hold the button for 5 seconds.

IP-address will be set to 10.0.1.101, subnet mask - to 255.255.255.0. All other settings will be set to default values

**For firmware update**, power off the device, push and hold the button and power the device on. Release the button after the LED "status" will start to blink fast.

The network settings of the device started in bootloader mode are: IP-address - **10.0.1.101**, subnet mask - **255.255.255.0**

The **PWR "+"** and **"-"** terminals are designed to power the device +12...48 VDC if connected Ethernet switch has no PoE support.

The terminals **"N"** of all outputs are designed to connect Neutral wire only for convenience of installation and are not used by the device.

Refer to the Instruction manual for the connection diagrams.

## SETUP AND CONFIGURATION

The configuration of the module is handled via web-interface.

To start working with the device:

- Connect the device to the Ethernet switch. If the switch has no PoE support, connect the power +12...48 VDC to the **PWR** terminal
- Ensure that your computer can connect to the network address 10.0.1.101 or set the TCP/IP settings of active network adaptor to: IP address - **10.0.1.100**, subnet mask - **255.255.255.0**
- Enter **10.0.1.101** in address bar of your web-browser
- Enter: login - **root**, password - **root**
- Configure the device settings

The web-interface contains the next web-pages:

<b>Home</b>	Displays the hardware revision and the firmware version
<b>Settings</b>	Network settings, data exchange protocol, modes of channel combining, dimming type, settings of outputs and digital inputs
<b>Control</b>	Direct control of output channels
<b>Status</b>	Displays current TCP/IP connections and device uptime info

For further information refer to [www.highcross.com](http://www.highcross.com)