



# ECM-LD4D

LED control Module

Quick Reference Guide (revision 1.40 for H/W Rev.B)



## OVERVIEW

ECM-LD4D module is designed to control brightness of LED strips and lamps.

The module uses PWM power driver and supports up to 30 VDC and 10 A load for every channel.

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

Every channel has a pair of digital inputs for manual control and supports one-button and two-button control modes.

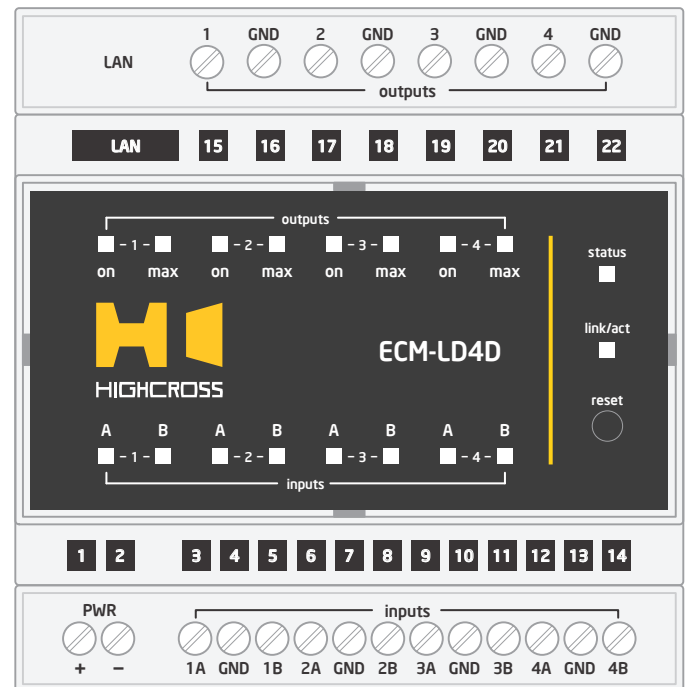
## SPECIFICATIONS

Number of channels	4
Number of digital inputs	4 pairs
Maximum output current	10 A
Maximum supported LED voltage	30 VDC
LED PWM Frequency	1000 Hz
Overload and short circuit protection of outputs	No
Supply voltage range	12-24 VDC via power terminals 48 VDC via PoE port
Consumption current	120 mA @ 12 VDC

Network interface	Ethernet (10/100)
Operating temperature	-20° C to 45° C -5° F to 115° F
Operating humidity	5 to 80% RH non-condensing
Dimensions (HWD)	90 mm x 88 mm x 58 mm 3.54" x 3.46" x 2.28"
Weight	175 g 0.38 lbs
Supported data exchange protocols	NetString ModBus TCP ModBus RTU over TCP

## DEVICE CONTROL COMPONENTS

FACE PANEL COMPONENTS	
<b>outputs 1-4</b>	Indicators of outputs status
<b>inputs 1A-4B</b>	Indicators of inputs status
<b>status</b>	Indicates power status and connection to controllers
<b>link/act</b>	Ethernet link and activity indicator
<b>reset</b>	Multifunctional button (reboot, reset, bootloader)
TERMINAL PANELS	
<b>LAN</b>	Ethernet network and PoE power connector
<b>PWR</b>	Power supply terminals (12-24 VDC)
<b>outputs 1-4</b>	Terminals of outputs
<b>inputs 1A-4B</b>	Terminals of digital inputs
<b>GND</b>	Ground contact for inputs, electrically connected to <b>PWR "-"</b> contact



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 "1-4 on" display status of output	
Off	The output is off
On	The output is on

LEDs "1-4 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 12-24 VDC if connected Ethernet switch has no PoE support.

The **outputs 1-4** terminals are designed to connect LED strips **"-"** contact.

The **outputs GND** terminals are designed to connect LED's power supply **"-"** contact and electrically connected to **PWR "-"** contact.

For connection diagrams refer to the Instruction manual.

## 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 12-24 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, type of data exchange protocol, outputs and digital inputs settings
<b>Control</b>	Control of channels
<b>Status</b>	Displays current TCP/IP connections and device uptime info

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