ECM-LD4D

LED control Module

Quick Reference Guide (revision 1.21)

OVERVIEW

The module ECM-LD4D designed to function as a universal LED control module.

The module uses PWM-modulation for LED dimming control and supports up to 30 V and 5 A load for every channel.

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

The device has 8 digital inputs allowing bidirectional dimming of 4 LED loads with or without an external controller.

SPECIFICATIONS

Number of channels	4
Number of digital inputs	**8** (4 pairs)
Maximum output current	5 A
Maximum supported LED voltage	30 VDC
LED PWM Frequency	Up to 1000 Hz
Overload and short circuit protection of outputs	No
Supply voltage (power terminals and PoE)	+12 … 48 VDC
Consumption current	120 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 88 x 58 mm (3.54" x 3.46" x 2.28")
Weight	175 g (0.385 lbs)
Supported data exchange protocols	NetString ModBus TCP ModBus RTU over TCP

DEVICE CONTROL COMPONENTS

FACE PANEL COMPONENTS	
outputs 1…4	Indicators of outputs status
inputs 1…4	Indicators of inputs status
status	Indicates power status and connection to controllers
link/act	Ethernet link and activity indicator
reset	Multifunctional button (reboot, reset, bootloader)
TERMINAL PANELS	
LAN	Ethernet network and PoE power connector
PWR	Power supply terminals (+12…48 VDC)
outputs 1…4	Terminals of outputs
inputs 1A…4B	Terminals of digital inputs
GND	Ground contact for inputs, electrically connected to PWR "–" contact
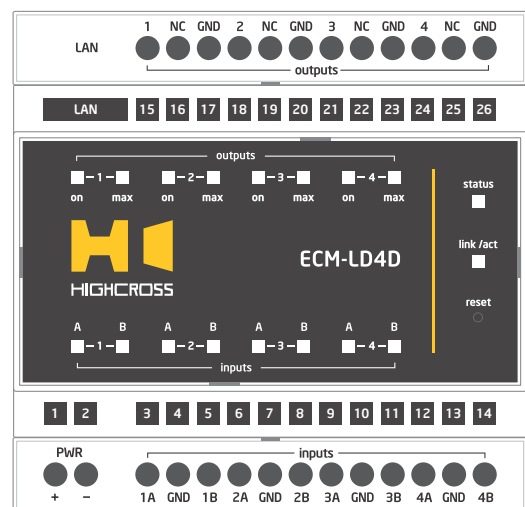
LED "status" indicates the power connection and connection status with controllers	
Off	No power connected
Blink (1 Hz)	No connection with external controllers
Fast blink (4 Hz)	The device is in bootloader mode
On	Connected to external controllers

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 LD "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..48V e if connected Ethernet switch has no PoE support.

The **OUT1...OUT4** terminals are designed to connect "–" contact of LED strips.

The **GND1..GND4** terminals are designed to connect LED power supply "–" contact. They are connected to **PWR "–"** contact.

The terminals **NC1...NC4** are designed to connect Neutral wire only for convenience of installation and are not used by the device.

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...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:

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

For further information refer to www.highcross.com