ECM-IR4B

Infrared Control Module

Quick Reference Guide (revision 1.60 for H/W Rev.C)

OVERVIEW

ECM-IR4B is a universal multifunctional IR-control module, designed to control audio / video systems, air conditioners and any other IR-controlled appliances. The module has intelligent IR-learning to parse and analyse unique and repeating sequences.

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

The device features:

- 4 ports to connect external IR emitters and receivers
- built-in high-power IR-blaster (supported on port #4)
- built-in IR receivers to receive IR commands and to capture IR codes from device's remote controls

SPECIFICATIONS

COMMON DATA	
Network interface	Ethernet (10/100)
Supply voltage range	12–24 VDC via power terminals 48 VDC via PoE port
Consumption current	120 mA @ 12 VDC
Operating temperature	-20° C to 45° C -5° F to 115° F
Operating humidity	5 to 80% RH non-condensing
Enclosure	Metal with black matte finish
Dimensions (HWD)	34 mm x 84 mm x 109 mm 1.34" x 3.30" x 4.30"
Weight	190 g / 0.42 lbs
Supported data exchange protocols	NetString ModBus TCP ModBus RTU over TCP

RECEIVING OF IR CODES	
Number of ports to receive IR commands	5
IR receiver carrier frequency	38 kHz

TRANSMISSION OF IR CODES	
Number of ports to transmit IR commands	4
Output power of ports for external IR emitters	5 mA, 25 mA, 30 mA
Power of built-in IR blaster	200 mA (4 IR emitters)
IR carrier frequency	20 – 500 kHz
Supported file formats of IR commands	.phex – ProntoHex format .IRL – AMX format .IR – Crestron format
Maximum number of commands per IR file	255
Maximum length of IR command (unique and repeating parts)	1000 intervals (500 On/Off pairs)

CAPTURING OF IR CODES	
IR carrier frequency to capture commands from IR remote	20 – 60 kHz
Maximum length of IR command (unique and repeating parts)	2000 intervals
Output format of captured IR code	ProntoHex

DEVICE CONTROL COMPONENTS

FRONT PANEL COMPONENTS	
IR 1–4	Activity indicators of ports 1–4
reset	Multifunctional button (reboot, reset, bootloader)
link	Ethernet link and activity indicator
status	Indicates power status and connection to controllers

REAR PANEL COMPONENTS	
LAN	Ethernet network RJ-45 socket (PoE)
1–4	mini-jack (3.5 mm) sockets to plug IR emitters
1…4 +/−	mini-Phoenix connectors to connect IR emitters
PWR	Power terminal (12–24 VDC)

REAR VIEW

FRONT VIEW
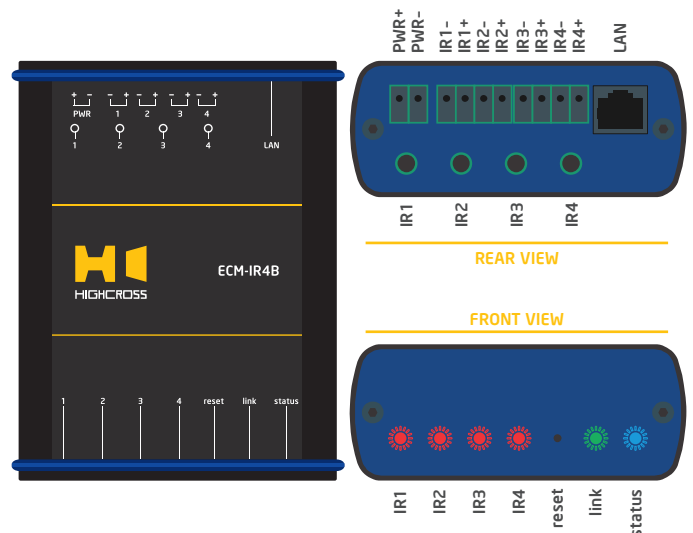
LED "status" indicates the power connection and connection status with controllers	
Off	No power connected
Blink (1 Hz)	No connection with external controllers
Fast blink (4 Hz)	The device is in bootloader mode
On	Connected to external controllers

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 "IR1–IR4" display activity of IR ports	
Off	No port activity
On	Port is transmitting or receiving IR code
Blink (all ports)	Device is parsing IR file uploaded via web-interface

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** terminal is designed to power the device 12–24 VDC if connected Ethernet switch has no PoE support.

The mini-jack 3.5 mm sockets **IR1–IR4** and mini-Phoenix connectors **IR1–IR4 +/–** are designed to be used with external IR emitters and IR receivers.

The both built-in receiver to receive IR commands and built-in receiver to capture IR codes are placed behind the cover of the front panel.

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:

Home	Displays the hardware revision and the firmware version
Settings	Network settings, type of data exchange protocol, settings of IR ports
IR files	Upload and download IR data files to and from the device
Capture	The interface to capture and analyse IR codes from remote controls
Status	Displays current TCP/IP connections and device uptime info

For further information refer to www.highcross.pro

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