

OVERVIEW

The Highcross ECM-IO16D module provides sixteen I/O channels for interfacing with a wide range of third-party devices and systems.

Every channel can be configured via web interface to function either as a digital sensing input or as a trigger output.

Digital inputs can be configured to be activated by normally-open or normally-closed contacts.

The polling of every digital input doesn't depend on its output state. Thus, after sending command "Activate input/output" a controller will receive back a message about activation of corresponding input or output.

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

The module is designed to be installed on a standard 35 mm DIN rail.

SPECIFICATIONS

Number of channels	16
Type of digital inputs	TTL, reference voltage +5 V, Short Circuit Current ~ 1 mA
Type of digital outputs	Open collector
Maximum current of digital outputs	200 mA
Maximum voltage of digital outputs	24 VDC
Supply voltage (power terminals and PoE)	+12 ... 48 VDC
Consumption current	120 mA at +12 VDC

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

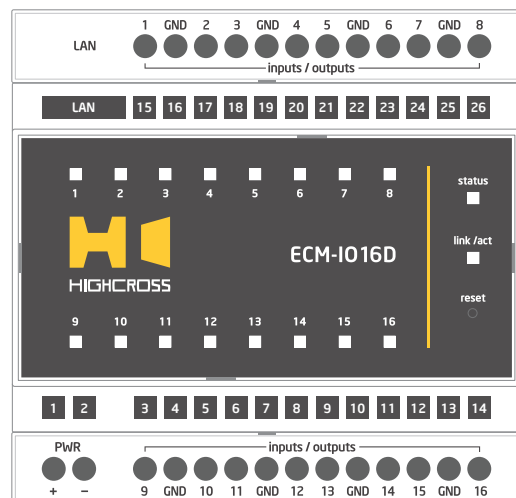
DEVICE CONTROL COMPONENTS

FACE PANEL COMPONENTS

1...16	Activity indicators of channels 1...16
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
1...16	Terminals of digital inputs/outputs
GND	Ground contact of digital inputs/outputs, electrically connected to PWR "-" contact
PWR	Power supply terminals (+12...48 VDC)



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...16" display status of digital inputs only

Off	Input is not active
On	Input is active

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.

Terminals **1...16** and **GND** of channels 1...16 are designed to connect monitored equipment if to use them as digital inputs or to connect controlled devices if to use them as digital outputs.

On activation of digital output the corresponding digital input will change its status too. If the input is in NO mode, the LED will light when the input is closed, and if the input is in NC mode, the LED will light when the input is open.

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 inputs settings
Control	Displays current state of inputs and outputs. Direct control of outputs
Status	Displays current TCP/IP connections and device uptime info

For further information refer to www.highcross.com