![pharos logo]
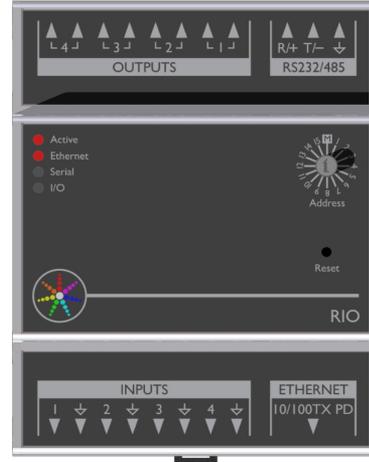
Overview

The Pharos RIO 80, 44 and 08 (Remote Input Output) devices provide a convenient and scalable way to add inputs and outputs to a Pharos system for show control and integration. Each device can be placed where it is needed and connected to the Controllers over an Ethernet network. Each RIO has a multi-protocol serial port, supporting DMX input and output, and a combination of multi-functional digital/analog inputs and relay outputs.

Features

Pharos Trigger

Timing is everything. Whatever the stimulus, Pharos Trigger can handle it. You can control your lighting with responsive, reactive programming. Pharos Trigger is a rules engine that uses conditional logic and a broad range of interfaces and protocols. Send and receive any command, to and from any system. Conditional logic is supported, along with a powerful built-in scripting language for unlimited flexibility.

Scalable

Up to 200 Remote Devices can be combined with one or more Pharos Controllers on the same network to build the ideal system for your installation. Each Remote Device is easily addressed using a convenient thumb wheel. Whether one Controller or many, it's all easily programmed using our Designer software.

Flexible Inputs

Each input is individually configurable in one of three modes. As a Contact Closure an external volt-free switch may be connected across the input. As a Digital Input an external voltage source (up to 24V) can be connected across the input and thresholds for 'high' and 'low' triggering can be set. As an Analog Input a variable external voltage can be measured within a configurable range.

Multi-Protocol

Every RIO has a multi-protocol serial port, whose protocol (RS232 or RS485), data rate and format settings (baud, parity, stop bits, etc.) are configurable in software. The port can also be configured to output up to 96 channels of DMX512.

PoE Powered

As a Power-over-Ethernet (PoE) device, the RIO can be placed at any remote location and only needs a single Cat5 cable that provides both power and data.

Relay Outputs

Our outputs use solid-state relays to ensure silent operation and long-term reliability. They are designed for low voltage, low current switching (48V, 0.25A) and are also fully isolated. Where necessary they enable higher currents to be controlled from Pharos by integration with commonly available third-party contactors.

Installer Friendly

Made for permanent installation, with installer-friendly 0.200" (5.08mm) plug-in rising clamp terminals, a rugged, compact enclosure, and easy DIN rail mounting.

Pharos Designer

Programmed and configured using the free Pharos Designer software – available for Windows or Mac OS X – with upload over Ethernet.

Network

Works with any Pharos Controller and links to it using standard protocols over an Ethernet network.

5 Year Warranty

Designed and manufactured in the UK, with quality and reliability our top priority.

Certifications

CE compliant, ETL/cETL listed, and California Title 20/24 compliant.

pharoscontrols.com

Capabilities

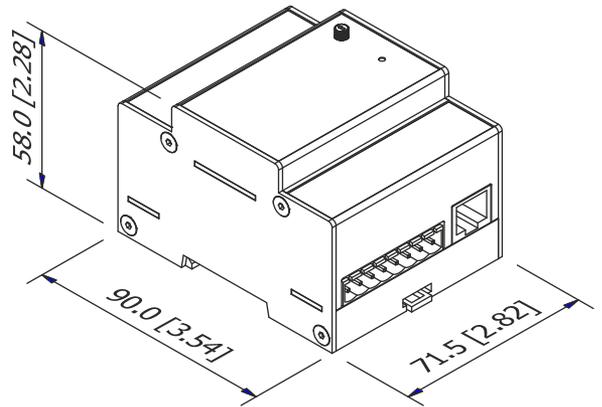|	
Contact Closure	Connect an external volt-free switch between input and ground (internal 2.2kohm pull-up to 5V)
Digital In	Connect an external voltage source between input and ground (24V maximum; internal 2MOhm pull-down to 0V); software-configurable low/high threshold
Analog In	Connect an external voltage source between input and ground (24V maximum); software-configurable range
Relay Outs	Individually isolated (1KV) relay outputs (48V 250mA)
Serial Data	RS232, RS485; configurable port; send/receive free syntax in ASCII, HEX or decimal
DMX Out	96 channels (USITT E1.11-2008)

Interfaces

Ethernet	RJ45 socket for 10/100Base-TX Ethernet with Link/Data LEDs; Static IP or DHCP; Power-over-Ethernet (PoE)
Serial	RS232 / RS485 / DMX out *
Inputs	Individually selectable operating mode for contact closure, digital or analog input (24V maximum) *
Relay Outs	Individually isolated (1KV) relay outputs (48V 250mA) *
	* Install-friendly 0.200″ (5.08mm) plug in rising clamp connectors (included)

Specifications

Certifications	CE compliant, ETL/cETL listed
Power	PoE (IEEE802.3af, Class 1) 1.5W typical
Required	Any Pharos Controller
Addressing	By rotary selector switch
Temperature	0°C to 50°C (32°F to 122°F)
Humidity	10-50% relative, non-condensing
Ingress	IP40
Physical	4 unit wide DIN rail mounting enclosure (DIN43880 / EN60715 (35/7.5 rail)) 0.3 kg (0.7 lbs)
Shipping	20 x 15 x 12 cm (8″ x 6″ x 5″) 0.5 kg (1.1 lbs)
Recovery	Hardware watchdog and recessed reset button
Warranty	5 years

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Order Code & Variants

RIO 80	Remote Input Output Device 80 (8 input, 0 output, Serial/DMX)
RIO 44	Remote Input Output Device 44 (4 input, 4 output, Serial/DMX)
RIO 08	Remote Input Output Device 08 (0 input, 8 output, Serial/DMX)

Pharos Controller required