R95C 8-Port 2-Channel Discrete and Analog In-Out IO-Link Hub Datasheet

Technical Information

This guide is designed to help you set up and install the R95C 8-Port 2-Channel Discrete and Analog In/Out IO-Link Hub. For complete information on programming, performance, troubleshooting, dimensions, and accessories, please refer to the Instruction Manual at www.bannerengineering.com. Search for part number 234456 to view the Instruction Manual. Use of this document assumes familiarity with pertinent industry standards and practices.

Overview

The R95C 8-Port 2-Channel Discrete and Analog In/Out IO-Link Hub provides a mix of both discrete input/output and analog input/output functionality distributed to two sets of 4-ports.

Ports 1 through 4 contain the discrete functionality, and Ports 5 through 8 contain the analog functionality. These two sets of ports can be monitored and configured using an IO-Link master.

IO-Link®

IO-Link® is a point-to-point communication link between a master device and a sensor and/or light. It can be used to automatically parameterize sensors or lights and to transmit process data. For the latest IO-Link protocol and specifications, please visit www.io-link.com.

For the latest IODD files, please refer to the Banner Engineering Corp website at: www.bannerengineering.com.

Resources

For more information, see P/N 234458 *R95C-4B4UI-KQ IO-Link Data Reference Guide* and P/N 234457 *R95C-4B4UI-KQ IODD Files*.

Mechanical Installation

Install the R95C to allow access for functional checks, maintenance, and service or replacement. Do not install the R95C in such a way to allow for intentional defeat.

Fasteners must be of sufficient strength to guard against breakage. The use of permanent fasteners or locking hardware is recommended to prevent the loosening or displacement of the device. The mounting hole (4.5 mm) in the R95C accepts M4 (#8) hardware.

CAUTION: Do not overtighten the R95C's mounting screw during installation. Overtightening can affect the performance of the R95C.

Status Indicators

On both sides of the R95C IO-Link hub, Ports 1 through 4 have two matching amber LED discrete output indicators, and Ports 5 through 8 have two matching amber LED analog in/analog out indicators. There is also an additional amber LED indicator on both sides of the converter, which is specific to the IO-Link communication, and a green LED indicator that shows power status.

LED	Indication	Status
Discrete Device Amber LEDs	Off	Discrete In and Out are inactive
	Solid Amber	Discrete In or Out is active
Analog In Amber LED[1]	Off	Analog current value is less than setpoint SP1 OR analog value is greater than setpoint SP2
	Solid Amber	Analog current value is between setpoint SP1 AND setpoint SP2
Analog Out Amber LED	Off	Turns off if written PDO analog value is outside the allowable output range **Allowable Voltage Range:** 0 V to 10 V. **Allowable Current Range:** 4 mA to 20 mA.
	Solid Amber	Turns on if written PDO analog value is inside the allowable output range **Allowable Voltage Range:** 0 V to 10 V. **Allowable Current Range:** 4 mA to 20 mA.
IO-Link Communication Amber LED	Off	IO-Link communications are not present
	Flashing Amber (900 ms On, 100 ms Off)	IO-Link communications are active
Power Indicator Green LED	Off	Power off
	Solid Green	Power on

[1] **Default Current Values:** SP1 = 0.004 A, SP2 = 0.02 A. **Default Voltage values:** SP1 = 0 V, SP2 = 10 V.

Specifications

Supply Voltage

18 V DC to 30 V DC at 400 mA maximum (exclusive of load)

Power Pass-Through Current

Not to exceed 4 amps total

Discrete Output Load Rating

200 mA

Analog Input Impedance

Current version: Approximately 250 Ω
Voltage version: Approximately 14.3k Ω

Analog Output Load Requirements

Voltage version = Resistance > 1000 Ω
Current version = Resistance < 500 Ω

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Leakage Current Immunity

400 µA

Indicators

Green: Power
Amber: IO-Link communications
Amber: 2x Discrete IN/OUT status
Amber: Analog input value present
Amber: Analog output value in range

Connections

(8) Integral 4-pin M12 female quick-disconnect connectors
(1) Integral 4-pin M12 male quick-disconnect connector

Construction

Coupling Material: Nickel-plated brass
Connector Body: PVC translucent black

Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 0.5 mm amplitude, 5 minutes sweep, 30 minutes dwell)
Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

Environmental Rating

IP65, IP67, IP68
UL Type 1

Operating Conditions

Temperature: –40 °C to +70 °C (–40 °F to +158 °F)
90% at +70 °C maximum relative humidity (non-condensing)
Storage Temperature: –40 °C to +80 °C (–40 °F to +176 °F)

Required Overcurrent Protection

WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	1.0	30	0.5

Certifications

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

Product Identification

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