

# S15C Analog Current to IO-Link Device Converter



## Datasheet



- Compact analog current to IO-Link device converter that connects to a current source (4 mA to 20 mA) and outputs the value to the IO-Link master
- Rugged over-molded design meets IEC IP65, IEC IP67, and IEC IP68
- Connects directly to a sensor or anywhere in-line for ease of use

## Models



## 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](http://www.io-link.com).

For the latest IODD files, please refer to the Banner Engineering Corp website at: [www.bannerengineering.com](http://www.bannerengineering.com).

## Configuration

The measured current value is available via Process Data In as the measured value in  $\mu\text{A}$ .

For more information, see Banner P/N 217418 *S15C Analog Converter (Voltage and Current) - IO-Link Data Reference Guide* and Banner P/N 217417 *S15C-U/I-K-Q IODD Files*.

## Wiring Diagrams

Male	Female	Pin	Wire Color
		1	Brown
		2	White
		3	Blue
		4	Black

Female (Sensor)	Signal Description
Pin 1	18 V DC to 30 V DC
Pin 2	Analog In
Pin 3	Ground
Pin 4	Not Used



**Important:** A shielded cable is required on the female (sensor) side, with the shield tied to the blue wire.



Male (IO-Link Master)	Signal Description
Pin 1	18 V DC to 30 V DC
Pin 2	Banner-specific
Pin 3	Ground
Pin 4	IO-Link

## Status Indicators

### Power LED Indicator (Green)

- Solid Green = Power On
- Off = Power Off

### IO-Link Communication LED Indicator (Amber)

- Flashing Amber (900 ms On, 100 ms Off) = IO-Link communications are active
- Off = IO-Link communications are not present

### Analog Communication LED Indicator (Amber)

- Solid Amber = Analog current value is between setpoint SP1 AND setpoint SP2
- Off = Analog current value is less than setpoint SP1 OR analog value is greater than setpoint SP2
- Default Values <sup>1</sup>:
  - SP1 = 0.004 A
  - SP2 = 0.02 A

## Specifications

### Supply Voltage

18 V DC to 30 V DC at 50 mA maximum

### Supply Protection Circuitry

Protected against reverse polarity and transient voltages

### Leakage Current Immunity

400 µA

### Resolution

14-bits

### Accuracy

0.5%

### Indicators

Green power  
Amber IO-Link communications  
Amber analog value present

### Connections

Integral male/female 4-pin M12/Euro-style quick disconnect

### 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)

### Certifications



### Environmental Rating

IEC IP65, IEC IP67, IEC IP68  
NEMA/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.

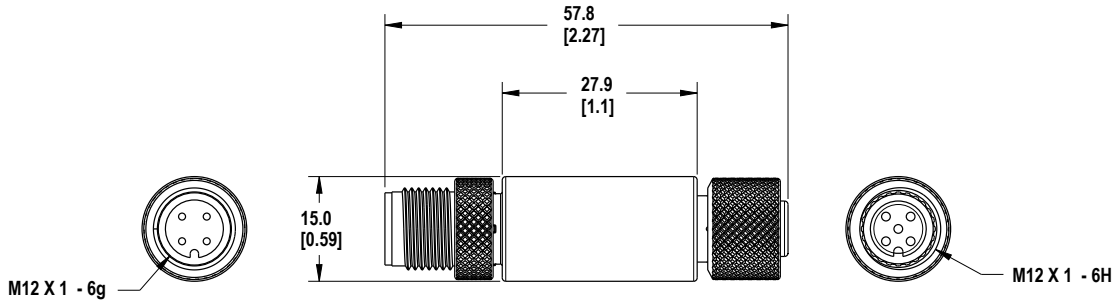
Overcurrent protection is required to be provided by end product application per the supplied table.  
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.  
Supply wiring leads < 24 AWG shall not be spliced.  
For additional product support, go to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

Supply Wiring (AWG)	Required Overcurrent Protection (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

<sup>1</sup> SP1 and SP2 values are IO-Link read/write parameters.

## Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



## Accessories

### Cordsets

4-Pin Threaded M12/Euro-Style Cordsets—Double Ended				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/ Female Straight		Female
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			Male
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30.2 ft)			
MQDEC-450SS	15.2 m (49.9 ft)			<p>1 = Brown 2 = White 3 = Blue 4 = Black</p>

## Banner Engineering Corp Limited Warranty

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For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

## FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the manufacturer.



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