

# I/O Series

## I/O Expansion



### KEY FEATURES

**Modular:** Supports up to 15 expansion modules to a serial base or radio base.

**Flexible:** Supports radio base for wireless I/O or serial base.

**Low Latency:** Access times as fast as 11 milliseconds to all available expansion modules.

**Powerful:** Universal channels configurable as digital input, digital output, analog input, analog output or sensor power.

**Reliable:** Fail-safe settings are user-configurable for DO and AO channels.

**Easy Sensor Selection:** Support for 4 to 20 mA, 1 to 5 V and 0 to 10 V transducers with loop power.

**High Accuracy:** Maximum reading error of 0.10% of AI channels across entire operating temperature.

**Low Power Consumption:** Ideal for solar, battery, and DC applications.

**Industrial Grade:** Operating Temperature from -40°C to +75°C.

### OVERVIEW

The I/O Expansion module offers a reliable, safe and easy way to meet the growing measurement and control demands of your automation system. I/O Expansion builds on existing communications systems and controller infrastructure to extend the useful life of your automation system. The Expansion Modules snap easily on to a radio base to provide 188 I/O points over a single wireless link. The Serial Base features a wired serial interface to provide up to 192 I/O points to an existing PLC, RTU or other device with serial communications. Certified for C1D2.

All radios are designed, manufactured and tested in Boulder, CO.

### INFORMATION TO ORDER

Model Number	Description
IOE-4440	Serial Base, 4 Digital Inputs
IOE-4422	Serial Base, 2 Digital Inputs, 2 Digital Outputs
IOE-4404	Serial Base, Digital Outputs
IOEX-4440	Expansion Module, 4 Digital Inputs
IOEX-4422	Expansion Module, 2 Digital Inputs, 2 Digital Outputs
IOEX-4404	Expansion Module, Digital Outputs

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## PART NUMBER SUMMARY

Serial Base Expansion Module	IOE-4440 IOEX-4440	IOE-4422 IOEX-4422	IOE-4404 IOEX-4404
Number of Universal Channels	4	4	4
Number of Input-Only Channels	4	4	4
Number of Isolated Digital Input Channels	4	2	0
Number of Isolated Digital Output Channels	0	2	4

## TECHNICAL SPECIFICATIONS

Digital Input	Universal Channels	Input-Only Channels	Isolated Channels
Input ON voltage	> 3.0 V	> 3.0 V	> 3.2 V
Input OFF voltage	< 2.5 V	< 2.5 V	< 1.2 V
Pulse-counting frequency, standard	100 Hz or 4 ms	100 Hz or 4 ms	100 Hz or 4 ms
Pulse-counting frequency, high	-	10 kHz or 40 $\mu$ s	10 kHz or 40 $\mu$ s
Pull-up resistor	1 k $\Omega$ to 3 V	1 k $\Omega$ to 3 V	-
Pull-down resistor	10 k $\Omega$ to ground	10 k $\Omega$ to ground	-

Digital Output	Universal Channels	Input-Only Channels	Isolated Channels
Output ON current	1 A to ground	-	2 A
Output ON impedance	0.2 $\Omega$ to ground, plus diode	-	0.120 $\Omega$
Output OFF impedance	2.34 k $\Omega$ to ground	-	10 M $\Omega$
External voltage connection	V BAT	-	250 V

Analog Input	Universal Channels	Input-Only Channels	Isolated Channels
Resolution	20 bits	20 bits	-
Maximum Reading Error	0.10%	0.10%	-
Voltage Input Range	-2.5 to 12.5 V	-2.5 to 12.5 V	-
Current Input Range	0 to 22 mA	0 to 22 mA	-
Current Sense Resistor	250 $\Omega$	250 $\Omega$	-

Analog Output	Universal Channels	Input-Only Channels	Isolated Channels
Current Output Range	0 to 22 mA	-	-
Maximum Output Error	0.25%	-	-

Sensor Power	Universal Channels	Input-Only Channels	Isolated Channels
Voltage Output	0.5 V below V BAT	-	-
Current Output	Up to 50 mA	-	-

## GENERAL INFORMATION

Operating Temperature	-40°C to +75°C (-40°F to +167°F)
Humidity	0 to 95%, non-condensing
Dimensions	181.0 L x 79.4 W x 25.4 H (mm) 7.13 L x 3.13 W x 1.0 H (in.)
Weight	158.8 g (0.35 lbs.)
Mounting	Integrated 35mm DIN rail clip

## CONTACT US

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