

Wired IO Series

I/O Expansion



The Wired IO Series offers a reliable, safe and easy way to meet the growing measurement and control demands of your automation system.

This I/O expansion module builds on existing communications systems and controller infrastructure to extend the useful life of your automation system. The expansion modules snap easily onto 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.

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

Part Number Summary

| Serial Base | IOE-4422 | | IOE-4404 |
|--|-----------|-----------|-----------|
| Expansion Module | IOEX-4440 | IOEX-4422 | 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 μ s | 10 kHz or 40 μ s |
| Pull-up resistor | 1 k Ω to 3 V | 1 k Ω to 3 V | - |
| Pull-down resistor | 10 k Ω to ground | 10 k Ω 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 Ω to ground, plus diode | - | 0.120 Ω |
| Output OFF impedance | 2.34 k Ω to ground | - | 10 M Ω |
| 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 Ω | 250 Ω | - |
| 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 35 mm DIN rail clip |

Information to Order

| Model Number | Description |
|--------------|---|
| 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 |