

ANALOG / DIGITAL CONVERTER

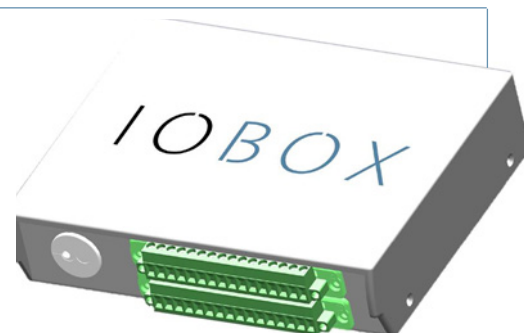
ACCESSORY FOR ECOMBOX

IOBOX



Thanks to IOBOX, get reliable and diversified I/O modules connected to ECOMBOX. Many configurations are available for connecting different types of sensors for industrial IOT applications.

IOBOX enables analog / digital signals to be managed on the same web platform as other instruments such as relay, alarm, ventilation, etc.



ADVANTAGES

- + Easy connections
- + Fully integrated solution
- + Access to ECOMBOX services
- + Can be integrated in ECOMWILD, a waterproof enclosure for the ECOMBOX



CONFIGURATIONS

| CONFIGs | AI | AO | DI | DO | Relays | RTD | TC |
|---------|----|----|----|----|--------|-----|----|
| A | - | - | 16 | - | - | - | - |
| B | - | - | - | 16 | - | - | - |
| C | - | - | 8 | 8 | - | - | - |
| D | - | - | 6 | - | 6 | - | - |
| E | 8 | - | - | - | - | - | - |
| F | - | 4 | - | - | - | - | - |
| G | 4 | - | 4 | 4 | - | - | - |
| H | - | - | - | - | - | 6 | - |
| I | - | - | - | - | - | - | 8 |
| J | 5 | - | 6 | 6 | - | 3 | - |

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SPECIFICATIONS

| | | |
|-------------------------------------|-------------------------------|--|
| Digital Input | Sensor Type | Wet Contact (NPN or PNP), Dry Contact |
| | I/O Mode | DI or Event Counter |
| | Dry Contact | On: short to GND ; Off: open |
| | Wet Contact (DI to COM) | On: 10 to 30 VDC ; Off: 0 to 3 VDC |
| | Common Type | 4 points per COM |
| | Counter Frequency | 250 Hz |
| Digital Output | Type | Sink |
| | I/O Mode | DO or Pulse Output |
| | Pulse Output Frequency | 500 Hz |
| | Over-Voltage Protection | 45 VDC |
| | Over-Current Protection | 2.6 A (4 channels @ 650 mA) |
| | Over-Temperature Shutdown | 175°C (typical), 150°C (min.) |
| | Current Rating | 200 mA per channel |
| | Analog Input | Type |
| Resolution | | 16 bits |
| I/O Mode | | Voltage / Current (jumper selectable) |
| Input Range | | 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA, 4 to 20 mA (burnout detection) |
| Accuracy | | ±0.1% FSR @ 25°C ; ±0.3% FSR @ -10 and 60°C ; ±0.5% FSR @ -40 and 75°C |
| Sampling Rate | | All channels: 12 samples/sec; Per channel: 3 samples/sec; Only one channel enabled: 12 samples/sec |
| Input Impedance | | 10 mega-ohms (min.) |
| Built-in Resistor for Current Input | | 120 ohms |
| Analog outputs | Resolution | 12 bits |
| | I/O Mode | Voltage / Current (jumper selectable) |
| | Output Range | 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA, 4 to 20 mA (burnout detection) |
| | Drive Voltage | 10 mA (max.) |
| | Accuracy | ±0.1% FSR @ 25°C ; ±0.5% FSR @ -40 and 75°C |
| | Load resistor | Internal register, 400 ohms |
| Relays | Note | Ambient humidity must be non-condensing and remain between 5 and 95%. |
| | Type | Form A (N.O.) power relay |
| | Contact current rating | Resistive Load: 5 A @ 30 VDC, 250 VAC, 110 VAC |
| | Breakdown voltage | 500 VAC |
| | Relay on/off time | 1500 ms (max.) |
| | Initial Insulation Resistance | 1000 mega-ohms (min.) @ 500 VDC |
| | Endurance | Mechanical (5,000,000 operations) Electrical (100,000 operations @ 5 A resistive load) |
| | Contact resistance | 100 milli_ohms (max.) |
| | Pulse output | 0.3 Hz at rated load |

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| RTD | Sensor type | PT50, PT100, PT200, PT500 (-200 to 850°C); PT1000 (-200 to 350°C) Resistance of 310, 620, 1250, and 2200 ohm |
| | Input connection | 2- or 3-wire |
| | Sampling rate | All channels: 12 samples/sec; Per channel: 2 samples/sec; Only one channel enabled: 12 samples/sec |
| | Resolution | 0.1 °C or 0.1 ohm |
| | Accuracy | ±0.1% FSR @ 25°C ±0.3% FSR @ -40 and 75°C |
| | Input impedance | 625 kohms |
| TC | Sensor type | J (0 to 750°C), K (-200 to 1250°C), T (-200 to 350°C), E (-200 to 900°C), R (-50 to 1600°C), S (-50 to 1760°C), B (600 to 1700°C), N (-200 to 1300°C) |
| | Millivolt type | Mode: ±78.126 mV, ±39.062 mV, ±19.532 mV Fault and over-voltage protection: -35 to +35 VDC (power off) -25 to +30 VDC (power on) |
| | Output Range | 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA, 4 to 20 mA (burnout detection) |
| | Sampling rate | All channels: 12 samples/sec Per channel: 1.5 samples/sec Only one channel enabled: 12 samples/sec |
| | Resolution | 16 bits |
| | Accuracy | ±0.1% FSR @ 25°C ±0.3% FSR @ -40 and 75°C |
| | Input impedance | 10 Mohms |
| Environmental Limits | Operating Temperature | Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F) |
| | Storage Temperature | -40 to 85°C (-40 to 185°F) |
| | Ambient Relative Humidity | 5 to 95% (non-condensing) |
| | Shock | IEC 60068-2-27 |
| | Vibration | IEC 60068-2-6 |
| | Altitude | Up to 2000 m |
| | Standards and Certifications | Safety |
| | EMC | EN 55032, EN 55024, EN 61000-3-2/3-3, EN 61000-6-2/6-4 |
| | EMI | CISPR 32, FCC Part 15B Class A |
| | EMS | IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 |
| | Hazardous Location | Class 1 Division 2, ATEX Zone 2 |
| | Green Product | RoHS, CROHS, WEEE |

