

AI820

Compact Product Suite hardware selector



The AI820 Analog Input Module has 4 differential, bipolar current/voltage inputs. Each channel can be either a voltage or current input. The current inputs can withstand an accidental maximum normal mode 30 V d.c. connection. To protect the current input circuit against dangerous input levels, that is, by accidentally connecting a 24 V source, the resistor rating of the 250W current sense resistors is about 5 Watts. This is intended only to temporarily protect one channel at a time.

The module distributes the external transmitter supply to each channel. This adds a simple connection (with extended MTUs) to distribute the supply to external 2 wire transmitters. There is no current limiting on the transmitter power terminals.

All 4 channels are isolated from the ModuleBus in one group. Power to the input stages is converted from the 24 V on the ModuleBus.

Features and benefits

- 4 channels for -20...+20 mA, 0...20 mA, 4...20 mA, -10...+10 V, 0...10 V, 2...10 V, -5...+5 V, 0...5 V, 1...5 V d.c. bipolar differential inputs
- One group of 4 channels isolated from ground
- 14 Bit resolution plus sign
- Input shunt resistors protected to 30 V d.c.
- The input withstand HART communication

| General info | |
|----------------------|--|
| Type | Analog Input |
| Signal specification | -20..+20 mA, 0(4)..20 mA, -10..+10 V, 0(2)..10 V |
| Article number | 3BSE008544R1 |
| Number of channels | 4 |
| Signal type | Bipolar differential |
| HART | No |
| SOE | No |
| Redundancy | No |
| High integrity | No |
| Intrinsic safety | No |
| Mechanics | S800 |

| Detailed data | |
|------------------------------------|--|
| Resolution | 14 bit plus sign |
| Input impedance | 200 k Ω \pm 25% (voltage mode, common mode) 800 k Ω \pm 25% (voltage mode, normal mode) 250 Ω (current input) |
| Isolation | Groupwise isolated from ground (RIV=50 V) |
| Under/over range | \pm 15% |
| Error | Max. 0.1% |
| Temperature drift | Voltage: Max. 70 ppm/ $^{\circ}$ C Current: Max. 50 ppm/ $^{\circ}$ C |
| Input filter (rise time 0-90%) | 40 ms |
| Current limiting | Transmitter power can be current limited by the MTU |
| Maximum field cable length | 600 meters (656 yards) |
| Dielectric test voltage | 500 V a.c. |
| Power dissipation | 1.7 W |
| Current consumption +5 V Modulebus | 80 mA |
| Current consumption +24V Modulebus | 0 |
| Current consumption +24V external | 70 mA |

| Diagnostics | |
|----------------------------------|---|
| Front LED's | F(ault), R(un), W(arning) |
| Supervision | Internal Power Supply |
| Status indication of supervision | Module Error, Module Warning, Channel error |

| Environment and certification | |
|--------------------------------------|---|
| CE mark | Yes |
| Electrical safety | IEC 61131-2, UL 61010-1, UL 61010-2-201 |
| Hazardous Location | C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2 |
| Marine certification | ABS, BV, DNV-GL, LR, RS, CCS |
| Protection rating | IP20 according to IEC 60529 |
| Corrosive atmosphere ISA-S71.04 | G3 |
| Climatic operating conditions | 0 to +55 $^{\circ}$ C (Storage -40 to +70 $^{\circ}$ C), RH=5 to 95 % no condensation, IEC/EN 61131-2 |
| Pollution degree | Degree 2, IEC 60664-1 |
| Mechanical operating conditions | IEC/EN 61131-2 |
| EMC | EN 61000-6-4, EN 61000-6-2 |
| Overvoltage categories | IEC/EN 60664-1, EN 50178 |
| Equipment class | Class I according to IEC 61140; (earth protected) |
| Max ambient temperature | 55 $^{\circ}$ C (131 $^{\circ}$ F), for vertical mounting in compact MTU 40 $^{\circ}$ C (104 $^{\circ}$ F) |
| RoHS compliance | DIRECTIVE/2011/65/EU (EN 50581:2012) |
| WEEE compliance | DIRECTIVE/2012/19/EU |

| Compability | |
|--------------------|-----------------------------------|
| Use with MTU | TU810, TU812, TU814, TU830, TU833 |
| Keying code | BB |

| Dimensions | |
|-------------------|--|
| Width | 45 mm (1.77") |
| Depth | 102 mm (4.01"), 111 mm (4.37") including connector |
| Height | 119 mm (4.7") |
| Weight | 0.2 kg (0.44 lbs.) |

Related products



TU810V1



TU812V1



TU814V1



TU830V1



TU833

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