

AI825

ABB Ability™ System 800xA® hardware selector



The AI825 Analog Input Module has 4 individually galvanic isolated, bipolar current/voltage inputs. Each channel can be either a voltage or current input.

The module has a direct current input that withstand up to 6.3 V and a over voltage protected current input that withstand up to +30 V d.c. The current is limited by a PTC resistor.

Power to the input stages is converted from the 24 V on the ModuleBus.

Features and benefits

- 4 channels individually galvanic isolated inputs for +20 mA, 0...20 mA, 4...20 mA, +10 V, 0...10 V, 2...10 V
- 14 Bit resolution plus sign
- Input shunt resistors protected to 30 V d.c.
- The input withstands HART communication

General info

| | |
|----------------------|---|
| Article number | 3BSE036456R1 |
| Type | Analog Input |
| Signal specification | -20..+20 mA, 0(4)..20 mA, -10..+10 V, 0(2)..10V |
| Number of channels | 4 |
| HART | No |
| SOE | No |
| Redundancy | No |
| High integrity | No |
| Intrinsic safety | No |
| Mechanics | S800 |

| Detailed data | |
|-------------------------------------|---|
| Resolution | 14 bit plus sign |
| Input impedance | 10 M Ω (voltage input) 50 Ω (current input) |
| Isolation | Individually isolated, channel-to-channel and to circuit common |
| Under/over range | \pm 15% |
| Error | Max. 0.1% |
| Temperature drift | Max. 47 ppm/ $^{\circ}$ C (0..10V), Max. 34 ppm/ $^{\circ}$ C (\pm 10V), Max. 78 ppm/ $^{\circ}$ C (0..20mA), Max. 57 ppm/ $^{\circ}$ C (\pm 20mA) |
| Input filter (rise time 0-90%) | 115 ms (voltage input), 130 ms (current input) |
| Update cycle time | < 10ms |
| Maximum field cable length | 600 meters (656 yards) |
| CMRR, 50Hz, 60Hz | 120 dB |
| NMRR, 50Hz, 60Hz | > 40 dB at 50 Hz, >55 dB at 60 Hz |
| Rated insulation voltage | 250 V |
| Dielectric test voltage | 1900 V d.c. ch-ch, 3250 V d.c. ch-ground/system, |
| Power dissipation | Typ. 2.5 W, Max. 3.2 W |
| Current consumption +5 V Modulebus | Typ. 70 mA, Max. 100 mA |
| Current consumption +24 V Modulebus | Typ. 90 mA, Max. 110 mA |
| Current consumption +24 V external | 0 |

| 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 | EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201 |
| Hazardous Location | - |
| Marine certification | - |
| Temperature, Operating | 0 to +55 $^{\circ}$ C (+32 to +131 $^{\circ}$ F), approvals are issued for +5 to +55 $^{\circ}$ C |
| Temperature, Storage | -40 to +70 $^{\circ}$ C (-40 to +158 $^{\circ}$ F) |
| Pollution degree | Degree 2, IEC 60664-1 |
| Corrosion protection | ISA-S71.04: G3 |
| Relative humidity | 5 to 95 %, non-condensing |
| Max ambient temperature | 55 $^{\circ}$ C (131 $^{\circ}$ F), for vertical mounting in compact MTU 40 $^{\circ}$ C (104 $^{\circ}$ F) |
| Protection class | IP20 according to IEC 60529 |
| 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) |
| RoHS compliance | DIRECTIVE/2011/65/EU (EN 50581:2012) |
| WEEE compliance | DIRECTIVE/2012/19/EU |

| Compatibility | |
|----------------------|---------------------|
| Use with MTU | TU811, TU813, TU831 |
| Keying code | DA |

Dimensions

| | |
|--------|--|
| Width | 45 mm (1.77") |
| Depth | 102 mm (4.01"), 111 mm (4.37") including connector |
| Height | 119 mm (4.7") |
| Weight | 0.22 kg (0.49 lbs.) |

Related products



TU811V1



TU813



TU831V1

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