

AI880A

ABB Ability™ System 800xA® hardware selector



The AI880A High Integrity Analog Input Module is designed for single and redundant configuration. The module has 8 current input channels. The input resistance is 250 ohm.

The module distributes the external transmitter supply to each channel. This adds a simple connection to distribute the supply to 2- or 3-wire transmitters. The transmitter power is supervised and current limited. All eight channels are isolated from the ModuleBus in one group. Power to the Module is generated from the 24 V on the ModuleBus.

The AI880A complies with the NAMUR recommendation NE43, and supports configurable over- and under range limits.

Features and benefits

- 8 channels for 0...20 mA, 4...20 mA, single ended unipolar inputs
- Single or redundant configuration
- 1 group of 8 channels isolated from ground
- 12 bit resolution
- Loop Supervised DI function
- Configurable alarm limit for field power outputs
- Configurable over/under range for current inputs
- Current limited transmitter supply per channel
- Advanced on-board diagnostics
- Certified for SIL3 according to IEC 61508
- Certified for Category 4 according to EN 954-1
- Complies with the NAMUR recommendation NE43, and supports configurable over- and under range limits
- HART pass-through communication (AI880A)

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|----------------------|-----------------------|
| General info | |
| Article number | 3BSE039293R1 |
| Type | Analog Input |
| Signal specification | 0..20 mA, 4..20 mA |
| Number of channels | 8 |
| Signal type | Unipolar single ended |
| HART | Yes |
| SOE | No |
| Redundancy | Yes |
| High integrity | Yes |
| Intrinsic safety | No |
| Mechanics | S800 |

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|-------------------------------------|---|
| Detailed data | |
| Resolution | 12 bit |
| Input impedance | 250 Ω with shunt stick TY801 (at current input) |
| Isolation | Groupwise isolated from ground |
| Under/over range | Over range: +12% (0..20 mA), +15% (4..20 mA) |
| Error | Max. 0.1% |
| Temperature drift | Max. 50 ppm/°C |
| Input filter (rise time 0-90%) | 190 ms (HW filter) |
| Update cycle time | 10 ms |
| Current limiting | Built in current limited transmitter power |
| Maximum field cable length | 600 meters (656 yards) |
| Max input voltage (non destructive) | 11 V d.c. |
| NMRR, 50Hz, 60Hz | > 40 dB |
| Rated insulation voltage | 50 V |
| Dielectric test voltage | 500 V a.c. |
| Power dissipation | 2.4 W |
| Current consumption +5 V Modulebus | 45 mA |
| Current consumption +24 V Modulebus | max 50 mA |
| Current consumption +24 V external | 4 + transmitter current mA, max 260 mA |





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|----------------------------------|---|
| Diagnostics | |
| Front LED's | F(ault), R(un), W(arning) |
| Supervision | Internal voltage, Field power input, Field power output per channel |
| 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 | C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2 |
| Marine certification | ABS,BV,DNV,LR |
| Temperature, Operating | 0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C |
| Temperature, Storage | -40 to +70 °C (-40 to +158 °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 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F) |
| Protection class | IP20 according to IEC 60529 |
| Mechanical operating conditions | IEC/EN 61131-2 |
| EMC | EN 61000-6-4 and 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 | TU834, TU844, TU845 or TU854 |
| Keying code | FD |

| Dimensions | |
|------------|--|
| Width | 45 mm (1.77") |
| Depth | 102 mm (4.01"), 111 mm (4.37") including connector |
| Height | 119 mm (4.7") |
| Weight | 0.15 kg (0.33 lbs.) |

Related products

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|---|--|
|  <div>TU834</div> |  <div>TU844</div> |
|  <div>TU845</div> |  <div>TU854</div> |

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