DATA SHEET

AI880A
Compact Product Suite 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)

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

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

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

	TU834		TU844
	TU845		TU854

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