

# AI810

## ABB Ability™ System 800xA® hardware selector



The AI810 Analog Input Module has 8 channels. Each channel can be either a voltage or current input. The current input is able to handle a short circuit to the transmitter supply at least 30 V d.c without damage. Current limiting is performed with a PTC resistor. The input resistance of the current input is 250 ohm, PTC included.

The voltage input is able to withstand an over or undervoltage of at least 30 V d.c. Input resistance is 290k ohm. Transmitter supply can be connected to L1+, L1- and/or L2+, L2-.

### Features and benefits

- 8 channels for 0...20 mA, 4...20 mA, 0...10 V or 2...10 V d.c., single ended unipolar inputs
- 1 group of 8 channels isolated from ground
- 12 Bit resolution
- Input shunt resistors protected to 30 V by PTC resistor
- Analog inputs are short circuit secured to ZP or +24 V
- The input withstand HART communication.

General info	
Article number	3BSE008516R1
Type	Analog Input
Signal specification	0..20mA, 4..20mA, 0..10V, 2..10V
Number of channels	8
Signal type	Unipolar single ended
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800

<b>Detailed data</b>	
Resolution	12 bit
Input impedance	290 k $\Omega$ (voltage input) 230 - 275 k $\Omega$ (current input)
Isolation	Groupwise isolated from ground
Under/over range	-5% / +15%
Error	Max. 0.1%
Temperature drift	Voltage: Typ. 70 ppm/ $^{\circ}$ C Max. 100 ppm/ $^{\circ}$ C; Current: Typ. 50 ppm/ $^{\circ}$ C Max. 80 ppm/ $^{\circ}$ C
Input filter (rise time 0-90%)	140 ms
Update cycle time	8 ms
Current limiting	Transmitter power can be current limited by the MTU
Maximum field cable length	600 meters (656 yards)
Max input voltage (non destructive)	30 V d.c.
NMRR, 50Hz, 60Hz	> 40 dB
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	1.5 W
Current consumption +5 V Modulebus	70 mA
Current consumption +24 V Modulebus	40 mA
Current consumption +24 V external	0

<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning)
Supervision	Internal power supply
Status indication of supervision	Module Error, Module Warning, Channel error

<b>Environment and certification</b>	
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-GL, LR
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

<b>Compatibility</b>	
Use with MTU	TU810, TU812, TU814, TU818, TU830, TU833, TU835, TU838, TU850
Keying code	AE

<b>Dimensions</b>	
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**



**TU818**



**TU830V1**



**TU833**



**TU835V1**



**TU838**



**TU850**

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