

# AI815

## Compact Product Suite hardware selector



The AI815 Analog Input Module has 8 channels. The modules can be configured for voltage or current inputs. Current and voltage signals cannot be mixed on the same I/O module. The voltage and current input is able to withstand an overvoltage or undervoltage of at least 11 V d.c.

The input resistance for voltage input is greater than 10 M ohm, and the input resistance for current input is 250 ohm. The module distributes the external HART compatible transmitter supply to each channel. This adds a simple connection to distribute the supply to 2-wire or 3-wire transmitters. The transmitter power is supervised and current limited. If an external power supply is used for feeding HART transmitters, the power supply must be HART compatible.

### Features and benefits

- 8 channels for 0...20 mA, 4...20 mA, 0...5 V or 1...5 V d.c., single ended unipolar inputs
- 1 group of 8 channels isolated from ground
- 12 Bit resolution
- Current limited transmitter supply per channel
- HART pass-through communication

#### General info

Article number	3BSE052604R1
Type	Analog Input
Signal specification	0..20 mA, 4..20 mA, 0..5 V, 1..5 V
Number of channels	8
Signal type	Unipolar single ended
HART	Yes
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800

<b>Detailed data</b>	
Resolution	12 bit
Input impedance	10 M $\Omega$ (voltage input) 250 $\Omega$ (current input)
Isolation	Groupwise isolated from ground
Under/over range	0 / +15% (0..20 mA, 0..5 V), -12.5% / +15% (4..20 mA, 1..5 V)
Error	Max. 0.1%
Temperature drift	Max. 50 ppm/ $^{\circ}$ C
Input filter (rise time 0-90%)	290 ms
Update cycle time	10 ms
Current limiting	Built in current limited transmitter power
Maximum field cable length	600 meters (656 yards)
NMRR, 50Hz, 60Hz	> 40 dB
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	3.5 W
Current consumption +5 V Modulebus	100 mA
Current consumption +24 V Modulebus	50 mA
Current consumption +24 V external	Max. 265 mA (22 mA + 1.32 * transmitter current)

<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning)
Supervision	Module error, if: analog read back, reference voltage, internal power supply, checksum, watchdog and memory error External channel error, if: external power supply low, transmitter power error
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	BV, DNV, 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/EN60664-1, EN 50178
Equipment class	Class I according to IEC 61140; (earth protected)
RoHS compliance	EU RoHS, UAE RoHS, CN RoHS
WEEE compliance	DIRECTIVE/2012/19/EU

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

<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	0.23 kg (0.51 lbs.)