

# AI815

## Freelance 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)<br>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<br>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                      | DIRECTIVE/2011/65/EU (EN 50581:2012)  |
| WEEE compliance                      | DIRECTIVE/2012/19/EU  |

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

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**Dimensions**

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|        |  |
|--------|--|
| 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.)                                |

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## Related products



**TU810V1**



**TU812V1**



**TU814V1**



**TU830V1**



**TU833**



**TU835V1**



**TU838**

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