

AI815

ABB Ability™ System 800xA® 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 |

| Detailed data | |
|-------------------------------------|---|
| Resolution | 12 bit |
| Input impedance | 10 M Ω (voltage input) 250 Ω (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) |

| Diagnostics | |
|----------------------------------|---|
| 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 |

| 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 | 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/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 |

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

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

Related products



TU810V1



TU812V1



TU814V1



TU830V1



TU833



TU835V1



TU838

solutions.abb/800xA
solutions.abb/controlsystems

800xA and Symphony Plus is a registered trademark of ABB. All rights to other trademarks reside with their respective owners.

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2024 ABB All rights reserved