

# AI801

## ABB Ability™ System 800xA® hardware selector



The AI801 Analog Input Module has 8 channels for 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.

### Features and benefits

- 8 channels for 0...20 mA, 4...20 mA 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
- Process and power connections via detachable connectors

| General info         |                       |
|----------------------|-----------------------|
| Article number       | 3BSE020512R1          |
| Type                 | Analog Input          |
| Signal specification | 0...20 mA, 4...20 mA  |
| Number of channels   | 8                     |
| Signal type          | Unipolar single ended |
| HART                 | No                    |
| SOE                  | No                    |
| Redundancy           | No                    |
| High integrity       | No                    |
| Intrinsic safety     | No                    |
| Mechanics            | S800L                 |

| Detailed data                       |   |
|-------------------------------------|---|
| Resolution                          | 12 bit  |
| Input impedance                     | 230 - 275 kΩ (current input incl PTC)   |
| Isolation                           | Groupwise isolated from ground  |
| Under/over range                    | 0% / +15%   |
| Error                               | Max 0,1%  |
| Temperature drift                   | Typ. 50 ppm/°C, Max. 80 ppm/°C  |
| Input filter (rise time 0-90%)      | 180 ms  |
| Update cycle time                   | 1 ms  |
| Maximum field cable length          | 600 meters (656 yards)  |
| Max input voltage (non destructive) | 30 V d.c.   |
| NMRR, 50Hz, 60Hz                    | > 40dB  |
| Rated insulation voltage            | 50 V  |
| Dielectric test voltage             | 500 V a.c.  |
| Power dissipation                   | 1.1 W   |
| Current consumption +5 V Modulebus  | 70 mA   |
| Current consumption +24 V Modulebus | 0   |
| Current consumption +24 V external  | 30 mA   |
| Supported wire size                 | Solid: 0.05-2.5 mm <sup>2</sup> , 30-12 AWG<br>Stranded: 0.05-1.5 mm <sup>2</sup> , 30-12 AWG<br>Recommended torque: 0.5-0.6 Nm<br>Stripping length 6-7.5mm, 0.24-0.30 inch |

| Diagnostics                      |   |
|----------------------------------|---|
| Front LED's                      | S(tatus) (run or fault)                     |
| 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 40 °C (104 °F)                |
| Protection class                | IP20 according to IEC 60529   |
| Mechanical operating conditions | IEC 61131-2   |
| EMC                             | EN 61000-6-4 and EN 61000-6-2                                       |
| Overvoltage categories          | IEC/EN 60664-1  |
| 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  |

| Dimensions |                     |
|------------|---------------------|
| Width      | 86.1 mm (3.4")      |
| Depth      | 58.5 mm (2.3")      |
| Height     | 110 mm (4.33")      |
| Weight     | 0.24 kg (0.53 lbs.) |

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