

# AI895

## Compact Product Suite hardware selector



The AI895 Analog Input Module can directly interface 2-wire transmitters and with a particular connection it can also interface 4-wire transmitters without losing the HART capability. The AI895 Analog Input Module has 8 channels. The module includes Intrinsic Safety protection components on each channel for connection to process equipment in hazardous areas without the need for additional external devices. Each channel can power and monitor a two-wire process transmitter and HART communication. The input voltage drop of the current input is typically 3 V, PTC included. The transmitter supply for each channel is able to provide at least 15 V at a 20 mA loop current to power Ex certified process transmitters and is limited to 23 mA in overload conditions.

TU890 and TU891 Compact MTU can be used with this module and it enables two wire connection to the process devices without additional terminals. TU890 for Ex applications and TU891 for non Ex applications.

### Features and benefits

- 8 channels for 4...20 mA, single ended unipolar inputs.
- HART communication.
- 1 group of 8 channels isolated from ground.
- Power and monitor for Ex certified two-wire transmitters.
- Non energy-storing analog inputs for externally powered sources.

| General info         |                       |
|----------------------|-----------------------|
| Article number       | 3BSC690086R1          |
| Type                 | Analog Input          |
| Signal specification | 4...20 mA             |
| Number of channels   | 8                     |
| Signal type          | Unipolar single ended |
| HART                 | Yes                   |
| SOE                  | No                    |
| Redundancy           | No                    |
| High integrity       | No                    |
| Intrinsic safety     | Yes                   |
| Mechanics            | S800                  |

## Detailed data

|                                    |  |
|------------------------------------|--|
| Resolution                         | 12 bit                                     |
| Isolation                          | Groupwise isolated from ground             |
| Under/over range                   | 1.5 / 22 mA                                |
| Error                              | Typ. 0.05%, Max. 0.1%                      |
| Temperature drift                  | Typ. 100 ppm/°C                            |
| Input filter (rise time 0-90%)     | 20 ms                                      |
| Current limiting                   | Built in current limited transmitter power |
| CMRR, 50Hz, 60Hz                   | >80 dB                                     |
| NMRR, 50Hz, 60Hz                   | >10 dB                                     |
| Rated insulation voltage           | 50 V                                       |
| Dielectric test voltage            | 500 V a.c.                                 |
| Power dissipation                  | 4.75 W                                     |
| Current consumption +5 V Modulebus | Typ. 130 mA                                |
| Current consumption +24 V external | Typ. 270 mA, Max. <370 mA                  |

## Diagnostics

|             |  |
|-------------|--|
| Front LED's | F(ault), R(un), W(arning), Tx (HART communication) |
| Supervision | Internal process supply                            |

## Environment and certification

|                                 |  |
|---------------------------------|--|
| CE mark                         | Yes  |
| Electrical safety               | EN 61010-1, EN 61010-2-201   |
| Hazardous Location              | ATEX/IECEx Zone 2 with interface to Zone 0, cFMus C1, Div 2/Zone 2 with interface to C1, C2, C3 Div 1/Zone 0 |
| Marine certification            | ABS, BV, DNV, LR   |
| Temperature, Operating          | 0 to +55 °C (+32 to +131 °F)   |
| 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 in compact MTU 40 °C (104 °F)  |
| Protection class                | IP20 according to IEC 60529  |
| Mechanical operating conditions | IEC/EN 61131-2   |
| EMC                             | EN 61000-6-4, 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   |

## Compatibility

|              |                        |
|--------------|------------------------|
| Use with MTU | TU890, TU891 or TU891Z |
| Keying code  | AE                     |

**Intrinsic Safety parameters**

|                         |       |
|-------------------------|-------|
| U0 (Groups CENELEC USA) | IIC   |
| I0 (Groups CENELEC USA) | IIB   |
| P0 (Groups CENELEC USA) | IIA   |
| U0 - C0 (uF)            | 0.087 |
| U0 -L0 (mH)             | 4.1   |
| U0 -L/R (uH/O)          | 55    |
| I0 - C0 (uF)            | 0.702 |
| I0 -L0 (mH)             | 16.4  |
| I0 -L/R (uH/O)          | 222   |
| P0 - C0 (uF)            | 2.23  |
| P0 -L0 (mH)             | 32.8  |
| P0 -L/R (uH/O)          | 443   |

**Dimensions**

|        |  |
|--------|--|
| 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



TU890



TU891

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[solutions.abb/compactproductsuite](https://solutions.abb/compactproductsuite)  
[solutions.abb/controlsystems](https://solutions.abb/controlsystems)

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