ABB ABB Series Service Manual

AI895

1. Description

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.

3. Product Information

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TU890 and TU891 Compact MTU can be used with this module and it enables two wire connections 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 communiation)

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 EU RoHS, UAE RoHS, CN RoHS

WEEE compliance DIRECTIVE/2012/19/EU

Compatibility

Use with MTU TU890, TU891 or TU891Z

Keying code AE

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.)