ABB ABB Series Service Manual

AI801

1. Description

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3. Product Information

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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 mm², 30-12 AWG

Stranded: 0.05-1.5 mm², 30-12 AWG

Recommended torque: 0.5-0.6 Nm

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.)