ABB ABB Series Service Manual

AO820

1. Description

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To supervise the communication to the A/D-converters the output data is read back and verified. The opencircuit diagnostics are read continuously as well. The process voltage supervision input give channel error signals if the voltage disappears. The error signal can be read via the ModuleBus.

Features and benefits

4 channels of -20 mA...+20 mA, 0...20 mA, 4...20 mA or -10 V...+10 V, 0...10 V, 2...10 V outputs

Individually galvanically isolated channels

OSP sets outputs to predetermined state upon error detection."

MTUs that match this product

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TU810V1

General info

Article number 3BSE008546R1

Type Analog Output

Signal specification -20 mA...+20 mA, 0...20 mA, 4...20 mA, -10 V...+10 V, 0...10 V, 2...10 V

Number of channels 4

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Resolution 12 bits including sign

Isolation Individually isolated - channel-to-channel and channel to circuit common

Under/over range ±15%

Output load ≤ 550 Ω

≥ 5 kΩ (voltage output)

Error Max. 0.1% (voltage); Typ. 0.1% at 250 ohms, Max 0,15% (current)

Temperature drift Max 90 ppm/°C

Rise Time < 0.7 ms

Update cycle time ≤ 1.5 ms

Current limiting Short circuit proof current limited output

Maximum field cable length 600 meters (656 yards)

Rated insulation voltage 50 V

Dielectric test voltage 500 V a.c.

Power dissipation Typ. 6 W

Current consumption +5 V Modulebus Max 100 mA

Current consumption +24 V Modulebus Max 260 mA

Diagnostics

Front LED’s F(ault), R(un), W(arning), O(SP)

Supervision Module Error: Output power low.

Channel Error: Open circuit (for current >1 mA)

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 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 and EN 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 TU810, TU812, TU814, TU830, TU833

Keying code BC

Dimensions

Width 45 mm (1.77”)

Depth 102 mm (4.01”), 111 mm (4.37”) including connector

Height 119 mm (4.7”)

Weight 0.18 kg (0.4 lbs.)