ABB ABB Series Service Manual

AO810

1. Description

The AO810/AO810V2 Analog Output Module has 8 unipolar analog output channels. To supervise the communication to the D/A-converters the serial data is read back and verified. The opencircuit diagnostic is received during the readback. The module performs self-diagnostic cyclically. The module diagnostics includes process power supply supervision, which is reported when supply voltage to output circuitry is to low. The error is reported as a channel error. The channel diagnostic includes fault det

3. Product Information

The AO810/AO810V2 Analog Output Module has 8 unipolar analog output channels. To supervise the communication to the D/A-converters the serial data is read back and verified. The opencircuit diagnostic is received during the readback. The module performs self-diagnostic cyclically. The module diagnostics includes process power supply supervision, which is reported when supply voltage to output circuitry is to low. The error is reported as a channel error. The channel diagnostic includes fault detection of the channel (only reported on active channels). The error is reported if the output current is less than the output set value and the output set value is greater than 1 mA.

Features and benefits

8 channels of 0...20 mA, 4...20 mA outputs

OSP sets outputs to predetermined state upon error detection

Analog Output is to be short circuit secured to ZP or +24 V

MTUs that match this product

,

TU810V1

General info

Article number 3BSE038415R1

Type Analog Output

Signal specification 0..20 mA, 4..20 mA

Number of channels 8

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Resolution 14 bit

Isolation Groupwise isolated from ground

Under/over range - / +15%

Output load ≤ 500 Ω (supply connected to L1+ only)

250 - 850 Ω (with supply connected L2+ only)

Error Max. 0.1% at 0 - 500 ohms (current)

Temperature drift Typ. 30 ppm/°C, Max 60 ppm/°C

Rise Time 0.35 ms (PL = 500 Ω)

Update cycle time ≤ 2ms

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 2.3 W

Current consumption +5 V Modulebus Max 70 mA

Current consumption +24 V Modulebus 0

Current consumption +24 V external 245 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 AE

Dimensions

Width 45 mm (1.77”)

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

Height 119 mm (4.7”)

Weight 0.18 kg (0.4 lbs.)