ABB ABB Series Service Manual

AO815

1. Description

The AO815 Analog Output Module has 8 unipolar analog output channels. The module performs self-diagnostic cyclically. Module diagnostics include:

3. Product Information

The AO815 Analog Output Module has 8 unipolar analog output channels. The module performs self-diagnostic cyclically. Module diagnostics include:

External Channel Error is reported (only reported on active channels) if the process power supply that supply voltage to output circuitry is too low, or the output current is less than the output set value and the output set value is greater than 1 mA (open circuit).

Internal Channel Error is reported if the output circuit can not give the right current value.

Module Error is reported in case of Output Transistor Error, Short Circuit, Checksum Error, Internal Power Supply Error or Watchdog error.

The module has HART pass-through functionality. Only point to point communication is supported. The output filter must be enabled on channels used for HART communication.

Features and benefits

8 channels of 4...20 mA

1 group of 8 channels isolated from ground

Analog inputs are short circuit secured to ZP or +24 V

HART pass-through communication

MTUs that match this product

,

TU810V1

General info

Article number 3BSE052605R1

Type Analog Output

Signal specification 4..20 mA

Number of channels 8

HART Yes

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800

Detailed data

Resolution 12 bit

Isolation Groupwise isolated from ground

Under/over range -12.5% / +15%

Output load Max 750 Ω

Error Max. 0.1%

Temperature drift Max. 50 ppm/°C

Input filter (rise time 0-90%) 23 ms (0-90%), max 4 mA / 12.5 ms

Update cycle time 10 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 3.5 W (typ.)

Current consumption +5 V Modulebus Max. 125 mA

Current consumption +24 V Modulebus 0

Current consumption +24 V external Max. 165 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 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, 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 DB

Dimensions

Width 45 mm (1.77”)

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

Height 119 mm (4.7”)

Weight 0.21 kg (0.46 lbs.)