ABB

DATA SHEET

DO890
Compact Product Suite hardware selector

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 drive a nominal current of 40 mA into a 300 ohm field load such as an Ex certified solenoid valve, alarm sounder unit or indicator lamp. Open and short circuit detection can be configured for each channel. All four channels are galvanic isolated between channels and from the ModuleBus and power supply. Power to the output stages is converted from the 24 V on the power supply connections.

TU890 and TU891 Compact MTU can be used with this module and it enables two wire connection to the process devices without additional terminals. TU890 for Ex applications and TU891 for non Ex applications.

Features and benefits

- 4 channels for 11 V, 40 mA digital outputs.
- All channels fully isolated.
- Power to drive Ex certified solenoid valves and alarm sounders.
- Output and fault status indicators for each channel.

General info	
Article number	3BSC690074R1
Type	Digital Output
Signal specification	11 V, 40 mA
Number of channels	4
Signal type	Solenoid driver
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	Yes
Mechanics	S800

Detailed data

Isolation	Individually isolated, channel-to-channel and to circuit common ground
Output load	100 - 5000 Ω
Current limiting	Short circuit proof current limited output
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	4.4 W
Current consumption +5 V Modulebus	Typ. 80 mA, Max. <150 mA
Current consumption +24 V external	Typ. 250 mA, Max. <360 mA

Diagnostics

Front LED's	F(ault), R(un), W(arning), O(SP), Channel 1-4 status
Supervision	Internal process supply Short circuit fault detection limit < 20 Ω Open circuit fault detection limit > 100 kΩ Fault sense current < 4 mA
Status indication of supervision	256, 512, 1024 ms

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, 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/EN (EN 50581:2012)
WEEE compliance	DIRECTIVE/2012/19/EU

Compatibility

Use with MTU	TU890, TU891
Keying code	AB

Intrinsic Safety parameters

U0 (Groups CENELEC USA)	U0 = 26 V (IIC AB)
I0 (Groups CENELEC USA)	I0 = 93 mA (IIB CE)
P0 (Groups CENELEC USA)	P0 = 605 mW (IIA DFG)
U0 - C0 (uF)	0,099
U0 -L0 (mH)	77
U0 -L/R (uH/O)	4,1
I0 - C0 (uF)	0,77
I0 -L0 (mH)	16,4
I0 -L/R (uH/O)	234
P0 - C0 (uF)	2,6
P0 -L0 (mH)	32,8
P0 -L/R (uH/O)	469

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.)

Related products

TU890

TU891

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solutions.abb/compactproductsuite
solutions.abb/controlsystems

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