DATA SHEET

DO880

ABB Ability™ System 800xA® hardware selector



The DO880 is a 16-channel 24 V digital output module for single or redundant applications. The maximum continuous output current per channel is 0.5 A. The outputs are current-limited and protected against overtemperature. Each output channel consists of a current-limited and over-temperature-protected high-side driver, EMC protection components, inductive load suppression, output state indication LED, and an isolation barrier to the Modulebus.

Features and benefits

- 16 channels for 24 V d.c. current sourcing outputs in one isolated group
- Redundant or single configuration
- Loop monitoring, supervision of short and open load with configurable limits
- Diagnostic of output switches without pulsing on outputs
- Advanced on-board diagnostics
- Supports S880 I/O High Integrity (PM857, PM858, PM862, PM863, PM867, PM866A and PM891)
- Output status indicators (activated/error)
- Degraded mode for normally energized channels (supported from DO880 PR:G)
- Current limitation at short circuit and over-temperature protection of switches
- Fault tolerance of 1 (as defined in IEC 61508) for output drivers. For ND (Normally De-energized) systems, outputs can still be controlled with error on output drivers
- Certified for SIL3 according to IEC 61508
- Certified for Category 4 according to EN 954-1.

General info	
Article number	3BSE028602R1
Type	Digital Output
Signal specification	24 V d.c. (19.2 - 32 V d.c.), 0.5 A
Number of channels	16
Signal type	Current sourcing, current limiting
HART	No
SOE	No
Redundancy	Yes
High integrity	Yes
Intrinsic safety	No
Mechanics	S800

Detailed data	
Isolation	Groupwise isolated from ground
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	5.6 W (0,5 A x 16 channels)
Current consumption +5 V Modulebus	45 mA
Current consumption +24 V Modulebus	Max. 50 mA
Current consumption +24 V external	10 mA

Diagnostics	
Front LED’s	F(ault), R(un), W(arning), Channel 1-16 Status/Error
Supervision	Process power per channel Loop supervision configurable for loop resistance from 50 Ω to 2 kΩ dependent of configuration and mode of operation Internal circuitry
Status indication of supervision	Module Error, Module Warning, Internal 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, CCS
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	EU RoHS, UAE RoHS, CN RoHS
WEEE compliance	DIRECTIVE/2012/19/EU

Compatibility	
Use with MTU	TU810, TU812, TU814, TU830, TU833, TU842, TU843, TU852
Keying code	FE

Dimensions	
Width	45 mm
Depth	102 mm, 111 mm including connector
Height	119 mm
Weight	0.20 kg

Related products

	TU810V1		TU812V1
	TU814V1		TU830V1
	TU833		TU842
	TU843		TU852

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