DATA SHEET

DO01ev

ABB Ability™ Symphony® Plus Hardware Selector

The DO01e transistor Digital Output module provides up to 16, CH-2-CH isolated transistor type, 24 to 48 VDC output signals. The open-collector outputs of the module are capable of sinking or sourcing up to 250 mA DC.

The DO01ev transistor Digital Output module is a Form/Fit/Function replacement for the DSOI4 Digital Slave Output HR I/O module.

FC 83 (Digital Output Group) sets DO module operating parameters and action to be taken in the event of module failure. Each FC 83 configures eight (8) DO channels. Two (2) instances of FC 83 are required to configure all sixteen (16) channels of the module.

Features and benefits

- Sixteen (16) individually CH-2-CH isolated transistor Digital Output channels supporting:
- 24 to 48 VDC Transistor Type DO signals
- Module can sink or source up to 250 mADC I/O current
- Input Status LEDs on module frontplate
- Galvanic isolation of 1500 V for up to 1 minute
- DO01e supports optional module redundancy seconds

General info	
Article number	7PAA004005R11
Type	Transistor Digital Output
Signal specification	max 250 mA @ 24-48 VDC
Life cycle status	ACTIVE
Number of channels	16
Signal type	Transistor DO
HART	No
SOE	No
Redundancy	No
Form factor	HR MMU
Mounting	MMU (1-Slot)
MTBF (per MIL-HDBK-217-FN2)	PR: A = 210,256 Hours @ 30˚C, 166,073 Hours @ 40˚C, 111,541 Hours @ 70˚C
MTTR (Hours)	8 Hours

Detailed data	
Module power requirements	520 mA (typical) @ 5 VDC ± 10%, 155 mA (typical) @ 24 VDC ± 10%
Module power connection	+ 5V connection on MMU
Field IO power	Up to 250 mA per CH @ 24- 48 VDC ±10%
Field IO Power, Digital Outputs	24-48 VDC ± 10%, 250 mA max
Overvoltage category	Category I for power, inputs or outputs. Tested according to EN 61010-1
Max field cable length	600 meters (1968 feet)
Number of Channels	16 Open-Collector Transistor Type Digital Outputs
Field signal to Logic isolation	Galvanically isolated, 1500 V up to 1 minute
Channel isolation	Individual CH-2-CH isolated, 1500 V up to 1 minute

Diagnostics	
Front plate LED's	R (Run), F (Fault), P (Primary), and B (Backup) + 8 Diagnostic & Status LEDs
Local availability	S+ Menu from Module Front Plate
Remote availability	Using SPE

Environment and certification	
Temperature, Operating	-40 to +70 °C Tested according to IEC/EN 60068-2-1, IEC/EN 60068-2-2
Temperature, Storage	-40 to +85 °C Tested according to MIL-STD-810G
Relative humidity	20% to 95% @ 40°C non-condensing. Tested according to IEC/EN 60068-2-78, IEC/EN 61298-3
Vibration (operational sinusoidal)	5 to 60 Hz 0.137 mm (0.0054 in.), 60 to 150 Hz 1.0 G. Tested according to IEC/EN 60068-2-6
Vibration (transportation)	10 to 500 Hz. Tested according to MIL-STD-810G
Shock (storage)	15 G, 11 msec. Tested according to IEC/EN 60068-2-27
Drop	100 mm. Tested according to IEC/EN 60068-2-31
Protection class	IP20 according to EN 60529
Altitude (operational)	Sea level to 3,048 meters (10,000 ft.) Tested according to MIL-STD-810G
Altitude (storage)	Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-810G
Air quality	ISA S71.04 G3 compliant
ESD immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-2, Severity level 3
Surge immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-5, Severity level 3
Electrical fast transient immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-4, Severity level 3
Radiated RFI immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-3, Severity level 3
Conducted Immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Magnetic field immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-8, Severity level 4
Radiated emission	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Conducted emission	Tested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1, Class A, ISM equipment
Voltage dips and interruption immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-11
CSA non-hazardous locations	Certified for use as process control equipment in an ordinary (non-hazardous) location
CSA hazardous, nonincendive locations	Class I, Division 2, Groups A, B, C, D
CE Mark	CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/EC
RoHS compliance	RoHS Directive 2015/863
WEEE compliance	DIRECTIVE/2012/19/EU

Compatibility	
Use with MTU	NTDI02, NTDO02, NIDI01
Module keying code for base	n/a

Dimensions	
Width	35.6 mm
Depth	177.8 mm
Height	298.5 mm
Weight	402 g

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