DATA SHEET

DO02

ABB Ability™ Symphony® Plus Hardware Selector

The DO02 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 mADC.

The DO02 module features also include short-circuit detection, status indication and overcurrent protection.

FC 221 (I/O Device Definition) sets DO module operating parameters and each output channel is configured using FC 225 (Digital Output CH) to set indivdual output channel parameters such as alarm state setting, default state on loss of communication with controller, etc.

Features and benefits

- 16 individually CH-2-CH isolated DI channels supporting:
- 24 to 48 VDC Transistor Type DO signals
- Module can sink or source up to 250 mADC I/O current
- Short-circuit detection, status indication and overcurrent protection.
- Output Status LEDs on module frontplate
- Galvanic isolation of 1500 V for up to 1 minute

General info	
Article number	DO02
Type	Digital Output
Life cycle status	ACTIVE
Number of channels	16
Signal type	DO
HART	No
SOE	No
Redundancy	No
Form factor	Standard (190 mm)
Mounting	Horizontal Row or Vertical Column
MTBF (per MIL-HDBK-217-FN2)	PR A: 131,490 Hours
MTTR (Hours)	1 Hours

Detailed data	
Module power requirements	24 VDC ± 10%, 65 mA typical, 73 mA max
Module power connection	POWER TB on cHBX01L or VBX01T
Field IO power	Up to 250 mA per CH @ 24- 48 VDC ±10%
Field IO Power, Digital Outputs	max 250 mADC @ 24 to 48 VDC
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
Signal ranges and types	Digital Outputs: Max 250 mA @ 24 to 48 VDC
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	STATUS LEDs: R (Run) and F (Fault) + 1 thru 16
Local availability	Mini USB connection on module front plate
Remote availability	HN800 device diagnostics via 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, IEC 529
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 G1, ISA S71.04 G3 compliant versions SPCxxxA are also available
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 accTested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1, Class A, ISM equipmentording 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	HBS01-EPD, HBS01-FPH, HBS01-FPN, VBS01-EPD, VBS01-FPH, VBS01-FPN, VBS01-SFP
Module keying code for base	slot #1 = 10, slot #2 = 16

Dimensions	
Width	27 mm
Depth	106 mm
Height	190 mm
Weight	240 g

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