

# DO05

## ABB Ability™ Symphony® Plus Hardware Selector



The DO05 digital output module provides 16, CH-2-CH isolated electromechanical relay contact outputs. The electromechanical relay contacts are capable of handling up to 3.0 A. The module executes at 1 msec cycle and has an average response time of 0.5 msec based on when command is received from controller. The DO05 module provides staple jumpers to select between NO or NC contacts.

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 individual output channel parameters such as alarm state setting, default state on loss of communication with controller, etc.

### Features and benefits

- 16 CH-2-CH isolated Electromechanical Relay, Form C, SPDT contact outputs supporting:
- 3.0 A @ 24 VDC
- 1.0 A @ 48 VDC
- 250 mA @ 125 VDC
- 3.0 A @ 120 VAC
- Staple jumpers to select NO or NC contact
- Silver Tin Oxide contacts rated for 100,000 operations
- Minimum switching load 50 mA @ 10 V
- Output Status LEDs on module frontplate
- Galvanic isolation of 1500 V for up to 1 minute

#### General info

Article number	8VZZ000167H1
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 B: 364,666 Hours
MTTR (Hours)	1 Hours

<b>Detailed data</b>	
Module power requirements	24 VDC ± 10%, 208 mA maximum, 229 mA max
Module power connection	POWER TB on cHBX01L or VBX01T
Field IO Power, Digital Outputs	max 3.0 A @ 24 VDC (resistive load) max 1.5 A @ 24 VDC (inductive load) max 1.0 A @ 48 VDC (resistive load) max 0.5 A @ 48 VDC (inductive load) max 250 mA @125 VDC (resistive load) max 125 mA @ 125 VDC (inductive load) 3.0 A @ 120 VAC
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 EMR Digital Output Channels
Signal ranges and types	Digital Outputs: Electromechanical Relay, Form C, SPDT
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

<b>Diagnostics</b>	
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

<b>Environment and certification</b>	
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 according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1, Class A, ISM equipment 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

<b>Compatibility</b>	
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 = 15

<b>Dimensions</b>	
Width	27 mm
Depth	106 mm
Height	190 mm
Weight	295 g

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