

DATA SHEET

TP01

ABB Ability™ Symphony® Plus Hardware Selector



The TP01 Turbine Protection module is a SIL3 rated turbine protection module that offers a complete set of built-in protection functions for all types of gas, steam and hydro turbines. These functions include: Overspeed Trip, Overspeed Protection, Acceleration Protection, Anti-Surge Protection, Trip Anticipation, Load Drop Anticipation, and three different variations of Power Load Unbalance.

The TP01 module can be configured to interface to all types of speed probes, transducers, switches and trip solenoids. It will detect an overspeed condition and generate a turbine trip output in under 5 milliseconds

Features and benefits

- The TP01 Turbine Protection module provides:
- 5 Analog Input channels
- 2 A/D converters, 16-Bit unipolar resolution
- 2 Analog Output channels
- 5 Group isolated 24-48VDC Digital Input channels
- 2 CH-2-CH isolated, high load, Form A contact Digital Outputs
- 6 additional Form C contact Digital Ouputs provided by ROM810

General info		
Article number	2VAA008173R01 (TP01)	
Туре	Turbine Protection	
Signal specification	Al: 5 group isolated 420 mA or 1+5 VDCAO: 2 group isolated 0 24mADI: 5 CH-2-CH isolated 24/48/125VDC 120 VACDO: 2 Form A contact 120 VAC / 149 VDC	
Life cycle status	ACTIVE	
Number of channels	14	
Signal type	5x AI + 2x AO + 5x DI + 2x DO	
HART	No	
SOE	Yes	
Redundancy	Yes	
Form factor	Standard (190 mm)	
Mounting	Horizontal Row or Vertical Column	
MTBF (per MIL-HDBK-217-FN2)	PR E: 234,052 Hours	
MTTR (Hours)	1 Hours	

Detailed data		
Module power requirements	24 VDC ± 10%, 100 mA typical, 125 mA max	
Module power connection	POWER TB on cHBX01L or VBX01T	
Field IO power	Analog I/O: 85 mA @ 24VDC ± 10% = external system powered loads	
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	14 Total (5x AI, 2x AO, 5x DI, 2x DO) Channels	
Signal ranges and types	Analog Inputs: Al1-Al2: 420 mA (System Powered) Al3-Al5: 420 mA or 19 VDC (System or Field Powered)Analog Outputs: 420 mA (System Powered)Digital Inputs: Dl1-Dl2: 24/48 VDC (System Powered) Dl3-Dl5 24/48 VDC (System Powered) 24/48/125 VDC, 120 VAC (Field Powered)Digital Outputs: DO1-DO2: Form A Contact, 120 VAC / 150 VDC DO3-DO8 (via ROM810): Form C Contact 3A @ 150 VDC, 5A @ 120 VAC	
SOE timestamp accuracy	1 msec resolution for 24 & 48 VDC	
Output response time	Max 1 msec	
Input Impedance	Current mode: 250 Ω , Voltage mode: ≥ 210 k Ω	
A/D Conversion	2 A/D converters, each with 4 input channels	
A/D Resolution	16-Bits Unipolar	
A/D Update rate	1 msec for all 8 channels	
D/A Conversion	2 D/A converters, each channel has a dedicated D/A converter	
D/A Resolution	16-Bits	
Accuracy, FSR	Al: $\pm 0.1\%$ of FSR, where FSR = 22 mA or 5.5 VDCAO: $\pm 0.08\%$ of FSR, FSR = 24 mA	
Field signal to Logic isolation	UL1577 1000 VRMS for 1 minute	
Channel isolation	UL1577 1000 VRMS for 1 minute	
Short circuit protection	AO: 24 mA nominal output current limitDI: 2.7 mA on Channels 3-5	

Diagnostics	
Front plate LED's	STATUS LEDs: R (Run) and F (Fault) + I/O CH Status
Local availability	Mini USB connection on module front plate
Remote availability	HN800 device diagnostics via SPE

Temperature, Storage #40 to +85 °C Tested according to MIL-STD-810G Relative humidity #20% to 59% @ 40°C non-condensing. Tested according to IEC/EN 60066; #28, IEC/EN 60288-3 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 #5 to 60 Hz 0.137 mm (0.0054 in.), 60 to 150 Hz 1.0 G. Tested according to IEC/EN 60068-2 Vibration (transportation) #5 to 50 Hz 0.137 mm (0.0054 in.), 60 to 150 Hz 1.0 G. Tested according to IEC/EN 60068-2 #6 Vibration (transportation) #6 to 500 Hz. Tested according to IEC/EN 60068-2 #6 To 700	Environment and certification	
Relative humidity	Temperature, Operating	-20 to +55 °C Tested according to IEC/EN 60068-2-1, IEC/EN 60068-2-2
Nibration (operational sinusoidal) Sto 69 Nibr 20137 mm (0.0054 in.), 60 to 150 Nz 1.0 G. Tested according to (EC/EN 600682-2 Mibration) Sto 69 Nibr 20137 mm (0.0054 in.), 60 to 150 Nz 1.0 G. Tested according to (EC/EN 600682-2 Mibration) Sto 50 Nibration (transportation) Sto 69 Nibration (transportation) Sto 69 Nibration (transportation) Sto 69 Nibration (transportation) Sto 69 Nibration (transportation) Sto 60 Nibration (transportation)	Temperature, Storage	-40 to +85 °C Tested according to MIL-STD-810G
IEC/EN 600682-6 Vibration (transportations) 10 to 500 Hz. Tested according to MIL-STD-810G	Relative humidity	20% to 95% @ 40°C non-condensing. Tested according to IEC/EN 60068-278, IEC/EN 61298-3
15 G, 11 msec. Tested according to IEC/EN 60068-2-7	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
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 (10,0000 ft.) Tested according to MIL-STD-8106 Altitude (operational) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8106 Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8106 Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8106 Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-81000 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,048 meters (40,000 ft.) Tested according to MIL-STD-8100 Altitude (storage) Sea level to 3,049 meters (40,000 ft.) Tested according to MIL-STD-81000 Altitude (storage) Sea level to 3,049 meters (40,000 ft.) Tested according to MIL-STD-81000 Altitude (storage) Sea level to 12,194 ft. 1000-42, Ecc/EN 61000-42, Ecc/EN 61000-	Vibration (transportation)	10 to 500 Hz. Tested according to MIL-STD-810G
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-8106 (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8106 (Altitude (storage)) Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-8106 (Altitude (storage)) ISA 571,04 61, ISA 571,04 G3 compiliant versions SPCxxxA are also available EDD immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-42, Severity level: Surge immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-64, Severity level: Rediated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-64, Severity level: Rediated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-64, Severity level: Rediated emission Tested according to IEC/EN 61000-62, IEC/EN 61000-64, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-64, Severity level: Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 16, IGO00-64,	Shock (storage)	15 G, 11 msec. Tested according to IEC/EN 60068-2-27
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 Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-810G Altitude (storage) ISA 571.04 G1, ISA 571.04 G3 compliant versions SPCooxA are also availal ESD immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-44, Severity level. Radiated RF1 immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Rediated RF1 immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Rediated immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Rediated emission Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Tested according to IEC/EN 61000-63, IEC/EN 61000-64, IEC/EN 61	Drop	100 mm. Tested according to IEC/EN 60068-2-31
Altitude (storage) Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-810 Air quality ISA \$71.04 G1, ISA \$71.04 G3 compilant versions \$PCxxxx are also available ESD immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-42, Severity level Isectorical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Isectrical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Isectorical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Radiated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Tested according to IEC/EN 61000-64, IEC/EN 61000-64, Severity level Tested according to IEC/EN 61000-64, CISPR 11 + 41, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + 41, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, IEC/EN 61000-6	Protection class	IP20 according to EN 60529, IEC 529
Air quality ISA S71.04 G1, ISA S71.04 G3 compliant versions SPCxxxx are also availal ESD immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-42, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Electrical fast transient immunity Radiated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Rediated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level. Tested according to IEC/EN 61000-63, IEC/EN 61000-64, Severity level. Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group 1, Class A, ISM equipment of IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group 1, Class A, ISM equipment Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment G1 EC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment G1 EC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Class A, ISM equipment G1 EC/EN 61000-64, CISPR 11 + A1, CISPR 164-13, Group Cl	Altitude (operational)	Sea level to 3,048 meters (10,000 ft.) Tested according to MIL-STD-810G
Tested according to IEC/EN 61000-62, IEC/EN 61000-42, Severity level Surge immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-45, Severity level Electrical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Electrical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Conducted Immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level Conducted Immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level Magnetic field immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level Tested according to IEC/EN 61000-64, CISPR11 + A1, CISPR1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR11 + A1, CISPR1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-64, Severity level Tested according to IEC/EN 61000-64, CISPR11 + A1, CISPR1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-64, CISPR11 + A1, CISPR1 1, Group 1, Class A, ISM equipment for IEC/EN 61000-62, I	Altitude (storage)	Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-810G
Surge immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-44, Severity level: Electrical fast transient immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-44, Severity level: Radiated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-44, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-48, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-48, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-48, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipment or IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, Severity level 3 Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, Severity level 3 Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, Severity level 3 Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, Severity level 3 Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, CISPR 11 + A1, CISPR 161000-64, CISPR 11 + A1, CISPR 161000-64, Severity level 3 Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, CIS	Air quality	ISA S71.04 G1, ISA S71.04 G3 compliant versions SPCxxxA are also available
Electrical fast transient immunity Radiated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level: Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level: Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 11, Group 1, Class A, ISM equipment of IEC/EN 61000-64, CISPR 11 + A1, CISPR 161000-64, CISPR 11	ESD immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-2, Severity level 3
Radiated RFI immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-43, Severity level. Conducted Immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level. Magnetic field immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level. Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-64, CISPR 11 + A1, CISPR 61000-64, CISPR 11 + A1, CISPR 161000-64, CIS	Surge immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-5, Severity level 3
Conducted Immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-46, Severity level Magnetic field immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-48, Severity level Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-64, CISPR 11 + A1, CISPR 16-1-1, Group Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-64, CISPR 11 + A1, CISPR 16-1-1, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-64, CISPR 11 + A1, CISPR 16-1-1, Group Class A, ISM equipment CSA non-hazardous locations Certified for use as process control equipment in an ordinary (non-hazardous, nonincendive locations CE Mark CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/ ROHS compliance ROHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base DIRECTIVE/2012/19/EU Dimensions Width 27 mm Depth Depth	Electrical fast transient immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-4, Severity level 3
Magnetic field immunity Tested according to IEC/EN 61000-62, IEC/EN 61000-64, CISPR 11 + A1, CISPR 1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-63, CISPR 11 + A1, CISPR 1 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-64, CISPR 11 + A1, CISPR 16-1-1, Group 1 1, Group 1, Class A, ISM equipment to IEC/EN 61000-64, CISPR 11 + A1, CISPR 16-1-1, Group 1 1, Group 1, Class A, ISM equipment 1, Group 1, Class A, ISM equipment 2, ISM equipment 3, ISM equipment 3, ISM equipment 4, ISM equipment 5, ISM equipment 5, ISM equipment 6, ISM equipment 6, ISM equipment 7, ISM equipment 8, ISM equipment 1,	Radiated RFI immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-3, Severity level 3
Tested accrested according to IEC/EN 61000-64, CISPR11 + A1, CISPR11 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-64, CISPR11 + A1, CISPR161-10, Group 1, Class A, ISM equipmentording to IEC/EN 61000-62, IEC/EN 61000-62, IEC/EN 61000-64, CISPR11 + A1, CISPR16-1-1, Group Class A, ISM equipment Voltage dips and interruption immunity Tested according to IEC/EN 61000-6-2, IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61	Conducted Immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Radiated emission 1, Group 1, Class A, ISM equipmentording to IEC/EN 61000-6-2, IEC/EN 61000-6-2, IEC/EN 61000-6-3, Severity level 3 Tested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 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 CSA non-hazardous locations CIass I, Division 2, Groups A, B, C, D CE Mark CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/ ROHS compliance ROHS compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU Module keying code for base DIMENSIONS DIMENSIONS DIMENSIONS Width 27 mm Depth Depth 106 mm	Magnetic field immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-8, Severity level 4
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 CSA hazardous, nonincendive locations CIass I, Division 2, Groups A, B, C, D CE Mark CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/ ROHS compliance ROHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base Dimensions Width 27 mm Depth Dimensions	Radiated emission	
Certified for use as process control equipment in an ordinary (non-hazardous) location CSA non-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/ RoHS compliance RoHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base Slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth Depth 106 mm	Conducted emission	Tested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1 Class A, ISM equipment
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/ RoHS compliance RoHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base Slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth Depth	Voltage dips and interruption immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-11
CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/ RoHS compliance RoHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth 106 mm	CSA non-hazardous locations	
RoHS compliance RoHS Directive 2015/863 WEEE compliance DIRECTIVE/2012/19/EU Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base Slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth Depth 106 mm	CSA hazardous, nonincendive locations	Class I, Division 2, Groups A, B, C, D
DIRECTIVE/2012/19/EU Compatibility Use with MTU Module keying code for base Dimensions Width 27 mm Depth Depth DOM: DIRECTIVE/2012/19/EU	CE Mark	CE Mark EMC directive 2004/108/EC & Low Voltage Directive 2006/95/EC
Compatibility Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth 106 mm	RoHS compliance	RoHS Directive 2015/863
Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base slot #1 = 12, slot #2 = 24 Dimensions 27 mm Depth 106 mm	WEEE compliance	DIRECTIVE/2012/19/EU
Use with MTU HBS01-TCM, VBS01-TCM Module keying code for base slot #1 = 12, slot #2 = 24 Dimensions 27 mm Depth 106 mm		
Module keying code for base slot #1 = 12, slot #2 = 24 Dimensions Width 27 mm Depth 106 mm	Compatibility	
Dimensions Width 27 mm Depth 106 mm	Use with MTU	HBS01-TCM, VBS01-TCM
Width 27 mm Depth 106 mm	Module keying code for base	slot #1 = 12, slot #2 = 24
Width 27 mm Depth 106 mm		
Depth 106 mm	Dimensions	
	Width	27 mm
	Depth	106 mm
	Height	190 mm

Height Weight

294 g



solutions.abb/symphonyplus solutions.abb/controlsystems

800xA and Symphony Plus is a registered trademark of ABB. All rights to other trademarks reside with their respective owners.

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2024 ABB All rights reserved