DATA SHEET

PI01

ABB Ability™ Symphony® Plus Hardware Selector

The PI01 pulse input module processes up to 8 Pulse Input signals. Each channel is individually CH-2-CH isolated and is independently configurable for Totalize, Frequency, Period or Duration mode pulse inputs. FC 221 (I/O Device Definition) sets PI module operating parameters and each input channel is configured using FC 229 (Pulse Input CH) to set indivdual input channel parameters such as pulse input mode, engineering units, High/Low alarm state, etc.

The PI01 module supports pulse counts from 0 to 16,777,215, frequency input range from 0.5 Hz to 100 kHz, and Period or Duration input ranges from 10 µsec to 30 seconds.

Features and benefits

- 8 individually CH-2-CH isolated Pulse Input channels supporting:
- Totalize: 0 to 16,777,215
- Frequency: 0.5 Hz to 100 kHz
- Period or Duration: 10 µsec to 30 seconds

General info	
Article number	PI01
Type	Pulse Input
Life cycle status	ACTIVE
Number of channels	8
Signal type	PI
HART	No
SOE	No
Redundancy	No
Form factor	Standard (190 mm)
Mounting	Horizontal Row or Vertical Column
MTBF (per MIL-HDBK-217-FN2)	PR E: 338,368 Hours
MTTR (Hours)	1 Hours

Detailed data	
Module power requirements	24 VDC ± 10%, 59 mA typical, 66 mA max
Module power connection	POWER TB on cHBX01L or VBX01T
Field IO power	24 VDC ± 10%, 1.3 mA typical, 1.5 mA max per CH
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	8 Pulse Input Channels
Signal ranges and types	Pulse Inputs: 24 VDC
A/D Conversion	±0 count
A/D Resolution	0.0001
A/D Update rate	0.0001
D/A Conversion	0.0001
Accuracy, FSR	Totalize: ±0 count Frequency: 0.01% Period: 0.01% Duration: 0.01%
Temp effect on accuracy	0.015% @ 25°C (timebase accuracy)
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 8
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
Module keying code for base	slot #1 = 12, slot #2 = 17

Dimensions	
Width	27 mm
Depth	106 mm
Height	190 mm
Weight	223 g

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