DATA SHEET

PI01ev
ABB Ability™ Symphony® Plus Hardware Selector

The PI01ev Pulse Input module processes up to eight (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.

The PI01ev Pulse Input module is a Form/Fit/Function replacement for the DSM04 Pulse Input HR I/O module.

FC 102 (PIPER), FC 103 (PIFREQ), FC 104 (PITOT), or FC 109 (PIDUR) are used to configure each input channel of the PI module.

The PI01e module supports pulse counts from 0 to 16,777,215, frequency input range from 0.5 Hz to 50 kHz @ 50% duty cycle, and Period or Duration input ranges from 10 µsec to 30 seconds.

Features and benefits

- Eight (8) individually CH-2-CH isolated Pulse Input channels supporting:
- Totalize: 0 to 16,777,215
- Frequency: 0.5 Hz to 50 kHz @ 50% duty cycle
- Period or Duration: 10 µsec to 30 seconds
- PI01e DOES NOT support 4 to 6 VDC or 50mVpp to 10 Vpp

General info	
Article number	7PAA004007R11
Type	Pulse Input
Signal specification	21.6 to 27 VDC
Life cycle status	ACTIVE
Number of channels	8
Signal type	PI
HART	No
SOE	No
Redundancy	No
Form factor	HR MMU
Mounting	MMU (1-Slot)
MTBF (per MIL-HDBK-217-FN2)	PR A: 202,762 hours @ 30 °C, 156,155 hours @ 45 °C, 74,590 hours @ 70 °C
MTTR (Hours)	8 Hours

Detailed data	
Module power requirements	550 mA (typical) @ 5 VDC ± 10%, 140 mA (typical) @ 24 VDC ± 10%
Module power connection	+ 5V connection on MMU
Field IO power	2 mA Typical, 12.28 mA max per CH@ 24 Vdc +/- 10%
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
A/D Conversion	±0 count
A/D Resolution	0,01%
A/D Update rate	0,01%
D/A Conversion	0,01%
Accuracy, FSR	Totalize: ±0 count. Frequency: 0.01%. Period: 0.01%. Duration: 0.01%.
Temp effect on accuracy	0.015% @ 25°C (time base 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	R (Run), F (Fault), P (Primary), and B (Backup) + 8 Diagnostic & Status LEDs
Local availability	R (Run), F (Fault), P (Primary), and B (Backup) + 8 Diagnostic & Status LEDs
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
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
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, NIDI01
Module keying code for base	n/a

Dimensions	
Width	35.6 mm
Depth	177.8 mm
Height	298.5 mm
Weight	420 g

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