Pulse Totalizer Input Module

The Model 3515 Pulse Totalizer Input (PTI) Module provides 32 individual 31-bit counters that operate independently. The counters are used with active-flow sensors or per-unit sensors to measure a quantity (count) which is transmitted to the Main Processors. At the time specified by the control program, the Main Processors clear a single counter or all counters.

The PTI module has three isolated input channels. Each input channel independently processes all input data and passes it to the Main Processors, where it is voted before processing to ensure the highest integrity.

Each PTI module provides complete ongoing diagnostics on each channel, including channel-to-channel count comparison. Failure of any diagnostic on any channel activates the Fault indicator, which in turn activates the chassis alarm. The Fault indicator points to a channel fault, not a module failure. The PTI module is guaranteed to operate properly in the presence of a single fault, and may continue to operate with certain kinds of multiple faults.

The PTI module can operate with or without a hot-spare module. If you use a hot-spare module, it re-educates all counter values from the active module.

Pulse Totalizer Input Module Specifications

Model Number	3515
Type	TMR, Pulse Totalizer
Number of Input Signals	32, non-commoned
Input Frequency Range	0 Hz to 1 KHz
Minimum Input Pulse Width	300 microseconds
Accuracy	
Active Module	± 2 counts
Hot-spare module (maximum error counts during hot replacement)	1–10 >= 100 Hz 0-1 <= 100 Hz
Maximum Count	2,147,483,647 (2^{31} - 1)
Counter Overflow (worst case @ 1 KHz)	596 Hours (24 days)
Count Overflow Indication	Count goes to negative integer
Count Resets	Individual reset per counter
Recommended Input Voltage Range	42.5 VDC absolute maximum
Count Up Switching Level	Rising edge (Off to On)
Switching Voltages	
Off to On	15 VDC typical, 18 VDC worst case
On to Off	8 VDC typical, 6 VDC worst case
Typical Hysteresis	4 VDC
Normal Turn-on Current	6mA to 9mA
Count Input Delay	< 15 ms
Point Isolation (opto-isolated)	1,500 VDC minimum
Diagnostic Indicators	
On or Off State	1 per point
Module Status	PASS, FAULT, ACTIVE
Logic Power	< 10 watts
Nominal Field Power Load	0.5 watts per On point 1.5 watts @ maximum field voltage
Color Code	Purple