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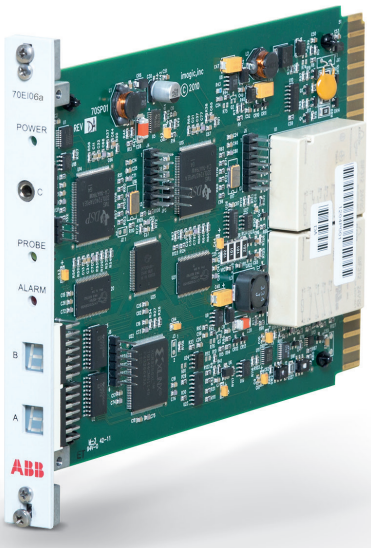
TECHNICAL DATA SHEET

Procontrol P13 I/O Modules

Input Module for Rotational Speed 70EI06A



The speed input module 70EI06a processes the pulse signals from a speed sensor, calculates the speed of the turbine, then based on user defined criteria outputs the speed measurement and other indications to the P13 local bus. The module also provides two relay contacts for protection applications, e.g. electrical 2oo3 voting.

The 70EI06a converts the pulse signals from a speed transmitter into two frequency proportional signals on the local bus and features various algorithms for supervision of standstill, overspeed, and over acceleration in addition to general faults of the frequency measurement or probes themselves.

Using the front panel configuration port and the P13 Configurator software, the module can be monitored and configured for different operating modes and fault conditioning.

The module replaces the measuring transducer UA379 (including the UT386 monitoring module) and the 70EI05a-E input module for rotational speed. It is a fully functional replacement for both cards, adding direct support for eddy-current probes and featuring a SIL3 rated overspeed protection according IEC 61508. Some changes in field wiring and configuration might be required, depending on the actual application.

Feature Highlights

- Overspeed detection with configurable overspeed limits and hysteresis
- Configurable stand-still supervision
- Acceleration supervision
- Loss of frequency detection
- Board/Module fault and Processor/Sensor fault detection
- Two 3NO/1NC potential-free change-over relay contacts, safety rated
- Relay contact testing feature
- Overspeed testing feature for testing of other trip channels
- Two analog speed output signals to the local bus for full range and zoomed range
- One binary output status word to the local bus for faults and supervision alarms
- Several physical inputs and outputs for testing, buffered speed signal, and error signals
- Non-consecutive bus addressing for all local bus signals
- Connection of multiple 70EI06a cards allows frequency signal multiplication and various voting architectures (1oo2, 2oo3, etc.) for trip outputs
- SOE support for speed limit alarms, acceleration rate and status bits (only with intra-plant bus fiber plant network)

Technical Data

Type	70EI06a
Identification number	2VAA007626R0001
Inputs	1 Pulse input for speed probe with optional +/-24Vdc supply
	4 Digital inputs for relay and overspeed testing (+24Vdc)
Outputs (physical)	Two safety relays, each with 3 NO potential-free relay contacts 1 NC potential-free relay contact
	2 Digital outputs for module fault and process supervision alarms (+24Vdc)
	2 Analog outputs for buffered frequency signal (0 – 24Vdc)
Outputs (local bus)	2 Analog speed values (full range and zoom range)
	1 Binary status word for faults and process supervision
Supported Probes	Jaquet: • FTG 1087.00 xxx/FT3000 • FTG 1087.01 xxx
	ABB: • XT 8160/XT 8163
	Bentley Nevada: • 3300 series
	Eddy-current probes
Configuration	Dedicated connector on front panel; custom serial protocol; stored in EEPROM memory (onboard)
Safety Rating	Designed to comply with SIL3 according IEC 61508
Module Operating Temp	0 to 60 °C
Relative Humidity	0 – 95% (Non-Condensing)
Min Operating Voltage	+19.5Vdc
Max Operating Voltage	+30Vdc
Dimensions	P13 Standard Card; 1T wide

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