The Modbus SI FTA supports Modbus RTU protocol and uses either EIA-232 or EIA-422/485 communications, including multidrop configurations. The Allen-Bradley FTA supports DF-1 protocol and uses only EIA-232 communication.

The serial interface supports direct digital communications to any qualified, compatible subsystem. Using this scheme, serial data is then made available for all APM and HPM data acquisition and control strategies. Using the 16 available array points, an SI FTA has a nominal capacity of up to:

- 8192 Flags (Boolean) or
- 256 Reals (Floating Point) or
- 512 Integers or
- 1024 Characters.

The array point values can be displayed at the Universal Station or used as part of advanced control strategies. These values can be configured into APM and HPM control strategies using Digital Composites, Device Points, and Regulatory Points as well as CL programs. Both reads and writes of subsystem data are supported.

To assure smooth field integration of a variety of subsystems, subsystem devices with the serial interface are qualified as part of Honeywell's Multi-Vendor Interface Program.

In addition, custom interfaces can be designed to met your specific interfacing requirements. Contact your account manager for more information.

Pulse Input (PI)

Precise control using high-accuracy pulsing-type sensing devices is possible with the Pulse Input processor. The result is improved product quality and reduced material waste. Pulse rates up to 20 kHz can be handled. Conversion to engineering units is performed, along with alarm checking, filtering, and data validity checking. 24 Vdc transmitter power is provided.

Pulse Input Processor/FTA **MU-PPIX02**

Parameters	Specification
FTA Models	**MU-TPIX12, TPIX52**
Sensor Inputs	Self-powered 2-wire PM/APM/HPM-powered (with automatic current limiting) 3-wire Pulse voltage or contact input
Input Type	Rectangular or sine waves
Input Channels	8
Input Impedance	10 kΩ minimum
Input Frequency (1) 50% Duty Cycle Square Wave Sine Waves	 1 Hz to 20 kHz (all channels same amplitude) 1 Hz to 20 kHz
Pulse Levels Low High	 -0.5 V to +1.9 V +3.5 V to +24 V (Hysteresis prevents change between 1.9 V and 3.5 V)
Pulse Width (On/Off Dwell) High and Low	 25 µs minimum at 20 kHz (with IOP filter jumper in storage position) 50 µs minimum at 10 kHz (with IOP filter jumper in H position) 500 µs minimum at 1 kHz (with IOP filter jumper in L position)
Contact Current Low (0, Field contact closed) High (1, Field contact open)	 23 mA maximum (with FTA Pullup) (2) 20 mA maximum (with FTA Pullup) (2)
Contact Resistance Low (0, Field contact closed) High (1, Field contact open)	 82 Ω maximum (with FTA Pullup) (2) 175 Ω minimum (with FTA Pullup) (2)
Field Input Scan Rate	20 ms
AV Update Rate (Used for Totalizer Algorithm)	20 ms
PV Update Rate	500 ms for 8 channels
Rate Accuracy	±0.01% of input frequency, ±0.4 Hz (whichever is larger)
Rate Resolution	±0.4 Hz
Input Range (No Damage)	±30 V maximum
Transmitter Power Conditioning (for 3-wire connection) Open Circuit Voltage Full Load Short Circuit Current	 23-25 Vdc 21 V @ 115 mA 150 mA maximum

(1) Sine waves must not be intermixed with square waves or contacts on the same FTA.
50 M FTA cables with mixed signal amplitudes: frequency is 9 kHz maximum (55 µs minimum pulse width)
30 M FTA cables: frequency is 13 kHz maximum (38 µs minimum pulse width)
20 M FTA cables: frequency is 15 kHz maximum (33 µs minimum pulse width)
10 M FTA cables: frequency is 18 kHz maximum (28 µs minimum pulse width)
5 M FTA cables: frequency is 20 kHz maximum (25 µs minimum pulse width)
(2) 1 kΩ to 24 Vdc.

Model Numbers

Description	Uncoated Model Number	Coated Model Number (see note)
I/O Processors		
High Level Analog Input Processor (16 Inputs)	n/a	MC-PAIH03
Smart Transmitter Interface (Multivariable) Processor (16 Inputs)	MU-PSTX03	MC-PSTX03
Serial Device Interface Processor (16 Points/Port)	MU-PSDX02	MC-PSDX02
Serial Interface Processor (16 Points/Port)	MU-PSIM11	MC-PSIM11
Low Level Analog Input Processor (8 Inputs)	MU-PAIL02	MC-PAIL02
Low Level Analog Input Multiplexer Processor (32 Inputs)	MU-PLAM02	MC-PLAM02
Remote Hardened Multiplexer IOP (32-Points)	MU-PRHM01	MC-PRHM01
Pulse Input Processor (8 Inputs)	MU-PPIX02	MC-PPIX02
Analog Output Processor (8 Outputs)	n/a	MC-PAOX03
Analog Output 16 Processor (16 Outputs)	n/a	MC-PAOY22
Digital Input Processor (32 Inputs)	MU-PDIX02	MC-PDIX02
Digital Input Processor for Sequence of Events (32 Inputs)	MU-PDIS12	MC-PDIS12
Digital Input 24 Vdc Processor (32 Inputs)	MU-PDIY22	MC-PDIY22
Digital Output Processor (16 Outputs)	MU-PDOX02	MC-PDOX02
Digital Output 32 Processor (32 Outputs)	MU-PDOY22	MC-PDOY22
Blank Filler Plate for I/O Slot	MU-PFPX01	n/a
I/O Link Extender Pair–Main Location	MU-IOLM02	MC-IOLM02
I/O Link Extender Pair–Remote Location	MU-IOLX02	MC-IOLX02
Long Distance I/O Link Extender Pair	MU-ILDX03	MC-ILDX03
I/O Link Extender Shroud (EC)	MU-ILES01	n/a
NOTE: MC model numbers indicate conformally coated boards. All IOPs are available conformally coated (MC models).		

(Continued)