



Comparison Chart of Controllers for HiQDT MODBUS Sensors vs. 3TX-HiQ-pH Transmitters for Smart Digital HiQ Sensors

Feature or Functionality	3TX-HiQ-pH Transmitter & Controller Packages	Color Touchscreen Controllers in Two (2), Three (3) & Six (6) Channel Packages	
Interface (HMI)	Three (3) digit bright LED with Three (3) Push Button Control	4.3 Inch Color Touchscreen 3.70" X 2.10" 480 X 272 pixels for 2 Channel Assy 7.0 Inch Color Touchscreen 6.11" X 3.42" 800 X 480 pixels for 3 & 6 Channel Assy	
Installation Styles Supported	Anywhere from Single (1) up to Nine (9) Channels; Wall, Pipe or ½-DIN Panel Mounting Styles	NEMA 4X Assembly with Clear Hinged Latched Protective Door for Touchscreen Package is Ready for Wall or Pipe Mounting in the Field as supplied	
Supported Areas of Use	Non-Hazarduous Locations Only	Class I, Division II Rated Locations supported for 3 & 6 Channel Packages	
Calibration Methods	3TX-HiQ-pH Transmitter or Windows Software; Auto-buffer calibration supports 4.00, 6.86, 7.00, 9.18, 10.00 pH buffers	Windows Software / Handheld Communicator / PLC Touchscreen Interface Auto-buffer calibration mode on PLC Touchscreen with 1.68, 4.00, 6.86, 7.00, 9.18, 10.00, 12.45 pH buffers supported	
Power Configurations	Isolated 24VDC ± 10% ¹ or 85-264 VAC ² or 9-36 VDC ³	Isolated 24VDC ± 15% ¹ or 85 to 264 VAC Line Power ² or Non-Isolated 18-75 VDC or Non-Isolated 9.5 to 18 VDC ³	
Max Number of Smart Sensors	One (1) per 3TX-HiQ-pH Transmitter Module; 9 Channels max in one NEMA 4X Assembly	2 Channel - 2 each Single Parameter or 1 each Dual Parameter 3 Channel - 3 each Single Parameter or 1 each Dual + 1 each Single Parameter 6 Channel - 6 each Single Parameter or 3 each Dual Parameter	
Max Power Consumption	60mA @ 24VDC for each measurement channel	2 Channel - 400mA @ 24VDC for HMI ⁴ 500mA @ 24VDC for PLC ⁴ 3 Channel - 350mA @ 24VDC for HMI ⁴ 580mA @ 24VDC for PLC & Modules ⁴ 6 Channel - 350mA @ 24VDC for HMI ⁴ 780mA @ 24VDC for PLC & Modules ⁴	
Analog Outputs	1 ea Isolated Scalable 0-20mA or 4-20mA per channel (Max 500 Ω)	2 each for 2 Channel Package ; 6 each for 3 & 6 Channel Package Isolated Scalable Software Selectable 4-20mA (Max 500 Ω) or 0-10 VDC Outputs	
Digital Output	RS-485 MODBUS RTU Slave	MODBUS TCP Slave (a.k.a. MODBUS over ethernet)	
Contact Relays	Optional with 3TX-REL Module 2 each Isolated SPST Max 5A at 230VAC or 30VDC ⁵	2 Channel & 3 Channel Packages 6 each Isolated SPST Max 2A at 230VAC or 30VDC ⁵	6 Channel Package 18 each Isolated SPST Max 2A at 230VAC or 30VDC ⁵
Datalogging	Optional with field 3TX-DAT module or Windows Software; pH/ORP & Temp Values Only	Yes, Standard; Process Values, Temperature and raw mV logged every 30 seconds with date stamp from system RTC Sensor Analytic and Calibration Values logged every 30 minutes; 16GB for 2 channel or 32GB for 3 or 6 channel	
Email Notifications	Not Available	Email user defined list when high/low relay triggered from max/min setpoint for process value or temperature + Diagnostic system warnings such as communication lost with sensor will also trigger email notification	
Remote Access Capabilities	Not Available	ALL functionality available remotely using Maple Systems EasyAccess 2.0 for Platforms Including: Windows PC well as Android & iOS Smartphones & Tablets	
Special Features + Typical Field Installations	Storage of last 5 calibrations sets allows for historical analysis; Plug & play installations with auto-detection of pH & ORP sensor types for smart seamless HOT-SWAP of sensors in field	2 Channel - Compact form factor; Seamless hot-swap for identical installations 3 Channel - Analog output available to send process & temp from each sensor 6 Channel - Very cost effective package for locations with many installations Transmitter, controller & analyzer for hazardous locations with integral datalogging & full remote access capabilities for anywhere from 1 to 6 channels	

1. For Class I, Div. II areas use isolated 24VDC ± 15% or Class I, Division 2 PS1C1D2 transformer for 3 & 6 Channel HiQDT Packages
2. For AC line power use isolated & regulated 24VDC transformer (Class 1, Div. 2 version for 3 & 6 channel HiQDT packages only)
3. Optional isolated DC/DC converter sufficient to energize HMI, PLC & HiQDT sensors allowing for non-isolated DC operation.
4. For total power add 20mA per measured parameter. Package includes isolated 12VDC power supply to energize HiQDT sensors.
5. If a higher amperage rating is required than what is specified please use an ice cube relay that suitable for amperage required and area rating where it is to be installed. Two independently programmable relays are assigned to each measurement channel.

GENERAL NOTES:

- Special hardware configurations and/or software features may be available as special orders (MOQ and/or NRE will apply).
- Separate slope for acid (pH <7) and alkaline conditions (pH >7) supported for all calibration methods (a.k.a. 3-point calibration).

Last Revised March 11, 2019