

Engineering Specification

Dual Input High Purity pH Indicating Transmitter & Sensors (Mettler-Toledo Thornton 200pH & 363-210 Sensor)

The pH indicating transmitter shall measure from one or two high purity pH sensors with indication, alarm and output signals available for both pH and temperature. Temperature compensation shall be provided both for the conventional Nernst electrode effects and for the ionization of pure water and trace solutes, to give pH referenced to 25 °C. The ionization effects shall be accommodated by solution temperature compensation, adjustable for the type of sample with a temperature coefficient set in units of pH/°C.

The transmitter shall operate from 90-130 or 180-250 VAC or 24 VDC 4-wire power, as specified. It shall have an illuminated alphanumeric display, readable in direct sunlight or darkness, capable of displaying both channels simultaneously. It shall be provided with hardware for panel mounting or with optional kit for wall or pipe mounting, with NEMA 4X, IP65 rating, as specified. Connection to the sensor shall be via accessory cable terminated with waterproof connector. The measuring circuit shall allow overall sensor-to-transmitter wiring distances up to 200 feet (61 m).

The transmitter shall be provided with four alarm setpoints, assignable to two standard SPDT mechanical relays plus optionally two additional solid state AC relays, as specified. Analog output signals shall consist of two isolated, powered 4-20 mA signals, assignable to any combination of pH and temperature measurements. A selectable RS232 or RS422 output shall also be provided. Instrument security shall include a user set security code and allow selection of function menus to be locked. The instrument shall be ISO9001 factory calibrated to NIST-traceable standards and be provided with a certificate of calibration.

The sensor assembly shall use a stainless steel flow chamber to eliminate streaming potentials and flow sensitivity. It shall have minimal volume to ensure fast response at a flowrate of 50-150 mL/min and to carry any particles in the sample all the way through and out of the chamber. The flow chamber shall be sealed to prevent contamination by carbon dioxide from the air. The sensor reference electrode shall have a pre-pressurized gel electrolyte to produce minimal junction potential difference between buffer calibration and pure water measurements. The combination electrode shall include a temperature compensator and a connector for easy disconnection from the preamp. The preamp shall include solution ground, isolated measuring circuits, and shielding for maximum stability and resistance to interference.

The transmitter and sensor shall be Mettler-Toledo Thornton model 200pH Instrument and 363-21X Sensor Assembly or approved equal.

For the most current product information visit:

www.thorntoninc.com

Mettler-Toledo Thornton, Inc.

36 Middlesex Turnpike
Bedford, MA 01730 USA
Telephone: +1-781-301-8600
Toll-Free: 1-800-510-PURE

Customer/Technical Service

Telephone: +1-781-301-8690
Toll-Free: 1-800-642-4418
Cust Service Fax: +1-781-271-0214
Tech Service Fax: +1-781-271-0675

email: info@thorntoninc.com
www.thorntoninc.com

ML0042 Rev C. 1/04