DEPOLOX® 700 M
ANALYZER FOR POTABLE WATER

WALLACE & TIERNAN® ANALYZERS/CONTROLLERS

The DEPOLOX® 700 M is designed for measurement and limited control tasks in the drinking and process water industry. The analyzer can incorporate up to six well proven measurement parameters: free chlorine, total chlorine, pH, oxidation reduction potential, conductivity and temperature.

The system includes four single feedback controllers that can be used in constant process flow applications. In case of drinking water as well as other variable flow disinfection applications four milliamp outputs and fieldbus modules can be utilized to transmit the measurement data to a plant logic control system for chemical feed automation.

The DEPOLOX 700 M device uses a 7" color touch panel for an intuitive user interface and an LED lit flow cell that can be programmed to change color in case of an alarm condition. The user interface can be replicated on a smart phone or tablet via the standard Ethernet communication port.

All measurement parameters are shown on the main screen and a single touch of any of the configured parameters leads to a trend graph, parameter set-up and calibration detail.

The flow cell, with either pressurized or non-pressurized sample water outlet, can be fitted with up to six measurements. The well proven bare electrode cell is integral to the flow cell and can be configured to measure either free chlorine, chlorine dioxide, ozone or potassium permanganate.

The flow cell includes a small electronics where all analog sensor signals are converted to a digital signal which allows it to be separated from the electronics up to 3000 feet without risking the loss of the sensitive sensor signal.

Benefits

- Intuitive operation as well as easy visualization of all measured parameters via a 7" color touch panel
- State of the art communication possibilities via an Ethernet interface as well as a RS 485 connection
- LED lit flow cell that can be programmed to change to color in case of an alarm condition
- External USB port for a number of integrated functions including data downloading of up two years of measurement data
- Digital communication between the flow cell and electronics allows the two components to be separated up to 3000 feet without a loss in sensor signal

ELECTRONIC MODULE

Touchpanel:
7 inch graphic display with backlight
Resistive touch screen; resolution 800 x 480 Pixel
Measurement inputs:
1 x DEPOLOX® 5 for free chlorine, ClO_2, O_3, $KMnO_4$,
1 x pH, 1 x Redox, 1 x Conductivity, 1 x temperature
1x total chlorine; 1 x dosing quantity display (feedback signal of positioner)
Digital inputs:
3 x freely definable, e.g. controller stop, operating mode switch, external set-point
Output contacts:
Max. eight freely definable alarm contacts/general fault messages as well as controller outputs for the measured parameter. Expandable as an option with an internal 4 x relay module
Relay status is depicted on the display;
max. 6 A/250 V AC; 0.2 A/220 V DC
Special outputs:
Time-controlled contact (timed dosing)
Analog outputs (optional):
4 x 0/4 – 20 mA, freely configurable
Load ≤ 1000 Ohm, accuracy < 0.5 % FS
Galv. isolated up to 50 V relative to earth
Interfaces:
Ethernet interface
RS 485 to connect to the Wallace & Tiernan® Process Monitoring System (option)
External fieldbus converter (option)
Power supply:
100 – 240 V AC ± 10 %, 50/60 Hz, 48 VA
24 V DC ± 20 % 30 W
Ambient temperature: 0 – 50 °C (32 – 122 °F)
Protection: IP 66
Certifications: CE, CSA
Weight (incl. packaging): 4.5 kg (9.9 lbs)
Dimensions (W x H x D):
320 x 311 x 153 mm (12.6 x 12.2 x 6.0 “)

FLOW CELL MODULE

It is possible to install up to five sensors, up to five sensors in a non-pressurized cell whereas the pressurized cell excludes the total chlorine sensor. Stable measuring signals are achieved with hydrodynamic grit cleaning together with optimised flow around all sensors. The following components are integrated into the flow block module:
Flow control valve:

- Controlled sample water flow: 33 l/h (0.15 USgpm)
- Control range: 0.25 – 3.0 bar (3 – 60 psi at valve inlet)
- Back-pressure: max. 1.5 bar (21.7 psi) for press. model
- Sample water temperature: max. 50 °C (122 °F)

Multi-sensor:

- Monitoring of correct sample water flow
- Switching point: 21 l/h +/- 3 l/h Switching hysteresis: 2 l/h
- Measurement of sample water temperature with sensor Pt 1000 for the temperature compensation of the chlorine and possibly the pH measurement
- Sample water earthing with stainless steel sleeve

Sample water connections:
PVC hose 6 x 3 mm or PE hose 6 x 1 mm hose connector adaptors to 1/2 “ threaded hose connection
Weight (incl. packaging): approx. 2.5 kg (5.5 lbs)
Dimensions (W x H x D):
253 × 375 × 163 mm (9.9 x 14.7 x 6.4 “)

MEASURING RANGES

free chlorine, ClO_2, O_3, $KMnO_4$: 0 to 20 mg/l
min 200 µS/cm
Conductivity: 1 µS/cm to 300 mS/cm
pH: pH 0 to 12 (short time to 14)
pH compensation: within the pH range of 5.0 - to 8.0 according to the HOCl relationship
ORP: 0 to 1000 mV
Membrane sensors TC2 CAN and TC2-S CAN:
Total chlorine: 0.05 to 10 mg/l
For applications with salt water and conductivity values from 2.5 to 60 mS/cm (approx. 4 % salt) the TC2-S CAN is required.

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