

Water Quality Monitor

Q45H62-63 Residual Chlorine Transmitter

OVERVIEW

The residual chlorine transmitter is designed for on-line monitoring and control of chlorination systems. It is available in two versions: a free chlorine monitor for drinking and cooling water systems, and a combined chlorine monitor ideally suited for "chloraminated" drinking water. The combined chlorine system can also be used in wastewater effluents where sufficient ammonia is present prior to chlorination to result in a predominantly monochloramine residual.

Unlike on-line colorimetric and most amperometric monitors, Q45H systems utilize a membrane-covered polarographic sensor that does not require the addition of chemical reagents. That means no more costly reagents to purchase or flow cells that require frequent cleaning. All that's needed is a constant flow of water across the face of the sensor, and this is provided by a sample constant-head flowcell.

The Q45H system has no moving parts, so there are no pumps or motors that burn out, or tubing breaks that create maintenance nightmares. All normal maintenance items are included with each system. The Q45H chlorine monitoring system is easy to operate, requires minimal maintenance, and will not eat a hole in your operating budget with ongoing reagent requirements or component replacement costs.

APPLICATIONS

- **Potable Water Treatment**
- **Cooling Towers**
- **RO Membrane Protection**
- **Wastewater Treatment**
- **Chloramination Systems**
- **Food Wash Water**

FEATURES

- Free or combined chlorine monitoring
- Loop-powered or battery operation
- External 5...17V DC version for solar power applications
- Reagent-free measurement
- pH compensation for operation to pH of 9.5
- Measurement from 0...200 ppb to 0...200 ppm
- Constant-head flow cell simplifies operation
- Large, easy-to-read LCD display
- Clear, menu-driven user interface
- NEMA 4X (IP-66) enclosure
- Wall or pipe mounting bracket standard
- Built-in PID controller



SENSOR AND FLOW CELL OPTIONS



Figure 1: Sealed flow cell



Figure 2: Constant head flow cell



Figure 3: Submersible sensor

SPECIFICATIONS

Electronic Monitor

Display Range	0...200 ppb 0...2.000, 0...20.00 0...200.0 ppm or mg/l
Accuracy	±0.5% of selected range or 0.02 ppm
Repeatability	0.3% of selected range or 0.01 ppm
Sensitivity	0.05% of selected range
Linearity	0.1% of selected range
Temperature Drift	0.1% of span/°C
Sensor Type	2E Amperometric (Polarographic) membraned sensor
Temperature Input	Pt100 in sensor for temperature compensation
Power	2-wire unit: 17...30V DC, 25 mA maximum Battery unit: Two AA alkaline batteries External DC: 5...17V DC, 10 mA maximum
Analog Outputs	2-wire unit: Single 4...20 mA DC, 450 Ω maximum Battery unit: Two 0...2.5V DC, 50K Ω minimum External DC: Two 0...2.5V DC, 50K Ω minimum
Output Isolation	600V galvanic isolation
Enclosure	NEMA 4X (IP66) polycarbonate, V-0 flammability
Mounting Options	Wall or pipe mounting bracket supplied
Conduit Entries	Two PG9 cord grips, 0.16...0.31 in. diameter cable
Ambient Temperature	Operating: -40°...140° F (-40°...60° C) Storage: -40°...158° F (-40°...70° C)
Ambient Humidity	0...95%, non-condensing
Size	4.4 (H) × 4.4 (W) × 3.5 (D) in. (111 × 111 × 90 mm)
Weight	2-wire or External DC unit: 1 lb (0.45 kg) Battery unit: 2 lb (0.9 kg)
Certifications	CE marked to BS EN 61326-1:2006 standard UL and CSA general purpose



Notes

- All systems are supplied with one package of membranes, one 120 cc bottle of electrolyte and one spare parts kit containing 3 each of all O-rings and special screws.
- Flow cell for Cl₂ systems should be kept within 25 feet of monitor.
- Pipe mount requires two 2 in. U-bolts (47-0005).

ORDERING INFORMATION

Model Q7-A-B-C-D Residual Chlorine Transmitter

Suffix A - Power

5	24V DC, 2-wire (single output only)
6	Battery operated with two 0...2.5V DC outputs
7	External 5...17V DC with two 0...2.5V DC outputs

Suffix B - Measurement Type

62	Free chlorine
63	Combined chlorine

Suffix C - Sensor Type

1A	Sensor with constant head flowcell and 25 ft cable
2A	Submersible sensor with 25 ft cable (chloramine sensor only)
3A	Sensor with sealed low-volume flow cell
4A	Sensor with 1-1/2 in. flow "T" (chloramine sensor only)
5A	Sensor with sealed flow cell
6A	Flow sensor only, no flow cell
WW	None

Suffix D - pH Sensor Input

1	None
2	Q22 pH sensor with battery preamp, 25 ft cable
3	Standard pH sensor with 25 ft cable and adapter for overflow cell
4	Standard pH sensor with 25 ft cable and sealed flow cell

Accessories

07-0100	Universal junction box, NEMA 4X
31-0001	5-c sensor interconnect cable, max. 100 ft (Cl ₂ only)
31-0038	7-c sensor interconnect cable, max. 100 ft (Cl ₂ /pH systems)
00-0628	Mounting bracket kit for submersible sensor
00-0930	Monitor pipe mounting bracket kit
00-0570	Free chlorine polarizer, flow cell style
00-0572	Combined chlorine polarizer, flow cell style
00-0573	Combined chlorine polarizer, submersible style
47-0005	2 in. U-bolt, 304SS
55-0048	Fixed flow regulator, 400 cc/min., 1/4 in. inlet & outlet