DATA SHEET

Halogen MP5-A Multiparameter Sensor

Overview

The Halogen MP5-A sensor sets a new standard that measures five parameters and amperometric chlorine without membranes or reagents. The MP5-A does not require a waste stream and can be used in many installation and monitoring configurations, unaffected by flow or pressure. EPA Method 334.0 compliant, the MP5-A sensor can be used for reporting chlorine residual measurements.

Features and Benefits

- The latest sensor technology offered by Halogen Systems
- Measures:
  - Free chlorine
  - pH
  - Conductivity
  - Temperature
  - Oxidation-reduction potential (ORP)
- Flow independent: can be installed directly in a pipe
- Self-cleaning
- Typical 6+ months of unattended operation
- No reagents or membrane
- NSF61 certified for drinking water contact
- New cellular communication with data accessibility via the cloud
- No waste stream (possible savings of up to 70,000 gallons of water per year)
- Battery power options

Options

Compliance EPA 334.0 can be used for reporting chlorine residual measurements

Installation: Immersed directly in a tank, distribution line, or side stream

Communication: The sensor communicates via:

- Modbus RTU
- D20™ display/controller or SCADA PLC
- Remote access and monitoring with the cloud-based connectivity option

(See Accessories page for options)

Self-cleaning flow-independent system

The MP5-A sensor is designed with a long-life pump that ensures a consistent flow across the sensor electrodes. This feature allows the sensor to provide accurate readings even when operating in pipes with varying or no flow. Additionally, the sensor includes captive cleaning beads that continuously polish the electrode surfaces and the pH glass. This self-cleaning mechanism enables the sensor to be used in challenging conditions without the need for frequent maintenance.

Easy-to-service exchange program: No expensive service contracts are needed for the MP5-A. (The Halogen D20 display/controller enables easy sensor and display firmware updates.)

Replaceable cable lengths: Three NSF61-certified cable lengths are available for direct immersion in a water tank or reservoir.

Technical Specifications

Overall*	
Measurement method	Reagent less, three electrodes, no membrane or electrolyte
Chlorine measurement range - Limit of detection (LOD) - Limit of quantitation (LOQ)	0 to 20 ppm 10 ppb (0.01 ppm) 40 ppb (0.04 ppm)
Resolution	0.001 ppm (1 ppb)
Chlorine accuracy [1]	±5% of the calibrated value1 (DPD) at any pH between 6.5 and 8.75 ±4% of the calibrated value1 (DPD) at any temperature between 15° and 45°C ±4% of the calibrated value1 (DPD) at any conductivity between 100 and 10,000 µS
Turbidity in sample without impact	No effect up to 3000 ppm (Arizona test dust fine, 50-micron size)
Calibration stability	6 months (typ)
Measurement interval	60 seconds
pH range (chlorine)	6.5 to 9.3
Conductivity	7 to 50,000 µS
Pressure limit	10 bar (145 psi)
Temperature	1 to 40°C
Sample Compensation	Automatic
Factory calibration performed	Yes
Power consumption	24VDC ±10% at 50mA 200 mA startup maximum
Data transfer	Through controller or PLC

[1] Calibration at 1.5 ppm @ pH 8.0 and 20°C and 2700µS

Ambient data*	
Storage temperature	-20 to 60°C (-4 to 140°F)
Operating temperature	1 to 50°C (33 to 122°F)
Maximum flow velocity	0 to 4 meters/sec velocity
Maximum sensor immersion depth/pressure	30' or greater, 145 psi
Cleaning method	Continuous mechanical cleaning, electrochemical cleaning
Cable length	5' standard (up to 100')
Cable connection	M12 4-pin
Certifications	CE-compliant for conducted and radiated emissions: - CISPOR 11 (Class A limits) Limit of detection (LOD) - EMC immunity EN 61326-1 (industrial limits) - NSF61/372 Certified (by ALS Labs)
Sensor dimensions	1.75" x 12" (45 mm x 305 mm)
Weight	400 grams
Warranty	12 months

* Subject to change without notice

Sensors

Models and options		Item picture	As installed
D-H1WT-P	Wet Tap Sensor (for use with RMR-WT)		
D-H1LF-P	Immersion or Side Stream (order with FC‑02 Flow Cell Kit)		
D-H1MF-P	PVC TEE Sensor (for use with PT-01)		

Accessories

Models and options		Item picture	As installed
FC-02	Flow Cell Assembly		
MKIT-0001	Flow Cell & Panel Mount and Controller 120VAC		
PT-01	Pipe Mounting Adapter CPVC (glue into 2" tee)		
RMR-WT	Wet Tap Remover for 2" Corp Stop Valve		
D20-H	20 Controller 120/240 VAC (see options in D20 Data Sheet)		
D20-C	D20 with Cellular Adapter (see options in D20 Data Sheet) and Mobile App		
CABL-1001	Cable Adder (5' Standard) 10, 20, or Custom Length		
BAT50*	Remote Power Package- 50AH Battery		
RMVRTL	Remover tool		
CORP	2" Corp Stop Valve		

*Coming soon