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 doesn't require a waste stream and can be used in many installation and monitoring configurations unaffected by flow or pressure. In accordance with EPA method 334.0, the MP5 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, destruction line, or sidestream

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)

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Self-cleaning flow-independent system

The MP5-A sensor's long-life pump creates continuous flow across the sensor electrodes. This enables the sensor to provide accurate readings while operating in a pipe with varying (or no) flow. Captive cleaning beads continuously polish the electrode surfaces and the pH glass, enabling the sensor to be used in challenging conditions, typically without 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	Reagentless, three electrodes, no membrane or electrolyte
Chlorine measurement range - Limit of detection (LOD) - Limit of quantitation (LOQ)	0 to 20 ppm 30 ppb (0.03 ppm) 90 ppb (0.09 ppm)
Resolution	0.001 ppm (1 ppb)
Chlorine accuracy	±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 35°C ±4% of the calibrated value1 (DPD) at any conductivity between 200 and 10,000 µS ±10% underflow changes from 0 to 4 meters/second velocity
Turbidity in sample without impact	No effect up to 3000 ppm (Arizona test dust fine, 50-micron size)
Response time (secs)[2]	112 seconds
Calibration stability	6 months (typ)
Measurement interval	60 seconds
pH range (chlorine)	6.5 to 8.75
Conductivity	200 to 10000 µS
Pressure limit	10 bar (145 psi)
Temperature	5 to 55°C
Sample compensation	Automatic
Factory calibration performed	Yes
Power consumption	24VDC ±10% at 50mA 200 mA startup maximum
Data transfer	Through controller or PLC

* Subject to change without notice

[1] Calibration at 1.2 ppm @ pH 8.0 and 20°C and 2500µS

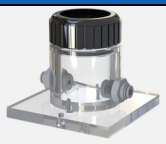
Ambient data*	
Storage temperature	-20 to 60°C (-4 to 140°F)
Operating temperature	5 to 50°C (41 to 122°F)
Maximum flow velocity	0 to 4 meters/sec velocity
Maximum sensor immersion depth/pressure	30' or greater, 145 psi
Cleaning method	Continuous, mechanical cleaning, electrochemical cleaning, every cycle
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	Side Stream order with FC-02 Flow Cell Kit		
D-H1MF-P	Pipe Mounting Sensor		

Accessories

Models and options		Item picture	As installed
FC-02	Flow Cell Assembly		

Models and options		Item picture	As installed
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)		
CABL-1001	Cable Adder (5' Standard) 10, 20, or Custom Length		
BAT50*	Remote Power Package- 50AH Battery		
D20-C*	D20 with Cellular Adapter (see options in D20 Data Sheet)		
RMVRTL	Remover tool		
	Dipole Antenna Extension (see options in D20 Data Sheet)		
	Mobile app		
CORP	2" Corp Stop Valve