

FLS M9.08

DUAL-PARAMETER pH/ORP AND FLOW MONITOR AND TRANSMITTER



The new FLS M9.08 is a dual monitor which combines pH/ORP and flow measurements. A wide full graphic display 4" shows measured values clearly and a lot of other useful information. Moreover, due to a multicolor display plus a powerful backlight, measurement status can be determined easily from afar also. A tutorial software guarantees a mistake-proof and fast set up of every settings. Different type of calibrations can be performed to fit user needs for both measurements. A 4-20mA output dedicated to each measurement grants to remote values to a external device. A proper combination of digital outputs allows customized setups for any process to be controlled. The USB port on the rear part allows the upgrade of software offering a wide range of customization services both standard and on request.

APPLICATIONS

- Water treatment and regeneration
- Industrial waste water treatment and recovery
- Scrubber control
- Neutralization systems
- Heavy metals recovery
- Metal surface coating
- Processing and manufacturing industry
- Chemical production
- Swimming pools and SPA

MAIN FEATURES

- Wide graphic display
- Multicolor backlight visualization
- Help on board
- Simultaneous measurement of pH/ORP and flow
- Intuitive calibration procedures
- Mechanical relay for external device control
- Solid State Relays for programmable alarms
- Multilanguages menù
- USB port for software upgrading



TECHNICAL DATA

General

- Associated sensors: FLS pH/ORP sensors & FLS hall effect flow sensors with frequency output or FLS F6.60 family sensors
- Materials:
 - case: ABS
 - display window: PC
 - panel & Wall gasket: silicone rubber
 - keypad: 5-button silicone rubber
- Display:
 - backlight version: 3-colours
 - backlight activation: User adjustable with 5 levels of timing
 - update rate: 1 second
 - enclosure: IP65 front
- pH input range: -2÷16pH (according to the pH electrode applied)
- pH measurement resolution: ± 0.01 pH
- ORP input range: -2000÷ +2000mV (according to the ORP probe applied)
- ORP measurement resolution: ± 1 mV
- Temperature input range: -50÷150°C (-58÷302°F) (with Pt100-Pt1000)
- Temperature measurement resolution: 0,1°C/°F (Pt1000); 0,5°C/°F (Pt100)
- Flow input range (frequency): 0÷1500Hz
- Flow input accuracy (frequency): 0,5%

Electrical

- Supply Voltage: 12 to 24 VDC ± 10% regulated
- Max Power Consumption: <300mA
- FLS hall effect flow Sensor power:
 - 5 VDC @ < 20 mA
 - optically isolated from current loop
 - short circuit protected

- 2*Current output:
 - 4-20 mA, isolated, fully adjustable and reversible
 - max loop impedance: 1000 Ω @ 24 VDC
- 2*Solid State Relay output:
 - (Flow) user selectable as MIN alarm, MAX alarm, Pulse Out, Window alarm, Off
 - (pH/ORP) user selectable as ON-OFF, Proportional frequency output, Timed Pulse, Off
 - optically isolated, 50 mA MAX sink, 24 VDC MAX pull-up voltage
 - max pulse/min: 300
 - hysteresis: User selectable
- 2*Relay output:
 - (Flow) user selectable as MIN alarm, MAX alarm, Pulse Out, Window alarm, Off
 - (pH/ORP) user selectable as ON-OFF, Proportional frequency output, Timed Pulse, Off
 - mechanical SPDT contact
 - expected mechanical life (min. operations): 10⁷
 - expected electrical life (min. operations): 10⁵ N.O./N.C.switching capacity 5A/240VAC
 - max pulse/min: 60
 - hysteresis: user selectable

Environmental

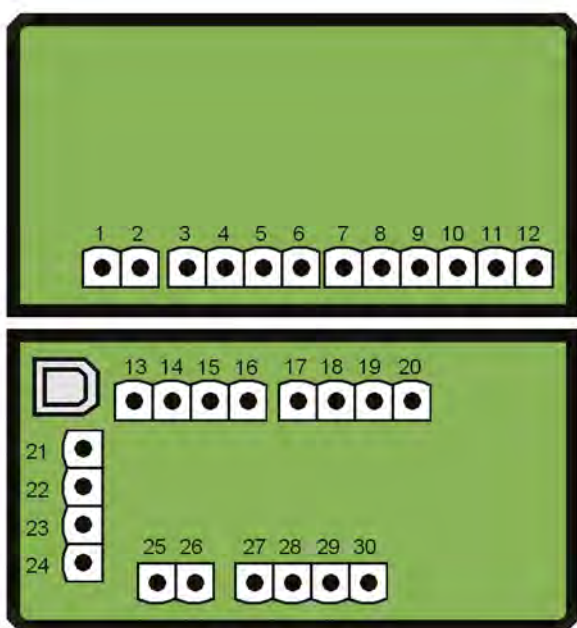
- Operating temperature: -10 to +70°C (+14 to +158°F)
- Storage temperature: -30 to +80°C (-22 to +176°F)
- Relative humidity: 0 to 95% not condensing

Standards & Approvals

- Manufactured under ISO 9001
- Manufactured under ISO 14001
- CE
- RoHS Compliant
- EAC

WIRING CONNECTIONS

Rear Terminal View



1	-VDC	Power Supply
2	+VDC	
3	NO	SSR1
4	COM	
5	NO	SSR2
6	COM	
7	NO	RELAY1
8	COM	
9	NC	RELAY2
10	NO	
11	COM	
12	NC	
13	+V	Flow Sensor
14	FREQ IN	
15	DIR	
16	GND	
17	+HOLD	Digital Input
18	-HOLD	
19	+REED	
20	-REED	
21	-LOOP2	Analog Output
22	+LOOP2	
23	-LOOP1	
24	+LOOP1	
25	IN+	pH/ORP Input
26		
27	REF	PT100 - PT1000
28		
29		
30		

ORDERING DATA

M9.08 pH/ORP & Flow Monitor and Transmitter						
Part No.	Description /Name	Power supply	Wire power Technology	Sensor Input	Output	Weight (gr.)
M9.08.P1	Panel mount pH/ORP & Flow monitor	12 - 24 VDC	3/4 wire	pH/ORP, Temperature, Flow (Frequency)	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	550
M9.08.W1	Wall mount pH/ORP & Flow monitor	12 - 24 VDC	3/4 wire	pH/ORP, Temperature, Flow (Frequency)	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	650
M9.08.W2	Wall mount pH/ORP & Flow monitor	110 - 230 VAC	3/4 wire	pH/ORP, Temperature, Flow (Frequency)	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	750