

# FLS M9.06

## pH/ORP MONITOR & TRANSMITTER



The new FLS M9.06 is a powerful pH/ORP monitor and transmitter designed to satisfy a broad range of applications. A 4" wide full graphic display shows measured values clearly together with many other useful information. Moreover, due to the multicolor bright backlight, measurement status can be determined easily also from very long distance. A tutorial software guarantees a mistake-proof and fast set up of every parameter. A calibration based on automatic buffer recognition plus a in line adjustment allow to achieve a precise and a reliable measurement in every conditions. FLS M9.06 offers a diagnostic of electrode condition with practical tips for maximizing probe performances. 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 full graphic display
- Multicolor backlight visualization
- Help on board
- Automatic recognition of pH buffers
- In line adjustment
- Analog output for temperature remoting
- Mechanical relay for external device control
- Solid State Relays for programmable alarms
- USB port for software upgrading



# TECHNICAL DATA

## General

- Associated sensors: FLS pH/ORP electrodes and FLS temperature sensors
- Materials:
  - Case: ABS
  - Display window: PC
  - Panel & Wall gasket: silicone rubber
  - Keypad: 5-button silicone rubber
- Display:
  - LC full graphic 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)

## Electrical

- Supply Voltage: 12 to 24 VDC ± 10% regulated
- Max Power Consumption: <300mA
- 2\*Current output:
  - 4-20 mA, isolated, fully adjustable and reversible
  - Max loop impedance: 800 Ω @ 24 VDC - 250 Ω @ 12 VDC

- 2\*Solid State Relay output:
  - User selectable as ON-OFF, Proportional frequency output, Proportional Pulse, 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:
  - User selectable as ON-OFF, Proportional frequency output, Proportional Pulse, Timed Pulse, Off
  - Mechanical SPDT contact
  - Expected mechanical life (min. operations): 10<sup>7</sup>
  - Expected electrical life (min. operations): 10<sup>5</sup> N.O./N.C.switching capacity 5A/240VAC
  - Max pulse/min: 60
  - Hysteresis: User selectable

## Environmental

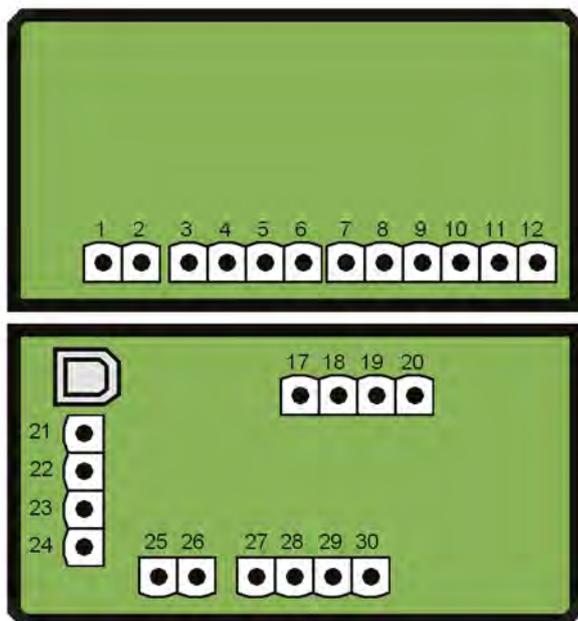
- Operating temperature: -10 to +70°C (+14 to +158°F)
- Storage temperature: -30 to +80°C (-22 to +176°F)
- Relative humidity: 0 to 95% not condensing

## 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     |                  |
| 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 pH | } PT100 - PT1000 |
| 28 |        |                  |
| 29 |        |                  |
| 30 |        |                  |

## ORDERING DATA

| M9.06 pH/ORP Monitor and Transmitter |                            |               |                       |              |   |              |
|--------------------------------------|----------------------------|---------------|-----------------------|--------------|---|--------------|
| Part No.                             | Description /Name          | Power supply  | Wire power Technology | Sensor Input | Output                                  | Weight (gr.) |
| M9.06.P1                             | Panel mount pH/ORP monitor | 12 - 24 VDC   | 3/4 wire              | pH/ORP       | 2*(4-20mA), 2*(S.S.R.), 2*(mech. relay) | 550          |
| M9.06.W1                             | Wall mount pH/ORP monitor  | 12 - 24 VDC   | 3/4 wire              | pH/ORP       | 2*(4-20mA), 2*(S.S.R.), 2*(mech. relay) | 650          |
| M9.06.W2                             | Wall mount pH/ORP monitor  | 110 - 230 VAC | 3/4 wire              | pH/ORP       | 2*(4-20mA), 2*(S.S.R.), 2*(mech. relay) | 750          |