

FLS M9.05

CONDUCTIVITY MONITOR & TRANSMITTER



The new FLS M9.05 is a powerful conductivity monitor and transmitter studied to fit a broad range of applications included ultrapure water process. 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. Measured values can be showed as resistivity or TDS in according with customer needs. A cell constant freely fixable allows to use all types of 2-cell conductivity probe. Two 4-20mA output grants to remote values of conductivity and temperature to external devices. 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
- Softener process
- Filtration systems
- Desalination process
- Demineralized water production
- Reverse osmosis/EDI process
- Cooling water monitoring
- Processing and manufacturing industry
- Chemical production

MAIN FEATURES

- Wide full graphic display
- Multicolor backlight visualization
- Help on board
- UPW temperature compensation
- Cell constant settable freely
- Values in conductivity, resistivity, TDS
- 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 conductivity sensors 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
- Conductivity input range: $0,055 \div 200000 \mu\text{S}/\text{cm}$ (according to the cell constant applied)
- Conductivity measurement accuracy: $\pm 2.0 \%$ of reading value
- Temperature input range: $-50 \div 150^\circ\text{C}$ ($-58 \div 302^\circ\text{F}$) (with Pt100-Pt1000)
- Temperature measurement resolution: $0,1^\circ\text{C}/^\circ\text{F}$ (Pt1000); $0,5^\circ\text{C}/^\circ\text{F}$ (Pt100)

Electrical

- Supply Voltage: 12 to 24 VDC $\pm 10\%$ regulated
- Max Power Consumption: $<300\text{mA}$
- 2*Current output:
 - 4-20 mA, isolated, fully adjustable and reversible
 - max loop impedance: $800 \Omega @ 24 \text{VDC} - 250 \Omega @ 12 \text{VDC}$

- 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): 10^7
 - expected electrical life (min. operations): 10^5N.O./N.C. switching capacity 5A/240VAC
 - max pulse/min: 60
 - hysteresis: User selectable

Environmental

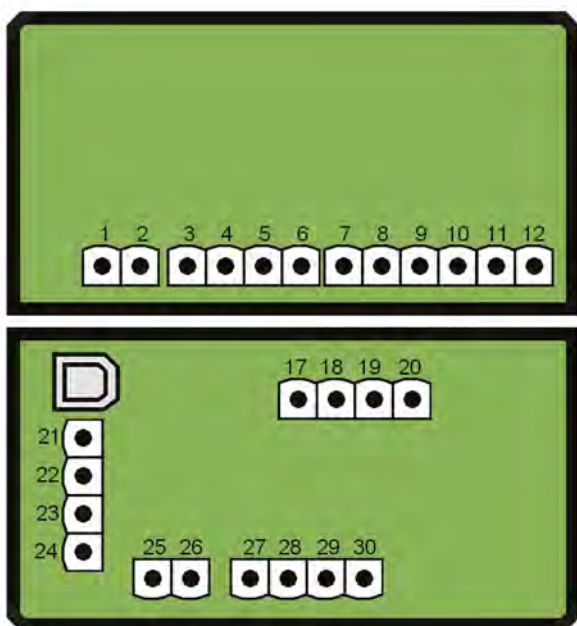
- Operating temperature: -10 to $+70^\circ\text{C}$ ($+14$ to $+158^\circ\text{F}$)
- Storage temperature: -30 to $+80^\circ\text{C}$ (-22 to $+176^\circ\text{F}$)
- Relative humidity: 0 to 95% not condensing

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	Conductivity Sensor
26	REF	
27		PT100 - PT1000
28		
29		
30		

ORDERING DATA

M9.05 Conductivity Monitor and Transmitter						
Part No.	Description /Name	Power supply	Wire power Technology	Sensor Input	Output	Weight (gr.)
M9.05.P1	Panel mount Conductivity monitor	12 - 24 VDC	3/4 wire	Conductivity	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	550
M9.05.W1	Wall mount Conductivity monitor	12 - 24 VDC	3/4 wire	Conductivity	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	650
M9.05.W2	Wall mount Conductivity monitor	110 - 230 VAC	3/4 wire	Conductivity	2*(4-20mA), 2*(S.S.R.), 2*(mech. relay)	750