

# FLS M9.05



Conductivity Monitor and Transmitter



# FLS M9.05

The FLS M9.05 conductivity monitor and transmitter is a powerful device designed for a wide range of applications, including ultrapure water production. A 4" wide full graphic display shows measured values clearly together with a lot of 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. The measured values can be displayed as resistivity or TDS, depending on the needs. The freely settable cell constant allows all types of 2-cell conductivity probes to be used. Two 4-20 mA outputs allow conductivity and temperature values to be sent to remote external devices. Appropriate combination of digital outputs allows customised setups for any process to be controlled. The USB port on the back allows you to update the software with a wide range of customisation services as standard and on-demand.

## CONDUCTIVITY MONITOR AND TRANSMITTER

### APPLICATIONS

- Water treatment and regeneration
- Industrial wastewater treatment and recovery
- Softening
- Filtration systems
- Desalination
- Production of demineralised water
- Reverse osmosis/EDI
- cooling monitoring
- Processing and manufacturing industry
- Chemical production

### MAIN CHARACTERISTICS

- Large graphic display
- Colour backlighting
- On-line help
- Temperature compensation dedicated to the production and use of ultrapure water (UPW)
- Freely settable cell constant
- Values in conductivity, resistivity, TDS
- Analogue output for temperature communication to remote devices
- Mechanical relay and solid state relay for external alarms and for the control of external devices
- USB port for software upgrade

### TECHNICAL DATA

#### General information

**Compatible sensors:** conductivity sensors and temperature sensors

#### Materials:

- Case: ABS
- Display: PC
- Panel and wall gasket: silicone rubber
- 5-button keyboard: silicone rubber

#### Display:

- LCD full graphic
- Backlight version: 3 - colours
- Backlighting activation: User adjustable with 5 levels of timing
- Update rate: 1 second
- Protection class: IP65 front

**Conductivity input range:** 0.055÷200000 µS/cm (according to the applied cell constant)

**Conductivity measurement accuracy:** ±2.0% of reading value

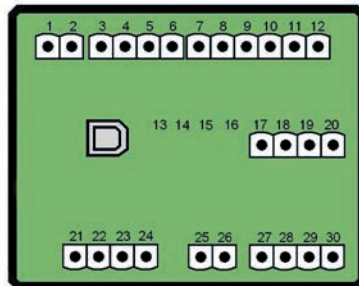
**Temperature input range:** -50÷150 °C (-58÷302 °F) (with Pt100-Pt1000)

**Temperature measurement resolution:** 0.1°C/°F (Pt1000); 0.5°C/°F (Pt100)

<b>Electrical data</b>	<b>Supply voltage:</b> from 12 to 24 VDC $\pm 10\%$ regulated
	<b>Max electrical consumption:</b> < 300 mA
	<b>2 current output:</b> – 4–20 mA, isolated, fully adjustable and reversible – Max loop impedance: 800 $\Omega$ @ 24 VDC – 250 $\Omega$ @ 12 VDC <b>2 solid state relay outputs:</b> – User selectable as ON-OFF, proportional frequency output, proportional pulses, timed pulses, off – Optically isolated, 50 mA max sink, 24 VDC max pull-up voltage – Max pulse/min: 300 – Hysteresis: user selectable
<b>2 relay output:</b> – User selectable as ON-OFF, proportional frequency output, proportional pulses, timed pulses, off – Mechanical SPDT contact – Expected mechanical life (min. operations): $10^7$ – Expected electrical life (min. operations): $10^5$ switching N.A./N.C. capacity 5 A/240 VAC – Max pulse/min: 60 – Hysteresis: user selectable	
<b>Environmental data</b>	<b>Operating temperature:</b> from $-10^{\circ}\text{C}$ to $70^{\circ}\text{C}$ (from $14^{\circ}\text{F}$ to $158^{\circ}\text{F}$ )
	<b>Storage temperature:</b> from $-30^{\circ}\text{C}$ to $+80^{\circ}\text{C}$ (from $-22^{\circ}\text{F}$ to $+176^{\circ}\text{F}$ )
	<b>Relative humidity:</b> from 0 to 95% not condensing
<b>Standards &amp; Approvals</b>	Manufactured under ISO 9001 Manufactured under ISO 14001 CE RoHS Compliance EAC

## ELECTRICAL CONNECTIONS

Rear view of electrical connections



1	-VDC	Power Supply
2	+VDC	
3	NO	SSR1
4	COM	
5	NO	SSR2
6	COM	
7	NO	RELAY1
8	COM	
9	NC	
10	NO	RELAY2
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		

# PRODUCT CODES



## M9.05.PX - M9.05.WX

Conductivity Monitor and Transmitter

Code	Mounting	Power supply	wires power Technology	Sensor Input	Output	Weight (gr.)
M9.05.P1	Panel	12 - 24 VDC	3/4 wires	Conductivity Temperature	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	550
M9.05.W1	Wall	12 - 24 VDC	3/4 wires	Conductivity Temperature	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	650
M9.05.W2	Wall	110 - 230 VAC	3/4 wires	Conductivity Temperature	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	750

S.S.R: solid state relay / mech relay.: mechanical relay