

M9.03



Dual Parameter Flow Monitor and Transmitter



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The FLS M9.03 dual-parameter flow monitor is a powerful device that converts the frequency signal of the flow sensors into flowrate. The M9.03 monitor is equipped with a large 4" graphic display which shows measured values clearly and a lot of other useful information. Moreover, due to a multicolour display plus a powerful backlight, measurement status can be determined easily from afar too. A tutorial software guarantees a mistake-proof and fast set up of every parameter. Calibration can be performed by indicating the installation features or using a reference value through a new "in-line calibration". Two 4-20 mA outputs are available to communicate the flow rate to an external remote device. 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.

DUAL PARAMETER FLOW MONITOR AND TRANSMITTER

APPLICATIONS

- Water treatment plants
- Industrial wastewater treatment and recovery
- Water distribution
- Filtration systems
- Swimming pools and spas
- Irrigation and fertilization
- Leak detection
- cooling monitoring
- Processing and manufacturing industry
- Chemical production

MAIN CHARACTERISTICS

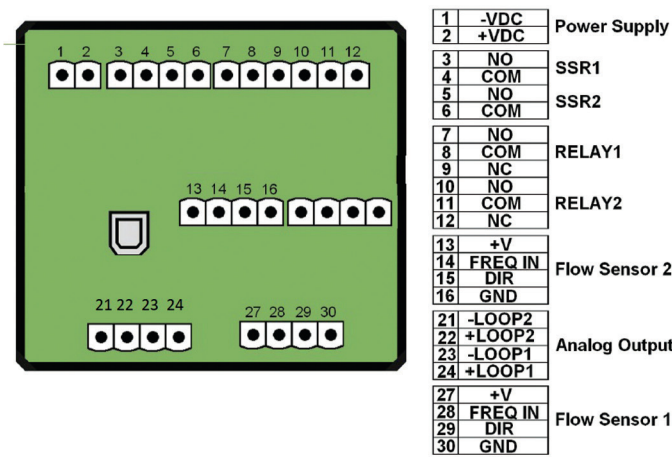
- Large graphic display
- Colour backlighting
- On-line help
- Display of the flow rate delta
- Simple, user-friendly and error-proof calibration software
- Mechanical relays for the control of external devices
- Solid-state relays for programmable alarms
- Multilingual menu
- USB port for software upgrade

TECHNICAL DATA	
General information	Compatible sensors: 2 FLS Hall effect flow sensors with frequency output or FLS F6.60 electromagnetic flow meters
	Materials: <ul style="list-style-type: none">– Case: ABS– Display: PC– Panel and wall gasket: silicone rubber– 5-button keyboard: silicone rubber
	Display: <ul style="list-style-type: none">– LCD full graphic– Backlight version: 3 - colours– Backlighting activation: user adjustable with 5 levels of timing– Update rate: 1 second– Protection class: IP65 front
	Flow input range (frequency): 0÷1500Hz
	Flow input accuracy (frequency): 0.5%

Electrical data	Supply voltage: from 12 to 24 VDC $\pm 10\%$ regulated
	Max electrical consumption: < 300 mA
	FLS Hall effect flow sensor power supply: <ul style="list-style-type: none"> – 5 VDC at < 20 mA – Optically isolated from current loop – Short circuit protected
	2 current outputs: <ul style="list-style-type: none"> – 4–20 mA, isolated, fully adjustable and reversible – Max loop impedance: 800 Ω @ 24 VDC – 250 Ω @ 12 VDC
	2 solid state relay outputs: <ul style="list-style-type: none"> – User selectable as MIN alarm, MAX alarm, pulse output, window alarm, off – Optically isolated, 50 mA max sink, 24 VDC max pull-up voltage – Max pulse/min: 300 – Hysteresis: user selectable
Environmental data	2 relay outputs: <ul style="list-style-type: none"> – User selectable as MIN alarm, MAX alarm, pulse output, window alarm, off – Mechanical Single Pole Double Throw (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
	Operating temperature: from -10°C to 70°C (from 14°F to 158°F)
	Storage temperature: from -30°C to $+80^{\circ}\text{C}$ (from -22°F to $+176^{\circ}\text{F}$)
Standards & Approvals	Relative humidity: from 0 to 95% not condensing
	Manufactured under ISO 9001 Manufactured under ISO 14001 CE RoHS Compliance EAC

ELECTRICAL CONNECTIONS

Rear view of electrical connections



PRODUCT CODES



M9.03.P1 – M9.03.WX

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Code	Mounting	Power supply	wires power Technology	Sensor Input	Output	Weight (gr.)
M9.03.P1	Panel	12 – 24 VDC	3/4 wires	2* Flow (Frequency)	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	550
M9.03.W1	Wall	12 – 24 VDC	3/4 wires	2* Flow (Frequency)	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	650
M9.03.W2	Wall	110 – 230 VAC	3/4 wires	2* Flow (Frequency)	2*(4-20mA) 2*(S.S.R.) 2* (mech. relay)	750

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