

# M9.50

Batch Controller



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FLS M9.50 is a device dedicated to the accurate batching or mixing operations of liquids. A 4" wide full graphic display shows measured values clearly together with a lot of other useful information. The colour display and its powerful backlight allow an easy control of batching process even from very long distance. The software provides assistance to minimise errors and speed up the configuration of all settings. Advanced options are also available to increase accuracy and reduce transfer times. The possibility of setting various volumes (up to 10 transfers) according to certain calibration factors optimises the flexibility of the system and guarantees maximum precision. The special set of outputs allows remote control and monitoring of the transfer system. The USB port on the back allows you to update the software with a wide range of customisation services as standard and on-demand.

## BATCH CONTROLLER

### APPLICATIONS

- Transfer
- Chemical dosing
- Filling
- Mixing
- Batching
- Bottling

### MAIN CHARACTERISTICS

- Large graphic display
- Colour backlighting
- On-line help
- Remote start, stop and resume
- User-friendly setting
- Two-stage transfer
- Alarm and overrun compensation
- No signal alarm
- USB port for software upgrade

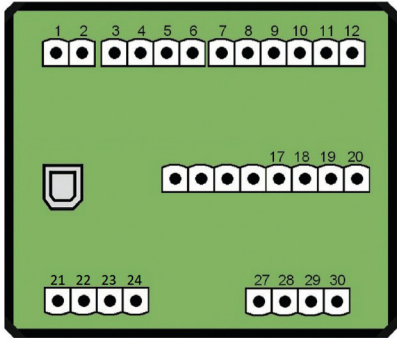
### TECHNICAL DATA

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

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Electrical data</b>           | <b>Supply voltage:</b> from 12 to 24 VDC $\pm 10\%$ regulated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                  | <b>Max electrical consumption:</b> < 300 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                  | <b>FLS Hall effect flow sensor power supply:</b> <ul style="list-style-type: none"> <li>– 5 VDC at &lt; 20 mA</li> <li>– Optically isolated from current loop</li> <li>– Short circuit protected</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                  | <b>2 solid state relay outputs:</b> <ul style="list-style-type: none"> <li>– Optically isolated, 50 mA max sink, 24 VDC max pull-up voltage</li> <li>– Max pulse/min: 300</li> <li>– Hysteresis: selectable by the user as: two-stage transfer, overrun alarm or no signal</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| <b>Environmental data</b>        | <b>2 relay outputs:</b> <ul style="list-style-type: none"> <li>– Mechanical Single Pole Double Throw (SPDT) contact</li> <li>– Expected mechanical life (min. operations): <math>10^7</math></li> <li>– Expected electrical life (min. operations): <math>10^5</math> switching N.A./N.C. capacity 5 A/240 VAC</li> <li>– Max pulse/min: 60</li> <li>– Hysteresis: user selectable</li> <li>– User selectable as: <ul style="list-style-type: none"> <li>OUTPUT1 – Option: two-stage transfer, overrun alarm or no signal</li> <li>OUTPUT2 – Transfer: transfer indication in progress</li> </ul> </li> </ul> |
|                                  | <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<br>Manufactured under ISO 14001<br>CE<br>RoHS Compliance<br>EAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

# ELECTRICAL CONNECTIONS

Rear view of electrical connections



|    |          |                       |
|----|----------|-----------------------|
| 1  | -VDC     | <b>Power Supply</b>   |
| 2  | +VDC     |                       |
| 3  | NO       | <b>SSR2</b>           |
| 4  | COM      |                       |
| 5  | NO       | <b>SSR1</b>           |
| 6  | COM      |                       |
| 7  | NO       | <b>RELAY1</b>         |
| 8  | COM      |                       |
| 9  | NC       | <b>RELAY2</b>         |
| 10 | NO       |                       |
| 11 | COM      | <b>Remote control</b> |
| 12 | NC       |                       |
| 17 | GND      | <b>Flow Sensor</b>    |
| 18 | RESUME   |                       |
| 19 | START    |                       |
| 20 | STOP     | <b>Analog Output</b>  |
| 27 | +V       |                       |
| 28 | FREQ IN  |                       |
| 29 |          |                       |
| 30 | GND      |                       |
| 21 | - LOOP 2 | <b>Analog Output</b>  |
| 22 | + LOOP 2 |                       |
| 23 | - LOOP 1 |                       |
| 24 | + LOOP 1 |                       |

# PRODUCT CODES



**M9.50.PX – M9.50.WX**  
Batch Controller

| Code     | Mounting | Power supply  | Sensor Input     | Output                        | Weight (gr.) |
|----------|----------|---------------|------------------|-------------------------------|--------------|
| M9.50.P1 | Panel    | 12 – 24 VDC   | Flow (Frequency) | 2*(S.S.R.)<br>2*(mech. relay) | 550          |
| M9.50.W1 | Wall     | 12 – 24 VDC   | Flow (Frequency) | 2*(S.S.R.)<br>2*(mech. relay) | 650          |
| M9.50.W2 | Wall     | 110 – 230 VAC | Flow (Frequency) | 2*(S.S.R.)<br>2*(mech. relay) | 750          |

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