

ES099A combined flow, TDS and conductivity meter

TECHNICAL OPERATING MANUAL · PRODUCT CODE ES099A

Functions

- Manual TDS and electrical conductivity measurement
- Automatic TDS and electrical conductivity monitoring
- Real-time flow-rate display
- Totalized flow volume
- 1" BSP male connections; 3/4" BSP adapters supplied
- Battery operated; low-battery warning and data retention

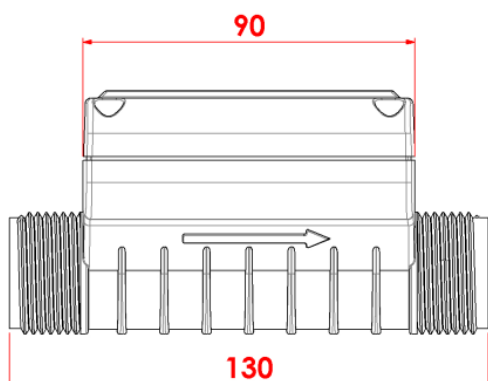
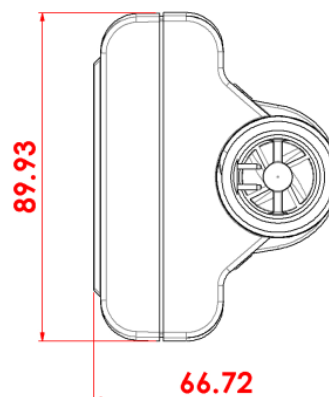
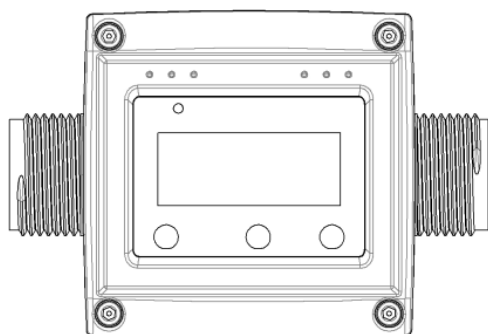


Application

Industrial water-treatment systems.

Dimensions (mm)

All drawing dimensions are in millimetres.



Technical data and start-up

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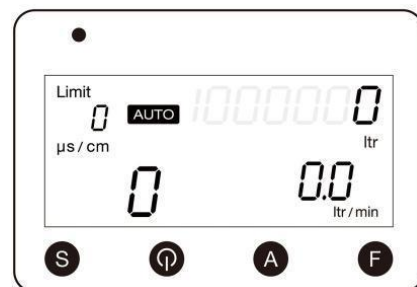
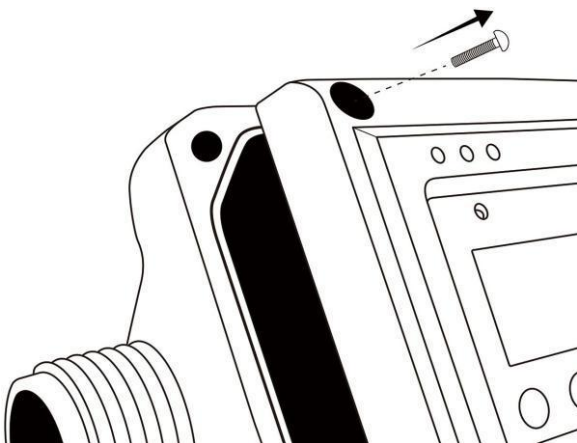
Technical data

Electrical	
Operating power	4.5 V DC; 3 × AAA alkaline batteries
Current draw	10 mA (operating); 30 µA (standby)
Flow measurement	
Flow range	3–100 L/min (0.8–26.4 US gal/min)
Totalized volume	1–1,999,999 L / 1–1,999,999 gal
Accuracy	±10%
Installation and materials	
Mounting	Horizontal to vertical; front panel rotates to 90°, 180° or 270°
Connections	1" BSP male or 3/4" BSP with adapters
Water temperature	0–80 °C
Maximum working pressure	1 MPa
Burst pressure	3 MPa
Sensor body	PA66 polyamide, reinforced with 50% glass fibre
Other wetted parts	PA-composite turbine; #304 stainless-steel shaft and probe; POM turbine holder

Operating instructions

1. Installing the batteries

Remove the front-case screws and install three AAA alkaline batteries in the battery holder. The front panel can be rotated to 90°, 180° or 270° for easier reading.



2. Selecting litre or US-gallon mode

ES099A uses litres by default. To switch to US gallons, press and hold button F while installing the batteries until a beep sounds. The display shows "gal/min".

Operating instructions • continued

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3. Switching on and off

Press and hold the power button for three seconds to switch the meter on or off.

4. Selecting TDS or conductivity mode

ES099A starts in conductivity mode and displays “µS/cm”. Press the power button to switch between electrical conductivity and TDS (total dissolved solids).

5. Measuring flow

ES099A displays real-time flow rate and totalized volume. The maximum totalized volume is 1–1,999,999 L (or gal).

6. Manual TDS/conductivity measurement

Press button A to measure and display TDS or conductivity. The maximum reading is 1999 ppm for TDS and 1999 µS/cm for conductivity.

7. Automatic TDS/conductivity monitoring

Press button S to set the TDS or conductivity alarm threshold. The setting increment is 10 ppm for TDS and 15 µS/cm for conductivity. Press and hold S to reset the threshold to zero. After setting the threshold, press A for a manual measurement and press A again to start automatic monitoring. “AUTO” appears on the display. Measurement takes place after every 10 L of flow. Below the threshold, the green indicator flashes for 30 seconds. Above the threshold, the red indicator flashes and the audible alarm sounds.

8. Automatic/manual mode

Press button A to switch between automatic and manual TDS/conductivity measurement.

9. Cancelling the alarm

Press button A and select manual mode to cancel the alarm state.

10. Low-battery warning

When battery power is low, the empty-battery symbol flashes on the display. Replacing the batteries cancels the warning. The latest data remain in memory and are restored after a power interruption.