FLS F3.00.W
WIRELESS PADDLEWHEEL FLOW SENSOR

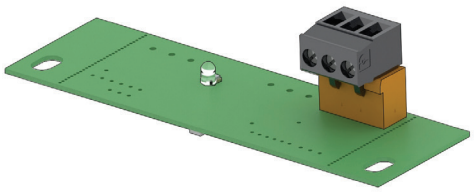
The new FLS Wireless Paddlewheel Flow Sensor F3.00.W is an innovative system for flow monitoring based on Bluetooth® Low Energy transmission technology.
The paddlewheel flow sensor is provided with an integrated transmitter that communicates with the receiver. The receiver is compatible with FLS monitors or other devices which can provide digital inputs.
The FLS F3.00.W is a reliable solution for every kind of solid-free liquid.
Easy and quick to install, it is suitable for pipes in different materials, sized from DN15 to DN600 (0.5" to 24").
It can cover also long operating distances up to 100 meters and work in presence of electromagnetic interferences generated by devices like pumps or inverters.
Besides thanks to the auto-diagnostic system, the user is always informed about the lack of signal and the exhausted battery.

APPLICATIONS

- Industrial water and wastewater treatment
- Cooling water systems
- Swimming pools
- Flow control and monitoring
- Water regeneration plant
- Processing and manufacturing industry
- Water distribution
- Irrigation and agriculture

MAIN FEATURES

- High chemical resistance
- Pipe size range: from DN15 (0,5") to DN600 (24")
- Low pressure drop
- Self-pairing system
- Self-diagnostic check and reporting
- High Electromagnetic interference immunity
- Long operating distance



TECHNICAL DATA

General

• Pipe Size Range: DN15 to DN600 (0.5” to 24”) Please refer to Installation Fittings section on FLS catalogue for more details
• Flow Rate Range: 0.15 to 8 m/s (0.5 to 25 ft/s)
• Linearity: ± 0.75 % of full scale
• Repeatability: ± 0.5 % of full scale
• Minimum Reynolds Number Required: 4500
• Enclosure: IP65
• Wetted Materials:
- sensor Body: CPVC, PVDF, 316L SS
- o-rings: EPDM or FPM
- rotor: ECTFE (Halar®)
- shaft: Ceramic (Al_2O_3)/ 316L SS (only for metal sensors)
- bearings: Ceramic (Al_2O_3)

Electrical

•Transmitter:
- Power Supply: 3.6 volt Lithium Thionylchloride Battery, size C, 8.5 AHr
- Battery life: nominal 2 years
• Receiver:
- Power Supply: 5-24 VDC +- 10%@20mA
- Output signal for flow and for signal lack:
  ▪ square wave
  ▪ frequency: 45Hz per m/s nominal (13,7 Hz per ft/s nominal)
  ▪ type: transistor NPN open collector
- Output signal for low battery:
  ▪ type: NPN open collector
  ▪ max pull-up voltage: 24V DC
  ▪ max current: 50mA
  ▪ battery level: 0VCC low battery +VCC fully charged

Environmental

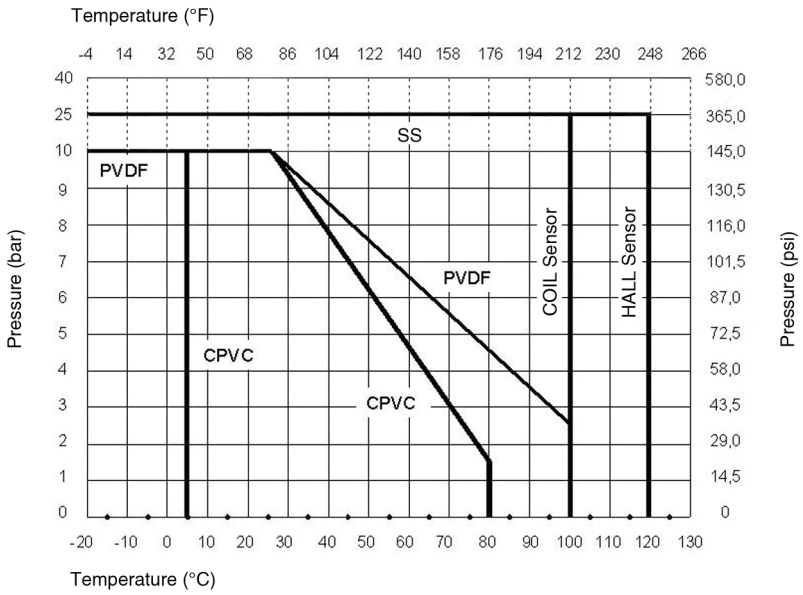
• Operating temperature: -20 to +70°C (-4 to 158°F)
• Storage temperature: -30 to +80°C (-22 to 176°F)
• Relative humidity: 0 to 95% not condensing

Standards & Approvals

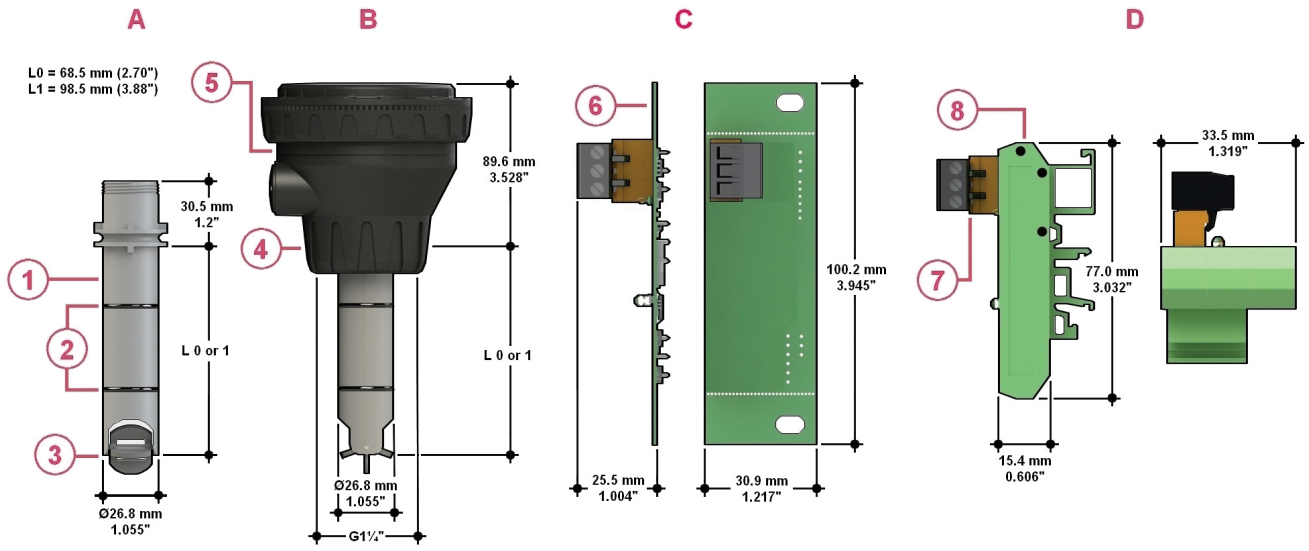
• Manufactured under ISO 9001
• Manufactured under ISO 14001
• CE
• RoHS Compliant
• GOST R

Maximum Operating Pressure / Temperature (25 years lifetime)

• CPVC body:
- 10 bar (145 psi) @ 25°C (77°F)
- 1,5 bar (22 psi) @ 80° C (176°F)
• PVDF body:
- 10 bar (145 psi) @ 25°C (77°F)
- 2,5 bar (36 psi) @ 100°C (212°F)
• SS body:
- 25 bar (363 psi) @ 100°C (212°F)



DIMENSIONS



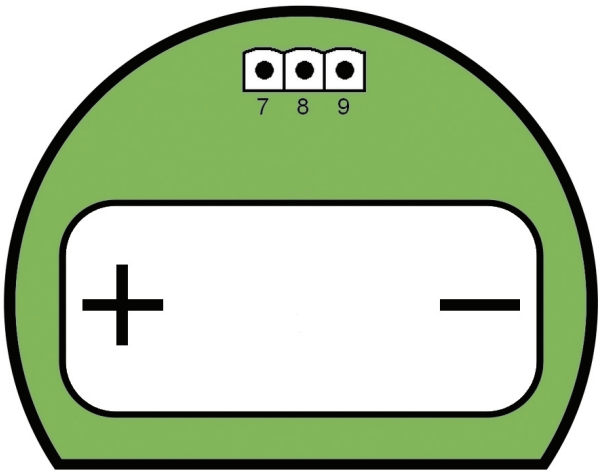
A Sensor body
B F3.00.W Paddlewheel Flow transmitter
C Receiver PCB
D Receiver + DIN bar adapter

1 Sensor body PVCC, PVDF, 316L SS
2 O-Ring (EPDM or FPM)
3 Halar Rotor, Ceramic shaft & bearings for PVDF and PVC-C version and 316 SS Shaft for metal version
4 ABS cap for installation into fittings

5 Electronic box
6 PCB
7 Connectors
8 DIN bar case adapter

WIRING CONNECTIONS

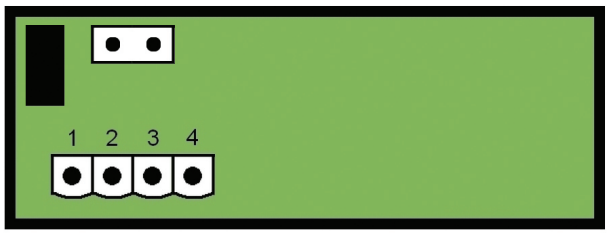
Rear Terminal View



Transmitter

7	GND
8	FREQ IN
9	+V

Flow Sensor



Receiver

1	5-24 VDC
2	FREQ OUT
3	GND
4	BATT LOW

ORDERING DATA

F3.00.W.XX Wireless Paddlewheel Flow Sensor							
Part No.	Version	Power supply	Length	Main wetted materials	Enclosure	Flow Rate Range	Weight (gr.)
F3.00.W.13	Hall	See electrical data section	L0	CPVC/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F3.00.W.14	Hall	See electrical data section	L0	CPVC/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F3.00.W.15	Hall	See electrical data section	L1	CPVC/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F3.00.W.16	Hall	See electrical data section	L1	CPVC/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F3.00.W.17	Hall	See electrical data section	L0	PVDF/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F3.00.W.18	Hall	See electrical data section	L0	PVDF/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F3.00.W.19	Hall	See electrical data section	L1	PVDF/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F3.00.W.20	Hall	See electrical data section	L1	PVDF/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F3.00.W.21	Hall	See electrical data section	L0	316SS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F3.00.W.22	Hall	See electrical data section	L0	316SS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F3.00.W.23	Hall	See electrical data section	L1	316SS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000
F3.00.W.24	Hall	See electrical data section	L1	316SS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000