

Waterpilot® FMX11 Hydrostatic Submersible Level Transmitters

Part No. **FMX11-CA11DS06**

Endress+Hauser Waterpilot FMX11 hydrostatic submersible level transmitters provide continuous liquid level measurement by sensing the hydrostatic pressure produced by the height of liquid above the sensor and providing a 4-20 mA output signal compatible with PLCs, panel meters, data loggers, and other electronic equipment. The Waterpilot FMX11 has a slim 22mm diameter stainless steel housing and a cap for protection of the sensor diaphragm making it ideally suited for freshwater applications. The shielded extension cable includes an atmospheric pressure compensation tube with Teflon filter and a tough abrasion-resistant TPE jacket that is UV-resistant. Accessories include a terminal box, additional weight and suspension clamp.

Features

- Ideally suited to freshwater applications
- Durable 316 SS construction for reliability and long life
- Shielded cable with atmospheric pressure compensation tube and Teflon filter
- Pre-calibrated ranges up to 2 bar (66.9 ftWC) to meet the most common submersible level applications in vented tanks, reservoirs and ground water systems
- $\pm 0.35\%$ accuracy for ranges ≥ 0.4 bar; $\pm 0.5\%$ accuracy for 0.2 bar range
- Environmental protection rating of IP68
- The Waterpilot FMX11 is cULus Listed and NSF Certified for drinking water applications

Applications

- Drinking water level in water towers
- Liquid level in vented tanks
- Groundwater wells
- Pump control
- River and lake water surface monitoring



Click on the thumbnail or go to
<https://www.automationdirect.com/VID-LE-0017> for a short video on
 Endress+Hauser Waterpilot Hydrostatic Submersible Level Transmitters



Waterpilot FMX11 Hydrostatic Submersible Level Transmitter Selection

Model	Description	Sensing Range	Wetted Parts	Output	Connection	Shielded/ Vented	Price	Weight (lbs)	Drawing Link	Vendor Operating Instructions	
FMX11-CA11DS06	Hydrostatic submersible level transmitter	0 to 0.2 bar (6.7 ft of water column)	316L	4-20 mA	6m (19.7 ft) cable	Yes	\$05x_b:	1.3	PDF	PDF	
FMX11-CA11FS10		0 to 0.4 bar (13.4 ft of water column)			10m (32.8 ft) cable		\$05x_c:	1.6	PDF	PDF	
FMX11-CA11GS10		0 to 0.6 bar (20.1 ft of water column)					\$05x_d:	1.5	PDF	PDF	
FMX11-CA11HS20		0 to 1 bar (33.5 ft of water column)			20m (65.6 ft) cable		\$05x_e:	2.3	PDF	PDF	
FMX11-CA11KS30		0 to 2 bar (66.9 ft of water column)			30m (98.4 ft) cable		\$;05x_f:	3.0	PDF	PDF	

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FMX11 Submersible Level Transmitter Specifications	
Accuracy	Sensor measuring range $\geq 400\text{mbar}$: $\leq \pm 0.35\%$ Sensor measuring range $< 400\text{mbar}$: $\leq \pm 0.50\%$
Long-Term Stability	$\leq 0.1\%$ of URL/year
Wetted Materials	316L, POM, EPDM, TPE
Process Temp. Range	0 to $+70^{\circ}\text{C}$ ($+32$ to $+158^{\circ}\text{F}$)
Thermal Error	Thermal change in the zero output and the output span: -10 to $+70^{\circ}\text{C}$ ($+14$ to 158°F): $< (0.4 + 0.4 \times \text{TD})\%$ of set span Temperature coefficient (TK) of the zero output and the output span: 0 to $+70^{\circ}\text{C}$ (32 to 158°F): $0.15\%/10\text{ K}$ of URL
Protection Rating	IP68
Input Voltage	8 to 28 VDC
Input Current	$\leq 22\text{mA}$
Output	4 to 20 mA
Output Resolution	$4.88\text{ }\mu\text{A}$
Output Impedance	727Ω at 24VDC
Mounting	Vertical
Circuit Protection	Overvoltage protection to EN 61000-4-5 (2kV asymmetrical)
Cable Jacket Material	TPE (Thermoplastic Elastomer)
Cable Pull Strength	500N (112.4 lbf) Max Cable extraction force (tensile force required to extract the cable from the probe): $\geq 400\text{ N}$ (89.92 lbf)
Number of Conductors	2 + 1 drain (shielded cable)
Conductor Size	0.22 mm^2
Vent Tube	Teflon filter: External diameter of 2.5 mm (0.1 in), Internal diameter of 1.5 mm (0.06 in)
Agency Approvals	cULus, NSF, CE

Note: For Wiring and Installation information refer to the additional Vendor Operating Instruction PDF.

Waterpilot® Hydrostatic Submersible Level Transmitter Accessories

Accessories

Part No. [52006152](#)Part No. [52006153](#)Part No. [52006151](#)Part No. [71222671](#)

Waterpilot Level Transmitter Accessories					
Model	Description	Price	Weight (lbs)	Drawing Link	Vendor Instructions
52006152	Endress+Hauser terminal box, for use with Endress+Hauser Waterpilot FMX11 and FMX21 hydrostatic submersible level transmitters.	\$-05x_l:	0.6	PDF	N/A
52006153	Endress+Hauser weight, for use with Endress+Hauser Waterpilot FMX11 hydrostatic submersible level transmitters.	\$5x_n:	0.7	PDF	N/A
52006151	Endress+Hauser suspension clamp, for use with Endress+Hauser Waterpilot FMX11 and FMX21 hydrostatic submersible level transmitters.	\$5x_o:	0.5	PDF	N/A
71222671*	Endress+Hauser cable shortener, for use with Endress+Hauser Waterpilot FMX21 hydrostatic submersible level transmitters.	\$5x_p:	0.1	N/A	PDF

** If the cable is shortened or modified the FMX21 is no longer FM approved. The shortening kit should only be used when FM approval is not required for the device. To maintain FM the additional cable length should be coiled and secured.*

- To avoid moisture migration in the pressure compensation tube of the FMX11 and FMX21, the cable must be terminated in a dry room or terminal box. The terminal box accessory is IP66/67 rated and includes a GORE-TEX filter element providing both humidity and climatic protection even if installed outdoors.
- The additional weight accessory for the FMX11 helps prevent sideways movement of the sensor that can result in measuring error, or can make it easier to lower the sensor in a guide tube. The additional weight accessory does not fit the FMX21.
- The suspension clamp accessory provides for easy mounting of the FMX11 or FMX21. Simply secure the sensor cable between the clamping jaws and attach the suspension clamp to an appropriate fastening point.
- The cable shortening kit is used to easily and professionally shorten the FMX21 cable including the conductors and the pressure compensation tube. If the cable is shortened or modified the FMX21 is no longer FM approved. The shortening kit should only be used when FM approval is not required. The cable shortening kit is not suitable for the FMX11. Alternatively any extra cable length can simply be coiled and secured.