

Waterpilot® FMX21 Hydrostatic Submersible Level Transmitters


 Part No. [FMX21-FE121DGB10A](#)

Endress+Hauser Waterpilot FMX21 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 heavy-duty Waterpilot FMX21 is ideally suited for wastewater applications, offering an easy-to-clean, flush-mounted, process-isolating sensor diaphragm; a rugged 42mm diameter stainless steel housing; and a diaphragm protection cap. The shielded extension cable includes an atmospheric pressure compensation tube with Teflon filter and a tough abrasion-resistant, low-density polyethylene jacket that is UV-resistant. Accessories include a terminal box, suspension clamp, and cable shortener.

Features

- Ideally suited for wastewater applications
- Durable 316 SS construction for reliable, long life in harsh environments
- Easy-to-clean, flush-mounted, process-isolating sensor diaphragm with protection cap
- 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 waste water submersible level applications
- ±0.2% accuracy
- Environmental protection rating of IP68
- The Waterpilot FMX21 includes FM hazardous location approvals for intrinsically safe applications

Applications

- Wastewater
- Lift station monitoring
- Liquid level in vented tank
- Landfill leachate monitoring
- Construction by-pass pumping
- Dewatering
- Pump control
- Slurry tank liquid level



Waterpilot FMX21 Hydrostatic Submersible Level Transmitter Selection										
Model	Description	Sensing Range	Wetted Parts	Output	Connection	Shielded/Vented	Price	Weight (lbs)	Drawing Link	Vendor Operating Instructions
FMX21-FE121DGB10A	Hydrostatic submersible level transmitter	0 to 0.2 bar (6.7 ft of water column)	316L	4-20 mA	10m (32.8 ft) cable	Yes	\$1,039.00	7.3	PDF	PDF
FMX21-FE121FGB10A		0 to 0.4 bar (13.4 ft of water column)					\$1,039.00	7.3	PDF	PDF
FMX21-FE121GGB10A		0 to 0.6 bar (20.1 ft of water column)					\$1,039.00	7.5	PDF	PDF
FMX21-FE121HGB11A		0 to 1 bar (33.5 ft of water column)			\$1,095.00		8.4	PDF	PDF	
FMX21-FE121KGB15A		0 to 2 bar (66.9 ft of water column)			\$1,206.00		9.6	PDF	PDF	

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FMX21 Submersible Level Transmitter Specifications	
Accuracy	± 0.2 % (In accordance with IEC 60770)
Long-Term Stability	≤ 0.1 % of URL/year ≤ 0.25 % of URL/5 years
Wetted Materials	316L, PFA, FKM, Al ₂ O ₃ (Aluminum oxide ceramic), PE
Process Temp. Range	-10 to +70°C (+14 to +158°F)
Thermal Error	Thermal change in the zero output and the output span: 0 to 30°C (+32 to 86°F): < (0.15 + 0.15 x TD)% of set span -10 to +70°C (+14 to 158°F): < (0.4 + 0.4 x TD)% of set span Temperature coefficient (TK) of the zero output and the output span -10 to +70°C (+14 to 158°F): 0.1 % / 10 K of URL
Protection Rating	IP68
Input Voltage	10.5 to 35VDC / 10.5 to 30VDC (hazardous area)
Input Current	≤ 23mA
Output	4 to 20 mA
Output Resolution	1µA
Output Impedance	587Ω at 24 VDC
Mounting	Vertical
Circuit Protection	Overvoltage protection as per EN 61000-4-5 (500V symmetrical/1000V asymmetrical)
Cable Jacket Material	PE (Polyethylene)
Cable Pull Strength	950N (213.56 lbf) Max Cable extraction force (tensile force required to extract the cable from the probe): ≥ 400 N (89.92 lbf)
Number of Conductors	2 + 1 drain (shielded cable)
Conductor Size	0.14 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	FM, 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.	\$94.00	0.6	PDF	N/A
52006153	Endress+Hauser weight, for use with Endress+Hauser Waterpilot FMX11 hydrostatic submersible level transmitters.	\$67.00	0.7	PDF	N/A
52006151	Endress+Hauser suspension clamp, for use with Endress+Hauser Waterpilot FMX11 and FMX21 hydrostatic submersible level transmitters.	\$74.00	0.5	PDF	N/A
71222671*	Endress+Hauser cable shortener, for use with Endress+Hauser Waterpilot FMX21 hydrostatic submersible level transmitters.	\$81.00	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.