

FL 510 - Industrial humidity transmitter

The FL 510 is equipped with a capacitive humidity sensor that provides long-term stable, accurate measurement results. Two analog outputs are available for the output of relative humidity and process temperature.



Special Advantages:

- Stable and accurate measurement results over the long term
- High-precision measurement of relative humidity and process temperature, as well as calculation of various humidity variables such as absolute humidity [g/ m³]; moisture content [g/kg], or moisture content [ppmV/V]
- Two freely configurable analog outputs, 4...20 mA
- Modbus-RTU (RS 485)
- Media-independent measurement, in non-corrosive gases

Typical application is the measurement of residual moisture in:

- Measurement of humidity in gas pipes or storage tanks
- Moisture from phase change processes (evaporation)
- Measurement of humidity in inert gas environments (e.g., nitrogen or argon)
- Electronics production in an inert gas atmosphere
- Laboratories with special gas requirements

Example order code FL 510:

[0699 0200_A1_B1_C1](#)

Process connection	
A1	G 1/2"
A2	1/2" NPT
Scaling analog output 1	
B1	Relative humidity [%rF]
Scaling analog output 2	
C1	Temperature T (°C)
C2	Temperature T (°F)

Example order code cable for FL 510:

[0553 0145_A1](#)

Cable 8-pin	
A1	5 m (16 ft)
A2	10 m (32 ft)
A3	variable on request

ACCESSORIES	ORDER -NR.
CS service software FL 510 incl. interface cable to the PC (USB) and plug-in power supply - for configuration / parameterization of the FL 510	0554 2010

TECHNICAL DATA FL 510	
Humidity measuring range:	0...100 % rH
Accuracy (0...90 %rH):	±1.8%rF at +74 °F
accuracy (90...100 %rH):	typical ± 2 % rH at +74 °F
Temperature measuring range:	32...257 °F
Temperature accuracy:	±0.4 °F
Process temperature:	-4...+257 °F
Ambient temperature:	-4...+158 °F
Maximum pressure:	Up to 4350 psi
Interfaces:	2 x analog output 4...20 mA (3-wire-technology), Modbus RTU (RS 485)
Power supply:	24 VDC (10...36 VDC)
Protection class:	IP 66
EMV:	To DIN EN 61326-1
Thread material:	1.4404
Material perforated cap:	1.4301
Connection:	M12, 8-pin