

HYGROPHIL Z 1701-41

- Measuring probe for humidity and oxygen in gases.
- Patented “Dual Zircon Oxide Sensor” principle.
- Reliable measurements in dusty and dirty environments.
- No interference’s or side effects by third gases.
- Maintenance-free.
- CAN-Bus
- Autocal-Function



Description

The process hygrometer HYGROPHIL Z 1701-41 is designated as a measuring probe in gases according to the patented dual-element-operation based on zirconoxid-sensors.

Beside an analog output the device has a CAN-bus interface.

Application

Monitoring and controlling of the humidity in gases results in equal high quality. Efficient energy use and under-passing admissible emission limits in many industrial processes are easily achieved.

Due to no need of maintenance for the process hygrometer HYGROPHIL Z 1701-41, it is suitable for permanent operation in industrial processes.

Examples for applications:

- Textile dryers
- Baking ovens
- Drying covers
- Hot air tunnels
- Ceramic dryers
- Smoke chambers
- Food industry
- Pet food dryers
- Roasting plants
- Calcinating furnaces
- Plasterboard dryers
- Rotary kilns
- Kaolin dryers
- Sand and mineral dryers

Function

The HYGROPHIL Z is different than conventional hygrometers. The influence or side effects of third gases, such as CO₂ are almost eliminated by the patented Dual Zircon Oxide sensor principle.

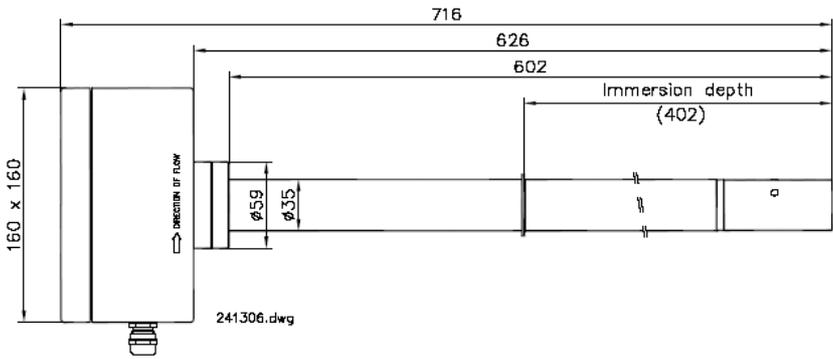
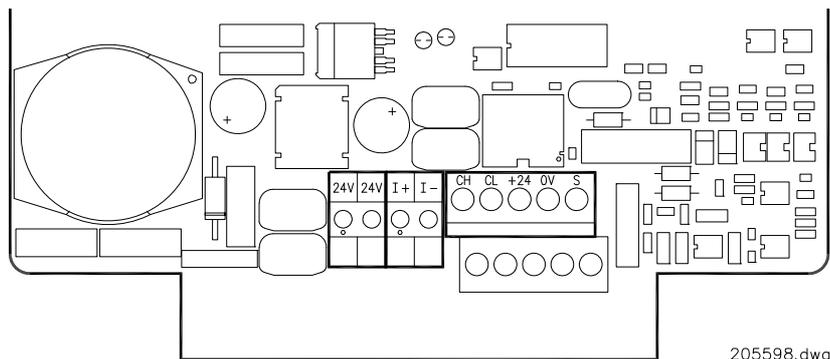
Accuracy and long term stability are improved considerably.

Helps or reference air, calibration gas or cooling equipment (as for conventional methods) are no more necessary.

The sensor is maintenance-free and very easy to install.

For integration several measuring probes a CAN-bus interface is available. The measuring probe can be switched to single-sensor-operation. In this operation mode the moisture content of the sample gas will be determined by the oxygen content. The extrinsic gas contingent is adjustable. A recalibration can also be conducted locally at compartment air.

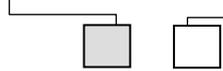
Technical data

Device-specific data	
Calibration temperature	200 °C, 300 °C
Useful measurement ranges of sensor	0.2...95 Vol% H2O; 0...98°C DT*; 1...1000 g/kg MH; 0.2...25 Vol% O2; *additional computing error for DT: 20°C<DT<50°C: ±2 °C DT; 50°C<DT<100°C: ±0,5 °C DT
Programming via DIL switches	Output: 0/4...20 mA Measurement ranges: [0...25 % O2] 0...100 °C DT, 0...25% H2O; 0...50% H2O; 0...100% H2O; 0...250 g/kg MH; 0...500 g/kg MH; 0...1000 g/kg MH specific measurement ranges on request
Reproducibility	±0.2 Vol% H2O
Measurement error limits	1 Vol% H2O
Temperature effect of electronics	Max. 0,025%/K
Response time	t63 =25 s (for air in movement)
Warm-up time	approx. 10 min after a cold start and a power failure
Electrical data	
Auxiliary energy	AC/DC 24V +10%,-15%, 35 VA; PG 9, screw-type terminals (Top/Top)
Interfaces	CAN bus
Output	Isolated analog output, 0/4...20 mA; 12 bit resolution; load max. 500 Ω; PG 9, screw-type terminals (Top/Top)
Mechanical data	
Case	Die-cast aluminium case, 160 x 160 x 91 mm Protection type: IP 65
Sensor	Installation diameter/standard length see drawing! Special lengths on request Material: stainless steel (material no.: 1.4305)
Weight	2,8 kg
Dimensions of standard sensor	 <p style="text-align: center; font-size: small;">241306.dwg</p>
Connecting diagram	 <p style="text-align: right; font-size: small;">205598.dwg</p>

Accessories	
<p>Mounting flange Type 1700-106</p> <p>Material: AlMgSi0,5</p>	<p>mz170008.dwg</p>
<p>Mounting flange „DIN-flange“ Type 1700-107,</p> <p>Material: AlMgSi0,5</p>	<p>207911.dwg</p>
<p>Mounting flange Type 1700-110</p> <p>Material: AlMgSi0,5</p>	<p>245408.dwg</p>
<p>Filter for splash protection Type 1700-109</p> <p>Material: PTFE</p>	

Accessories**Ordering Details****Humidity sensor, type 1701-41**

Operating temperature	Code	Installation position
200 °C	1	Nominal length in dm (e.g. 04 = 4 dm = 0,4 m)
300 °C	2	

**Order no.****U 332 1 1701 41****Standard installation position 400 mm**

Description	Order no.
Test certificate (for new devices or recalibrated devices)	U09073321701
Accessories	Order no.
Mounting flange, type 1700-106 (screw-hole circle diameter of mounting holes 80 mm)	U33211700106
Mounting flange, type 1700-107 (DIN-flange screw-hole circle diameter of mounting holes 110 mm)	207911
Mounting flange, type 1700-110 (screw-hole circle diameter of mounting holes 80 mm)	245408
Filter for splash protection, type 1700-109	219638