

Conductivity Probe (Smart Sensor)



The Züllig conductivity measuring system is designed for continuous operation. The dependable performance of the LF-S-25 system has been proved many times even in harsh environments.

Applications

- Drinking water
- Sewage treatment plants
- Industrial waste water
- Water supply
- Galvanizing plants
- Process controls
- Beverage industry
- Sea water



Submersion type

Advantages

- Ideal for applications in dirty and aggressive fluids
- No polarization effects
- Pre-amplifier integrated in probe
- Potential separation from measuring medium
- Connection cable up to 300 m
- Low maintenance costs
- Rugged design (Swiss made)
- Optimal performance with Züllig transmitters

LF-S-25

Parameters

- Compensated conductivity LF
- Effective conductivity LF₀
- Temperature

LF-S-25 Zone Ex 2 Ex II 3G EEx nL IIC T6

Measuring ranges in mS/cm:

0...	1	2	5	
0...	10	20	50	
0...	100	200 ¹⁾	500 ¹⁾	1000 ¹⁾

¹⁾ Special measuring ranges available by factory

Features

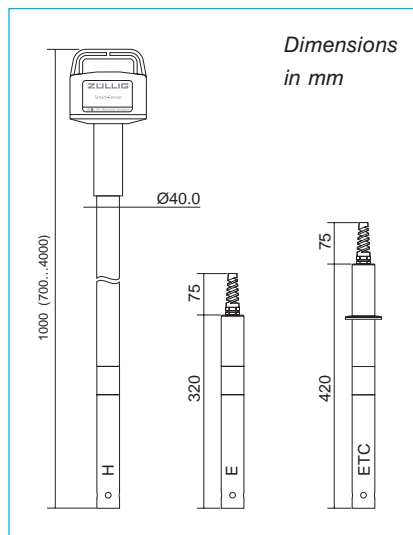
- User-friendly, low maintenance
- Electrodeless probe
- Wide measuring range
- Large variety of probe configurations
- Uninterrupted performance
- Helps fulfill protection agency regulations
- Temperature compensated
- Integrated microprocessor
- Fully encapsulated pre-amplifier
- Polypropylen body
- Designed to be integrated into a series of different measurement points with Züllig transmitters
- Digital data transfer
- Bus system capable

State-of-the-art technology for continuous operation

Measuring principle

The LF-S-25 is an inductive (electroless) sensor. Two torroids (transmitter and receiver) are inductively linked together through the measuring medium. Since there is no direct contact with the measuring medium, problems such as fouling, coating, etc. are eliminated. The temperature of the fluid is measured in the sensor, thus enabling a fully automatic conversion of conductivity into a reference temperature.

Dimensions



From left: Type H, Type E and Type ETC

Ex Zone 2 LF-S-25

Specifications

Maximum pressure 5 bar
 Ambient temperature 0...70 °C (inside of Ex-Zone 0...40 °C)
 Standard measuring ranges

0... 1	2	5	
0... 10	20	50	
0... 100	200 ¹⁾	500 ¹⁾	1000 ¹⁾

¹⁾ Special measuring ranges available by factory

Resolution < 0,05 %
 Nonlinearity < 0,4 %
 Temperature drift < 0,05 %/°C
 Sensor clearance zone polydirectional wall distance to sensor > 2 cm
 Classification Ex Zone Group II, category 3, to use at Ex Zone 2
 Certifications CE **Ex** II 3G EEx nL IIC T6
 Application in fluid media

Temperature measurement

Measuring range 0...100 °C
 Accuracy < ±0,4 °C
 Resolution 0,1 °C
 Response time to deviation < 1% < 10 minutes

Electrical Data

Power Supply 18...27 VDC / 150 mA max.
 Current output approx. 40 mA
 Signal type 1...5 mA
 Cable 10 m (Züllig System 2000), cable length max. 300 m
 Plug System 2000-S (optional)

Mechanical Data

Diameter 40 mm
Standard probe length:
 With end piece 320 mm
 With hood 1000 mm
Special lengths (intervals of 100 mm):
 With end piece 500...4000 mm
 With hood 900...4000 mm
 Quick change version Tri-Clamp® (optional)

Wetted materials

Shaft PP
 Sealings: NBR
 Temperature sensor steel DIN 1.4435

