ULTRASONIC LEVEL MEASUREMENT / DATA SHEET

SS402-05
Intelligent Ultrasonic Level Meter

Integrated ultrasonic probe for non-contact liquid and material-level measurement.

Overview

- SS402-05 is an integrated intelligent ultrasonic level meter for non-contact distance measurement.
- The sensor combines the measuring element with a built-in intelligent circuit control system.
- It measures the distance from the sensor to the surface of liquids or other objects without contacting the medium.
- The compact probe is easy to install and maintain for common level-measurement duties.
- RS485 communication and RS485 + 4-20 mA output configurations are available from the source material.



Range	Accuracy	Output	Current
0~5...10 m	0.3-1%FS	RS485 / 4-20 mA	30 mA
Supply	**Temperature**	**Protection**	**Line**
12-30 VDC	-20 to +60 °C	IP67	2 m

Key Advantages

- Non-contact ultrasonic measurement avoids contact with the medium.
- Reliable and cost-effective measurement for common level-measurement requirements.
- Integrated construction combines the probe and intelligent circuit control system.

Application Scenarios

- Material level measurement.
- Liquid level measurement.
- Non-contact level monitoring for clean water, sewage, glue, mud and channel flow.

Measurement Principle

SS402-05 uses ultrasonic sensing to measure the distance from the probe to the surface of liquids or other objects without contacting the medium. The integrated sensor and intelligent circuit control system support easy installation, maintenance and non-contact level measurement.

Technical Specifications

Parameter	Specification	Parameter	Specification
Measuring range	0~5...10 m	**Output signal**	RS485 (Modbus RTU communication protocol); RS485 + 4-20 mA
Working current	30 mA @ 12 VDC	**Operating temperature**	-20 to +60 °C
Power consumption	<0.25 W	**Line length**	2 m
Supply voltage	12-30 VDC	**Working frequency**	40 kHz ±5%
Accuracy	0.3%-1%FS	**Shell material**	PC

Parameter	Specification	Parameter	Specification
Response time	≤1 s	**Working pressure**	≤0.3 MPa
Blind spot	≤40 cm	**Protection level**	Probe IP67
Detection angle	Half-power angle at -3 dB: 11.3° ±10%; acute angle: 26.6° ±10%		

Output and Communication

Interface	Configuration
RS485	Modbus RTU communication protocol
RS485 + 4-20 mA	Combined communication and analog-output configuration

The source material lists RS485 communication and a combined RS485 + 4-20 mA configuration.

Electrical Connection

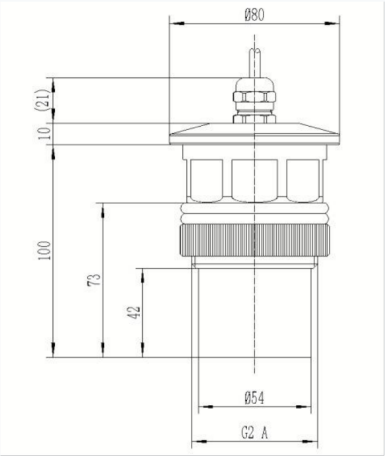
RS485 Interface

Wire color	Definition
Red	12-30 VDC
Black	Ground
Green	RS485 A (A485+)
White	RS485 B (B485-)

RS485 + 4-20 mA Interface

Wire color	Definition
Red	12-30 VDC
Black	Ground
Green	RS485 A (A485+)
White	RS485 B (B485-)
Blue	Iout

Mechanical Dimensions / Installation



Source dimension drawing for the integrated probe. Dimensions are shown in millimetres and include Ø80, 100 mm, 73 mm, 42 mm and Ø54 / G2 A references; a 10 mm segment and a (21) reference dimension are also shown.

Product Selection / Ordering Information

Selection	Configuration
Base model	SS402-05 — Intelligent Ultrasonic Level Meter
Precision code	3: ±0.3%FS
Output code	2: 4-20 mA + RS485; 4: RS485
Power-supply code	4: 12-30 VDC
Range code	2: 0~5 m...10 m
Product configuration	Integrated intelligent ultrasonic level meter with probe

Specify SS402-05 with the required precision, output, power-supply and range configuration. Final configuration remains subject to the listed options in the source material.

CONTACT / SUPPORT

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