

NC 56 | Capacitance Type Level Transmitter

The Model NC 56 Capacitance Type Level Transmitter can be used for level measurement of

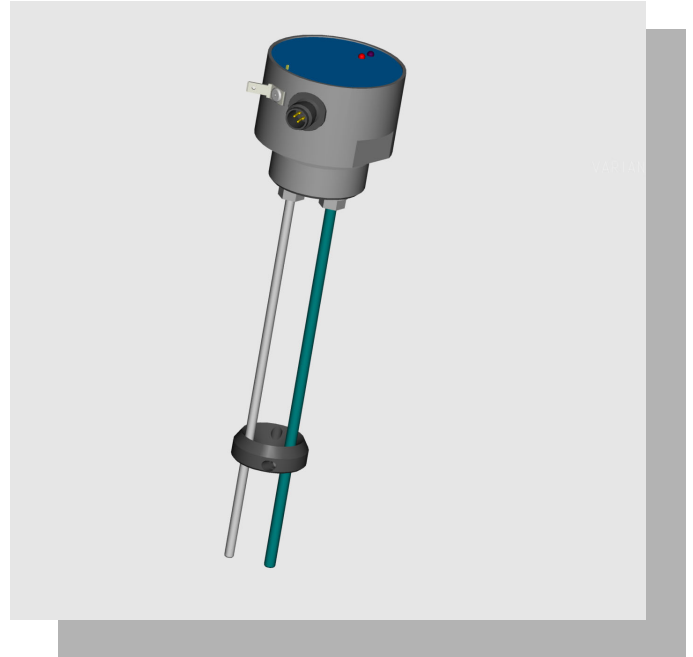
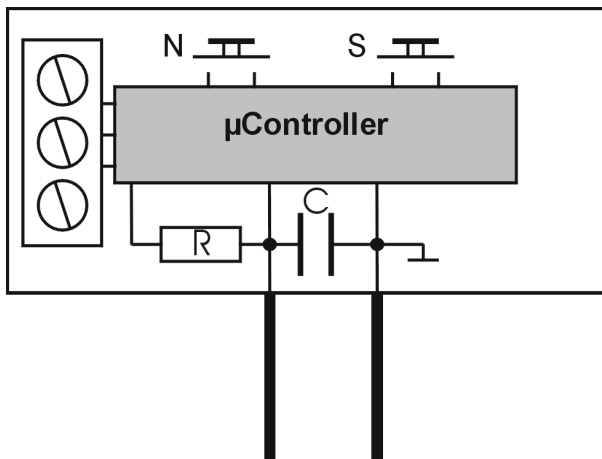
- Clean water
- Waste water and sewage
- Diesel fuel
- Fire suppression foam

The NC56 can be applied to plastic or metal tanks, and configured for measuring level in ranges from 400 to 2000 mm.

Principles of operation

Two parallel metal rods with a fixed distance between them form a capacitor when charged with an A.C. voltage. When these rods are immersed in a liquid medium, the capacitance value is a function of the immersed length. With the probes fixed vertically downward, the immersed length is proportional to the liquid level. The capacitance of the probes is therefore a function of the level. An electronic circuit module in NC56 Transmitter converts the capacitance value to a level measurement and transmits as a standard electrical signal: 0-20 mA, 4-20 mA, or 0-10 VDC.

Schematic diagram



Features

- Rugged design and construction, IP67
- Built-in electronic signal conversion
- Very easy level setting

Applications

The Model NC 56 Level Transmitter can be used in a variety of applications areas, for example:

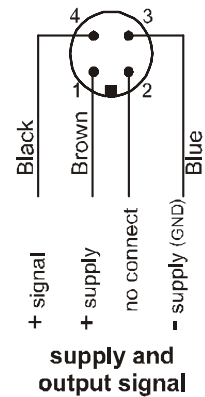
- Manufacturing industries
- Process industries
- Environmental systems
- Vehicular applications
- Marine applications

NC 56 Specifications

	General
Sensing technique	Capacitance sensing
Level measuring range	400 - 2000 mm (other ranges available against special order)
Operating pressure	10 bar, max.
Number of electrodes	2 (3 for diesel applications)
Process connection	Threaded G1¼" (M). With protective tube: G 2" (M)
Degree of protection	IP67

	Electrical
	Male M12 type round shell connector
Operating voltage	9 - 32 V DC9 - 32 V DC.....12 - 32 V DC
Supply current	ca. 30 mAca. 30 mAca. 30 mA
Output signal	0 - 20 mA4 - 20 mA0 - 10 V DC
Output load impedance	($U_B - 9 V$) / 20mA ...($U_B - 9 V$) / 20mA> 5 k Ohm
	U_B = Operating voltage

Connection diagram



Installation

The NC56 Level Transmitter is installed vertically downward at the top of the vessel in which liquid level is to be measured. It is fitted into a G1¼-F threaded socket, located as close as possible to the center of the tank.

The lower ends of the rods must be at least 10 mm above the tank bottom, to avoid contact with any sludge that may be present.

The electrode rods can be cut at site to a shorter length, if required, but must be of equal length.

Commissioning and level setting

The NC 56 Level Transmitter can be put into operation after it is installed.

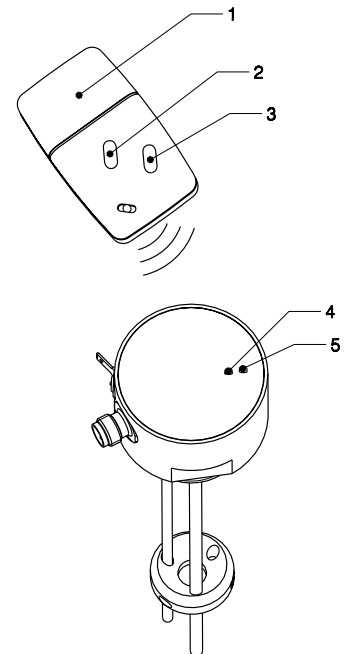
Detailed information regarding this is available in the Instruction Manual.

Level setting is done in two steps. First, the liquid in the tank is brought to the lowest operating level. The minimum level is set simply by pressing the "Min" button on the infrared remote control unit. The LED lamp on the top of the transmitter starts blinking faster, then stays steadily on, indicating that the zero level is registered. The button is then released.

The tank is then filled up to its highest operating level. The "Max" button on the infrared remote control unit is pressed as before, until the transmitter's LED is continuously lit. The transmitter registers the maximum level, and the level setting procedure is complete.

The minimum or maximum limit level settings can be altered at any time, whenever the need arises, using the same procedure.

If only one of limit setting needs to be changed, only one of two level setting buttons is used, after the liquid level in the tank is adjusted accordingly



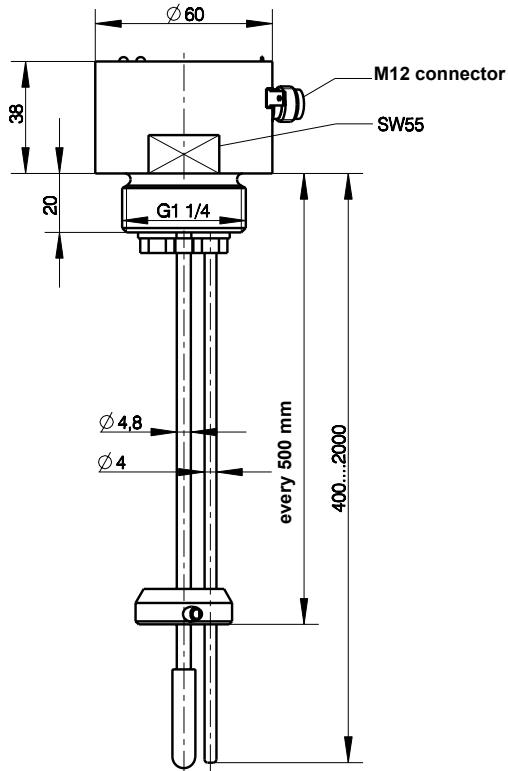
- 1 Infrared remote control unit
- 2 „Min“ button
- 3 „Max“ button
- 4 LED lamp
- 5 Infrared receiver

Accessories

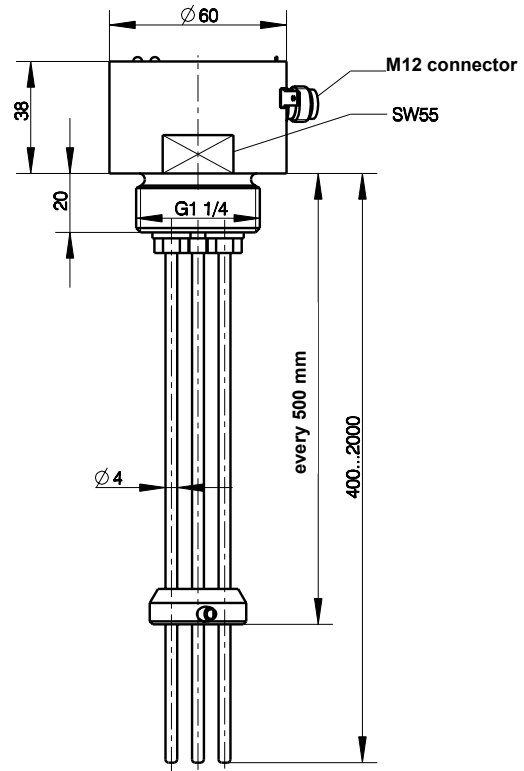
Infrared remote control unit model EU04.

Dimensions NC 56

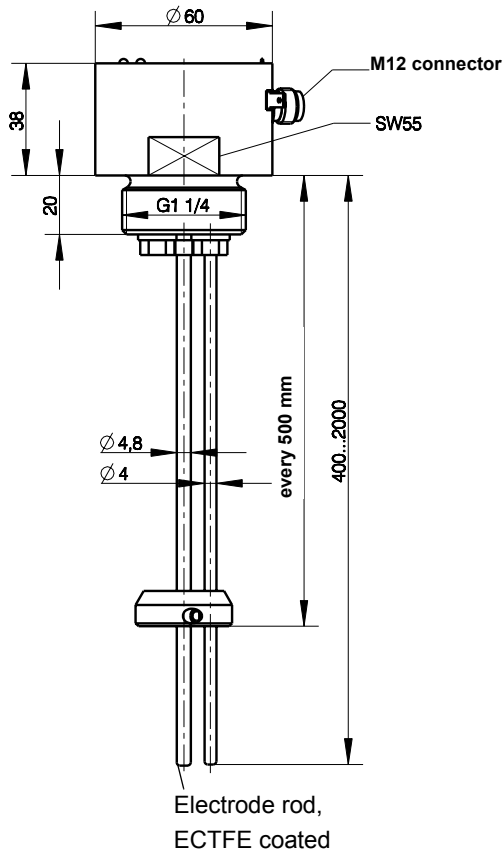
Electrodes configuration for water



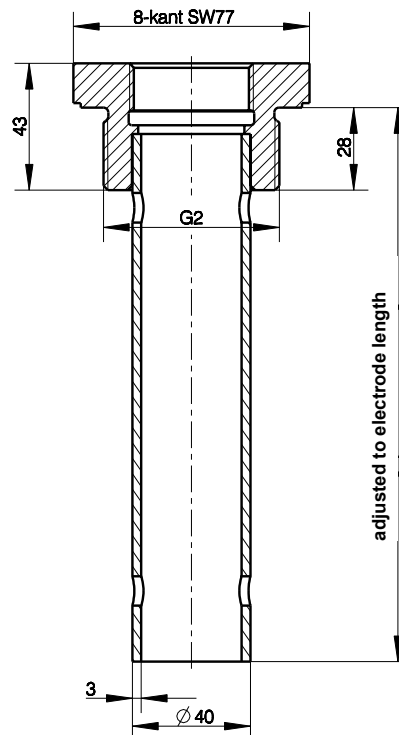
Electrodes configuration for furnace oil, diesel



Electrodes configuration for firefighting foam / waste water



Protection tube



Ordering codes

Capacitance Type Level Transmitter Model NC 56

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Duty	↑	↑	↑				↑	↑
Water / waste water (1 electrode coated, 1 uncoated).....	2							
Diesel (3 uncoated electrodes)	3							
Sewage (1 electrode ECTFE coated, 1 electrode uncoated)..	4							
Firefighting foam (1 electrode ECTFE coated, 1 uncoated)...	5							
 Transmitter housing								
Plastic housing with G 1¼" (M) process connection	O							
Plastic housing + protective tube with G 2" (M) process connection	P							
 Electrode length (from transmitter housing bottom)								
400 - 2000 mm (in 50 mm steps)		0	4	0	0			
.....			↑					
.....			↓					
.....		2	0	0	0			
 Signal output								
0 - 20 mA linear, 3-wire							A	
0 - 10 V DC linear, 3-wire							C	
4 - 20 mA linear, 3-wire							P	
 Supply voltage								
9 - 32 VDC (only for 0-20 mA / 4-20 mA output)								E
12-32 VDC (only for 0-10 VDC output)								F

Zubehör:

EU04 Infrared remote control unit