Probe measuring inductive conductivity. Type CAA 265x
With temperature compensation. 4...20 mA isolated outputs

Probe measuring inductive conductivity type CAA 265x, is used to measure / control the conductivity / concentration of liquid environments. Its use is recommended especially in environments that contain thick deposits (loaded with dirt, oil, grease), plaster or lime precipitated.

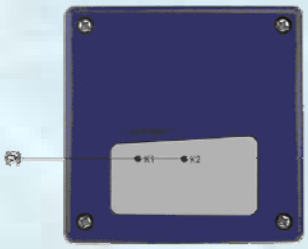
Typical applications: Fresh water and wastewater, air conditioning and monitoring of cooling towers (desalination control), rinsing baths (for ex. monitoring of galvanizing baths), inputs and outputs control in installations for settling internal, bottles cleaning, CIP cleaning, monitoring of concentration, car wash facilities, etc…

1. Specifications

The probe is identified and programmed at the factory using special software. It allows the configuration with the desired measuring range from 0.5ms to 1000ms. It may be rescheduled if necessary.

Standard measuring ranges (for 4…20mA):	
Measurement range: 0 to 5ms/cm	CAA 2653
Measurement range: 0 to 10ms/cm	CAA 2652
Measurement range: 0 to 20ms/cm	CAA 2654
Measurement range: 0 to 50ms/cm	CAA 2655
Measurement range: 0 to 100ms/cm	CAA 2651
Measurement range: 0 to 2000ms/cm	CAA 2650
Measured value:	Inductive Conductivity
Internal temperature compensation:	Yes
Compensation range:	0 to 100°C
Temperature coefficient:	0 to 5,5%/°K

Output static relays:	U < 50V AC/DC
K1: Indication of led 1 (5)	< 100mA
K2: Indication of led 2 (5)	
Operating temperature:	-5°C to 50°C
Storage temperature:	-5°C to 75°C
Temperature to be measured:	0 to 100°C
Relative humidity (without condensation)	max. 93%
Maximum input pressure:	10 bars to 20°C 6 bars to 60°C
Case protection:	IP67
Measure housing material:	Polycarbonate
Probe material:	Polypropylene

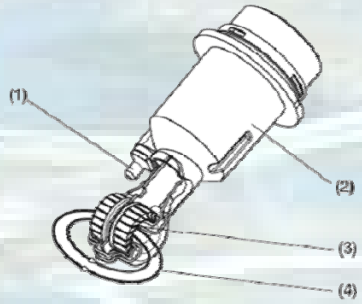


Internal supply voltage:	19-31VDC
Residual ripple:	< 5%
Power consumption:	< 2,6W
Output signals:	4…20mA
Charge:	<= 500Ω
Lifetime:	Depending on type of environment

2. Principle of inductive conductivity measurement

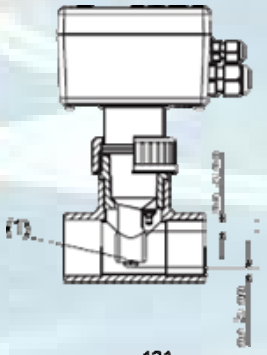
The conductivity measurement is performed with an inductive sensor. An alternating voltage (sinusoidal) feeds the transmitting coil. A current is induced in the receiver coil; its intensity is proportional to the conductivity of the liquid to measure. The inductive cell constant depends on the geometric shape. In addition, the parts close to the cell can influence its constant.

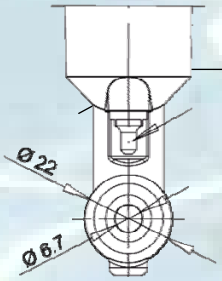
(1) Temperature sensor
(2) Housing of measuring cell in PP
(3) Measuring coils
(4) Liquid loop



3. Assembly/installation/dimensions/connection

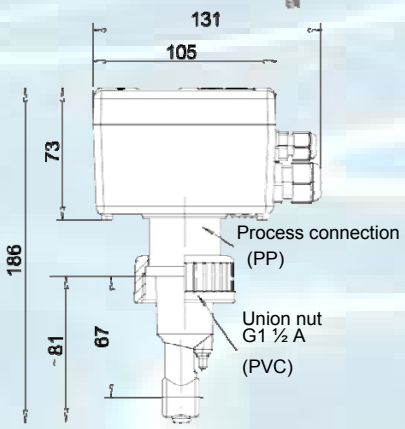
Note: the mounting location must be easily accessible for further handling. The attachment must be reliable and vibration free. Avoid direct sunlight! Ensure a smooth flow around the measuring medium and in the probe (See diagram below). If mounting in a pipe, respect a minimum distance of 20 mm between the probe and the pipe wall!

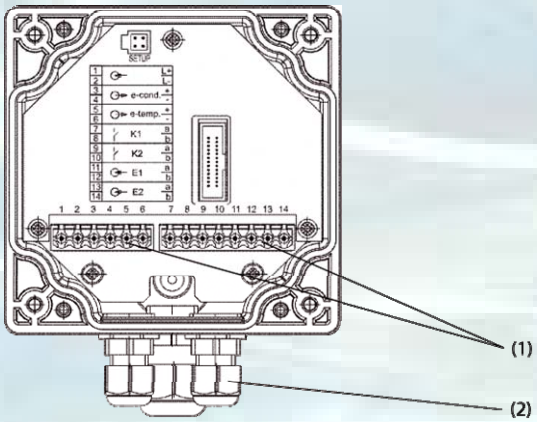




Standard :
Temperature probe
Separated.

Thimble stainless steel.
Material AISI 316 Ti
Gasket : FPM (Viton*)

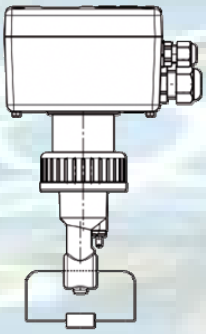


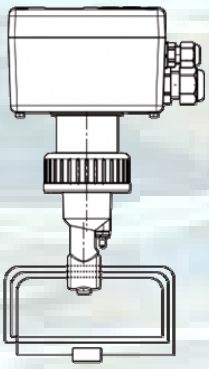


To connect the different wires, pull the terminals plugged (1) in the control unit. Put wires through the connecting cable glands (2)

4. Calibration

The device is maintenance-free and calibrated at the factory. However, if the measured values showed differences of unknown cause, it is possible to verify the converter as follows:





When calibrating, do not put the sensitive part of the sensor on a flat surface, do not touch it.

Calculation of resistance:

Formula for calculating the resistance of the resistive loop:

$R = (N^2 \times K)/Lf$

R = resistance of the resistive loop
N = number of turns of the loop
K = cell constant
Lf = desired display in S/cm

Note:

1 mS/cm = 1.10^{-3} S/cm
1 µS/cm = 1.10^{-6} S/cm

For values up to 49 mS, the loop must contain 1 turn.
For values from 50 mS, the resistive loop must have 3 turns.
The cell constant of the converter is 6,25 1/cm

5. Maintenance

Do not use detergent.
Use a soft brush to remove deposits on the sensor part. (Swab).
In case of encrusted dirt, layer or stubborn deposits, use a 10% dilution of hydrochloric acid.
Take all precautions when handling this product.

6. Accessories

Mounting kit D=50mm (Connection+gasket): CAA2659
PVC fitting special paste: PVC0003
Flat seal: JNP0000