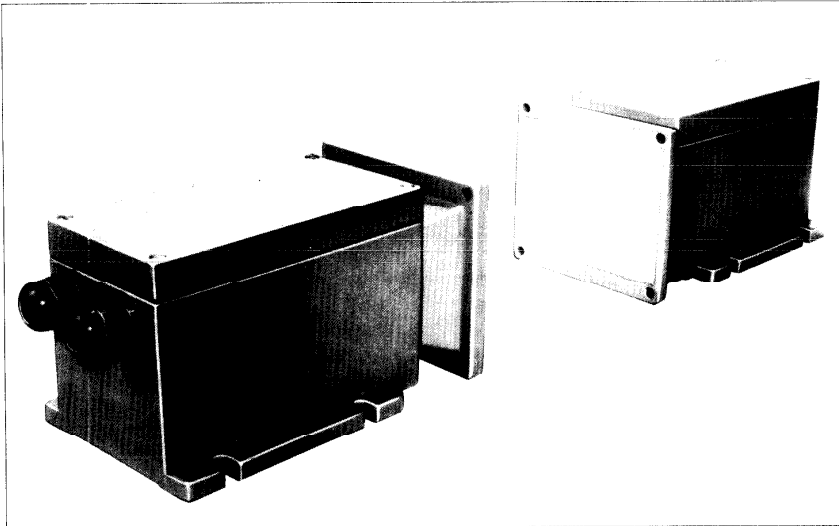


VEGA

TIB • Technical Information • Operating Instructions

VEGATOR 272

VEGATOR 273



Microwave barrier

The microwave barrier is used for the non-contact
min. or max. level detection of solids and
liquids in silos or closed vessels.

Especially suitable for the measurement of electrically conductive products.

Application

The microwave barrier is used for the non-contact min. or max. level detection of solids and liquids in silos or closed vessels. Especially suitable for the measurement of electrically conductive products.

Counting and detection functions are possible. Max. count frequency 1 Hz.

Configuration

The detection system VEGATOR 272/273 consists of:

- a) microwave transmitter
VEGATOR 273 with mains connection
- b) microwave receiver
VEGATOR 272 with terminals for mains connection
- Green mains lamp
- Sensitivity adjuster
- Adjustment potentiometer
- Indication of the adjustment by yellow diodes
- Output relay with A/B-switch and yellow signal lamp
- Terminals for output relay

Function

The detection principle of the microwave barrier is comparable with a light barrier. The sensor transmits a polarized 5,8 GHz microwave signal

Some of the signal is absorbed resp. reflected by products in the transmission range.

Therefore the VEGATOR 272 receives a reduced signal. The output relay is energized, the yellow lamp does not light (terminals 5 - 4 are connected through relay) when the signal is not reduced and A/B-switch is in position A. The output relay is de-energized, yellow lamp lights (terminals 5 - 6 are connected through relay) when the product is touched by the microwave beam.

In case the A/B-switch is in position B when the signal is not reduced, the output relay is de-energized, yellow lamp lights (terminals 5 - 6 are connected through relay). When the product is touched by the microwave beam, the output relay is energized, yellow lamp does not light (terminals 5 - 4 are connected through relay).

The mode should be adjusted such that in case of power failure no undesired switching function is triggered (fail safe).

Mounting instructions

Installation is from outside of the vessel, conveyor belt etc. being monitored and is also simple to retro-fit. The area of installation should be free from high vibration.

For mounting, the VEGATOR 272 and 273 are provided with 4 horizontal fixing slots and 4 holes on the front.

When mounting outside, a shed is recommended.

Due to the fact that the microwave beam is polarized, the transmitter and receiver should not be turned against each other around their longitudinal axis (except by 180°). Transmitter and receiver should be mounted horizontally on the same axis (arrangement on the same plane of polarization).

Start-up

The mains voltage should comply with the voltage stated on the type plate.

1. Switch on the mains, green LED lights.
2. Adjust mode A or B.
3. Set the sensitivity adjuster to position "2".
4. When the vessel is empty, turn the potentiometer to the extreme right position (full sensitivity)
 - In the field "empty" one of the two LED's should light beside the sensitivity adjuster.
5. Bring the product into the transmission range:
 - The instrument is calibrated when no LED lights in the indication field.

Attention:

In case a LED lights in the indication field, the adjustment should be continued acc. to items 6, 7, 8 and 9.

6. Set the sensitivity adjuster to position "1"
 - In case the LED extinguishes in the indication field, bring the sensitivity switch back into position "2".
 - Carry out the adjustment acc. to item 8.
7. In case a LED lights in position "1".
 - Carry out the adjustment in position "1" acc. to item 8.
8. Turn the potentiometer to the left until the LED indication extinguishes.
9. Check the adjustment
 - Remove the product out of the transmission range
 - in the field "empty" one of the two LED's should light beside the sensitivity adjuster.

Technical data

Supply voltage: 220 V, -10 % +15 % upon request 24, 42, 48, 110, 130, 240, 260 V, 48 ... 62 Hz

Housing: Aluminium

Colour: 2 component lacquer RAL 7038

VEGATOR 273 (transmitter)

VEGATOR 272 (receiver)

Power consumption: approx. 5 VA

Power consumption: approx. 3 VA

Transmitter frequency: 5.8 GHz

Relay output: max. 240 V AC, 3 A, 575 VA

max. 100 V DC, 90 W

Transmitter-power: <25 mW ERP

Output relay: 1 x changeover contact

Polarization: linear see drawing

Contact material: Ag and Au plated

Range: ≥ 50 m

Adjustable switching threshold see start-up

Angle of beam 3 dB: approx. 40°

Switching delay: approx. 300 ms

Terminal board: max. $1 \times 1,5 \text{ mm}^2$

Terminal board: max. $1 \times 1,5 \text{ mm}^2$

Protection: IP 54

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Protection class: I

Protection class: I

Temperature range: $-20 \dots +50^\circ\text{C}/-4 \dots 122^\circ\text{F}$

Temperature range: $-20 \dots +50^\circ\text{C}/-4 \dots 122^\circ\text{F}$

Storage and transport temperature: $-20 \dots +70^\circ\text{C}$

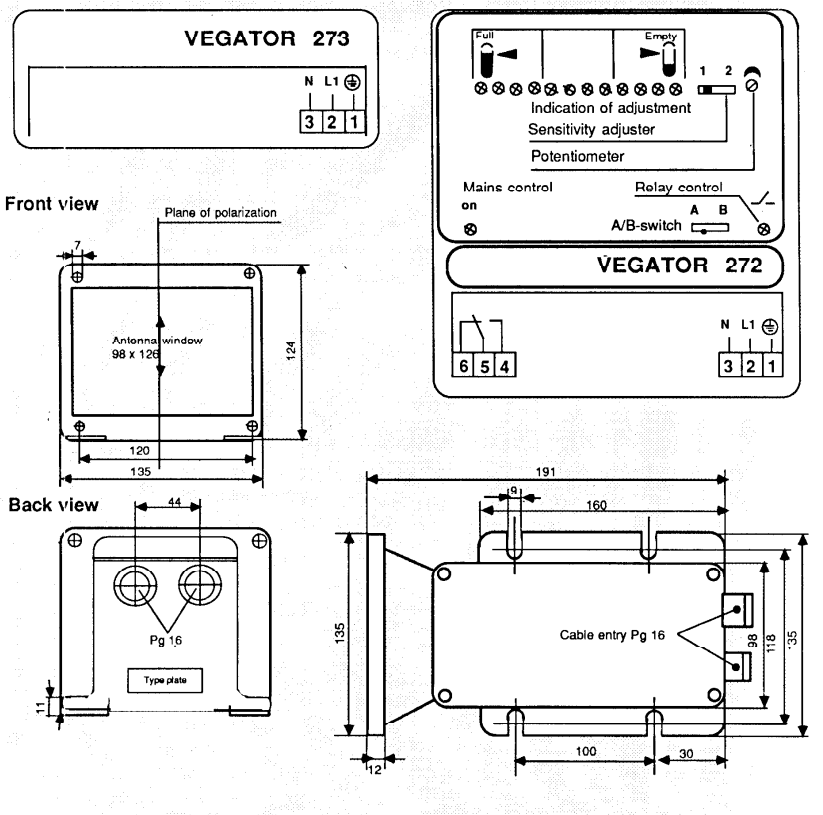
Storage and transport temperature: $-20 \dots +70^\circ\text{C}$

Cable entry: 1 x Pg 16

Cable entry: 2 x Pg 16

Weight: approx. 3 kg

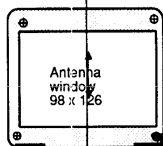
Weight: approx. 3,2 kg



Mounting position

correct

VEGATOR
272

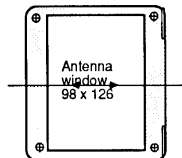


VEGATOR
273

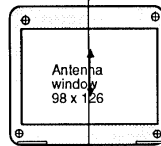


incorrect

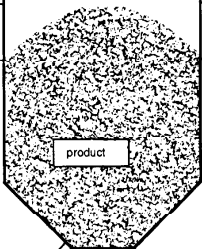
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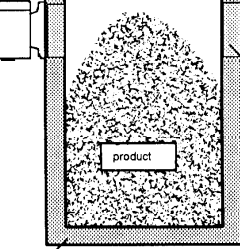


Silo of non-conductive material

VEGATOR
273



VEGATOR
272

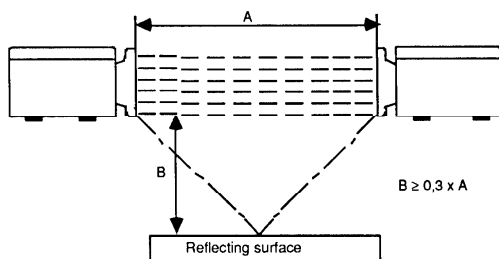


Silos of conductive material
e.g. steel, aluminium, reinforced concrete

VEGATOR
273



Window in the silo of non-conductive material e.g. plexiglass, teflon, ceramics



For more VEGA product please visit: www.ainstru.com

Mail: Sales@ainstru.com