Precipitation Transmitter

Instruction for use 5.4032.30.020
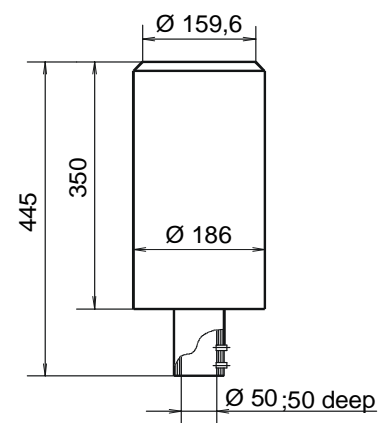

1. General Information

This instrument is designed to measure precipitation striking the surface of the earth. The precipitation strikes a collector with a surface area of 200 cm² and then travels via a run-in sieve into a tipping scale. When a certain amount of water has gathered, the scale tips and empties, while the other half of the scale is ready to receive water again. This tipping procedure is detected by a reed switch and is made available as a pulse output.
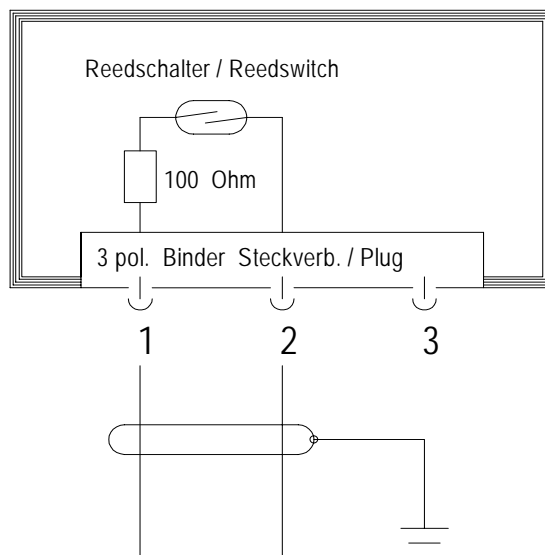
1 pulse = 0,2 mm Precipitation.

2. Technical Data

Intensity	max. 15 mm / min
Resolution	0,2 mm / pulse
Collector Surface	200 cm^2
Electrical Output	1 Pulse = 0,2 mm precipitation
Contact Rating	max. 0,5 W, Vcc: max. 42 V DC
Ambient temperature	0 ... + 60°C
Mounting	onto a mast $\varnothing$ 48,3 mm (1$1/2$")
Weight	3,3 kg

Dimension

Connection Diagrams

Reedschalter / Reedswitch

100 Ohm

3 pol. Binder Steckverb. / Plug

1   2   3

1 Impuls $\hat{=}$ 0,2 mm Niederschlag
1 Pulse $\hat{=}$ 0,2 mm Precipitation
Schaltleistung : / Switching load
max. 42V AC / DC
max. 0,25 A , max. 3 W

3. Preparation for use

Unpack the instrument and remove the tipping scale from the collecting funnel. (It is in a separate small carton.) Fix the precipitation transmitter onto the receiving mast with the aid of the 6 screws. Now unscrew 2 screws on the casing and remove the casing completely. Check, that the level on the base plate align it vertically. Then screw it firmly into place.

Solder a flexible control line LiYCY 0,5 mm with the appropriate number of cores as indicated in the applicable circuit diagram to the enclosed plug. Insert the tipping scale carefully into the bushing that **the magnetic holder on the partition wall points to the back to the pc-board**. **Do not touch the inner surfaces of the scale pans**. Now simply replace the case over the instrument from above and tighten the screws.
After connecting the instrument to power supply it is ready for operation.

4. Maintenance

The instrument is designed in such a way that all of the parts requiring maintenance are easily accessible once the case has been removed.

The two most important factors for precise measurements are a free and undisturbed inflow and a clean tipping scale.

What you need.

1. a cleaning agent for stainless steel
2. a clean cloth
3. a small bottle brush

Remove the inflow sieve from the collecting funnel by drawing it out from above. Clean the inflow nozzle with a small bottle brush. Then re-insert the inflow sieve.

Remove the tipping scale from the step bearing and clean it and polish it with a clean cloth an the cleaning agent. (When you have finished polishing it, take care **not to touch the inner surface of the scale spoons**!)

If indicated, clean the run-off pan and then re-insert the tipping scale, **the magnetic holder on the partition wall points to the back to the pc-board**.

5. Adjusting the tipping scale

Every precipitation transmitter is checked and adjusted at the manufacturers. The measurement error as a function of precipitation intensity are indicated in the average characteristic curve.

If, in the course of time, the adjustment of the tipping scale has changed as a result of external influences, you can check and correct this as follows:

Fill an injection needle with 4 cm³ of rain water and inject it slowly over the partition of the scale into one of the scale halves. The scale must tip over at exactly 4 cm³. If it tilts before the 4cm³ mark has been reached, then lower the stop block on the opposite side. Raise the stop block if the scale hasn´t tipped when the entire 4 cm³ has been injected. The stop block can be raised or lowered by turning the adjusting spindle to the right or to the left. In this way it is possible to re-adjust each half of the scale separately. This check can only be carried out with a clean scale.

ADOLF THIES GmbH & Co. KG

Hauptstraße 76   37083 Göttingen Germany
P.O. Box 3536 + 3541   37025 Göttingen
Phone ++551 79001-0   Fax ++551 79001-65
www.thiesclima.com   info@thiesclima.com

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