

- Pulse output
- Intensity-dependent linearization
- Instrument serves as sensor for quantity and intensity of precipitation, for the digital transmission of measuring values



## Description

The instrument is designed to measure the height, quantity and the intensity of the precipitation striking the surface of the earth. The measuring principle is basing on the description „Guide to Meteorological Instruments No 8“ of the WMO (World Meteorological Organization).

The rain, collected by the collecting surface of 200 cm<sup>2</sup>, is conducted through a inflow-sieve into a tipping-bucket. After having collected the rain amount of 2 cm<sup>3</sup> of precipitation the bucket tips over, and the other tipping-bucket halve is ready for collecting the rain. This tipping procedure is detected by Reed-switches, and induces an output pulse in combination with connected electronics. The procedures recur with continuous precipitation.

**2 cm<sup>3</sup> tipping-bucket volume = 1 tipping-bucket puls = 0,1 mm precipitation**

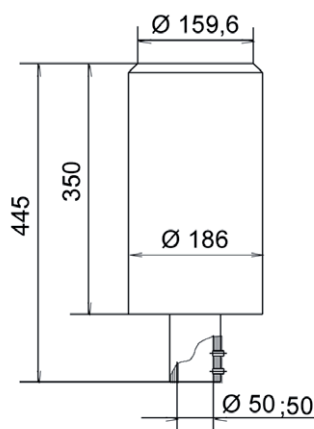
### Output 1:

As the number of tipping procedures is not linear to the precipitation intensity, an intensity-dependent linearization is carried out in the connected electronics. The linearization procedure is basing on an intensity-dependent pulse-number-correction for the precipitation intensity range of approx. 0,5... 11 mm/min. Each instrument is calibrated with a precipitation quantity of 200 cm<sup>3</sup> (=10 mm precipitation height).

### Output 2:

is available only as potential-free contact. This output is not linearized.

## Dimensional Drawing

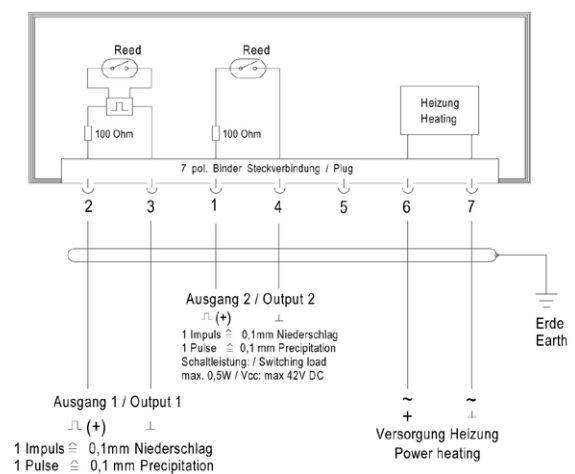


## Specifications

Charateristic	Description / Value
Collector surface	200 cm <sup>2</sup>
Resolution	0.1 mm per tipping-bucket pulse
Measuring range	0 ... 11 mm/min
Accuracy output 1 within the range of 0 ... 11 mm/min	±3% (tested under laboratory conditions with distilled water)
Measuring principle	tipping-bucket
Ambient temperature	0 ... +60 °C (without heating) -25 ... +60 °C (with heating)
<b>Output signal 1 (Reed contact with linearization)</b>	
Pulse length	125 ms
Tipping-bucket frequency	0 ... 2 Hz
Operating voltage	5 V DC (→ M83501 Pull-up resistor)
<b>Output signal 2</b>	
Pulse length	50 ms
I Pulse frequency	0 ... 2 Hz
Contact load	max. 0.5 W
Contact voltage (Vcc)	max. 42 V
Heating	24 V AC/DC; 48.5 W
Housing	Stainless steel, non-corrosive
Montage	onto mast tube Ø 50 mm
Weight	3.3 kg
Manufacturer	Thies 5.4032.35.007 / 5.4032.35.008 (with heating)
Accessories	Module M83501 (Pull-up resistor)

## Sensor Connection

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Counter	Supply Sensor
Precipitation Output 1	2	white	CNT (Pull-up resistor)	
Precipitation Output 2	1	white	CNT (Pull-up resistor)	
Ground (Output 1)	3	black		Main Ground
Ground (Output 2)	4	black		Main Ground
Heating	6	orange, orange		24V AC/DC
	7	violet, violet		



Cable type without heating: LiYCY 2 x 0.25mm<sup>2</sup>  
Cable type with heating wires: LiYCY 7 x 0.25mm<sup>2</sup>

Connect the shield logger-sided to Ground (GND)

Last Modification: 15 November 2012