

Laser Precipitation Monitor

The acquisition comprises the types of precipitation, intensity and the spectrum. All measuring values are available for the user via an RS485/422 interface. In addition, the instrument is equipped with two further digital outputs (opto-couplers), which output, for ex., pulses and state of precipitation. The optical components are equipped with an integrated heating.

Specification

Part number: 5.4110.00.xxx

Precipitation

Meas. principle	laser beam
Particle size	0.16 ... 8 mm
Particle speed	0.2 ... 20 m/s
Intensity	0.001 ... 1000 mm/h
Error intensity -/ quantity measurement	±5% at adjustment under laboratory conditions with a specific test system with the permissible tolerance of ± 5%. Each LNM is supplied with a factory acceptance certificate after passing the calibration. 15% rain 0,5... 20mm/h 30% snow (WS 3m/s)
Precipitation types	drizzle (also freezing) rain (also freezing) hail snow snow grains / ice needles soft hail / ice grains
Accuracy	comparing with synoptic observation drizzle > 97% rain > 99% hail > 97%* snow > 99% soft hail > 85% snow grains > 60% *According to human observer

Sensors

Laser diode	786 nm, max. 0.5 mW
Laser class	1M (EN60825-1:1994 A2:2001)

Data output digital

Interface	RS485 / 422, potential isolation and 2 impulse outputs, potential isolation
Baudrate	1200 ... 115200 Baud
Output type	ASCII, Synop, Metar @ RS485 / 422 frequency @ impulse outputs

Resolution intensity 0.001 mm/h @ RS485 / 422
 Resolution quantity 0,001 mm @ RS485 / 422
 0.1 mm, 0,01 mm, 0,005 mm @ impulse outputs

General

Ambient temp. -40 ... +70 °C
 Protection IP 65
 Dimension Ø 270 x 170 x 540 mm
 Weight 4.8 kg

Versions

As per 5.4110.00.xxx, but:

Product number 5.4110.00.000

General

Power supply 24 V AC/DC or
 22 ... 30 V DC, 750 mA

Product number 5.4110.00.100

General

Power supply 115 V AC, 15 W

Product number 5.4110.00.200

General

Power supply 230 V AC, 15 W

Product number 5.4110.00.300

General

Power supply 24 VDC, 600 mA

Accessories

Product	Product name	Brief description
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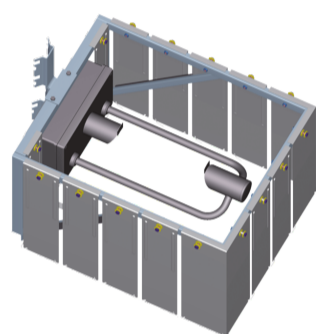


Instrument Support
4.3187.61.x00

For the vibration-reduced operation of the LPM on an available concrete foundation, provided by the customer.

General

Material steel, zinc plated
 Tube diameter Ø 60 mm
 Mounting distance 424 mm
 Dimension 645 x 645 mm
 Weight 30 kg



Wind Protection Element
5.4200.00.000

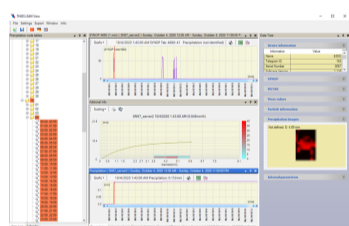
Serves as optional accessory for uninterrupted acquisition even in case of wind.

Material

Frame stell, zinc plated
 Laminations stainless steel

General

Dimension 600 x 480 x 400 mm
 Weight 18 kg
 Mounting Ø 48 ... 102 mm



LNM-View
9.1700.99.000

The Thies LNM View program is used to display data generated by the Thies Laser Precipitation Monitor and/or Thies 3D Stereo Disdrometer.

Compatibility

Connectable instruments

- Laser precipitation monitor 5.4110.xx.xxx
- 3D Stereo Disdrometers 5.4120.xx.xxx

System requirements PC with:

- 1GHz, 256 MBRAM, recommended 2 GHZ, 512MBRAM
- Graphics resolution: 800 x 600
- Graphics colours: 16bit TrueColor

Operating system Recommended operation system:

- Windows 8
- Windows 10

