

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
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Product number 5.4110.00.100

General

Power supply	115 V AC, 15 W
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Product number 5.4110.00.200

General

Power supply	230 V AC, 15 W
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Product number 5.4110.00.300

General

Power supply	24 VDC, 600 mA
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Accessories

Product	Product name	Brief description
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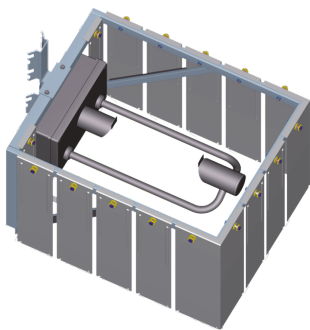


Instrument
Support
4.3187.61.x00

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

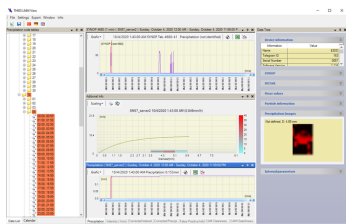
Serves as optional accessory for uninterrupted acquisition even in case of wind.

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

