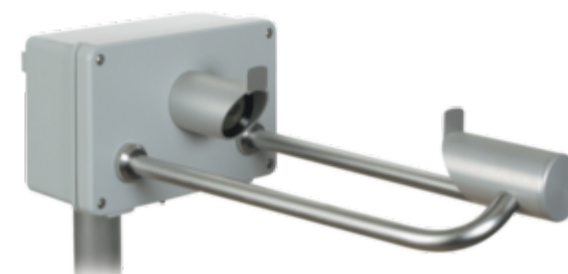


# PRECIPITATION MEASURING TECHNOLOGY

## Laser Precipitation Monitor

Part number: 5.4110.00.xxx

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.<br>15% rain 0,5... 20mm/h<br>30% snow (WS 3m/s) |
| Precipitation types                     | drizzle (also freezing)<br>rain (also freezing)<br>hail<br>snow<br>snow grains / ice needles<br>soft hail / ice grains  |
| Accuracy                                | comparing with synoptic observation<br>drizzle > 97%<br>rain > 99%<br>hail > 97%*<br>snow > 99%<br>soft hail > 85%<br>snow grains > 60%<br>*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<br>frequency @ impulse outputs            |
| Resolution intensity | 0.001 mm/h @ RS485 / 422  |
| Resolution quantity  | 0,001 mm @ RS485 / 422<br>0.1 mm, 0,01 mm, 0,005 mm @ impulse outputs       |
| <b>General</b>       |   |
| 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<br>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 |
|---------|--------------|-------------------|
|---------|--------------|-------------------|

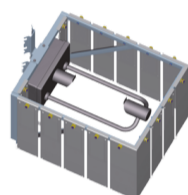


Instrument Support  
4.3187.61.x00

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 | <ul style="list-style-type: none"> <li>• Laser precipitation monitor 5.4110.xx.xxx</li> <li>• 3D Stereo Disdrometers 5.4120.xx.xxx</li> </ul>  |
| System requirements     | PC with: <ul style="list-style-type: none"> <li>• 1GHz, 256 MBRAM, recommended 2 GHZ, 512MBRAM</li> <li>• Graphics resolution: 800 x 600</li> <li>• Graphics colours: 16bit TrueColor</li> </ul> |
| Operating system        | Recommended operation system: <ul style="list-style-type: none"> <li>• Windows 8</li> <li>• Windows 10</li> </ul>  |