

PRECIPITATION

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. < 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

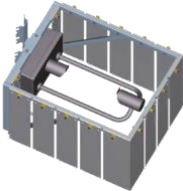
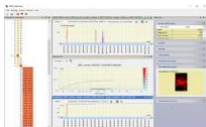
General

Power supply	24 VDC, 600 mA
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Accessories

Product	Product name	Brief description
	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



	<p>Wind Protection Element 5.4200.00.000</p>	<p>Serves as optional accessory for uninterrupted acquisition even in case of wind.</p> <table border="1"> <tr> <td colspan="2">Material</td> </tr> <tr> <td>Frame</td> <td>stell, zinc plated</td> </tr> <tr> <td>Laminations</td> <td>stainless steel</td> </tr> <tr> <td colspan="2">General</td> </tr> <tr> <td>Dimension</td> <td>600 x 480 x 400 mm</td> </tr> <tr> <td>Weight</td> <td>18 kg</td> </tr> <tr> <td>Fixing boring</td> <td>Ø 48 ... 102 mm</td> </tr> </table>	Material		Frame	stell, zinc plated	Laminations	stainless steel	General		Dimension	600 x 480 x 400 mm	Weight	18 kg	Fixing boring	Ø 48 ... 102 mm
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	<p>LNM-View 9.1700.99.000</p>	<p>The Thies LNM View program is used to display data generated by the Thies Laser Precipitation Monitor and/or Thies 3D Stereo Disdrometer.</p> <table border="1"> <tr> <td colspan="2">Compatibility</td> </tr> <tr> <td>Connectable instruments</td> <td> <ul style="list-style-type: none"> • Laser precipitation monitor 5.4110.xx.xxx • 3D Stereo Disdrometers 5.4120.xx.xxx </td> </tr> <tr> <td>System requirements</td> <td> PC with: <ul style="list-style-type: none"> • 1GHz, 256 MB RAM, recommended 2 GHz, 512 MB RAM • Graphics resolution: 800 x 600 • Graphics colours: 16bit TrueColor </td> </tr> <tr> <td>Operating system</td> <td> Recommended operation system: <ul style="list-style-type: none"> • Windows 8 • Windows 10 </td> </tr> </table>	Compatibility		Connectable instruments	<ul style="list-style-type: none"> • Laser precipitation monitor 5.4110.xx.xxx • 3D Stereo Disdrometers 5.4120.xx.xxx 	System requirements	PC with: <ul style="list-style-type: none"> • 1GHz, 256 MB RAM, recommended 2 GHz, 512 MB RAM • Graphics resolution: 800 x 600 • Graphics colours: 16bit TrueColor 	Operating system	Recommended operation system: <ul style="list-style-type: none"> • Windows 8 • Windows 10 						
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