

PRECIPITATION



Model Brief Description

Precipitation Monitoring

Laser Precipitation Monitor

The Laser Precipitation Monitor serves as measuring value transmitter, and is well-suited for the measurement and detection of different types of precipitation such as

- drizzle
- rain
- hail
- snow
- and mixed precipitation.

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.

Technical Data

Operating voltage	24 V AC / DC or 22...30 V DC (< 750mA)
Operating voltage	115 V AC, 15 Ω
Operating voltage	230V AC, 15 Ω
Operating voltage	12 ... 24 VDC, 600 mA
Measuring value	Precipitation
Particle size	0.16 ... > 8mm Ø
Particle speed	0.2 ... 20 m/s
Intensity	< 0,005 mm/h (drizzle) > 250 mm/h
Output intensity	
-via RS485	: resolution 0.001 mm/h
Output quantity	
-via RS485	: resolution 0.01 mm
-via data output.	: pulses (res. 0.1 mm; 0.01 mm; 0.005 mm)
Accuracy with	
Quantity meas.	< 15% (rain, 0.5-20 mm/h) < 30% (snow)
Precipit. types	drizzle (also freezing) rain (also freezing) hail snow snow grains/ ice needles soft hail/ice grains
Precipitation output	
-via RS485	Synop, Metar
-via digital output	frequency
Accuracy	
for precipitation	drizzle > 97%
output (comparing	rain > 99%
with synoptic	hail > 95%
observation)	snow > 99%
	snow grains > 60%
	soft hail t.b.d.
Sensors	
Laser diode	785nm, max0.5mW
Laser class	1M (EN60825-1:1994 A2:2001)
Measuring surface	45.6 cm ²
Data output	
RS 485	1200 ... 115200Bd potential isolation
Digital output	duplex 2 x opto couplers, potential isolation
General	
Ambient conditions	-40 °C ... +70 °C, 0 ... 100% r.h.
Dimensions	270 x 170 x 540 mm
Weight	4.8 kg
Protection	IP 65
EMC immunity	EN61326 with
EMC radiation	EN61000-4-3 EN61326 class B

