## Laser precipitation disdrometer measuring all precipitation types

- **Parameters measured**
  Precipitation type, intensity, drop size distribution, radar reflectivity

- **Measurement range**
  Laser optical

- **Product Highlights**
  Simultaneous measurement of 32 classes for particle sizes and velocities

- **Interface**
  SDI-12 / RS-485, pulse

The OTT Parsivel² is a modern laser disdrometer for comprehensive measurement of all precipitation types. The Parsivel² captures both the size and speed of falling particles, classifying them into one of 32 separate size and velocity classes. The raw data are used to calculate the type, amount, intensity and kinetic energy of the precipitation, the visibility in the precipitation, and the equivalent radar reflectivity

| Optical sensor, laser diode | |
| --- | --- |
| Wavelength: | 650 nm |
| Output power (peak): | 0.2 mW |
| Laser Class: | 1 (IEC/EN 60825-1:2014) |
| Measuring surface (W x D): | 180 x 30 mm (54 cm2) |

KIPP & ZONEN    Lufft    SUTRON    OTT    ADCON    HYDROLAB    METEOSTAR

## Measuring ranges

| | |
|---|---|
| Particle size: | liquid precipitation: 0.2 ... 8 mm<br>solid precipitation: 0.2 ... 25 mm |
| Particle velocity: | 0.2 ... 20 m/s |
| Classification: | 32 size and 32 velocity classes |
| Measurement accuracy 1): | ± 1 size class ( 0.2 ... 2 mm)<br>± 0.5 size class ( > 2 mm) |
| Types of precipitation: | 8 precipitation types (drizzle, drizzle/rain, rain, mixed rain/snow, snow, snow grains, sleet, hail) |

## Outputs

| | |
|---|---|
| Reports: | WMO 4680/4677 (SYNOP),<br>4678 (METAR/SPECI) and NWS tables |
| Differentiation of precipitation types: | drizzle, rain, hail, snow > 97 %<br>(compared to a weather observer)<br>Snow depth intensity (volume equivalent) |
| Precipitation intensity: | 0.001 ... 1200 mm/h |
| Accuracy 1): | ± 5 % (liquid) /± 20 % (solid) |
| Radar reflectivity Z: | - 9.999 ... 99.999 dBz |
| Kinetic energy: | 0 ... 999.999 J/(m2h) |
| Visibility in precipitation (MOR): | 0 ... 20.000 m |
| De-icing protection: | Microprocessor controlled heating |

## Power supply

| | |
|---|---|
| Power supply electronics: | 10 ... 28 V DC, reverse polarity protection |

## Power consumption

| | |
|---|---|
| Power consumption electronics: | 65 mA@24 VDC / typ. 1.6 W |
| Power consumption window heater: | Max: 4 W@24 VDC / 2W@12 VDC;<br>Min: 2 W@24 VDC / 1W@12 VDC |
| Heating capacity sensor heads: | 50 W@12 VDC;<br>100 W@24 VDC |

## Interfaces

| | |
|---|---|
| Interfaces (configurable2)): | RS-485 for all values incl. spectral data (EIA-485; 1,200 ... 57,600 Baud)<br>SDI-12 for calculated values<br>USB for PC connection (configuration and service)<br>Output relay for pulse output of the precipitation amount in 0.1 mm/pulse with max. 2 Hz pulse rate |

## Physical Information

| | |
|---|---|
| Weight: | max. 6.4 kg |
| Dimensions (H x W x D): | 670 x 600 x 114 mm |

KIPP & ZONEN    Lufft    SUTRON    OTT    ADCON    HYDROLAB    METEOSTAR

| Environmental conditions: | |
|---|---|
| Temperature range: | - 40 ... +70 °C |
| Relative humidity: |  0 ... 100 % |
| Protection: | IP65 |
| Lightning protection: | integrated |
| Installation: | 2 inch pipe, Ø 50 ... 62 mm |
| Standards: | EN 61326-1: 2013, CE compliant<br>2014/30/EU, CE compliant |
| _____ | |
| 1) | Proof under laboratory conditions using an OTT test system with reference particle simulation of 0.5 mm, 1.0 mm, 2.0 mm and 4.0 mm |
| 2) | ASDO configuration software supplied (basic version) |