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 Parsivel^2 is a modern laser disdrometer for comprehensive measurement of all precipitation types. The Parsivel^2 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)

Measuring ranges	
Particle size:	liquid precipitation: 0.2 ... 8 mm 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) ± 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), 4678 (METAR/SPECI) and NWS tables
Differentiation of precipitation types:	drizzle, rain, hail, snow > 97 % (compared to a weather observer) 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; Min: 2 W@24 VDC / 1W@12 VDC
Heating capacity sensor heads:	50 W@12 VDC; 100 W@24 VDC

Interfaces	
Interfaces (configurable2)):	RS-485 for all values incl. spectral data (EIA-485; 1,200 ... 57,600 Baud) SDI-12 for calculated values USB for PC connection (configuration and service) 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

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 2014/30/EU, CE compliant
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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)