

ENVIRONMENT

METEOROLOGY



DWEATHER 100

PRECIPITATION AND VISIBILITY SENSING

GENERAL CHARACTERISTICS

The **DWeather 100** is a combined sensor for detecting atmospheric precipitation and visual range (visibility). The instrument, which is sensitive even to minimum intensity events, reacts immediately to precipitation and to variations in visibility.

The **DWeather 100** sensor measures the visual range in metres, and can distinguish between types of precipitation (snow, rain, mixed and hail).

The sensor measures the speed and size of the precipitation particles, in order to assess and classify the type and intensity of the event (none, light, moderate, heavy).

The **DWeather 100** can thus quantify the precipitation in mm and mm/hour, in the case of rain; and in equivalent mm, for snow and hail.

The **DWeather 100** has been designed for energy saving, and can also be powered off a photovoltaic panel.

Its intelligent heating control system prevents condensation and snow/ice building up on the sensor, while keeping energy consumption to a minimum.

The data are output over the unit's RS485 port.

The **DWeather 100** can be configured (operating parameters) and diagnosed on site, and the data logged in its integrated memory over the last 30 days can also be downloaded.



PRINCIPAL CHARACTERISTICS

- Recognition of the type and intensity of precipitation
- Visibility measurement
- Sensitive to minimal variations
- Can be powered off a photovoltaic panel
- Self-diagnostics



TECHNICAL SPECIFICATIONS

OPERATING CONDITIONS

- Temperature: -40 °C ... +60 °C
- Humidity: 0 % ... 95 %, no condensation

SENSOR POWER SUPPLY

- 7 V_{DC} ... 40 V_{DC}

HEATING POWER SUPPLY

- 10 V_{DC} ... 30 V_{DC}

SENSOR POWER DRAW

- 0.6 W ... 0.8 W (with heating off)
- 12 W (with heating ON)

ENCLOSURE

- Anodised aluminium

PROTECTION RATING

- IP65

DIMENSIONS

- 421 x 678 x 296 mm (H x W x D)

WEIGHT

- 6 Kg

MEMORY

- 512 Kb (sufficient for up to 30 days)

INTERFACES

- RS232 (service port)
- RS485 (datalogger port)

PRECIPITATION SENSOR TRANSDUCER

- Optical barrier generated by class 1 laser diodes
- Red light (visible)
- Double optical receiver

MEASUREMENTS

- Type of precipitation: rain, snow, hail, mixed

QUANTITY OF PRECIPITATION

- mm (rain)
- equivalent mm (snow and hail)

INTENSITY OF PRECIPITATION

- mm/h (rain)
- None, light, moderate, heavy

FIELD OF VIEW

- 50 x 200 mm

VISIBILITY SENSOR TECHNOLOGY

- Back scattering

MEASUREMENT RANGE

- 10... 1000 m
- 10... 2000 m
- 10... 5000 m
- Consumption depends on the maximum measurable visual distance and whether the heating system is ON or OFF