

WEATHER

Visibility & Present Weather Sensor

Model 6498

Overview

The Model 6498 Series uses infrared forward scatter to measure visibility and report present weather. The sensors can operate as standalone devices or as part of an automated weather station. The economical design, precise measurements, and low maintenance requirements make the Model 6498 suitable for a wide range of applications.

Features

- Reports meteorological optical range up to 100 km
- Reports SYNOP, METAR, and NWS weather codes
- Reports precipitation type and intensity
- Uses continuous high-speed sampling
- Monitors internal status and lens contamination
- Supports optional runway visual range reporting

Accuracy by Design

The Model 6498 uses a 42° scatter angle to estimate meteorological optical range (MOR). The sensor identifies precipitation particles from their scattering properties and fall speeds. The sensor combines these measurements with temperature data to identify the weather type.

Downward-pointing optics reduce contamination and blockage from snow. The optical arrangement also minimizes interference caused by airflow distortion, or heat in the sample volume.

Continuous high-speed sampling reduces errors during mixed-weather events and intermittent precipitation, such as rain and hail. The sensor also supplies stable measurements under fog, mist, and haze conditions.

All-weather heater operation. Low-power dew-prevention heaters and higher power anti-icing hood heaters are standard. The Model 6498 controls the heaters automatically to maintain proper sensor operation.

The sensor continuously monitors its internal status. It reports internal faults and contamination or blockage of the sensor lenses.

Temperature and relative humidity sensors can be fitted, improving precipitation identification, and allowing relative humidity information to be provided.

Runway Visual Range

A Model 6498 sensor that reports visibility can be combined with a background luminance sensor to provide runway visual range (RVR) reports.



Ordering Information

Part Number	Description
6498-P	Present Weather (includes Model 2715 UPCM)
6498-V	Visibility (includes Model 2715 UPCM)
6498-PV	Present Weather and Visibility (includes Model 2715 UPCM)
6498-DC-P	Present Weather (used with Model 1192 DCP)
6498-DC-V	Visibility (used with Model 1192 DCP)
6498-DC-PV	Present Weather and Visibility (used with Model 1192 DCP)

Accessories

Part Number	Description
M482254-00	Calibration Kit
M403582-00	Day/Night Sensor (for visibility*)
5000	Background Luminance Sensor (for RVR†)
M488600-00	Background Luminance Sensor (for RVR†)
M482264-00	Radar Precipitation Detector‡
M482295-00	Temperature/Relative Humidity Probe§

* Day/Night Sensor required for visibility (MOR) measurements

† Either Background Luminance Sensor required for RVR measurements

‡ Augments Present Weather reports to include freezing rain, sleet, and hail

§ Improves Present Weather reporting at or near freezing temperatures

Visibility & Present Weather Sensor

Specifications

Parameter	Specification
Measuring Range	5 m – 100 km
Rain Rate	0 – 999.99 mm/h
SYNOP Codes	As per WMO Table 4680
METAR Codes	As per WMO Table 4678
NWS Codes	L, R, S, SG
Visibility Accuracy	±10% average (≤10 km) ±15% average (≤15 km)
RVR* Accuracy	1 m
Scatter Measurement Accuracy	±3%
Visibility Resolution	1 m
RVR* Resolution	25 m (<400 m) 50 m (400 to 800 m) 100 m (>800m)
Precipitation Detection Sensitivity	0.05 mm/h
Operating Temperature	-40 to +70°C
Storage Temperature	-40 to +85°C
Operating Wind Speed	60 m/s (120 kts) max.
Relative Humidity	0 – 100%
Address Range	0 – 9
Communications	RS-232/RS-485
Protocol Mode	Polled or Auto Output
Enclosure	IP66 (NEMA 4X)
Power Supply	115/230 V AC, 50/60 Hz, 50 V•A
Transient Protection	AC power and serial signal lines fully protected
Mounting	32.0–52.5 mm dia. mast coupling
Mounted Height	2.5 m
Mounting	Pipe mounting kit included

* Background Luminance Sensor required for RVR measurements

Dimensions & Weights

Dimensions	447 mm H x 640 mm W x 245 mm D
Weight	3 kg (6.6 lb)
Shipping Weight	18 kg (40 lb)