Present Weather & Visibility
Model 6497

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OVERVIEW

The Model 6497 Present Weather and Visibility Sensor is the most advanced sensor of its kind ever made. The fully automated instrument provides accurate visibility, present weather, and precipitation measurement capabilities in a single sensor. This next-generation intelligent sensor uses all digital signal processing for no-drift high-accuracy results.

The Model 6497 Present Weather and Visibility Sensor measures visibility and detects and quantifies rain, snow, drizzle, freezing and mixed precipitation conditions. The sensor is designed for year-round continuous operation in all climate types ranging from extreme arctic to deserts and tropical rain forests. Visibility readings are used to calculate Runway Visual Range (RVR) values.

FEATURES

- Combines present weather identification, precipitation measurement and visibility into a single rugged package
- Outstanding performance yet low cost
- No field calibration required
- Uses advanced scintillation technology
- Intelligent algorithms based on over 100 million hours of sensor field data
- Rugged design – field proven from tropical to arctic environments
- Easy Installation and integration
- Long-term reliability – designed for unattended operation year-round
- Unaffected by dust or buildup on lenses
- Reports over 50 NWS / WMO codes
- Virtually no maintenance required
- Built-in self diagnostics and testing

SENSORS

SPECIFICATIONS

Parameter	Specification
Present Weather Codes Reported	>50 NWS and WMO codes
Present Weather Type Identification	Rain, Snow, Drizzle, and Mixed (Hail and ice pellets w/ M482258-00)
Rain Dynamic Range	0.1–3000 mm/h
Rain Accumulation	0.1–999,999 mm
Rain Accumulation Resolution	0.001 mm
Rain Accumulation Accuracy	5%
Snow Dynamic Range	0.01–300 mm/h water equivalent
Snow Accumulation	0.001–999,999 mm water equivalent
Snow Accumulation Resolution	0.001 mm
Snow Accumulation Accuracy	10%
Snow Measurement Accuracy	10% accumulation
Visibility/RVR Dynamic Range	0.001–50 km
Visibility/RVR Accuracy	±10% to 5 km, ±15% to 10+ km
Visibility/RVR Time Constant	3 minute harmonic
Visibility/RVR Contrast Threshold	5%
Ambient Light Dynamic Measurement Range	0–107,000 lm/m^2
Measurement Technique	Scintillation with optical forward scatter
Serial Data	
Data Update Rate	When polled
Serial Output	RS-485 (half duplex), may be configured for RS-232 or RS-485 (full duplex)
Output Format	ASCII characters
Serial Port Parameter Setting	4800 8-N-1
Power Requirements	
Supply Voltage	115/230 V AC, 50/60 Hz, 50 V•A
Transient Protection	AC power and serial signal lines fully protected
Environmental	
Operating Temperature	-50 to +50ºC (-58 to +122ºF)
Relative Humidity	0–100%, noncondensing
Electronics Enclosure	NEMA 4X fiberglass

DIMENSIONS & WEIGHTS

Specification	
Sensor Assembly Size	13 cm H × 28 cm W × 89 cm D (5” H × 11” W × 35”D)
Electronics Enclosure Size	40.6 cm W × 45.6 cm H × 26.2 cm D (16.00” W × 17.87” H × 10.31” D)
Sensor Assembly Weight	4.5 kg (10 lb)
Electronics Enclosure Weight	10.kg (22 lb)
Cable Length	7.7 m (25 ft)

ORDERING INFORMATION

Part Number	Description
6497	Present Weather and Visibility Sensor
M482230-00	Sensor Assembly
M482258-00	Hail and Ice Pellet Sensor (HIPS)
2715	Universal Power and Communication Module (UPCM)
M442089-00	10 A 250 V, 5x20 mm slow blow fuse
M438130-00	Backup Battery

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