

Visibility Sensor 56-VISI-1



Accurately Measures Atmospheric Visibility for Rain, Smoke, Dust, Fog, Snow, Haze

- ▶ Factory adjustable visibility ranges
- ▶ Flexible output options
- ▶ Proven 42-degree forward scatter angle
- ▶ Ice-resistant “look down” geometry
- ▶ Compact, lightweight package
- ▶ Simple installation & maintenance

Features

- ▶ Measures atmospheric visibility (meteorological optical range) by determining the amount of light scattered by particles (smoke, dust, haze, fog, rain, & snow) passing through the optical sample volume.
- ▶ A 42-degree forward scatter angle is used to ensure performance over a wide range of particle sizes.
- ▶ MOR is calculated by converting the received signal strength (extinction coefficient, σ) using Koschmeider’s formula, $MOR (Km) = 3 / \sigma$.
- ▶ Performance in all weather conditions is achieved with an integrated sensor design that keeps all sensor cabling internal to the sensor for complete protection against the weather.
- ▶ Made from anodized aluminum and rugged, UVresistant fiberglass enclosures rated to IP66.
- ▶ Based on the proven field experience of the NWS and FAA, the sensor uses a “look down” geometry to reduce window contamination and clogging from blowing snow.
- ▶ The optical windows have continuous duty anti-dew heaters and optional thermostatically controlled external hood heaters are available for protection in extreme environments.
- ▶ All power & signal lines are protected with surge & EMI filtering to guarantee uninterrupted service for the life of the sensor.
- ▶ Installation and maintenance are simple. A mounting flange located on the bottom of the Main Enclosure Box mates with a user supplied 1-1/2 inch IPS mounting pipe.
- ▶ Power and signal cables are installed through waterproof cable glands on the bottom of the Main Enclosure Box to terminal boards for simple but reliable connections.
- ▶ Calibration in the field is simple. Attach a factory supplied calibration fixture and follow a short procedure (<30 min.) Semiannual calibration is recommended.
- ▶ This equipment is in compliance with the essential requirements and other provisions of Low Voltage Directives 73/23/EEC 89/336/EEC as amended by Directive 93/68/EEC.



SPECIFICATIONS	
Subject to change without notice.	
Visibility Range	30m - 16 km standard
	10m - 10 km optional
Extinction Range	100 km ⁻¹ - 0.1863 km ⁻¹ standard
	300 km ⁻¹ - 0.30 km ⁻¹ optional
Accuracy	3 10% RMSE
Time Constant	60 sec
Scatter Angle	42 deg nominal
Source	880 nm LED
Power	
AC Version (optional)	100-240 VAC, 24 VA Nominal; 75 VA w/ Hood Heaters
DC Version (standard)	10-36 VDC, 6 VA Nominal; 18 VA w/ Hood Heaters
Environmental	
Operating Temperature	-40 to 60 C
Operating Humidity	0-100%
Protection	IP66 (NEMA-4X)
Outputs	Serial RS-232 standard
Output Options	0-5 VDC analog
	4-20 ma single ended or isolated
	Relays - Control (up to 2), diagnostic, or latching
	0-10 VDC analog
	Wireless RF Modem
Weight	8 kg (18 lb)
Dimensions	889 mm W x 292 mm H x 305 mm D (35 in x 11.5 in x 12 in)
Mounting	Nominal 40 mm ISO pipe, 48 mm OD max (1-1/2" IPS pipe, 1.9 inch OD max) or Nominal 25 mm ISO pipe, 33 mm OD max (1" IPS pipe, 1.3 inch OD max)

ORDERING

56-VISI-1	10-36 VDC Power & RS-232 Output
Options	
56-VISI-1CAL	Calibration Fixture
56-VISI-1MNT	Mounting Bracket