VISIBILITY SENSOR



Model 6000

- **HIGH ACCURACY**
- **PROVEN OPTICAL TECHNOLOGY**
- **DIGITAL, ANALOG OR SWITCH OUTPUTS**
- **SELECTABLE ALARM THRESHOLDS**
- **COMPACT, LIGHTWEIGHT DESIGN**
- **EASY INSTALLATION AND MAINTENANCE**
- **CORROSION RESISTANT**

The Belfort Model 6000 Visibility Sensor is designed to monitor visibility conditions over a range of 0-50 miles (0-80 km). The Model 6000 includes both analog and digital outputs. Analog output ranges of 0-1, 0-5 or 0-10 volts and 4-20 mA are available. Also included are alarm outputs, which can be adjusted to alarm at user preset visibility thresholds. Two alarm channels are standard, making it possible to indicate Good/Medium/Poor Visibility by setting the appropriate thresholds. Digital RS232 and RS422 output at 300-38,400 Baud can be used to indicate the present visibility and provide diagnostic information.

Belfort has applied its proven experience with visibility technology in designing this new sensor for applications which still require high accuracy, but over a more limited range of visibility. These sensors are designed to provide both accuracy and reliability in a cost effective package. Applications include lighthouses, highways, resort areas, as well as shipboard and other marine platforms.

Visibility is detected using widely accepted principles of forward scattering. A high output infrared LED transmitter projects light into a sample volume, and light scattered in a forward direction is collected by the receiver. The light source is modulated to provide excellent rejection of background noise and natural variations in background light intensity. The sensor's analog output signal is proportional to visibility. Visibility is also compared to the preset alarm thresholds, so that when alarm conditions are reached, the outputs are switched. Visibility thresholds can be set to any value within the instrument range. Alarm outputs are toggles from 0 to 5 V, or from 5 to 0 V, when the alarm condition is satisfied.

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These sensors are assembled around a compact, lightweight housing, which can be installed on a simple pipe mast. They are constructed entirely of corrosion resistant materials for durability. The standard unit includes small heaters to prevent condensation on the optics. Optional hood heaters are available for areas where the sensor will operate in freezing weather. Transmitter and receiver hoods are designed to divert precipitation away from the optical paths. Calibration is possible under most weather conditions. The wide range of output options allows the sensor to conform to most installation requirements.

Belfort Visibility Sensors have earned a leading reputation with the world's foremost meteorological organizations. The Model 6000 Sensor brings this quality tradition to applications requiring only limited range visibility monitoring.

STANDARD FEATURES

- Uses proven optical geometry
- U-bolt mounting for simple installation
- 110 VAC, 220/240 VAC, 12 VDC
- Low power consumption
- Dual alarm settings
- User configurable analog output
- CE approved
- 47 CFR 15

OPTIONS

- Calibration kit (Part Nbr 90001)
- Ambient Light Sensor (Part Nbr 96916-01)

BELFORT INSTRUMENT
The Standard of Measurement

SPECIFICATIONS

Range	16.4 ft. - 50 miles (5m - 80km)
Accuracy	+/- 10% 5m-10,000m +/- 20% 10,000m - 80,000m
Scatter angle	42° nominal
Source	Infrared LED
Outputs:	
Analog	0 - 1, 0 - 5, 0 - 10 volts, 4 - 20 mA
Alarms	2 channels, TTL Hi/Lo
Digital	RS232, RS422, 300 to 38,400 baud
Environmental:	
Temperature	-50° to + 140°F (-50° to + 60° C)
Humidity	0-100%
Power Requirements	17 W
Heater power	25 W
Dimensions	41" W x 11" H x 21" D
Weight	20 lbs.
Mounting	U-bolts for 1-1/4" to 2" NPT pipe mast
Wind Speed	Up to 60 m/s

ORDERING INFORMATION

Model	Part Nbr	Description
Model 6000	90000	Visibility Sensor, Analog and Digital Output

Unless otherwise specified, standard configuration will be miles, RS232, 9600 baud, N, 8, 1, 0-10 volts, 4-20 mA, analog limit 10 miles

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