

ALL ENVIRONMENT VISIBILITY SENSOR



- **HIGH ACCURACY**
- **PROVEN OPTICAL TECHNOLOGY**
- **DIGITAL AND RELAY OUTPUTS**
- **SELECTABLE RELAY THRESHOLDS**

The Belfort Model 6400 Visibility Sensor is designed to monitor visibility conditions over a range of 20ft-50miles (6m-80km). The Model 6400 includes digital, analog voltage and current, and relay outputs. Digital RS232/RS485 output at 300-38,400 Baud can be used to indicate the present visibility, provide diagnostic information, and provide access to the configuration and calibration options. The analog voltage and current are proportional to a user specified range. The SPDT relay with configurable pull in and drop out set points can provide signals to a VMS or other optional user system.

Belfort has applied its proven experience with visibility technology in re-designing this new sensor for applications which require high accuracy over an extended range of visibility. These sensors are designed to provide both accuracy and reliability in a cost effective package. The Model 6400 now features ease of field serviceability. Applications include synoptic stations, 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

- **COMPACT, LIGHTWEIGHT DESIGN**
- **CORROSION RESISTANCE**
- **METEOROLOGICAL OPTICAL RANGE (MOR)**

variations in background light intensity. The sensors can asynchronously stream RS232/RS485 visibility data at user configured intervals, or can be operated in the polled mode, outputting information only when asked. Visibility is also compared to the preset relay thresholds, so that when an alarm condition is reached, the relay output is switched. Visibility thresholds can be set to any value within the instrument range.

The Model 6400 Visibility Sensor can be ordered with an attached Ambient Light Sensor. The Belfort Model 6300 Ambient Light Sensor (ALS) measures the luminance of a six degree cone of sky.

These sensors are assembled around a compact, light-weight 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. A calibration kit is available for field calibration. Calibration is possible under most weather conditions. Belfort Visibility Sensors have earned a leading reputation with the world's foremost meteorological and transportation organizations. The Model 6400 Sensor continues this quality tradition at a more favorable cost.

THE STANDARD
OF MEASUREMENT

BELFORT INSTRUMENT
www.belfortinstrument.com

ALL ENVIRONMENT VISIBILITY SENSOR

Model 6400

SPECIFICATIONS

Range	20 ft to 50 miles (6m to 80km)
Accuracy	+/- 10%
Scatter Angle	42° Nominal
Light Source	Infrared LED
Outputs	RS232/RS 485, 300 to 38,400 baud SPDT Relay
Analog Voltage	0v-1vdc, 0v-5vdc, 0v-10vdc
Analog Current	4 to 20 ma
Environmental	-40° to 130° F -40° to +55° C 0 to 100% Humidity
Power Requirement	+11.8 to 13.8 VDC at 280 ma or 3.4 Watts
Window Heater On	Additional 550 ma or 6.6 Watts
Hood and Electronic Heater On	Additional 1.66 amps or 20 Watts
ALS Attached	Additional 500 ma or 6 Watts
Dimensions	38" w x 13" h x 16" d
Weight	17.5 lbs (7.9 kg)

STANDARD FEATURES

Meteorological Optical Range (MOR)
Uses proven optical geometry
U-bolt mounting for ease of installation (1.5" to 3.5")
12 VDC
Low power consumption
User configurable relay output

OPTIONS

Calibration Kit (P/N 92001)
Hood Heaters (Configurable)
Analog Output (Analog Voltage-Configurable; Analog Current-Configurable)



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