

VisWx

VIS/PRESENT WEATHER SENSOR



*VisWx
VIS/Present Weather Sensor
Model 6450*

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

- **COMPACT, LIGHTWEIGHT DESIGN**
- **CORROSION RESISTANCE**

The Belfort Model 6450 VisWx Present Weather Sensor is designed to monitor visibility conditions over a range of 20ft-50miles (6m-80km), as well as report weather conditions in accordance with World Meteorological Organization Codes (WMO), required for automatic synop messages. The Model 6450 includes both digital and relay outputs. Digital RS232 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 Model 6450 VisWx reports four types of Present Weather using 15 WMO codes for rain, snow, sleet and hail.

Belfort has applied its proven experience with visibility technology in designing this new sensor for applications which require high accuracy over an extended range of visibility and weather conditions. These sensors are designed to provide both accuracy and reliability in a cost effective package. Applications include synoptic stations, highways and other 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 sensors can asynchronously stream RS232 visibility and present weather data at user configured intervals, or can be operated in the polled mode, outputting information only when asked. Visibility thresholds can be set to any value within the instrument range.

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. 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 6450 VisWx Sensor continues this quality tradition at a more favorable cost.

**THE STANDARD
OF MEASUREMENT**



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VIS/PRESENT WEATHER SENSOR

Model 6450

SPECIFICATIONS

Visibility	20 ft to 50 miles (6m to 80km)
Accuracy	+/- 10% (6m to 80km)
Scatter Angle	42° nominal
Present Weather	Identifies 4 different types of precipitation (rain, drizzle, mixed rain/snow, snow) fog, mist, haze (smoke, sand) or clear <ul style="list-style-type: none">• Rain: R-; R; R+• Snow: S-; S; S+• Sleet• Hail
Precipitation Rates	0.1 to 8.0 inches/hour < 5% error within normal range of 0.4 to 4.0 inches/hour
Light Source	Infrared LED
Outputs	RS232, 300 to 38,400 baud SPDT Relay
Environmental	-40° to 140° F (-40 to +60 C) 0 to 100% Humidity
Power Requirement	12 Watts nominal
Hood Heater	25 Watts Additional
Dimensions	38" w x 13" h x 16" d
Weight	17.5 lbs. (7.9 kg)

Part Number: P/N 92500-1

STANDARD FEATURES

- Uses proven optical geometry
- U-bolt mounting for ease of installation
- (1" to 2")
- 12 VDC
- Low power consumption
- User configurable relay output

OPTIONS

- Calibration Kit P/N 92001



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