



## OWI-430 DSP-WIVIS™ Present Weather and Visibility Sensor



The OWI-430 DSP-WIVIS™ is the most advanced present weather and visibility sensor ever made. The fully automated instrument provides accurate visibility, present weather and precipitation measurement in a single sensor. This next generation intelligent sensor uses all digital signal processing (DSP) for no-drift high-accuracy results. OSi's patented environmentally adaptive algorithms use artificial-intelligence technology derived from over 100 million field hours of real-world data from our sensors installed around the world. The result is the most advanced weather sensor in the world.

The DSP-WIVIS™ 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 climates from Antarctica to tropical rain forests. OSi's advanced weather sensors provide critical weather information to airport, highway, military, research and meteorological weather information systems all over the world with over 2000 systems fielded. Sensing the environment is not a sideline business for us – it is our primary focus. When you need superior present weather information and high reliability, nothing else can match OSi's DSP-WIVIS™. Thanks to the new DSP electronics, the typical need for field calibration is completely eliminated. The single enclosure makes integration and installation simple.

### DSP-WIVIS™ Advantages

- Combines present weather identification, precipitation measurement and visibility into a single rugged package
- Outstanding performance yet low cost
- DSP based – no field calibration required
- Advanced scintillation technology
- Intelligent algorithms based on over 100 million hours of OSi sensor field data
- Rugged design – field proven from tropical to sub-arctic environments
- Easy Installation and integration
- Long-term reliability – designed for unattended operation 24/7/365
- Unaffected by dust or buildup on lenses
- Reports over 50 NWS / WMO codes
- Virtually no maintenance required
- Built-in self diagnostics & testing
- Enhanced EMI and surge protection
- True RVR reporting option available

Adding the optional HIP-100 acoustic sensor provides for enhanced hail and ice pellet discrimination. The DSP-WIVIS™ is widely used by airports and regional DOT's across the US & throughout the world. No other weather instrument can provide this powerful combination of high performance, low cost and proven reliability! No other company can provide the proven level of support and customer satisfaction that OSi does!

### DSP-WIVIS™ Ordering Information:

- Model no: OWI-430-DS (DC powered, RS-232 serial I/O – specify Metric or ANSI)
- **DSP-WIVIS™ Accessories:**
  - HIP-100 Hail and Ice Pellet add-on sensor
  - QCS-130 QwikCollect Software for Windows
  - PSB-430 AC-powered junction box
  - MZ-0649-00 Limited Distance Modem

## OWI-430 DSP-WIVIS™ Specifications

Performance Specification	
Measurement Technique	Scintillation with optical forward scatter and optional acoustic*
Data Reporting Update Rate	1 minute
Present Weather Codes Reported	More than 50 NWS and WMO codes
Present Weather Type Identification	Rain, snow, drizzle, mixed, hail and ice pellets*
Snow / Rain Accumulation	.001 to 999.999 mm
Snow / Rain Measurement Resolution	0.001 mm
Rain Dynamic Range	0.1 to 3000 mm/hr
Rain Measurement Accuracy	5% accumulation
Snow Dynamic Range	0.01 to 300 mm/hr
Snow Measurement Accuracy	10% accumulation
Hail / Ice Pellet Reporting Accuracy	Correct ID better than 90% of time*
Visibility / RVR Dynamic Range	0.001 to 10+ km (metric and ANSI units available for all ranges) 0.001 to 30+ km (extended range option 1) 0.001 to 50+ km (extended range option 2)
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 to 9,990 candles / m <sup>2</sup>

Electronic Specification	
Power Requirements	11-18 VDC, 3 A nominal (HIP-100 requires 110/220 VAC, 100 VA)*
Transient Protection	All power & signal lines fully protected
Signal Output	RS-232 ASCII, simple polled protocol

Environmental Specification	
Temperature	-40° to 122° F (-40° to 50° C)
Humidity	0 to 100%, Condensing
Wind Speed	125 knots
Icing	0.5" / hr – Heaters protect all optics
Precipitation / Dust	NEMA 4 type protection (Powder-coated aluminum)

Physical Specification	
DSP-WIVIS Sensor Size	35 x 5 x 11 inches (890 x 130 x 280 mm)
DSP-WIVIS Sensor Weight	10 lbs. (4.5 kg)
Cable Length	25 ft. (7.7 meter)
Optional HIP-100 Size	34 x 4 x 9 inches (865 x 90 x 216 mm)
Optional HIP-100 Weight	5 lbs. (2.3 kg)

\* References to acoustic / hail and ice particles requires optional HIP-100 Acoustic Hail and Ice Pellet add-on.  
Specifications are subject to change without notice.



**2 Metropolitan Ct., Suite 6  
Gaithersburg, MD 20878 USA**

**Ph. 301-963-3630  
Fax 301-948-4674**

**website: [www.opticalscientific.com](http://www.opticalscientific.com)  
email: [sales@opticalscientific.com](mailto:sales@opticalscientific.com)**

***For the world's best  
performing and most  
reliable advanced optical  
instruments, please  
contact OSi today!***

