

# MODEL 5438

## RWIS Present Weather and Visibility Sensor

- DSP Based - No Field Calibration
- Single Rugged Package
- Unaffected by Dust or Build-up on Lenses
- Built-in Self Diagnostics & Testing



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### DESCRIPTION:

The Model 5438 RWIS Present Weather and Visibility Sensor is a fully automated instrument that provides accurate visibility, present weather and precipitation measurements in a single sensor. It uses all digital signal processing (DSP) for no-drift high accuracy results. Applications include use at airports, along roadways by regional and/or state transportation departments, and road weather research facilities.

The 5438 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 types of climates and requires very little maintenance.

Additional features include a built-in self diagnostics and testing system, enhanced EMI and surge protection, and the capability of reporting over fifty National Weather Service/World Meteorological codes.

### SPECIFICATIONS:

Measurement Technique .....	Scintillation w/Optical Forward Scatter
Data Reporting Update Rate .....	1 Minute
Present Weather Codes Reported .....	+50 NWS & WMO Codes
Type Identification .....	Rain, Snow, Drizzle, Mixed, Hail, Ice Pellets*
Snow/Rain Accumulation .....	.001 - 999.999mm
Snow/Rain Measurement Resolution .....	0.001mm
Rain Dynamic Range .....	0.1 - 3000mm/hr
Rain Measurement Accuracy .....	5% Accumulation
Snow Dynamic Range .....	0.01 - 300mm/hr
Snow Measurement Accuracy .....	10% Accumulation
Hail/Ice Pellet Reporting Accuracy .....	Correct ID >90% of Time*
Visibility/RVR Dynamic Range .....	0.001 - 10+km (Metric & ANSI units & extended ranges available)
Visibility/RVR Accuracy .....	10% - 5km, 15% - 10+km
Visibility/RVR Time Constant .....	3 Minute Harmonic
Visibility/RVR Contrast Threshold .....	5%
Ambient Light Dynamic Measurement Range .....	0 - 9,990 Candles/m <sup>2</sup>
Power .....	10-18VDC, 3 Amps Nominal (Model 5438-05 requires 110/220VAC, 100VA)
Signal Output .....	RS-232 ASCII, Simple Polled Protocol
Temperature .....	-40 - 122 F (-40 - 50 C)
Humidity .....	0 - 100%
Precipitation/Dust .....	NEMA-4 Type Protection
Cable .....	25 Feet (7.7m)
Size	
Model 5438-00 .....	35"x5"x11" (890 x 130 x 280mm)
Model 5438-05 .....	34"x4"x9" (865 x 90 x 216mm)
Weight	
Model 5438-00 .....	10 Pounds
Model 5438-05 .....	5 Pounds
Shipping Weight	
Model 5438-00 .....	15 Pounds
Model 5438-05 .....	8 Pounds

### ORDERING GUIDE:

Model 5438-00 .....	RWIS Present Weather and Visibility Sensor
Model 5438-01 .....	NEMA-4 Power Supply/Junction Box (120/240VAC; 50/60Hz)
Model 5438-05 .....	Hail and Ice Pellet Add-on Sensor

\*References to acoustic/hail & ice particles requires optional Model 5438-05 add-on.

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*Environmental Monitoring Solutions*

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