

GMX541 Compact Weather Station

The MaxiMet range of compact weather stations is designed and manufactured by Gill Instruments. MaxiMet products use reliable, high quality instruments to provide accurate meteorological information in a wide variety of applications.

GMX541 Features

Temperature, humidity, pressure. A combined instrument mounted inside three double louvered, naturally aspirated radiation shields with no moving parts. The results are high performance across each measurement over long periods of time.

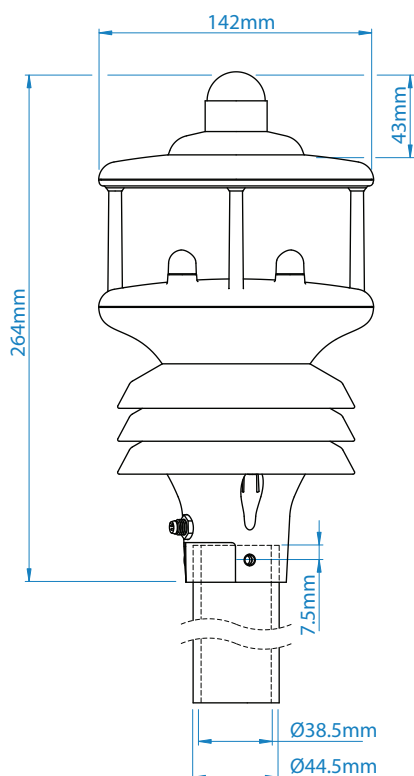
Solar radiation. An integrated solar radiation sensor/pyranometer. This highly accurate instrument uses a thermal sensor mounted at its base and protected by a single glass dome to record the amount of light in watts per metre². It is widely used in agro-meteorological applications and for monitoring the performance of solar panels.

Wind. Wind speed and direction measurements are provided via an ultrasonic sensor and the addition of an electronic compass provides apparent wind measurements. Average speed and direction together with WMO averages and gust data is also provided. Add GPS (optional) to provide true wind and other features.

Precipitation. The Optical rain gauge supplied provides excellent performance in a low maintenance package. The Optical RG connects via a 20m cable (included).



TEMP, HUMIDITY & PRESSURE	SOLAR RADIATION	WIND	PARAMETERS
<ul style="list-style-type: none"> Air Pressure / Temperature Relative / Absolute humidity Naturally aspirated UV stable Radiation shield Protection against wind-blown precipitation/dust 	<ul style="list-style-type: none"> Complies with ISO 9060 and WMO Guidelines Output in watts per metre² 180° hemispherical field of view Records sunshine hours Integrated Hukseflux LP02 pyranometer Glass dome 	<ul style="list-style-type: none"> Wind speed & direction Apparent and true wind (with GPS) WMO wind averages and gust Compass 	<ul style="list-style-type: none"> Solar radiation W/m^2 Sunshine hours <i>hrs</i> Solar Noon Temperature $^{\circ}C / ^{\circ}F / ^{\circ}K$ Relative humidity % <i>Rh</i>, Barometric pressure <i>hPa, mbar, mm Hg, In Hg</i> Wet bulb temperature $^{\circ}C / ^{\circ}F / ^{\circ}K$ Absolute humidity g/m^3 Air density kg/m^3 Precipitation <i>mm/hr, mm/total, in/hr, in/total</i> Wind speed <i>m/s, km/hr, mph, kts, ft/min</i> Wind direction $^{\circ}$ Wind chill $^{\circ}C / ^{\circ}F / ^{\circ}K$ True/apparent wind Angle of Tilt Outputs <i>RS232, 422, 485 (ASCII), SDI-12, NMEA, MODBUS, Analogue (option)</i>
GPS (OPTION) <ul style="list-style-type: none"> Height above sea level <i>m</i> Sunrise/sunset Position of the sun Twilight Solar Noon MSL pressure 			
PRECIPITATION (INPUT) <ul style="list-style-type: none"> 0.08 mm tip Optical rain gauge (customer selectable) 20m Cable 			



All MaxiMet Models Feature

- Quality Measurements
- Lightweight and Robust
- Low Power Mode
- Free of Charge Software
- Gill Proven Reliability
- Compact Integrated Design
- Real Time Output
- Easy Installation
- Gill Customer Support
- 2 Year Warranty

Optical Rain Gauge

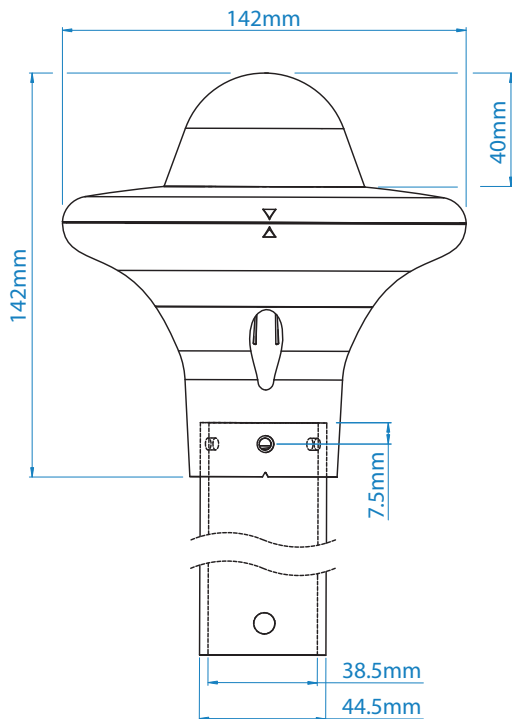
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Optical Rain Gauge Features

Precipitation. An integrated optical rain gauge that automatically senses water hitting its outside surface and provides tip measurement.

Algorithms in the GMX541 interpret this tip data and simulate the output of a tipping bucket rain gauge as part of the serial output from the GMX541. The optical rain gauge has no moving parts associated with tipping bucket gauges.

Output and power to the GMX541 is via a 20m cable (included) that the user can cut to length.



SPECIFICATION

Measurement type	Optical RG
Range	0 to > 300 mm/hr
Precipitation Resolution	0.08 mm (Customer Selectable)
Repeatability	3%
Sampling Rate	1 Hz
Units	mm/hr, mm/total, in/hr, in/total
Heating	N/A
Output	Contact closure via 20m cable to GMX
Power Supply	12Vdc via above 20m cable to GMX

Applications

- Building and Industrial Controls
- Authorities
- Transport
- Coastal
- Agricultural
- Safety
- Educational
- Commercial
- Energy

WIND SPEED	
Range	0.1 m/s to 60 m/s
Accuracy	± 3% to 40 m/s, ± 5% to 60 m/s
Resolution m/s	0.01
Starting Speed	0.1 m/s
Sampling Rate	1 Hz
Units	m/s, km/hr, mph, kts, ft/min

WIND DIRECTION	
Range	0-359°
Accuracy	± 3° to 40 m/s ± 5° to 60 m/s
Resolution	1°
Sampling Rate	1 Hz
Units	Degrees

TEMPERATURE	
Range	-40°C to +70°C
Resolution	0.1
Accuracy	± 0.3°C @ 20°C
Sampling Rate	1 Hz
Units	°C, °F, °K

HUMIDITY	
Range	0-100%
Resolution	1%
Accuracy	± 2% @ 20°C (10%-90% RH)
Sampling Rate	1 Hz
Units	% Rh, g/m ³

DEW POINT	
Range	-40°C to +70°C
Resolution	0.1
Accuracy	± 0.3°C @ 20°C
Units	°C, °F, °K
Sampling Rate	1 Hz

PRESSURE	
Range	300 to 1100 hpa
Resolution	0.1 hPa
Accuracy	± 0.5 hPa @ 25°C
Sampling Rate	1 Hz
Units	hPa, mbar, mmHg, inHg

PRECIPITATION	
Measurement type	Optical RG
Range	0 to > 300 mm/hr
Precipitation Resolution	0.08 mm (Customer Selectable)
Repeatability	3%
Sampling Rate	1 Hz
Units	mm/hr, mm/total, in/hr, in/ total
Heating	N/A
Output	Contact closure via 20m cable to GMX

GLOBAL SOLAR RADIATION	
Wavelength Sensitivity	300 to 3000 nm
Output Range	0 to 1600 W/m ²
Resolution	1 W/m ²
DIN Standard	ISO 9060 Second Class
Sampling Rate	1 Hz
Units	W/m ²

OUTPUTS	
Output rate	1/s, 1/min, 1/hr
Digital Comms Modes	Serial RS232, RS422, RS485, SDI-12, NMEA, MODBUS, ASCII
Analogue Outputs	Available via separate optional device

POWER	
Power Supply	5 to 30 Vdc
Power (Nominal) 12 Vdc	64mA continuous high mode. 0.7mA eco-power mode (1 hour polled)

ENVIRONMENTAL CONDITIONS	
IP Rating	66
Operational Temperature Range:	-40°C to +70°C
EMC Standard:	BS EN 61326 : 2013 FCC CFR47 parts 15.109
CE Marking	YES
RoHS compliant	YES
Weight	0.8 Kg (+ 1.1 kg Rain Gauge inc 20m Cable)
Origin	UK

Specifications may be subject to change without prior notice



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