

GMX551 Compact Weather Station

High quality, easy-to-use, integrated weather station

MaxiMet compact weather stations are designed to be simple to install, use and maintain. In addition to providing measured parameters, the products derive additional parameters and data is output as a single string and available on a range of communications protocols.

MaxiMet weather stations benefit from the same technology used in Gill's scientific product range, ensuring measurement accuracy, low maintenance and continuous status reporting.

The MaxiMet family includes a range of sensor configurations allowing customers to select the model most appropriate to their needs.

Typical applications

- Control systems including smart buildings, agriculture and industry.
- Solar farms.
- Road and rail.
- Ports and harbours.
- Reporting systems for transport and safety.
- Low power/solar powered deployments and IoT applications.

MaxiMet GMX551 key features

- Seven measured parameters:
Wind speed & direction, temperature, humidity, pressure, rainfall (tipping bucket connector), solar radiation, optional heating, optional GPS function.
- Multiple additional derived parameters based on combining measured parameters, such as gust, average wind speed and dew point.
- High quality, accurate, solid state sensors.
- 2-axis compass.
- Optional integrated GPS capability available to provide location, GPS timestamp and a calculation of true wind if the platform is moving.
- Optional low power heating

Benefits

- High quality measurement data due to careful sensor selection and extensive design testing and verification.
- Easy to set-up and integrate using comprehensive software to select the reported and derived parameters and measurement units required.
- Easy to install and long operational life, due to a compact, robust design and the selection of low maintenance sensors.
- Suitable for use with battery or solar systems in low power mode.



MaxiMet GMX551 measures 7 parameters including precipitation and solar radiation.



MaxiMet compact weather stations are integrated into systems monitoring gas and particulate concentrations in the air.

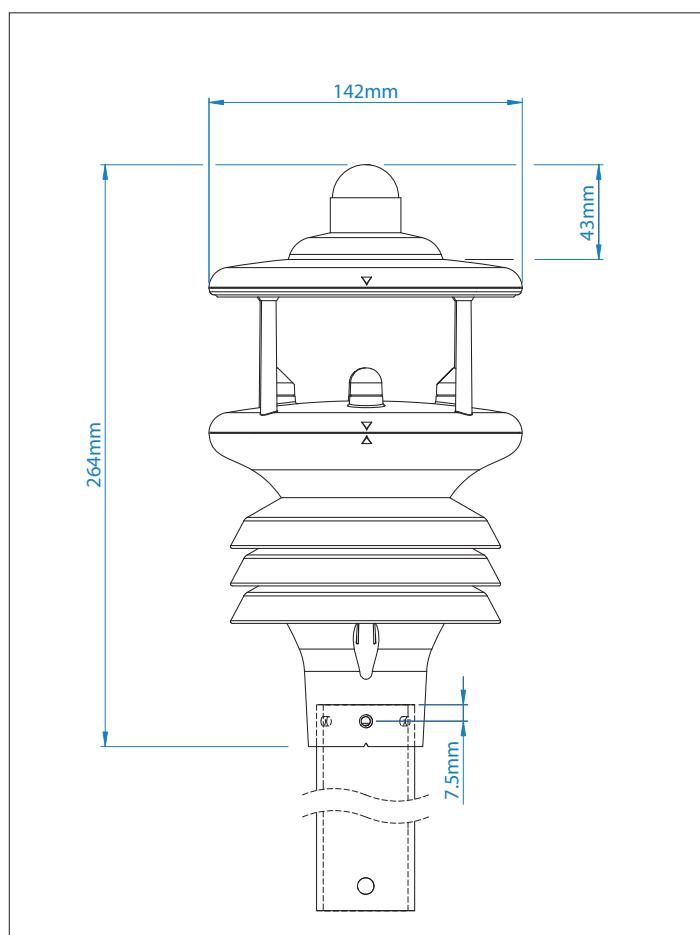
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WIND SPEED		OUTPUTS	
Range	0-60 m/s	Digital comms modes	RS232, RS422 RS485, SDI-12
Accuracy	0-10 m/s 0.3m/s RMSE 10-40 m/s 3% RMSE 40-60 m/s 5% RMSE	Protocols	ASCII, SDI-12 v1.3, NMEA 0183 MODBUS (RTU and ASCII)
Resolution	0.01 m/s	Data outputs rates	1/s, 1/min, 1/hour, or polled
Starting threshold	0.01 m/s	POWER SUPPLY	
Units of measurement	m/s, km/h, mph, kts, ft/min	Input voltage	5-30 VDC (10-30 VDC for heated models)
WIND DIRECTION		Average current consumption @ 12 VDC	27 mA (or 65 mA with optical rain gauge) continuous mode (std unit). 400 mA total with heating option. +9 mA with GPS option. 1.3 mA eco-power mode (no GPS, 1/hr).
Range	0-360°	MECHANICAL	
Accuracy	0.5 m/s - 40 m/s $\pm 3^\circ$ 40 - 60 m/s $\pm 5^\circ$	Construction	UV stabilized thermoplastic
Resolution	1°	Fittings	Fit to 44.45 mm (1.75 in) pole or mast
Units of measurement	degrees	Weight	0.8Kg
AIR TEMPERATURE		Connector type	9-way clipper connector
Range	-40°C to +70°C with heating	ENVIRONMENTAL	
Accuracy	$\pm 0.3^\circ\text{C}$	Protection class	IP66
Resolution	0.1°C	Operating temp.	-35°C to +70°C -40°C to +70°C with heating option
Units of measurement	°C, °F, K	Storage temp	-40°C to +70°C
RELATIVE HUMIDITY		STANDARD EQUIPMENT (supplied with product)	
Range	0-100% RH	MaxiMet product	
Accuracy	typically $\pm 2\%$ RH across full range	Mating connector	
Resolution	0.1% RH	MetSet software*, to set-up and configure MaxiMet (comms mode, measurement units, reporting intervals, derived parameters, etc.)	
Units of measurement	% RH, g/m³	MetView software*, to view reported parameters	
BAROMETRIC PRESSURE		MaxiMet User Manual*	
Range	300-1250 hPa	* downloadable from Gill Instruments website	
Accuracy	Absolute (typically) ± 0.4 hPa	OPTIONS	
900-1100 hPa, 25-40°C	Relative (typically) ± 0.08 hPa	GPS	Available as an option. Enables reporting of location, height, real time clock, true wind (for vehicle mounting applications)
Resolution	0.1 hPa	Heating	Available as an option for operation in extremely low temperatures
Units of measurement	hPa, mbar, mmHg, inHg	WARRANTY	
PRECIPITATION		Warranty	24 months
Measurement type	Optical or TBRG		
Range	See manual		
Resolution	See manual		
Units of measurement	mm/hr, mm total, in/hr, in total		
SOLAR RADIATION			
Wavelength sensitivity	300 - 3000 nm		
Output range	0-1600 W/m²		
Resolution	1 W/m²		
DIN standard	ISO 9060 Class: spectrally flat Class C		
Units of measurement	W/m²		

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EXAMPLE DERIVED PARAMETERS FOR MAXIMET RANGE

(model dependent) A full list of derived parameters is available in the User Manual, downloadable from gillinstruments.com

Average wind speed *	Sunrise
Average wind direction *	Solar noon
Corrected wind speed	Twilight
Corrected wind direction	Sunset
Gust wind speed & direction *	Position of sun
Dew point	Angle of tilt
Wind chill	Pressure at sea level
Absolute humidity	Heat index

* WMO compliant

ACCESSORIES

A list of the accessories available to support MaxiMet is provided on the MaxiMet Accessories Datasheet, which can be downloaded from gillinstruments.com



OTHER MAXIMET MODELS

	Wind	Temperature, humidity, pressure	Rain	Solar	Compass, GPS	Low power heating
GMX200	Y				Y, as option	
GMX240	Y		Integrated optical rain sensor		Y, as option	
GMX260	Y				Y 6-axis, option	
GMX300		Y				
GMX301		Y		Y		
GMX400		Y	Integrated optical rain sensor			
GMX500	Y	Y			Y, as option	Option
GMX501	Y	Y		Y	Y, as option	Option
GMX550	Y	Y	Tipping bucket connector		Y, as option	Option
GMX560	Y	Y			Y 6-axis, option	Option
GMX600	Y	Y	Integrated optical rain sensor		Y, as option	Option

For more information about MaxiMet®, please contact Gill Instruments.

Designed and manufactured in the UK by Gill Instruments Limited.

gillinstruments.com