

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	
Range	0-60 m/s
Accuracy	0-10 m/s 0.3m/s RMSE 10-40 m/s 3% RMSE 40-60 m/s 5% RMSE
Resolution	0.01 m/s
Starting threshold	0.01 m/s
Units of measurement	m/s, km/h, mph, kts, ft/min

WIND DIRECTION	
Range	0-360°
Accuracy	0.5 m/s - 40 m/s ±3° 40 - 60 m/s ±5°
Resolution	1°
Units of measurement	degrees

AIR TEMPERATURE	
Range	-40°C to +70°C with heating
Accuracy	±0.3°C
Resolution	0.1°C
Units of measurement	°C, °F, K

RELATIVE HUMIDITY	
Range	0-100% RH
Accuracy	typically ±2% RH across full range
Resolution	0.1% RH
Units of measurement	% RH, g/m ³

BAROMETRIC PRESSURE	
Range	300-1250 hPa
Accuracy	Absolute (typically) ±0.4 hPa 900-1100 hPa, 25-40°C Relative (typically) ±0.08 hPa
Resolution	0.1 hPa
Units of measurement	hPa, mbar, mmHg, inHg

PRECIPITATION	
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/m ²
Resolution	1 W/m ²
DIN standard	ISO 9060 Class: spectrally flat Class C
Units of measurement	W/m ²

OUTPUTS	
Digital comms modes	RS232, RS422 RS485, SDI-12
Protocols	ASCII, SDI-12 v1.3, NMEA 0183 MODBUS (RTU and ASCII)
Data outputs rates	1/s, 1/min, 1/hour, or polled

POWER SUPPLY	
Input voltage	5-30 VDC (10-30 VDC for heated models)
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).

MECHANICAL	
Construction	UV stabilized thermoplastic
Fittings	Fit to 44.45 mm (1.75 in) pole or mast
Weight	0.8Kg
Connector type	9-way clipper connector

ENVIRONMENTAL	
Protection class	IP66
Operating temp.	-35°C to +70°C -40°C to +70°C with heating option
Storage temp	-40°C to +70°C

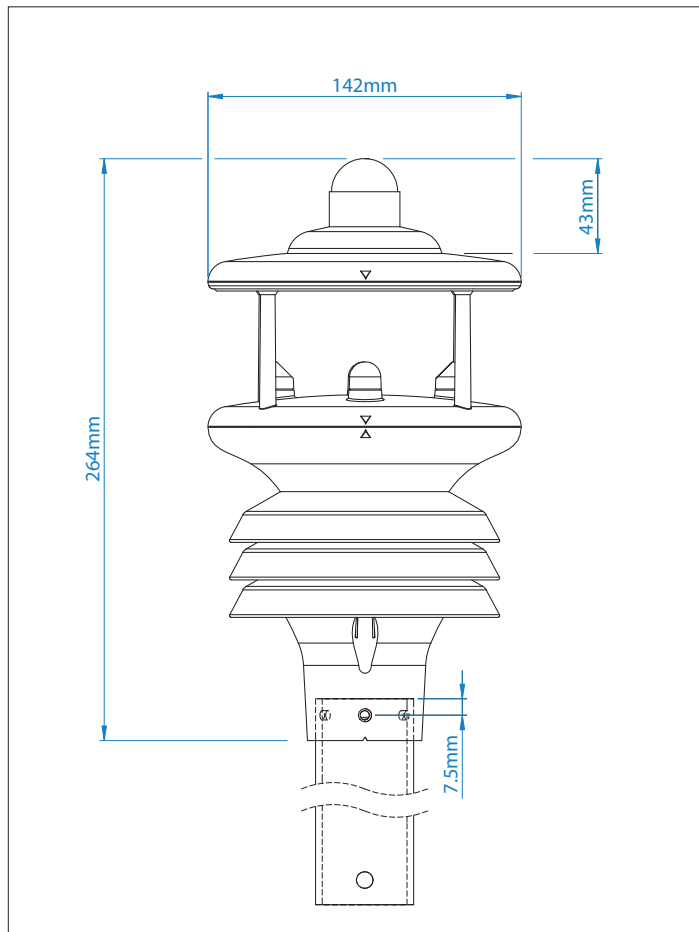
STANDARD EQUIPMENT (supplied with product)	
MaxiMet product	
Mating connector	
MetSet software*, to set-up and configure MaxiMet (comms mode, measurement units, reporting intervals, derived parameters, etc.)	
MetView software*, to view reported parameters	
MaxiMet User Manual*	
* downloadable from Gill Instruments website	

OPTIONS	
GPS	Available as an option. Enables reporting of location, height, real time clock, true wind (for vehicle mounting applications)
Heating	Available as an option for operation in extremely low temperatures

WARRANTY	
Warranty	24 months

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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

MaxiMet® Compact Weather Stations

Full range, high quality compact, integrated weather stations

MaxiMet weather stations are supported by a range of accessories. These accessories can be used to connect, install and maintain MaxiMet. The accessories have been designed to support the long term performance of MaxiMet products.

Accessories	Part Number
10-pin connector	1000000
10-pin connector cable	1000001
10-pin connector cable (with 10-pin connector)	1000002
10-pin connector cable (with 10-pin connector)	1000003
10-pin connector cable (with 10-pin connector)	1000004
10-pin connector cable (with 10-pin connector)	1000005
10-pin connector cable (with 10-pin connector)	1000006
10-pin connector cable (with 10-pin connector)	1000007
10-pin connector cable (with 10-pin connector)	1000008
10-pin connector cable (with 10-pin connector)	1000009
10-pin connector cable (with 10-pin connector)	1000010
10-pin connector cable (with 10-pin connector)	1000011
10-pin connector cable (with 10-pin connector)	1000012
10-pin connector cable (with 10-pin connector)	1000013
10-pin connector cable (with 10-pin connector)	1000014
10-pin connector cable (with 10-pin connector)	1000015
10-pin connector cable (with 10-pin connector)	1000016
10-pin connector cable (with 10-pin connector)	1000017
10-pin connector cable (with 10-pin connector)	1000018
10-pin connector cable (with 10-pin connector)	1000019
10-pin connector cable (with 10-pin connector)	1000020

Accessories Descriptions

- Connector (1000000-000)**
A replacement connector is available. Equipped. The connector is compatible with all MaxiMet models and is supplied with pins.
- Cable for operational use**
The 4-pin cable can be used to connect MaxiMet to power and communication. The cable can be supplied as a 10m cable with pins. Part 1000014 (10m), or by the meter 1000015 (1m).
- Cable for setup configuration (1000015-1000020)**
This cable is used to connect MaxiMet to a PC port on a computer. Using MaxiMet, the setup of the MaxiMet unit can be configured to meet the requirements. The cable is 10m long and is supplied with a MaxiMet connector on one end and a USB connector on the other end.

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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.