Delta-T Devices

WS-GP2
Weather Station

NEW

The new WS-GP2 Weather Station is ideal for research and environmental monitoring applications

Based on the versatile GP2 Data Logger and Controller, users can select the optimal configuration of sensors, power options and communications.

- **Unattended weather recording at remote and exposed sites**
- **Wide choice of sensors**
- **GPRS modem communications**
- **Unique features for recording and controlling experiments**

GP2 Data Logger & Controller

WS-GP2 Weather Station with optional modem box

Applications

- Meteorology
- Climate change monitoring
- Environmental compliance
- Eco-physiology
- Water resource studies
- Waste management
- Crop trials
- Agro-meteorology

Sensors

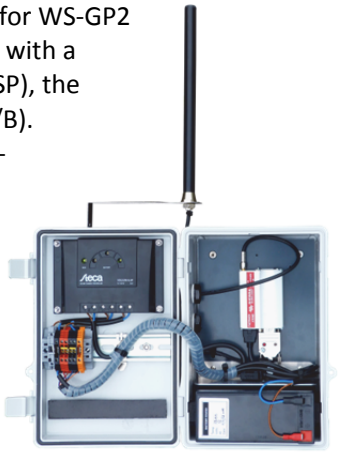
The standard WS-GP2 includes sensors to measure rain, solar radiation, wind speed and direction, soil temperature, relative humidity and air temperature.

The GP2 Logger has the power and flexibility to handle almost any environmental sensor, which means the weather station can be as simple or as complex as your application requires. Even after installation, it's easy to expand or adapt the system – by adding solar power, for example. Optional sensors include barometric pressure, soil moisture, soil EC, UV, PAR, albedo, net radiation, total and diffuse radiation, evaporation and surface wetness.

WS-GP2 Weather Station

GPRS remote communications

There are two modem box solutions for WS-GP2 GPRS wireless communications - one with a battery and solar power (GPRS-BX1/SP), the other with a battery only (GPRS-BX1/B). These are complete comms systems - and need to be ordered separately from the weather station.



NB: customers need to provide their own SIM card and make arrangements with network provider. The SIM must have fixed IP address and be GPRS enabled.

Advanced features and customisation

For researchers interested in evapotranspiration, degree days, disease prediction, wind chill factor, dew point, PID control, etc. the GP2's advanced features will open up exciting possibilities.

The GP2's analog inputs can be fully customised. Each channel can have its own input type and recording parameters. DeltaLINK software gives the user control over reading frequency, thresholds and units, and provides recording options for average, min and max, plus specialised wind options - including wind rose, gusts and wind averaging (with direction and vector average).

Users can add their own custom sensor types to the sensor library, exploiting the GP2's detailed configuration options. The GP2 provides 4 input ranges down to microvolt resolution with adaptive auto-ranging, excellent analog accuracy, and configurable sensor excitation - enabling it to support nearly all analog sensors.

Calculations based on the measurements from several input channels can be recorded and displayed as additional virtual channels (calculated measurements).

Storage, communication & power

4 Mbytes of FLASH memory enable storage of 2.5 million readings (typical). Data can be collected by laptop locally via USB/RS232 or remotely using the GPRS modem options. (see above). The GP2 has 6 alkaline AA internal batteries as standard. External battery and solar power options are available. Up to 7 GP2s can share power and communications using an M12 cabling network.

GP2 Data Logger - Brief Specs

	Specification		Range / Note
Analog accuracy	-0.17 to +2.7V	0.005% + 115µV	at 25°C
	±23mV	0.022% + 12µV	
	-0.17 to +2.7V	0.04% + 150µV	-20°C to +60°C
	±23mV	0.08% + 27µV	
Accuracy other	See detailed specification in GP2 User Manual		
Readings	2.5 million (approximately)		depends on program settings
Logging frequency	1s to > 24 hours		
Logging status	Flashing LED		
Environmental	-20°C to +60°C, IP65		

WS-GP2 Sensors - Brief Specs

	Specification	Range / Note
Wind speed AN-WD2 (combined wind sensor)		
Range	0 to 75m.s^{-1}	
Accuracy	± 0.1m.s^{-1}	Up to 10m.s^{-1}
	± 1.1% of reading	Over 10m.s^{-1}
Starting threshold	0.4m.s^{-1}	-30°C to +70°C if icing minimal
Wind direction AN-WD2 (combined wind sensor)		
Accuracy	± 4°	mechanical: 0 to 360° electrical: 0 to 356°
Starting threshold	0.4m.s^{-1}	-30°C to +70°C if icing minimal
Rainfall RG2+BP		
Sensitivity	0.2mm per tip	up to 360 mm.hr^{-1}
Humidity RHT2nl (combined air temp sensor)		
Accuracy	± 2% RH	5 to 95% RH
	± 2.5% RH	<5% and >95% RH
Air temperature RHT2nl (combined RH sensor)		
Accuracy	± 0.1°C	0 to 70°C
Solar radiation ES2		
Absolute accuracy	± 5%	At 20°C (optimal conditions)
Linearity	± 1%	0 to 2 kW.m^{-2}
Soil temperature ST1		
Accuracy	± 0.2°C	-10 to +65°C
Mast M2-FSG		
2m mast	With cross arm, stakes, steel guy wires, baseplate & logger canopy	

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