METER

ATMOS 41 Gen 2

All-In-One Weather Station

MORE MEASUREMENTS. LOWER COST.

The ATMOS 41 Gen 2 weather station is one of the first affordable, research-grade all-in-one weather station that fulfills all your weather monitoring needs but doesn't restrain you when you want to make other measurements. All weather data (e.g., humidity, temperature, or atmospheric pressure) are transmitted over a single wire. That means you don't have to use all of the ports on your data logger just for weather measurements. And, if you are using the ATMOS 41 weather station with our ZL6 data loggers, you have the flexibility to add any of our other sensors, like soil moisture.

SECOND GENERATION INNOVATIONS

METER's in-house research and development team have been working hard to make the ATMOS 41 Gen 2 more accurate, durable, and reliable than ever before. Wind speed can now be measured up to 60 m/s, meeting the requirements of even more industry standards, such as the IEC61724-1, making it ideal for applications such as utility-scale photovoltaic (PV) systems.

FEATURES

- Research-grade weather station measures 12 weather variables including: air temperature, relative humidity, vapor pressure, barometric pressure, wind speed, gust and direction, solar radiation, dual precipitation, precipitation EC, lightning strike counter and distance
- Wind speed measurements up to 60 m/s
- Easy installation with built-in leveling bracket
- Easy maintenance and serviceability with new access panel for field replaceable sensors
- Maximize device longevity and reliability in the field by minimizing moving part
- All weather station data transmitted over a single cable
- Communicates using either SDI12 or MODBUS RTU
- WMO-compliant sensor scan rate
- Easy plug-and-play set-up with ZL6 for data capture and management
- Designed for continuous deployment in harsh climates

SPECS

Solar Radiation	**Range:** 0 – 1750 W/m² **Resolution:** 1 W/m² **Accuracy:** ± 5% of measurement typical
Precipitation	**Range:** 0 – 1,500 mm/h **Resolution:** 0.017 mm **Accuracy:** ± 5% of measurement from 0 to 1000 mm/h
Relative Humidity (RH)	**Range:** 0 – 100 % RH (0.00 – 1.00) **Resolution:** 0.1% RH **Accuracy:** Varies with temperature and humidity, See specification chart on page 13. **Hysteresis:** ±0.80% RH, typical RH **Long-term Drift:** ±0.25% RH/year, typical
Air Temperature	**Range:** –50 to 60 °C **Resolution:** 0.10 °C **Sensor Accuracy:** ±0.2 °C **Measurement Uncertainty:** ±0.6 °C from -20 to 50 °C for more information see section 3.6.1 of the manual.
Humidity Sensor Temperature	**Range:** –40 to 50 °C **Resolution:** 0.10 °C **Accuracy:** ± 1.0 °C
Vapor Pressure	**Range:** 0 – 47 kPa **Resolution:** 0.01 kPa **Accuracy:** Varies with temperature and humidity, ±0.2 kPa typical below 40 °C. See specification chart on page 12.
Barometric Pressure	**Range:** 1 – 120 kPa **Resolution:** 0.01 kPa **Accuracy:** ±0.05 kPa at 25 °C **Equilibration:** <10 ms **Long-term Drift:** < 0.1 kPa/year, typical
Horizontal Wind Speed	**Range:** 0–60 m/s **Resolution:** 0.01 m/s **Accuracy:** The greater of 6% of measurement or 0.3 m/s at 20 °C
Wind Gust	**Range:** 0–60 m/s **Resolution:** 0.01 m/s **Accuracy:** The greater of 0.3 m/s or 3% of measurement
Wind Direction	**Range:** 0 – 359 ° **Resolution:** 1 ° **Accuracy:** ±5 °
Tilt	**Range:** 0° to 180° **Resolution:** 0.1° **Accuracy:** ±1 °
Lightning Strike Count	**Range:** 0 – 65,535 strikes **Resolution:** 1 strike **Accuracy:** Variable with distance, >25% detection at <10km typical
Lightning Average Distance	**Range:** 0 – 40 km **Resolution:** 3 km **Accuracy:** Variable

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