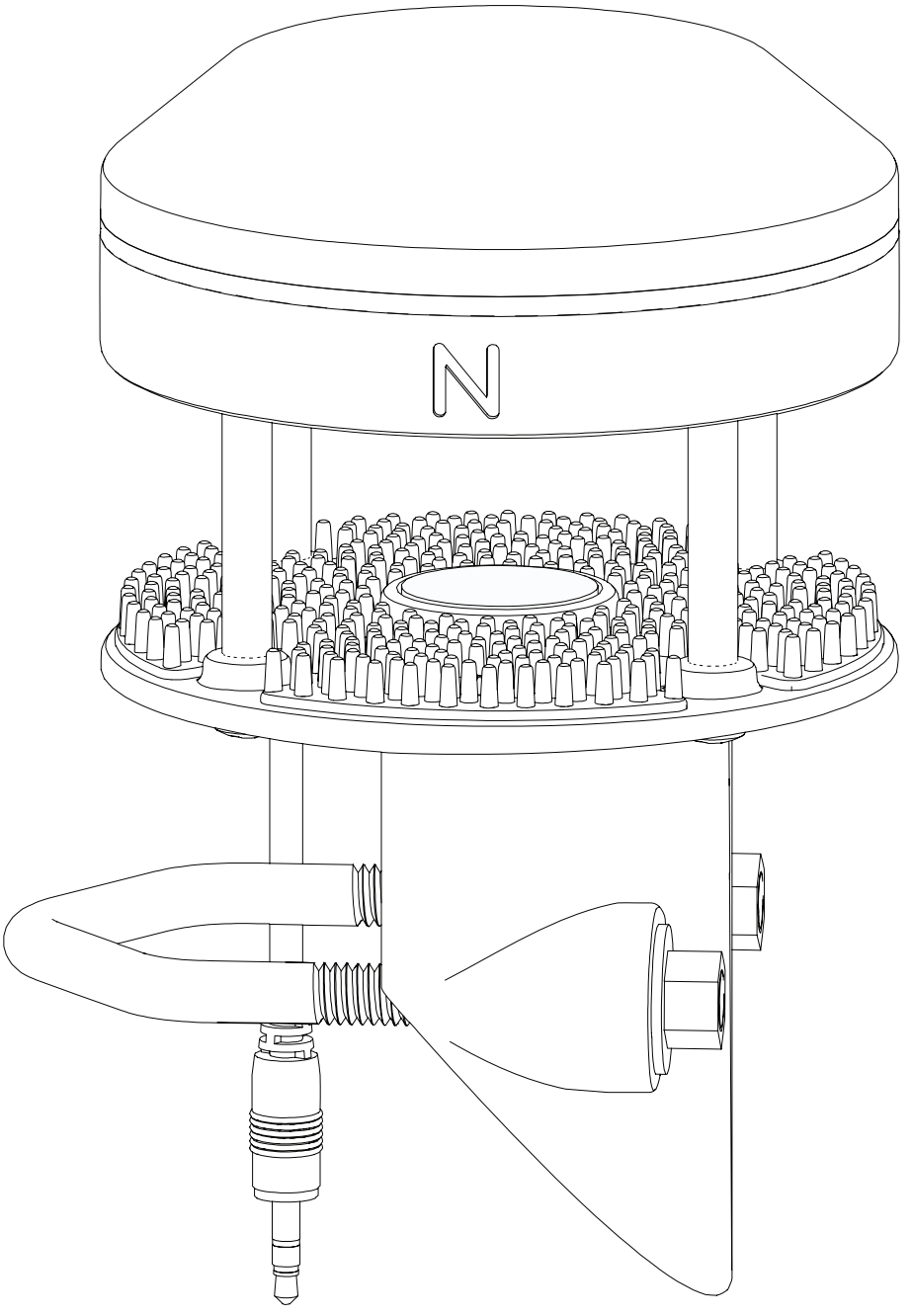
METER

ATMOS 22

Datasheet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1. INTRODUCTION

Thank you for choosing the ATMOS 22 Ultrasonic Anemometer from METER Group.

The ATMOS 22 Ultrasonic Anemometer is designed for continuous monitoring of wind speed and direction (Section 3). A robust, no moving parts design that prevents errors because of wear or fouling make the ATMOS 22 ideal for long-term, remote installations.

Applications of the ATMOS 22 are listed below:

- Weather monitoring
- Microenvironment monitoring
- In-canopy wind measurement
- Spatially-distributed environmental monitoring
- Wind profiling
- Crop weather monitoring
- Weather networks

Additional advantages include its low-power design that supports battery-operated data loggers, and the SDI-12 three-wire interface. A tilt sensor warns the user of out-of-level condition, and no configurations are necessary.

3. SPECIFICATIONS

MEASUREMENT SPECIFICATIONS

Horizontal Wind Speed	
Range:	0–30 m/s
Resolution:	0.01 m/s
Accuracy:	The greater of 0.3 m/s or 3% of measurement
Wind Gust	
Range:	0–30 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:	–90° to 90°
Resolution:	0.1°
Accuracy:	±1°

COMMUNICATION SPECIFICATION

Data Logger Compatibility
METER ZL6, Em50, and EM60 data loggers or any data acquisition system capable of 3.6- to 15-VDC power and serial or SDI-12 communication.

PHYSICAL CHARACTERISTICS

Dimensions	
Diameter	10 cm (3.94 in)
Height	16 cm (6.30 in)
Cable Length	
5 m (standard) 75 m (maximum custom cable length) **NOTE: Contact Customer Support if a nonstandard cable length is needed.**	
Connector Types	
3.5-mm stereo plug connector or stripped and tinned wires	

ELECTRICAL AND TIMING CHARACTERISTICS

Supply Voltage (VCC to GND)	
Minimum	3.6 VDC continuous
Typical	NA
Maximum	15.0 VDC continuous
Digital Input Voltage (logic high)	
Minimum	2.8 V
Typical	3.0 V
Maximum	5.5 V
Digital Input Voltage (logic low)	
Minimum	–0.3 V
Typical	0.0 V
Maximum	0.8 V
Digital Output Voltage (logic high)	
Minimum	NA
Typical	3.6 V
Maximum	NA

Power Line Slew Rate	
Minimum	1.0 V/ms
Typical	NA
Maximum	NA
Current Drain (during measurement)	
Minimum	0.050 mA
Typical	0.125 mA
Maximum	0.500 mA
Current Drain (while asleep)	
Minimum	0.050 mA
Typical	0.125 mA
Maximum	0.150 mA
Operating Temperature Range	
Minimum	–50 °C
Typical	NA
Maximum	60 °C
Power Up Time (SDI Ready)—`aRx!` Commands	
Minimum	NA
Typical	10 s
Maximum	NA
Power Up Time (SDI Ready)—Other Commands	
Minimum	NA
Typical	800 ms
Maximum	NA
Measurement Duration	
Minimum	NA
Typical	110 m
Maximum	3,000 ms