

Broadband Meteorological Measurement Systems



MET4

MET4A
Fan-Aspirated

PERFORMANCE:

- Pressure Accuracy: Better than ± 0.08 hPa
- Temperature Accuracy:
 - MET4A (Fan-Aspirated) Better than $\pm 0.1^\circ\text{C}$
 - MET4 Better than $\pm 0.5^\circ\text{C}$
- Relative Humidity Accuracy: $\pm 2\%$ at 25°C

STANDARD FEATURES:

- Data Logging
- Airport Barometric Functions
- Simple Plug & Play Installation
- Integral Environmental Enclosure
- Instrument Status LED Indicators
- RS-232/485 Bi-Directional Interface
- Nano-Resolution Providing One-Part-Per Billion Resolution

QUALITY AND STANDARDS:

- CE Compliant
- NIST Traceable
- ISO 9001:2008 Quality System

APPLICATION AREAS:

- GPS Meteorology (Precipitable Water Vapor)
- Crustal Observation - Tectonic Research
- Weather and Climate Research Studies
- Surface and Maritime Weather Observation
- Ground Based Altimeter Setting Indicators

The MET4 and fan-aspirated MET4A Meteorological Measurement Systems provide high accuracy data from barometric pressure, temperature, and relative humidity sensors. Pressure resolution is better than 1 microbar with a total accuracy of better than ± 0.08 hPa over the extended barometric range of 500 to 1100 hPa. In the Nano-Resolution mode, the MET4 and MET4A has a resolution of one-part-per billion providing the ability to detect natural atmospheric signals such as Micro-Baroms and other atmospheric noise. Temperature resolution is better than 0.01 degrees C.

These fully-integrated systems are housed in environmental enclosures allowing indoor or outdoor mounting. Installation hardware and software are included and optional interface cabling is available. The MET4 solar radiation shield protects the temperature and humidity sensors from precipitation and solar radiation. Both the MET4 and fan-aspirated MET4A utilize a high performance pressure port to reduce dynamic pressure errors caused by wind.

Microprocessor-based electronics provide fully temperature compensated and linearized outputs via a bi-directional RS-232/485 interface. This serial interface allows complete remote configuration and control of all operating parameters including resolution, sample rates, choice of engineering units, integration time, and sampling commands. The airport barometric functions include field pressure, station pressure, altimeter setting, sea-level pressure, density altitude, pressure altitude, Q Codes - QNH & QFE and WMO pressure tendency codes. The internal data logger can store over 200,000 high resolution data points.

The DigiQuartz[®] barometer used in the MET4 and MET4A has a 3-year stability warranty of better than 0.1 hPa per year and includes a limited 5-year warranty with the first 2-years covered at 100%. The System includes a limited one-year warranty. The RH and temperature probe is field replaceable and barometer performance can be verified in the field using the Paroscientific Model 765-16B Portable Pressure Standard and DigiPort High-Performance Pressure Port.

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CHARACTERISTICS

PRESSURE

Accuracy ⁽¹⁾ Better than ± 0.08 hPa
 Stability Better than 0.1 hPa per year
 Range 500 - 1100 hPa (7-16 psia)
 Maximum Pressure 1240 hPa (18 psia)

TEMPERATURE

Performance..... MET4 : Better than $\pm 0.5^\circ$ C
 MET4A (Fan-Aspirated) : Better than $\pm 0.1^\circ$ C
 Resolution 0.01 $^\circ$ C
 Range -40 $^\circ$ C to +60 $^\circ$ C (-40 $^\circ$ F to +140 $^\circ$ F)

HUMIDITY

Performance Better than $\pm 0.8\%$ RH at 23 $^\circ$ C
 Range 0 to 100% non-condensing
 Recovery Time ≤ 20 seconds (MET4A)

ENVIRONMENTAL

Weight MET4: 7.3 lb (3.31 Kg)
 MET4A: 9.4 lb (4.26 Kg)
 Calibrated Temperature Range -50 $^\circ$ C to +60 $^\circ$ C
 Power Requirements ... Operates from 5 to 16 VDC (MET4)
 Operates from 11 to 14 VDC (MET4A)
 Typical Current Consumption

	Standard Resolution (Parts per million)	Nano-Resolution (Parts per billion)
MET4	40 mA MAX	70 mA MAX
MET4A	230 mA Max	260 mA MAX

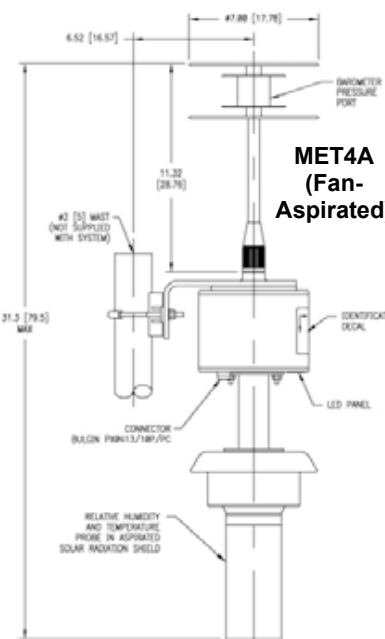
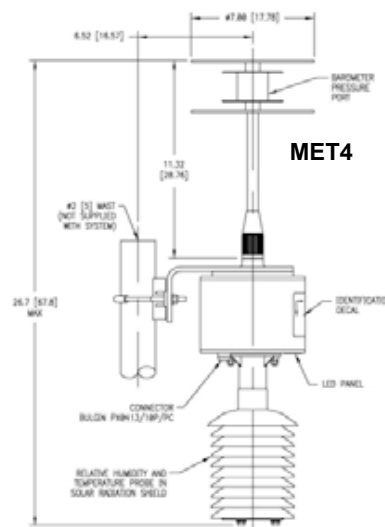
ORDERING INFORMATION

Model No.	Part No.	Description
MET4	1563-301	Standard Configuration (Non-Aspirated) w/ Barometric Functions & Data Logging
MET4A	1564-301	Standard Configuration (Fan-Aspirated) w/ Barometric Functions & Data Logging

ACCESSORIES

- Setup and Configuration Software (included)
- AC adapter and interface cables (optional, P/N 2637-0XX)
- Model 715 Display (optional, P/N 1554-00X)
- Field Replacement Kits (optional):
 - MET4/4A RH & Temperature Probe Replacement Kit P/N 1777-002
 - MET4A Fan Replacement Kit P/N 1776-001

(1) Accuracy relative to the primary standard includes pressure hysteresis, repeatability, linearity and temperature conformance.



Dimensions are in inches (cm)

Connector & Pin Out

LED Panel

Pin No	Function
1	RS-485 TX+
2	RS-485 TX-
3	RS-485 RX+
4	RS-485 RX-
5	RS-232 TX
6	RS-232 RX
7	Power
8	Chassis Ground
9 & 10	Ground



Product defined by Specification Control Drawing.
 Specifications subject to change without prior notice.

Manufactured under one or more of the following U.S. Patents: 6,497,152 - 6,595,054. Other patents pending.
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