

Atmospheric Air Temperature, Relative Humidity and Barometric Pressure Sensor

OVERVIEW

MBMet 901 series offers highly accurate, fully calibrated and stable measurement of Atmospheric Air Temperature, Relative Humidity, Barometric Pressure, Air Density and Dew Point. Low power consumption, fast response time, and long-term stability makes the MBMet 901 ideal for a wide number of applications ranging from portable devices to product designed for harsh environments. When exposed to sunlight, the sensor must be housed in a Radiation shield.

BENEFITS AND FEATURES

- ▶ Accurate and stable measurements
- ▶ Self-loop powered (For Analog Output model)
- ▶ Reserve Polarity Protection
- ▶ Each sensor element is individually calibrated
- ▶ Field replaceable filter – eliminates downtime
- ▶ Fast response time



MBMet 901 series with Radiation Shield

TECHNICAL DESCRIPTION

Model / Parameters	MBMet-901A	MBMet-901B		MBMet-901C		MBMet-901D		MBMet-901E	MBMet-901F
Communication Output	-B RS-485 Modbus	-A 4-20mA	-B RS-485 Modbus	-A 4-20mA	-B RS-485 Modbus	-A 4-20mA	-B RS-485 Modbus	-B RS-485 Modbus	-B RS-485 Modbus
Sensor Type	Semiconductor	Semiconductor		RTD	Semiconductor	Semiconductor		Semiconductor	Semiconductor
Input Voltage	9-32VDC	9-32VDC		Loop Powered 9-32VDC	9-32VDC	9-32VDC		9-32VDC	9-32VDC
Power Consumption	300mW	60mW	300mW	60mW	300mW	80mW	300mW	300mW	300mW
Ambient Temperature									
Measuring Range	-40°C to +125°C	-40°C to +125°C		-40°C to +100°C	-40°C to +125°C	-		-	-40°C to +125°C
Resolution	0.1°C	0.1°C		0.1°C		-		-	0.1°C
Accuracy	±0.2°C (typical)	±0.3°C (0-90°C)	±0.2°C (typical)	±0.3°C (0-90°C)	±0.2°C (typical)	-		-	±0.2°C (typical)
Response Time	5-30s	5-30s		5-30s		-		-	5-30s
Stability	<0.02°C per year	<0.02°C per year		<0.02°C per year		-		-	<0.02°C per year
Relative Humidity									
Measuring Range	0 to 100%RH	0 to 100%RH		-		0 to 100%RH		-	0 to 100%RH
Resolution	0.1%RH	0.1%RH		-		0.1%RH		-	0.1%RH
Accuracy	±2%RH (10-80%RH)	±2%RH (0-90%RH)	±2%RH (10-80%RH)	-		±2%RH (0-90%RH)	±2%RH (10-80%RH)	-	±2%RH (10-80%RH)
Response Time	8-30s	8-30s		-		8-30s		-	8-30s
Stability	<0.25%RH per year	<0.25%RH per year		-		<0.25%RH per year		-	<0.25%RH per year

TECHNICAL DESCRIPTION (Cont.)

Model / Parameters	MBMet-901A	MBMet-901B	MBMet-901C	MBMet-901D	MBMet-901E	MBMet-901F
Dew Point						
Measuring Range	-40°C to 105°C	-	-40°C to 105°C	-	-	-40°C to 105°C
Resolution	0.1°C	-	0.1°C	-	-	0.1°C
Accuracy	Calculated	-	Calculated	-	-	Calculated
Response Time	8-30s	-	8-30s	-	-	8-30s
Barometric Pressure						
Measuring Range	300 to 1250 hPa	-	-	-	300 to 1250 hPa	300 to 1250 hPa
Resolution	0.01 hPa	-	-	-	0.01 hPa	0.01 hPa
Accuracy	±0.4 hPa	-	-	-	±0.4 hPa	±0.4 hPa
Response Time	0.1s	-	-	-	0.1s	0.1s
Stability	±1 hPa per year	-	-	-	±1 hPa per year	±1 hPa per year
Air Density						
Accuracy	-	-	-	-	-	Calculated
Calculation Time	-	-	-	-	-	5s

SENSOR SPECIFICATIONS

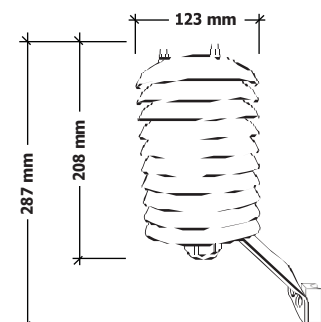
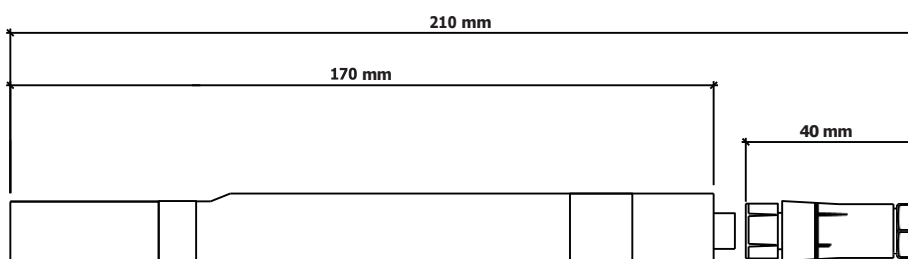
Surge Protection	1KV
Ingress Protection Rating	IP65 (with radiation shield)
Sensor Protection	Filter material : Polypore Porous plastic Filter Element, Pore size : FGX 5 - 10 microns
Dimensions	Length : 210mm (175mm without mating connector)
Weight (packed)	342g (with mating connector and standard 5 meters cable)

RADIATION SHIELD SPECIFICATIONS

Housing Material	Double louvred UV stable Polycarbonate Plastic plates with Stainless Steel screws
Housing Plates	10-Plates Radiation Shield
Dimensions	Outer diameter : 123mm, Height : 287mm (with mounting bracket)
Weight (packed)	Approx 750g (with mounting accessories)
Waterproof Glands	M32*1.5



SENSOR AND HOUSING MEASUREMENTS



ORDERING STRING

Model	Series	Parameter	Additional Parameter	Output	Radiation Shield	Cable Length	
MBMet							
	901						
		A					Ambient Temperature + Relative Humidity + Barometric Pressure + Dew Point
		B					Ambient Temperature + Relative Humidity + Dew Point
		C					Ambient Temperature
		D					Relative Humidity
		E					Barometric Pressure
		F					Ambient Temperature + Relative Humidity + Barometric Pressure + Dew Point + Air Density
				A			4-20mA
				B			RS-485 Modbus
					A		With Radiation Shield and Pole Mounting Accessories
					B		With Wall Mounting Accessories (No radiation shield)
					C		With Radiation Shield and Wall Mounting Accessories
					X		No Mounting
						5000	Units : mm (default)
						Units : mm (on request)

For example : MBMet-901-FBA5000

Parameter : Ambient Temperature + Relative Humidity + Barometric Pressure + Dew Point + Air Density

Output : RS-485 Modbus with Radiation Shield and Pole Mounting Accessories, Cable Length : 5 meters

M. B. Control & Systems with an experience of 35+ years are the leading manufacturer and solution provider in Electrical Automation and Instrumentation sector. Our weather station “**SURYA**” and sensors “**MBMet series**” are assembled and manufactured in Kolkata, West Bengal, India, where we have our R&D, manufacturing, testing and support team ensuring high quality design, product and customer support. Every sensor has been designed to provide scientific-grade precision and accuracy. They are tested rigorously in-house before shipping. The experienced R&D team puts in best efforts refining and upgrading the sensors to ensure minimal sensor routine maintenance.

SEE ALSO

- **MBMet 100** Wind Speed Sensor
- **MBMet 110** Wind Direction Sensor
- **MBMet 120** Wind Speed & Direction Sensor
- **MBMet 140** Ultrasonic Wind Speed & Direction Sensor
- **MBMet 140H** Ultrasonic Wind Speed & Direction Sensor
- **MBMet 800** PV Module Temperature Sensor
- **MBMet 901** Air Temperature, Humidity & Pressure Sensor
- View our complete range of **Weather Sensors**

**Specifications are subject to change without notice.

