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Ambient Pressure Sensor Operation Manual (RS-485)

MB MET 903

Document Number: M4 045 010 010 01 (R3)
(Applicable for HW Version- 200)

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1. Overview

MBMet 903 series offers highly accurate, fully calibrated and stable measurement of **Barometric Pressure**.

Low power consumption, fast response time, and long-term stability makes the MBMet 903 ideal for a wide number of applications ranging from portable devices to product designed for harsh environments. The MBMet-903 Sensor uses only the latest generation Barometric Pressure components to Deliver Reliable and Repeatable Measurements.

The MBMet-903 Series Sensor is Tested to Perform in Harsh Environments, especially in conditions which have high Electromagnetic Interference, making it ideal for Solar Plants, Wind Resource Assessment, Electrical Substations, etc.

2. Connection Diagram

MBMet- 903 connections are shown in fig- 2.

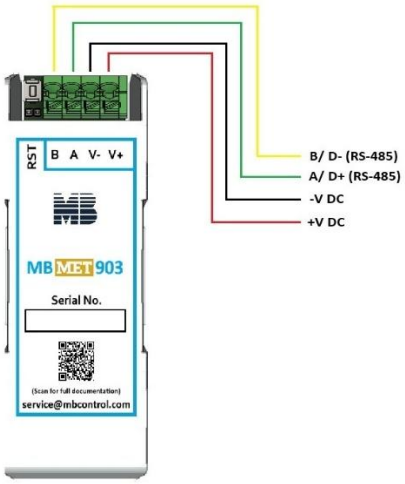

Fig- 2: Connection Diagram of Ambient Parameter Sensor

3. Transducer Specification

Parameters	Parameters Measuring Specification	
Barometric Pressure	Measuring Range	300 to 1250 hPa
	Temperature range	-40ºc to +85ºc
	Resolution	0.01hPa
	Absolute Pressure Accuracy	±0.6 hPa
	Response Time	0.1s
	Short term drift	±0.01 hPa

Table- 3: Pressure Transducer Specifications

4. Modbus Register Addresses

Measured parameters can be read as per model number only. Parameters not available will be read as '0' value.

Registers Details	Register Addresses	Length	Parameters	Resolution	Register Type	Parameter Type
Int Value	1	16 Bits	Ambient Pressure	0.01	Read only	Signed 16 Bits
Float Value	22, 23	32 Bits	Ambient Pressure	0.01	Read only	Float 32 Bits
Communication Parameters	100	16 Bits	MODBUS ID (Default:1) 1<ID<247	-	Read/ Write	Unsigned 16 Bits
	101	16 Bits	Baud rate (Default: 1) 0=4800; 1=9600; 2=19200	-	Read/ Write	Unsigned 16 Bits
	102	16 Bits	Parity (Default: 0) 0=None; 1=Odd; 2=Even	-	Read/ Write	Unsigned 16 Bits
	103	16 Bits	Stop bits (Default: 1) 1; 2	-	Read/ Write	Unsigned 16 Bits
	105	16 Bits	Save configured parameter (Write 1for save)	-	Write only	Unsigned 16 Bits
Device Information	110	16 Bits	Device Model No: 9031 = MBMet-903 AB	-	Read only	Unsigned 16 Bits
	111	16 Bits	Hardware Version	-	Read only	Unsigned 16 Bits
	112	16 Bits	Software Version	-	Read only	Unsigned 16 Bits
	113	16 Bits	Manufacture Year	-	Read only	Unsigned 16 Bits
	114	32 Bits	Device Serial Number	-	Read only	Unsigned 32 Bits

Table- 4: Modbus register addresses

5. Re-setting Default Communication Parameter

Step-1 Locate the Reset Button on the sensor, as shown in Fig- 7.

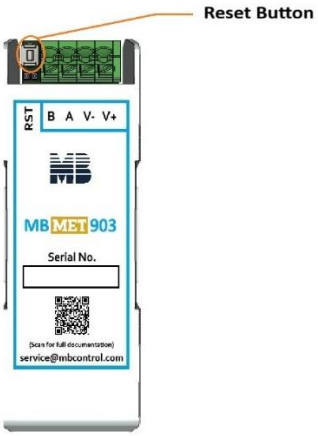

Fig- 7: Position of Reset Button

Step-2 Verify that the device's power status is ON.
Step-3 Press and hold the Reset Button for more than three seconds, and then release it.
Step-4 Wait for 15 seconds.
Step-5 Communicate with the device using the default communication parameters.

****(to be done by experienced MBCS engineers only)**

6. Revision History

Revision Ver.	Date	Revision Details
R0	05/01/25	Manual Created.
R1	08/01/25	Overview portion added. Model Numbers are added.
R2	27/03/26	Temperature, Humidity and Dew point, these three parameters are removed. Changed information as per parameters.
R3	28/03/26	Accuracy value changed, more specifications are added.