Ultra-Low Pressure Sensor and Air Velocity Sensor with Modbus output MBRTU-ULP
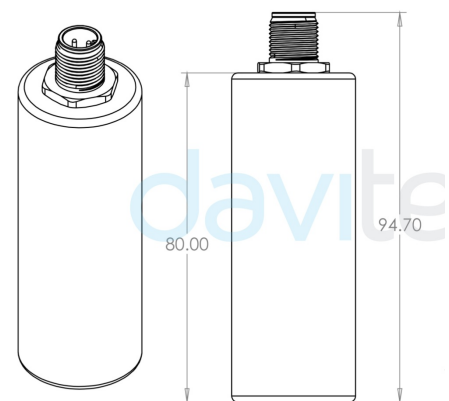
Introduction

MBRTU-ULP is the digital, ultra-low pressure sensor offering state-of-the-art MEMS pressure transducer technology and CMOS mixed signal processing technology to produce a digital, fully conditioned, multi-order pressure and temperature compensated sensor. It is available in a gauge and a differential pressure configuration. It offers the TPE up to 1% FS in the temperature range from -20 to +85 oC. When combined with the PTF air/gas velocity measuring element, it becomes the Air/Gas Velocity Transmitter. Output is Modbus RTU for easily integrating with any PLC, controller, SCADA, BMS, or IoT gateway.

- Advanced MEMS sensor technology;

- High accuracy;

- Standard ModbusRTU output;

- Plug & Play.

Typical Applications

MBRTU-ULP can be used widely in the following:

- Gas Flow Measurement

- Air Flow Measurement

- HVAC / VAV

- Pressure Monitoring

- Negative Pressure Room Monitor

- Positive Pressure Room Monitor

- Filter Clogging Monitor

- Safety Cabinets

- ...

Specification

Type	Pressure range (Pa)	Pressure Total Error Band * (% FS)	Air Velocity Range (m/s)	Velocity Total Error Band * (m/s)
ULP-G300	0 .. 300	+/- 1.0	N/A	N/A
ULP-G600	0 .. 600	+/- 1.0	N/A	N/A
ULP-D125	-125 .. +125	+/- 1.25	0 .. 14	0.1
ULP-D250	-250 .. +250	+/- 1.0	0 .. 20	0.1

SENSOR COMMON SPECIFICATION	
Operating Temperature	-20 .. + 85 oC
Compensation Temperature	-20 .. + 85 oC
Max allowable static pressure	7 Kpa
Burst static pressure	20 Kpa
Process connection	6mm tube quick fittings
Housing Material	Engineering Plastic

OTHER SPECIFICATION	
Communication Port	RS485, ModbusRTU protocol, max 19200 baud
Measurement output	Differential Pressure (Pa), Air/Gas Velocity (m/s)
Power supply	7..48VDC, avg. < 200mA
Connector	M12-male 4-pin Code A
Working temperature	-40 .. 85 oC
Working humidity	0 .. 100% RH
Housing	Engineered Plastic
Rating	IP67
Dimension	H100xD30 (without sensor cable)
Mounting	SS304 L type bracket for wall mounting
Net weight	<200 grams

Ordering Code

Item code	Descriptions
MBRTU-ULP-G300-01	MODBUS RTU OUTPUT ULTRA-LOW PRESSURE SENSOR, GAUGE 300 Pa, 6MM FITTINGS, M12-M CONNECTOR
MBRTU-ULP-G600-01	MODBUS RTU OUTPUT ULTRA-LOW PRESSURE SENSOR, GAUGE 600 Pa, 6MM FITTINGS, M12-M CONNECTOR
MBRTU-ULP-D125-01	MODBUS RTU OUTPUT ULTRA-LOW PRESSURE SENSOR, DIFFERENTIAL +/-125 Pa, 6MM FITTINGS, M12-M CONNECTOR
MBRTU-ULP-D250-01	MODBUS RTU OUTPUT ULTRA-LOW PRESSURE SENSOR, DIFFERENTIAL +/-250 Pa, 6MM FITTINGS, M12-M CONNECTOR
PTF-01	TYPE 1 OPEN-ATMOSPHERE AIR VELOCITY MEASURING ELEMENT, ENGINEERING PLASTIC
	* To use with ULP-D125 to give 0 - 14 m/s air velocity range; * To use with ULP-D250 to give 0 - 20 m/s air velocity range;

Please select below M12 cable with different lengths	
2M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=2M, ROHS, SHIELD 80%
5M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=5M, ROHS, SHIELD 80%
10M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=10M, ROHS, SHIELD 80%

⚠ Link for full datasheet:

⚠ Link for manual:

daviteq

Daviteq Technologies Inc

🌐 www.daviteq.com | ✉ info@daviteq.com