

Precision Barometric Transmitter

HD9408.3B

○ ACCURACY, STABILITY, REPEATABILITY

High performance sensor integrating both a pressure sensitive and temperature sensitive element

○ HIGH FLEXIBILITY

Outputs at choice among active current or voltage, digital RS232, RS422, RS485 and SDI-12

○ DATA PROVIDED ACCORDING TO THE NEEDS

Digital output models with wide variety of user-selectable measuring units

○ HIGH PERFORMANCE IN ALL ENVIRONMENTS

IP67 watertight housing to withstand even harsh environmental conditions

○ LOW POWER CONSUMPTION

Ideal for remote acquisition systems

Delta OHM

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Main Applications

Meteorology
Environmental monitoring
Measurement laboratories
Clean rooms
Industry

High accuracy barometric transmitter: guarantee of long-lasting high performance

HD9408.3B **barometric transmitter** uses a piezoresistive high accuracy and temperature-compensated sensor. It allows measuring the atmospheric pressure in the range **0...1350 hPa** (digital outputs; 100...1350 for SDI-12) **or 500...1200 hPa** (analog outputs), providing **extreme accuracy and time stability, with excellent repeatability, low hysteresis, and excellent temperature behavior**. The superior performances are obtained thanks to the employment of a piezoresistive Silicon sensor that integrates both a pressure sensitive as well as a temperature sensitive element. The measurement of pressure and temperature are processed by a microprocessor to obtain an output signal that is compensated over the transmitter's whole, wide temperature operating range: -40...+85 °C. The sensor is **factory calibrated at several points at different temperatures** in the range of use.

The transmitter is available in three versions which differ in the output type so to guarantee a **maximum flexibility in the choice**. Moreover, the digital output enables the transmission of the measurements over long distances and connects the transmitter to sensor networks. The pressure measured and transmitted with MODBUS RTU and SDI-12 protocols can be expressed in different user-selectable measuring units.

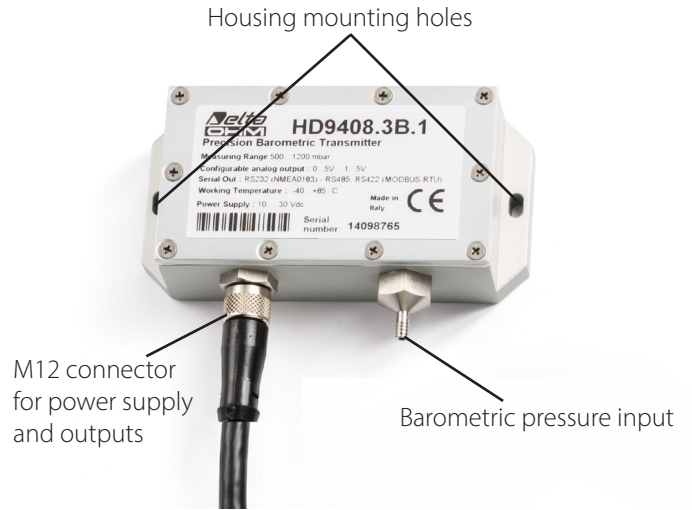
The instrument is particularly suitable for meteorological applications (AWOS - Automated Weather Observing Systems), environmental monitoring systems, meteorological and environmental data logging, measurement laboratories, atmospheric pressure compensation in the performance of internal combustion engines, barometric pressure compensation in clean rooms, vehicle emission test.

Its **low power consumption** makes it ideal for remote acquisition systems such as automatic weather stations powered by solar cells.

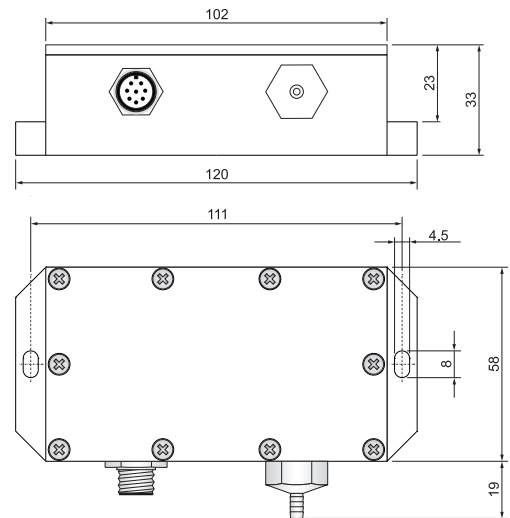
Technical Specifications

Sensor	High accuracy piezoresistive
Measuring range	HD9408.3B.1 and HD9408.3B.2: - digital outputs: 0...1350 hPa - analog outputs: 500...1200 hPa HD9408.3B.3: 100...1350 hPa
Resolution	0.01 hPa
Accuracy	± 0.1 hPa (500...1200 hPa) / ± 0.2 hPa (remaining range) @ 23 °C ± 0.3 hPa (500...1200 hPa) / ± 0.4 hPa (remaining range) in the entire temperature operating range -40...+85 °C
Measuring units with Modbus and SDI-12 protocols	Pa, hPa, kPa, mbar, bar, atm, psi, mmHg, inHg, mmH ₂ O, ftH ₂ O, kg/cm ² , Torr.
Long term stability @ 25 °C	0.25 hPa/year
Output signal	HD9408.3B.1 - RS485, RS422, RS232, analog voltage output 0...5 / 1...5 V HD9408.3B.2 - RS485, RS422, RS232, analog active current 0...20 / 4...20 mA HD9408.3B.3 - SDI-12
Warm-up time	2 s approx. from powering
Measuring period	- HD9408.3B.1 and HD9408.3B.2: 16 ms - HD9408.3B.3: upon user request
Analog output response time	150 ms to reach 90% of final value with step pressure input (from 600 to 1000 hPa)
Overpressure limit	3 x f.s.
Compatible media	Only dry air and non corrosive gases
Power supply	- HD9408.3B.1 and HD9408.3B.2: 10...30 Vdc - HD9408.3B.3: 8...30 Vdc
Absorption	- HD9408.3B.1 and HD9408.3B.2: < 10 mA @ 12 Vdc - HD9408.3B.3: < 200 μ A @ 12 Vdc (average consumption between two subsequent measurements)
Pressure connection	\varnothing 5 mm flexible tube
Electrical connections	M12
Operating conditions	-40...+85 °C / 0...100 %RH
Storage temperature	-40...+85 °C
Housing material	Anticorodal
Protection degree	IP67

Description



Dimensions



Ordering Codes

HD9408.3B.1	0...5 V or 1...5 V configurable voltage analog output. RS232, RS422 or RS485 digital output. MODBUS-RTU and NMEA standard protocols. Provided with free 8-pole M12 connector. The cable CP18... must be ordered separately.
HD9408.3B.2	0...20 mA or 4...20 mA configurable current analog output, RS232, RS422 or RS485 digital output. MODBUS-RTU and NMEA standard protocols. Provided with free 8-pole M12 connector. The cable CP18... must be ordered separately.
HD9408.3B.3	SDI-12 digital output. Provided with free 8-pole M12 connector. The cable CPM12AA4... must be ordered separately.
CP18...	12-pole cable. Length 2, 5 or 10 m. 8-pole M12 connector on one end, open wires on the other side.
CPM12AA4...	4-pole cable. Length 2, 5 or 10 m. 4-pole M12 connector on one end, open wires on the other side.
RS51K	Kit for connecting the transmitter RS485 output to a PC. It includes the SWD10 power supply and the RS485/USB adapter with screw terminals for the connection to the CP18.x cable, USB connector for the connection to the PC, jack connector for connecting the SWD10 power supply.
RS52	Serial connection cable with built-in USB/RS232 converter. USB connector for the PC and screw terminals on the instrument side.

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