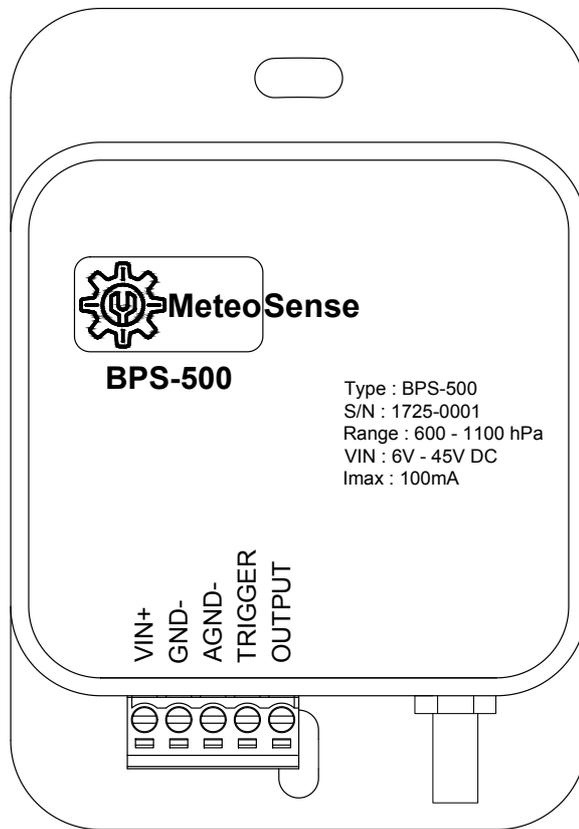


BPS-500



HIGH-PRECISION BAROMETRIC PRESSURE SENSOR FOR METEOROLOGICAL APPLICATIONS

PRODUCT OVERVIEW | DOCUMENT No. MS-BPS-500-PO001-04 | © 2025 METESENSE





General Description

The **BPS-500** is a high-accuracy, field-ready barometric pressure sensor specifically developed for demanding meteorological applications. Housed in a rugged aluminum enclosure, it delivers precise atmospheric pressure readings. With ultra-low power modes, the BPS-500 integrates seamlessly into weather stations, climate research systems, and environmental monitoring networks.

Functionality & Data Handling

- Internal FIFO buffering with oversampled precision
- Conversion is performed using 16-bit
- 0-2,5V or 0-5 V analog output
- Pressure range: 600–1100 hPa
- Linear pressure-to-voltage mapping
- Trigger-controlled measurement
- Energy-saving operation

Typical Application

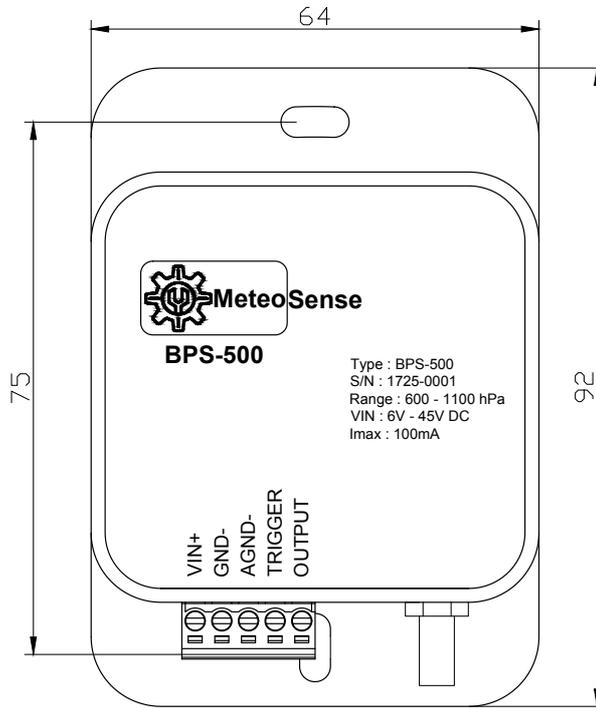
- Meteorological stations (national, regional, remote)
- Environmental and climate research observatories
- Helipad and runway weather instrumentation
- Mobile survey and air-quality trailers
- Calibration reference for pressure measurements

Low Power Features

The sensor uses a trigger-based measurement mode. Measurements are performed only when the trigger signal is active, allowing the device to remain in a low-power state otherwise. This approach significantly reduces overall power consumption and makes the sensor suitable for battery-powered and energy-efficient applications.



BPS-500 Electrical & General Specifications	
Dc Input Voltage	6 VDC ... 45 VDC (Peak up to 60 VDC)
ESD Protection I/O	15 kV
Reverse Polarity Protection	Yes
Power Consumption	<1mA at 12V (standby 40µA at 12V)
Performance	
Number of Sensors	3
Temperature Compensation Range	-40°C ... +80°C
Pressure Range	600 hPa ... 1100 hPa
Relative Pressure Accuracy 900 – 1100 hPa, 25 °C	±0.0023 hPa
Relative Pressure Accuracy 700 – 1100 hPa, 15 – 55 °C,	±0.035 hPa
Absolute Pressure Accuracy 600 – 1100 hPa, -5 – 65 °C	±0.2–0.30 hPa
Relative Pressure Accuracy 600 – 1100 hPa, -40 – 85 °C inkl. Drift, TCO	±0.2 hPa
Pressure Noise	0.0021–0.0025 hPa
Offset Temperature Coefficient (TCO) 300 – 1100 hPa, -5 – 65 °C	±0.005 hPa/K
Long-Term Drift	±0.05–0.06 hPa
Short-Term Drift	±0.009–0.010 hPa
Resolution	1/64 hPa ≈ 0.0156 hPa
Hysteresis	0.02 hPa
Output	
Output voltage	0-2,5VDC or 0-5 VDC
Output Noise	16 µV
Output Current Load Capability	±5 mA
Thermal Hysteresis	25 ppm
Gain Temperature Coefficient	±1 ppm/°C
Housing	
Pressure Connection	5 mm fitting
Electrical Connection	5-Pole terminal block
Housing	Anodized Aluminium
Dimension	92 mm x 64 mm x 19,5 mm
Dimension Din Rail	62 mm x 64 mm x 19,5 mm



DIN rail
mount

