

HSP-EW Series Pressure Sensors

Honeywell HSP-EW series pressure sensors are mainly used for water systems of central air conditioning system, as well as other liquid or gas pressure measurements with matching temperature, pressure bearing and connection material. The standard thread structure at the bottom of the sensor can be directly installed on the pipeline, and the high-precision sensor components are directly in contact with the medium for pressure measurement.



Features

- High-precision and high-quality sensor components.
- Explosion-proof housing design.
- Parts in contact with liquid are SS316L stainless steel.
- The buttons in the display panel can set some parameters.
- Better thermal performance.
- 1-meter extension cable, convenient wiring, ensuring the overall sealing level.

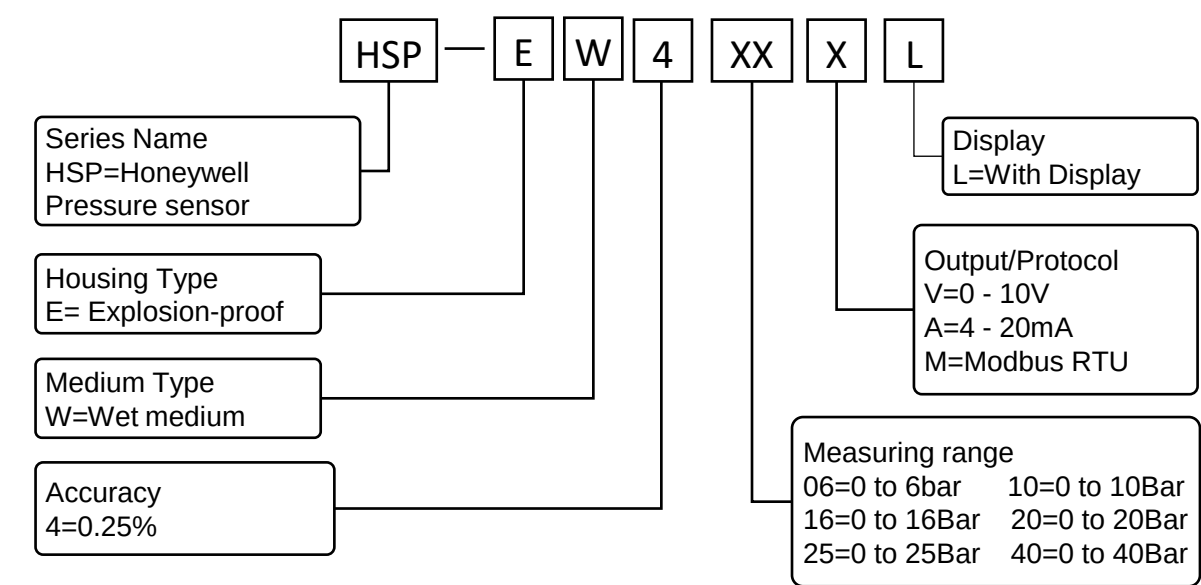
Basic Parameters

Accuracy (25°C±3°C)	±0.25%FS
Applicable Medium	Liquids and gas compatible with SS304 and SS316L stainless steel, fluororubbers or nitrile butadiene rubber
Medium Temperature	-20°C to 80°C
Stability	<0.5% FS / Year
Compensated Temp.	6Bar to 20 Bar: 0°C to 50°C; 25Bar to 40 Bar: -10°C to 70 °C
Working Environment	-20°C to 70 °C
Storage Environment	-40°C to 100°C
IP Rated	IP65
Response time	Sensing Module<2ms, Sensor < 0.5S
Proof Pressure	1.5 * FS
Burst Pressure	2 * FS
Output signal / Protocol	0-10V, 4-20mA, Modbus RTU
Power Supply	12VDC to 36VDC (0-10VDC Output); 10VDC to 30VDC (4-20mA Output) 10VDC to 36VDC (RS485)
Current Draw	4-20mA Output: ≤21mA 0-10V Output: ≤15mA RS485: ≤15mA
Maximum Circuit Load	4-20mA Output: ≤[(U-10V)/0.02A]Ω 0-10V Output: ≥10kΩ
Wiring Cable	M12 1m extension Cable
Connection	G1/2 Male
Explosion-proof Class	ExdbIIcT6Gb
Electromagnetic compatibility (Applications)	EN IEC61326-1: 2021, For use in residential, commercial and light-industrial environments.
Certification	1. EN IEC61326-1: 2021 2. RoHS3.0
Materials	Display Head: Cast Aluminium (ADC12-F) Sensor Housing: SS304 Pressure Sensing Component: SS316L

Order Information and Technical Specification

SKU	Pressure Range	Output Signal /Protocol
HSP-EW406VL	0~6Bar	0~10V
HSP-EW410VL	0~10Bar	0~10V
HSP-EW416VL	0~16Bar	0~10V
HSP-EW420VL	0~20Bar	0~10V
HSP-EW425VL	0~25Bar	0~10V
HSP-EW440VL	0~40Bar	0~10V
HSP-EW406AL	0~6Bar	4~20mA
HSP-EW410AL	0~10Bar	4~20mA
HSP-EW416AL	0~16Bar	4~20mA
HSP-EW420AL	0~20Bar	4~20mA
HSP-EW425AL	0~25Bar	4~20mA
HSP-EW440AL	0~40Bar	4~20mA
HSP-EW406ML	0~6Bar	Modbus RTU
HSP-EW410ML	0~10Bar	Modbus RTU
HSP-EW416ML	0~16Bar	Modbus RTU
HSP-EW420ML	0~20Bar	Modbus RTU
HSP-EW425ML	0~25Bar	Modbus RTU
HSP-EW440ML	0~40Bar	Modbus RTU

Definition



Modbus Protocol

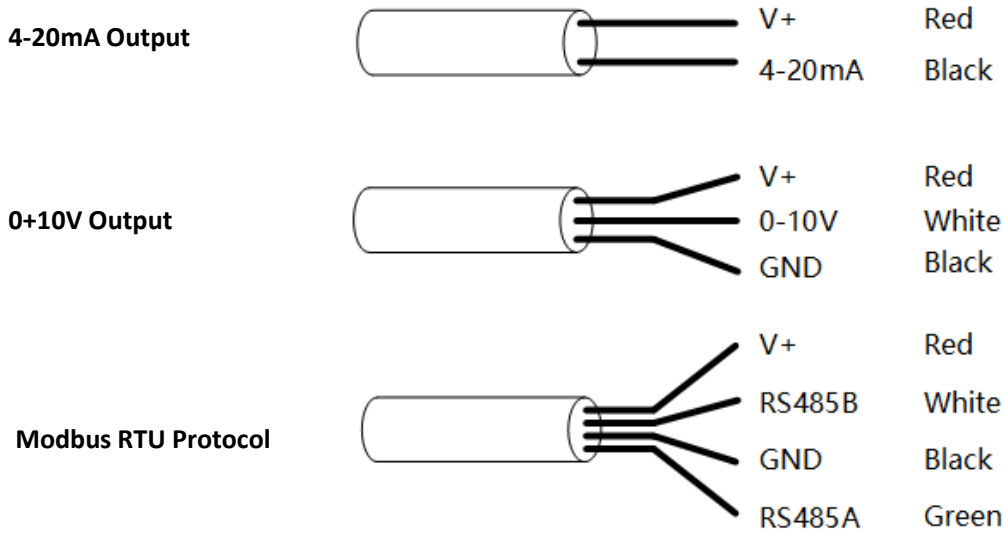
Modbus Parameters

Physical Layer	RS485
Protocol Type	Modbus-RTU
Baud Rate	4800/9600/19200/38400
Parity check	NO
Signal transmission	Master-slave
Error check	CRC-2 Bytes
Stop Bit	1
Longest interval	1200m Max (Communication cable up to standard, baud rate 9600, single 485 devices)
RS-485 Devices Number	64 Max

Modbus Register Information

Register ID	Description	Readable (R) /Writable (W)	Detailed Information
0x0000	Integer pressure value	R	Current pressure output value (hexadecimal) Example: If the unit (kPa) output is 0x320 (801), the pressure value is 801/100=8.01kPa
0x0001	NA	R	Reserved
0x0002	NA	R	Reserved
0x0003	NA	R	Reserved
0x0004	Baud rate setting	R&W	Baud rate setting: 1: 4800bps 2: 9600bps (default) 3: 19200bps 4:38400
0x0005	Address	R&W	Address range (1-255), factory default (1)
0x0006	Pressure unit	R&W	Pressure unit setting: 0: MPa, 1: Bar, 2: Psi, 3: kPa, 4: mH2O, 5: cmH2O, 6: Pa
0x000A~000B	Floating point pressure value	R	32-bit pressure floating-point number, default high byte before low byte after In units of kPa, output 0x4100CCCCD, i.e. pressure value=8.05kPa
0x000E	High and low byte switching	R&W	0: No switching between high and low bytes(8.05kPa=0x41000CCCCD) 1: High and low byte switching (8.05kPa=0xCDCC0041)
0x000F	Zeroing	W	Clear to zero, pressure within zero ± 5% F.S, send 0x1234

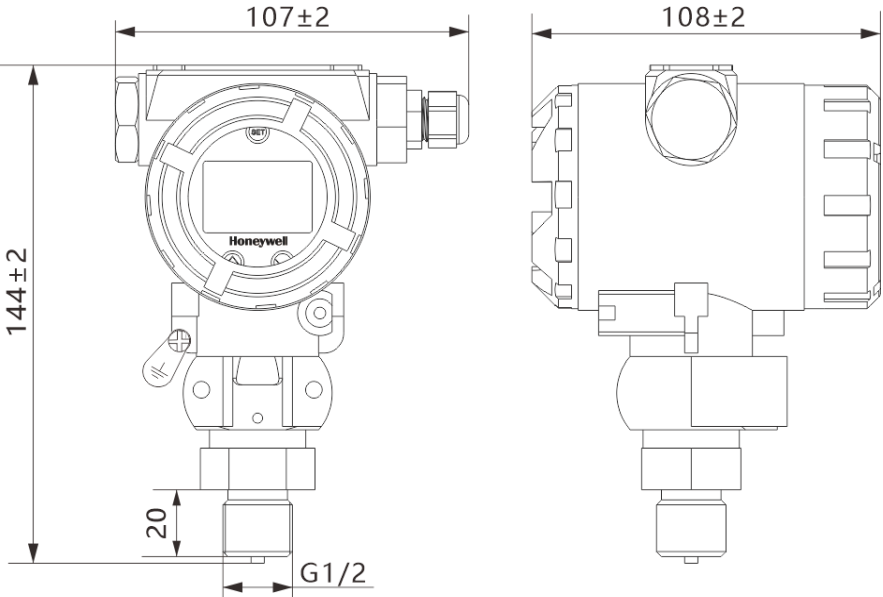
Wiring



Application Precautions

1. **Accuracy:** The accuracy of this product is directly related to the temperature of the applied medium, so the declared accuracy value is the accuracy value when the medium temperature is within the compensation temperature range. When the medium temperature is not within the compensation temperature range, its accuracy cannot be guaranteed.
2. **Applicable medium:** This product can only be used for the media listed in this document. It may not work or cause damage to the product when used for media not listed in this document.
3. **Applicable medium temperature range:** The applicable temperature range declared by this product means that the product can work normally within the medium temperature range and will not be damaged or the function is not guaranteed. When working outside the applicable medium temperature range, the product may be damaged or the function cannot be guaranteed. The declared temperature and humidity range for the working environment and storage environment of the product has the same impact on this product as the applicable medium temperature range.
4. **Overload differential pressure** refers to the maximum differential pressure that the sensor can withstand. If the differential pressure that the sensor withstands exceeds the overload differential pressure, it may cause performance degradation or damage. Therefore, when selecting a sensor, please note that the maximum differential pressure that the selected sensor must withstand must be less than the overload differential pressure.
5. The **burst pressure difference** refers to the pressure difference under which the sensor will be damaged. Therefore, when selecting the sensor, please note that the maximum pressure difference of the pipeline installed in the selected sensor must be less than the burst pressure difference.
6. **Power supply:** The product can work normally under the power supply conditions required by this document. If this requirement is not met, the product may not work properly or be damaged. Therefore, before the product is powered on, you need to ensure that the product wiring is correct and the power supply meets the requirements.
7. **Electromagnetic compatibility and application:** The technical parameters of electromagnetic compatibility of this product meet the standards EN IEC61326-1: 2021, and are only suitable for residential, commercial and light-industrial environments. When using this product, you need to pay attention to the electromagnetic interference of the installation site to meet the standards EN IEC61326-1: 2021. If the electromagnetic interference data on site exceeds the standard, it may affect the normal operation of the product.
8. During product operation, ensure that there is no dirt inside the sensor, otherwise it may cause inaccurate measurement or product damage.

Dimension (mm)



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THE
FUTURE
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