# HBYB1001A
# Pressure Transmitter

## 1.1.Product Introduction

### 1.1 Working Principle

The HBYB1001A pressure transmitter of Wuxi Haobang High tech Co., Ltd. adopts MEMS diffusion silicon technology for the pressure core, which is amplified by a digital compensation amplification circuit with a microprocessor. It is fully intelligent temperature compensated by digital software and outputs standard signals. The precision of the universal product is 0.25%. In the standard purification production process, parameters are strictly controlled to avoid the effects of temperature, humidity, and mechanical fatigue, ensuring the long-term stability of the transmitter in harsh industrial environments.

The digital circuit of the transmitter is carefully designed for working conditions such as radio frequency, electromagnetic interference, and surge voltage, with strong anti-interference ability, wide power supply range, and polarity protection.

### 1.2 Product Features

HBYB1001A pressure transmitters have the following characteristics: high sensitivity (18-25mv/V), high reliability, low thermal zero drift, low thermal sensitivity drift; compact size.

- Dynamic response frequency of 1KHz, meeting the requirements of dynamic pressure measurement, such as special occasions such as waves and wind tunnels;
- Strong output signal, high sensitivity (18-25mv/V), easy for secondary instruments to eliminate interference signals and normalize processing;
- Compact size, customizable with special structures according to user needs;

## 2.Product Description

HBYB1001A pressure transmitters are strictly controlled in various parameters during the standard purification production process. The entire product has undergone rigorous testing and aging screening of components, semi-finished products, and finished products, with stable and reliable performance. Widely used for pressure measurement in industrial processes such as petroleum, chemical, metallurgical, power, hydrology, etc., it is a low-cost and cost-effective civilian and industrial grade product.

## 3.Range Selection

Table1: Product Range Selection Table

| Range | Core type | Method | Remark |
|---|---|---|---|
| -100KPa~60MPa | Oil-filled core | Gauge Pressure, Absolute Pressure | |
| 1MPa~100MPa | Micro-melting core | Gauge Pressure | |

## 4.Performance Parameters

Table 2: Product Performance Parameter Table  Power supply: 5Vdc or 9～30Vdc  Reference temperature: 25℃

| Parameters | Min | Typ. | Max | Units | Remark |
|---|---|---|---|---|---|
| Precision | -0.25 | | +0.25 | %FS | Including nonlinearity, hysteresis, and repeatability |
| Long-term stability | -0.1 | | +0.1 | %Span | 1 year |
| Insulation resistance | 50 | | | MΩ | 250Vdc |
| Overload pressure | 2x | | | Rated | |
| Breaking pressure | 3x | | | Rated | |
| Pressure cycle | 10 | | | Million | From zero to full scale |

| Parameters | Min | Typ. | Max | Units | Remark |
|---|---|---|---|---|---|
| Compensation temperature | -20 | | +85 | ℃ | |
| Operating Temperature | -40 | | +85 | ℃ | |
| Storage temperature | -40 | | +125 | ℃ | |
| Vibration | | ±20 | | g | |
| Impact | | 100 | | g | 11mS |

Please note: For special needs, please contact us

## 5.External Dimensions

The appearance of the HBYB1001A product is shown in Figure 1, and the product dimensions are shown in Figure 2. All dimensions are in millimeters (mm), and the unmarked tolerance is ±0.1mm.

Figure 1: Product appearance diagram

Figure 2: Product dimension drawing

## 6.Wiring Method And Output Options

Please refer to Figure 3 for the pin definition of the HBYB1001A product series, and Table 3 for the pin function description.

Figure 3: Hirschman Pin Definition Diagram

Table 3: Husman Pin Function Description

| Output format | Pin number | Definition | Function | Wiring |
|---|---|---|---|---|
| 4-20mA | 1 | I+ | Current positive pole | Red |
| | 2 | I- | Current negative pole | Blue |
| | 3 | NC | Empty | |
| 0.5-4.5VDC | 1 | V+ | Positive voltage terminal | Red |
| | 2 | OUT | Output end | Blue |
| | 3 | GND | Ground | Yellow |

Note: The actual color is subject to the actual product upon delivery. The default output format is 4-20mA. For special requirements, please contact the manufacturer.

## 7.Product Selection Information

The selection information of HBYB1001A products is shown in Table 4.

Table 4：Product Selection Guide Table

| |
|---|
| **Product Name：** HBYB1001A |
| **Output Type：** A：Analog |
| **Core Type：** /：Micro-melt core；C：Oil-filled core |
| **Range：** W：-0.1MPa~100MPa，Fill in directly according to user requirements |
| **Supply：** V1：5Vdc；V2：9~30Vdc |
| **Output Signal：** B1：4~20mA；B2：0.5~4.5V |
| **Interface Thread：** C1：G1/2；C2：G1/4；C3：G1/8；C4：NPT1/2；C5：NPT1/4；C6：NPT1/8；C8：M20 |
| **Length（mm）：** L1：30；L2：35；L3：40；L4：45；L5：50；L6：55；L7：60；L8：64/65 |
| **Additional Information：**<br>**Electrical Connection：** J1：Hirschmann connector<br>**Precision：** P1: 0.5%；P2: 0.25%；P3：0.1%<br>**Working Environment：** GW：high temperature(≤150℃)；GB：flameproof；BA：intrinsically safe |
| **Selection Example：** HBYB-1001A-AC2MPaV2B1C1L1J1P2GB |
| ***Please note:**<br>1)Some products do not include all the ranges mentioned above. For more product information, please contact Haobang sales personnel.<br>2)Pressure conversion：10kPa=0.01MPa=100hPa=100mBar≈75mmHg≈1020mmH2O≈1.45PSI |

## 8.Customized Services

Haobang is guided by customer needs and provides flexible customized solutions to meet their different needs. Provide effective customization services for pressure transmitters, including but not limited to different ranges, packaging sizes, and application ranges. For more information, please contact info@haobang-smt.com .

## 9.Version Revision Record

Table 5：Version Revision Record

| Version | Description | Data |
|---|---|---|
| 1.01 | Initial release | 2026.1.16 |

# Important Notices and Supplementary Provisions

## 1. Scope of Application and Operating Conditions

The product's specific technical parameters, measuring range, output form, and physical dimensions are as defined in the HBYB1001A General Pressure Transmitter Specification.

Product performance is valid only within the rated operating conditions stated in the specification (supply voltage, temperature range, measured medium, maximum pressure, output load, ingress protection rating, etc.). Use beyond the rated range voids any assurance of performance, reliability, or service life; the user bears all resulting consequences.

The typical application industries listed in the specification (e.g., industrial process control, equipment manufacturing, environmental monitoring) are for reference only and do not constitute an express or implied warranty of fitness for any specific end-use system. Users must independently assess product suitability.

## 2. Performance Parameters and Disclaimers

Specification parameters are measured under the Company's standard test conditions. Where actual conditions deviate from these, some parameters may fall outside the stated limits; designs must incorporate adequate engineering margin.

The Company does not warrant the product's functional correctness, system compatibility, or long-term reliability in any specific application, including but not limited to: electromagnetic compatibility (EMC); chemical compatibility with specific media; structural integrity under mechanical stress; and compatibility with the user's safety-protection circuitry.

The Company does not warrant that use of the product does not infringe any third-party intellectual property rights. Users must assess related risks on their own.

## 3. Installation and Usage Precautions

**ESD Protection:** Operators must wear anti-static wrist straps or gloves, use grounded anti-static mats, ensure reliable equipment grounding, and employ anti-static packaging. Latent damage caused by non-compliance is not covered by warranty.

**Soldering and Assembly:** Soldering iron tip temperature ≤ 350°C; single-joint soldering time ≤ 3 s (refer to the HBYB1001A General Pressure Transmitter Specification for details). Clean only after the device has cooled to room temperature; lead-free no-clean solder is recommended. Ultrasonic cleaning is prohibited.

**Cleaning and Maintenance:** Wipe the enclosure with a soft dry cloth or a cloth lightly dampened with mild detergent. Direct contact of the surface with strong acids, strong alkalis, or organic solvents is prohibited. Non-waterproof products must never be fully immersed in any liquid.

**Installation:** Tightening torque must not exceed the limit given in the specification. Electrical connections must satisfy the required ingress protection rating and be adequately waterproofed. A periodic recalibration program is recommended based on actual service conditions.

## 4. Warranty and Limitation of Liability

Within 12 months from the date of shipment, the Company will repair or replace, free of charge, any product that fails under normal operating conditions due to defects in material or workmanship.

**Exclusions:** use beyond specification limits; unauthorized disassembly, modification, or re-soldering; incorrect wiring, reverse polarity, or overvoltage/overcurrent input; damage from corrosive, abrasive, or crystallizing media; force majeure such as natural disasters, lightning, or fire; normal wear and aging beyond the warranty period; and products with missing or altered serial numbers or labels.

**Warranty Procedure:** Retain the failed unit and its operating records, contact info@haobang-smt.com, complete the Product Return/Repair Application Form, and submit proof of purchase together with a failure description. Once the defect is confirmed as covered, repair or replacement will be arranged.

**Limitation of Liability:** In no event shall the Company's aggregate liability for product defects exceed the purchase price of the affected batch. The Company shall not be liable for indirect, incidental, or consequential damages (including, without limitation, production downtime, loss of profit, data loss, or third-party claims), equipment damage, personal injury, or any consequence arising from non-compliant use.

## 5. Product Change Notification

The Company reserves the right to modify the product design, materials, manufacturing process, parameters, dimensions, and documentation version without prior notice.

For major changes that affect critical performance, package interchangeability, or assembly compatibility, the Company will make reasonable efforts to notify existing customers in advance through the assigned sales representative, official document releases, or written communication such as email.

Users must rely on the latest officially released version as the basis for design and acceptance. The Company disclaims responsibility for any consequence of using outdated or unauthorized document versions.

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