



Mianyang Weibo Electronic Co.,Ltd

*Designing, Manufacturing and Supplying WB Series Electric Isolated
Transducer and Digital Electrical Transducer since 1989*

**USER MANUAL
WBF152H25 Frequency Transducer**

www.wbsensor.com

wbw@wbdz.cn

Tel: 86 0816 2971265

Fax: 86 0816 2281934

ISO9001 ISO14000 ISO18000

Certified

WBF152H25 Frequency Transducer

Safety claim

The information in the safety claim of the equipment documentation is intended to ensure that equipment is properly installed in order to maintain it in a condition.

It is assumed that everyone who will be associated with the equipment will be familiar with the contents of that safety section, or this safety guide.

When electrical equipment is in operation, dangerous voltages will be present in certain parts of the equipment (e.g. the input terminal). Failure to observe warning notices, incorrect use, or improper use may endanger personnel and equipment and cause personal injury or physical damage. Before working in the terminal strip area, the equipment must be isolated. Proper and safe operation of the equipment depends on appropriate shipping and handling, proper storage, installation and commissioning, and on careful operation, maintenance and servicing.

The operating manual for the equipment gives instructions for its installation, commissioning, and operation. However, the manual cannot cover all conceivable circumstances or include detailed information on all topics. In the event of questions or specific problem, do not take any action without proper authorization. Contact the appropriate WB technical or sales office and request the necessary information.

Standard application

1. Accuracy

Accurate degree is conformed to IEC688:1992

2. Safety

2.1 Overload capability

Overload capability is conformed to IEC688:1992

2.2 Isolation voltage

Can be endured testing voltage is conformed to
Q/72085584-0.1-2004

2.3 Insulation impedance

The insulation impedance is no less than 20M Ohm, is conformed to

Q/72085584-0.1-2004

3. Electromagnetic Capability

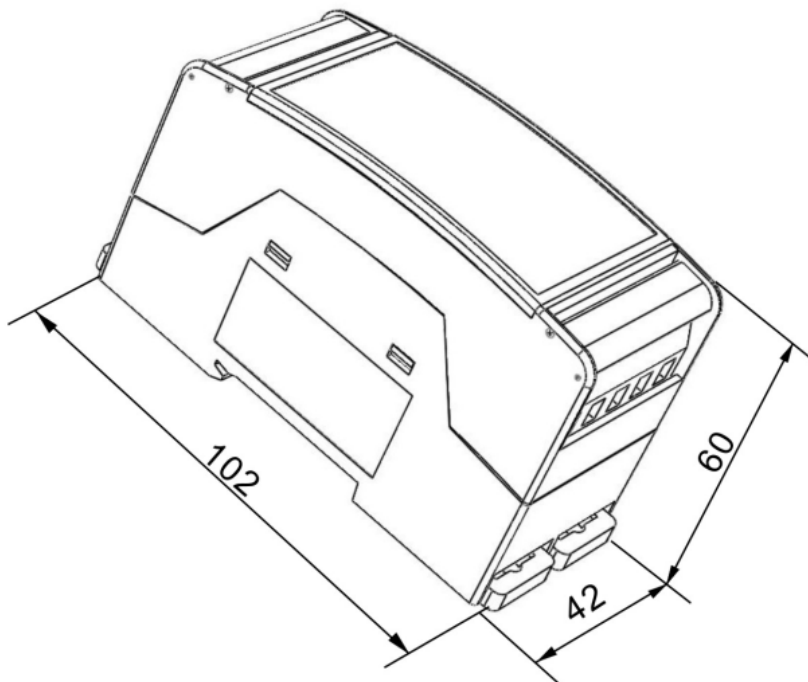
3.1. Electromagnetic field immunity test according to IEC 61000-4-3:1995

3.2 Power frequency magnetic field immunity test according to IEC 61000-4-8:1993

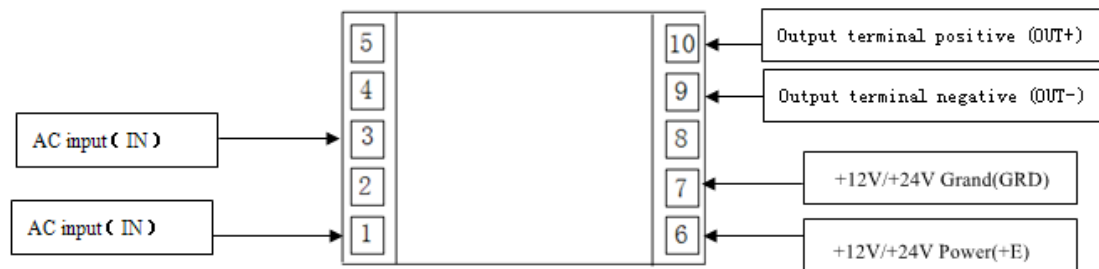
Product Description and Application

WBF154H25 uses a special isolation module to measure the AC power in the power grid and circuit in real time, and convert it to a standard DC current (IZ) output of 0-5V, 0-10V or 1V-5V; it has high precision, high isolation, low power consumption, Low drift, wide temperature range, strong anti-interference ability and so on. This product adopts card-mounted structure, terminal wiring, easy installation, DC 12V/24V power supply, input, output isolation between each other.

Product Dimensional Drawing (unit: mm)



Product Terminal Identification Drawing



Key Technical Data:

1. Input and output specifications:
Input: 40Hz~60Hz/45Hz~55Hz(50V~500V);
Output: DC 0-5V, 0-10V or 1V-5V;
2. Accuracy level: 0.2;
3. Linear range: 0%~120% nominal input;
4. Response time: 250ms;
5. Input impedance: 2M Ω ;
6. Overload capacity: twice the nominal input voltage, lasting 1s, interval 10s, repeat 10 times without breakdown;
7. Load capacity: 6mA;
8. Auxiliary power supply: DC12V $\pm$ 10% or 24V $\pm$ 10%;
9. Isolation voltage:
AC 2000V, 1min between input and output,
AC 2000V, 1min between power supply and input,
AC 2000V, 1min between power supply and output;
10. Quiescent current: 50mA (typical value when power supply is +12VDC);
11. Output ripple: $\leq$ 10mV (effective value);
12. Ambient temperature: -25 $^{\circ}$ C~+70 $^{\circ}$ C;
13. Temperature drift: 200 $\times$ 10-6/ $^{\circ}$ C.
14. The product can work stably under strong electromagnetic interference environment and provide accurate measurement (the output signal line uses shielded wire).

15. Electromagnetic compatibility standard: EN61326: 2006.

16. Safety standard: EN60100:2001.

Instruction of Installation and Use

1. This type of sensor uses a snap-on structure, easy to install, suitable for NS35/7.5, NS35/15 or European EN50022 standard rail. The installation steps are as follows (please reference to dimensional drawing):

Step 1: Immobilize one side of product's mounting trough to the DIN mounting rail;

Step 2: Pull out the spring clasp;

Step 3: Place whole mounting trough to the DIN mounting rail properly;

Step 4: Release spring clasp to make sure the installation.

2. Basic testing method for accuracy

(1) According to the terminal definition table to connect the testing circuit;

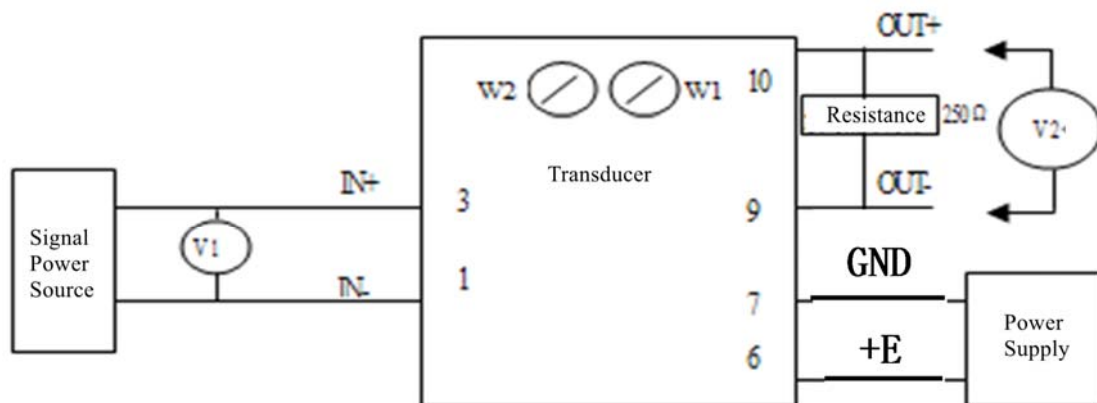
(2) The testing must to be done by under the following conditions;

Auxiliary power: normal value $\pm 5\%$

Ambient temperature: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Relative humidity: RH(45~75)%

Accuracy for Signal Power Source instrument: 0.05



- (3) warming up the transducer for 3 minutes
- (4) Use the input monitoring table V1 to monitor the output of the signal source. Given an arbitrary input value U_r within, assuming that the input specification of the sensor is 100 Hz and the output specification is 0-5V, the expected output value U_z of the sensor is calculated as follows:

$$U_z = 5V \times U_r / 100Hz$$

- (5) Use the output monitoring table V2 to measure the DC voltage value U_o across the standard resistance. The basic reference error γ of the sensor is calculated as follows:

$$\gamma = (U_o - U_z) / 5V \times 100\%$$

- (6) Repeat the two operations 4 and 5, if the absolute value of γ is less than the accuracy level index of the sensor, the accuracy level of the sensor is qualified.

Caution:

1. Pay attention to the auxiliary power information, especially the auxiliary power grade, and polarity, other wise will damage the product.
2. pay attention to the wire connection; wrong terminal connection will cause malfunction of the product and even damage the product;
3. Don't dismantle the product, and carry with care to avoiding bump and fall of the product;
4. If the product has been using under the environment with strong magnetic field interference, please pay attention to the shield of input wire, and the output signal wire should be as short as possible. For product intensive installation, the space between each product should not be smaller than 10mm.
5. Only use identified terminals.
6. There is no lightening strike prevention circuit design in this product. For outdoor and hazardous environment using, please add protective alternatives.
7. This product uses fire prevent ABS crust, its temperature withstand is only limited as +85°C, higher than this limitation will cause the product deformation. Please use and store carefully.