

BWY-804 (TH)
Transformer Oil Surface Thermometer

Installation and Operation
Manual

Dalian Join Hands Photoelectric Technology Co., Ltd.

Catalog

1. Attentions.....	(3)
2. Warnings.....	(3)
3. Installation diagram of thermometer.....	(4)
4. Electric Circuit of Thermometer.....	(5)
5. Overall Dimensions and Installation Dimensions of Thermometer.....	(5)
6. Main Technical Properties & Parameters of BWY--804 (TH)	(5)
7. Type description.....	(6)
8. Working Principle.....	(6)
9. Switch setting.....	(6)

List of Figures

Figure 1: Installation diagram of thermometer.....	(4)
Figure 2: Electric Circuit of Thermometer.....	(5)
Figure 3: Overall Dimensions and Installation Dimensions of Thermometer.....	(5)
Figure 4: Contact setting cam.....	(6)

1、Attentions:

1.1 Attention 1:



Attention 1

The measurement instrument is a precision instrument; therefore, drop, impact and vibration shall be avoided. Please do not tread on, tear or twist the instrument conductor.

1.2 Attention 2:



Attention 2

In the installation process of instrument, please do not touch the meter needle (Figure 1-1) or other element, so as to prevent damage.

1.3 Attention 3:



Attention 3

According to the difference between items, the specification and model of matching instrument also differ. Please perform the wire connecting of instrument in accordance with the electrical wiring diagram in meter cover, it shall not be loose (Figure 1-5).

1.4 Attention 4:



Attention 4

Cover well the upper cover of meter after installation, and twist tight the four screws (Figure 1-6), so as to prevent rainwater from entering and blowing the electric appliances.

2、Warnings

2.1 Warning 1:



Warning 1

Perform wiring according to the electrical wiring diagram in the meter cover , so as to prevent blowing the instrument.

2.2 Warning 2:



Warning 2

At the time of performing impact test of transformer and reactor, the wire of instrument must be switched off, so as to prevent burning of the temperature transmitter in the instrument!

3、Installation diagram of thermometer

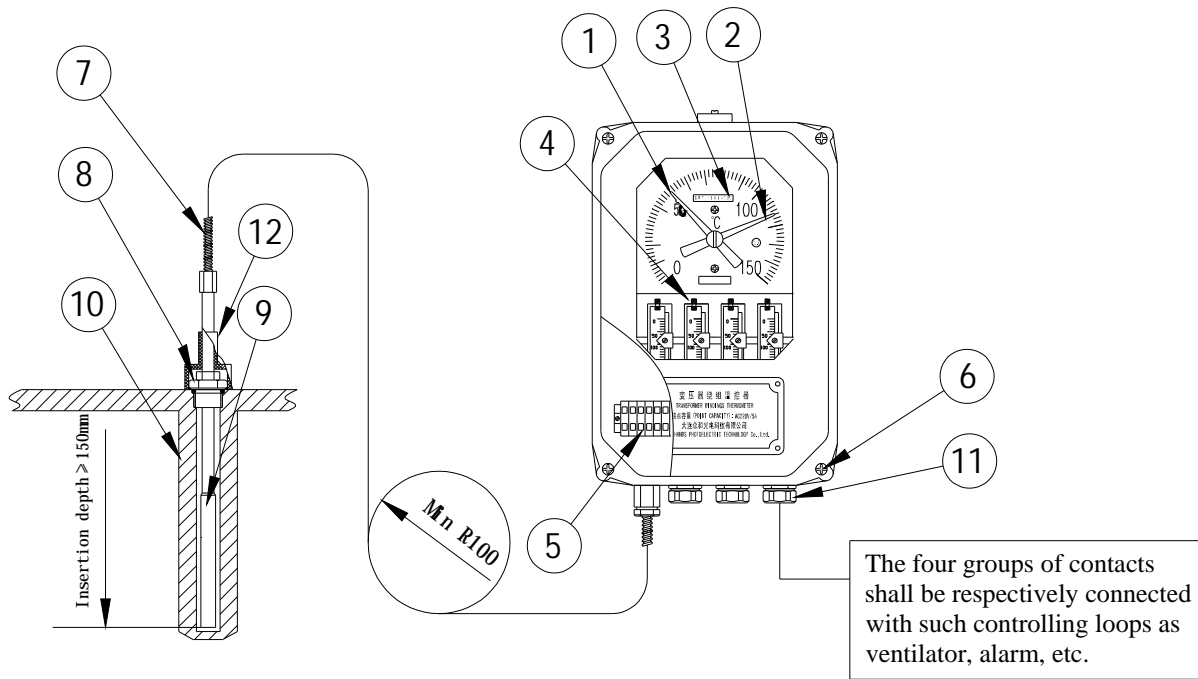


Figure 1

Table 1

Serial Number	Component Name	Serial Number	Component Name
1	Indicating finger	7	Tubes
2	Maximum indication record needle (maximum value ever attained)	8	M27X2 installation joint
3	Type of Thermometer	9	temperature sensitive bulb
4	Cam	10	Transformer installation hole
5	Connecting terminal	11	Hole for lead wire
6	Installation screw at upper cover of instrument	12	Protective sleeve



Attention

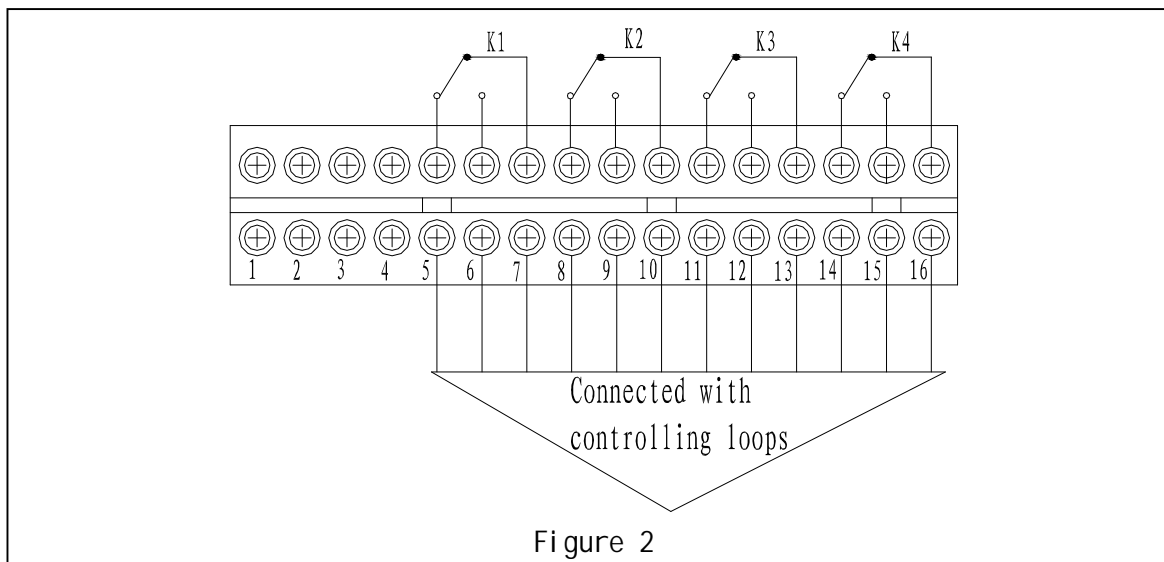
After Install, Extra tubes should be bent into a round and then fixed on the transformer. (Figure 1-7), the protective sleeve set good as Figure 1-12.



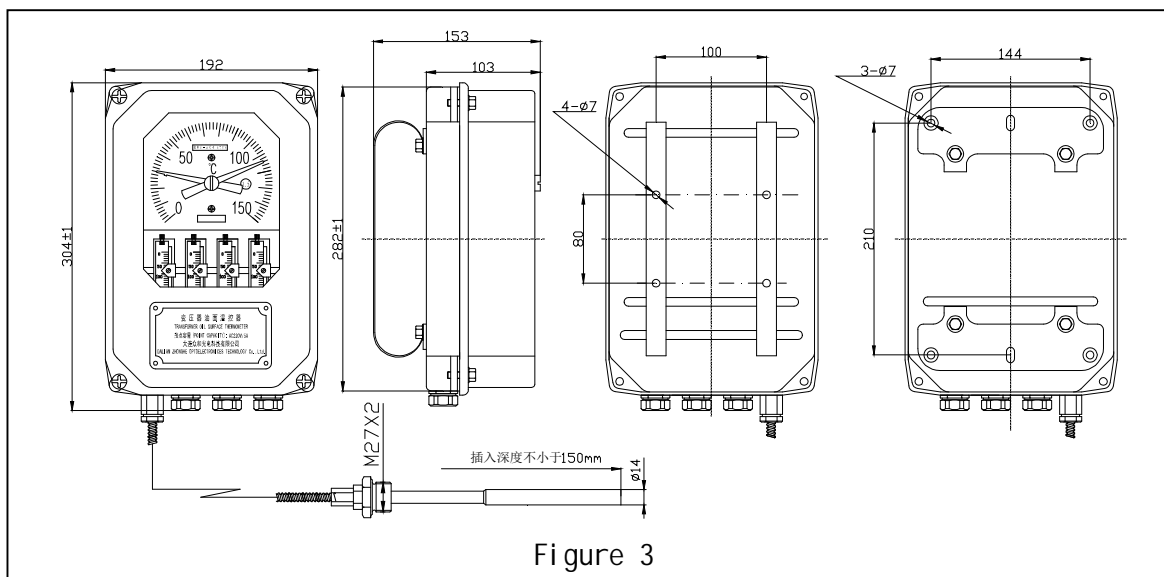
Attention

Before the sensor is put into the installation hole (Figure 1-10), the installation hole must be fully filled with transformer oil, then the sensor shall be slowly inserted, and the insertion depth shall not be less than 150mm.

4 、 Electric Circuit of Thermometer



5、 Overall Dimensions and Installation Dimensions of Thermometer



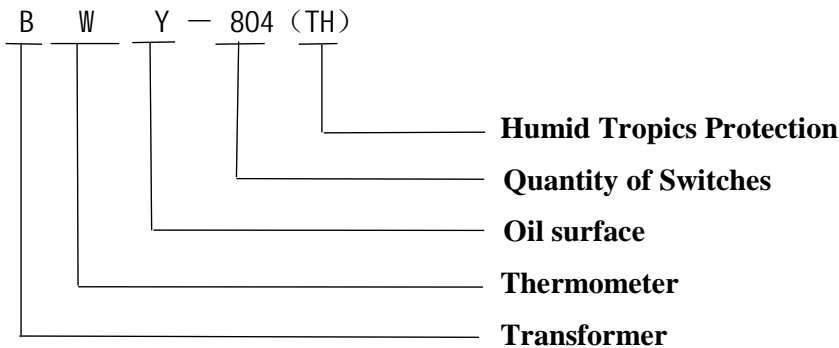
6、 Main Technical Properties & Parameters of BWY--804 (TH)

- 6.1 Working conditions: ambient temperature ($-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$), relative humidity $\leq 95\%$.
- 6.2 Measuring range: $(0 \sim 150)^{\circ}\text{C}$.
- 6.3 Degree of accuracy: class 1.5 (the maximum error detection points allowing is $\pm 2.25^{\circ}\text{C}$).
- 6.4 Switch performance: four groups of adjustable switches, which can be freely set within the full range of measurement.
- 6.5 Switch error: $\pm 2^{\circ}\text{C}$.
- 6.6 Switch changeover error: $(6 \pm 2)^{\circ}\text{C}$.
- 6.7 Rated power of switch: AC220V/5A, DC110V/3A.
- 6.8 Dimensions of temperature sensitive bulb: $(\Phi 14 \times 150)$ mm, mounting screw thread is $(\text{M}27 \times 2)$ mm.

6.9 Length of capillary tube: Please see the number which after the last point on the panel.

6.10 Degree of protection:IP55。

7、 Type description



8、 Working Principle

The thermometer bulb of temperature controller for the transformer oil surface shall be inserted into the oil hole on the top layer of transformer oil tank (as shown in Figure 1-9), and it shall change with the temperature of transformer oil. Microswitch shall be driven when the temperature reaches the set point; on-off control signal shall be output to drive the cooling system, so as to control the temperature rise of transformer. Through the transmitter inlaid in the primary instrument, (4-20) mA standard signal can be output, it shall be input into the secondary instrument and computer system, so as to realize unattended management of power station.

9、 Switch setting

9. 1 **before leaving the factory, the switch has been set as follows:**

K1=100℃ K2=105℃ K3=110℃ K4=115℃

9. 2 **For changing set value, please comply with the following steps:。**

9. 3 Refer to Figure 4: Unscrew the screws on the connecting point indicated needle with slotted screwdriver, rotate the dial to make the connecting point indicated needle tip point to the required setting point, then screw on the screws.



Figure 4

9. 4 Refer to the Figure 4: Manually move the limitation plate downward slightly to make the dial rotate, the indicated needle gradually moves to the upper limit of temperature, the switch connecting point will close at each setting point, so as to verify whether the temperature setting value is correct, repeat the above procedures if not, till it is calibrated.



Attention

Subject to the operations specified in this manual, within 18 months from the date of delivery of the product, the company will repair or replace the product with problem.

Address: No. 680, Nanmian Road, Jinzhou New District, Dalian

Tel: 0411-87816521

Fax: 0411-87139300

Postcode: 116100