

# TSC SERIES TEMPERATURE SENSOR

## APPLICATION

TSC series of NTC temperature sensor is one kind of TS series temperature sensor. It has the advantages of high sensitivity, high stability, erosion resistance, long service life and convenient installation, etc. It can measure the temperature of air or water quickly and accurately in HVAC application, and send the signals to the control system so as to control the temperature of air or water accurately. Not only each part but also the whole assembly of this series product have precise techniques and good quality control, and have been passed through strictly testing.



(Fig. 1)

## CHARACTERISTICS

TEMPERATURE SENSITIVE ELEMENT: Imported NTC temperature sensitive element

WORKING RANGE: 0~50°C

MAX. TEMPERATURE FOR THE TERMINAL BOX: 70°C

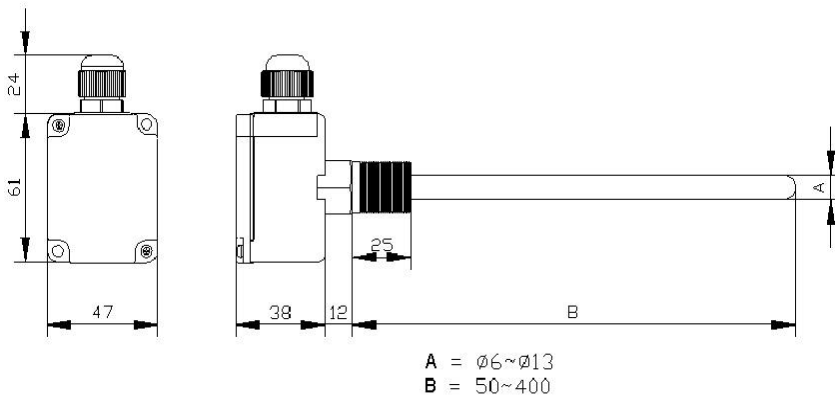
MATERIAL OF THE TERMINAL BOX: High intensions fireproof PC engineering plastic

INSTALLATION MODE: Screw connection, inserted mode

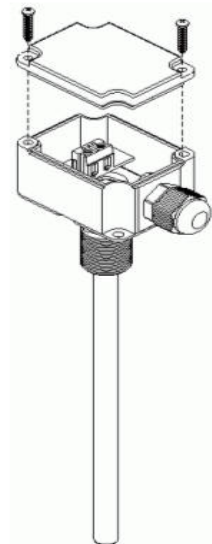
MATERIAL OF WIRING TERMINAL: Fireproof ABS engineering plastic

PROTECTION CLASS: IP54

ROD MATERIAL: Brass (Ni-plated on the surface)



(Fig. 2)



(Fig. 3)

## SPECIFICATIONS (See the following datasheet and Fig.2)

| MODEL           | SENSITIVE ELEMENT | TEMPERATURE RANGE | ROD DIAMETER<br>A | ROD LENGTH<br>B |
|-----------------|-------------------|-------------------|-------------------|-----------------|
| TSC-8112-103B39 | NTC 10K           | 0~120°C           | Φ8                | 120             |
| TSC-8118-103B39 |                   |                   |                   | 180             |
| TSC-8212-103B39 |                   |                   | Φ10               | 120             |
| TSC-8218-103B39 |                   |                   |                   | 180             |

## INSTALLATION INSTRUCTION

Because the sensitivity of this series sensor is very high, the sensor must be installed in the most suitable

place so as to get the best efficiency. In order not to interfere the sensor, It is suggested that the connecting wire should be 2-conductor shield wire, laid in separate wire chase and should not exceed 50m. It must be assured that the terminal of the sensor is not in contact with any objects so as to avoid the damage of the sensor or wrong operation. More details please refer to the Installation Diagram (Fig. 3).

**RELATIONS BETWEEN TEMPERATURE AND RESISTANCE OF TSC-8xxx-103B39**

| TEMPERATURE<br>°C | RESISTANCE<br>Ω | TEMPERATURE<br>°C | RESISTANCE<br>Ω | TEMPERATURE<br>°C | RESISTANCE<br>Ω |
|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|
| 0                 | 32600           | 17                | 14318.0         | 34                | 6810.50         |
| 1                 | 30985           | 18                | 13676.9         | 35                | 6534.00         |
| 2                 | 29459           | 19                | 13068.1         | 36                | 6270.00         |
| 3                 | 28017           | 20                | 12489.8         | 37                | 6018.00         |
| 4                 | 26654           | 21                | 11940.3         | 38                | 5778.00         |
| 5                 | 25365           | 22                | 11418.0         | 39                | 5548.70         |
| 6                 | 24145.2         | 23                | 10921.4         | 40                | 5330.00         |
| 7                 | 22991.4         | 24                | 10449.2         | 41                | 5120.00         |
| 8                 | 21899.2         | 25                | 10000.0         | 42                | 4920.00         |
| 9                 | 20865.2         | 26                | 9572.60         | 43                | 4729.00         |
| 10                | 19885.8         | 27                | 9165.80         | 44                | 4547.00         |
| 11                | 18957.9         | 28                | 8778.50         | 45                | 4372.00         |
| 12                | 18078.6         | 29                | 8409.60         | 46                | 4205.00         |
| 13                | 17245.0         | 30                | 8058.30         | 47                | 4045.00         |
| 14                | 16454.5         | 31                | 7723.60         | 48                | 3893.00         |
| 15                | 15704.7         | 32                | 7404.60         | 49                | 3746.30         |
| 16                | 14993.2         | 33                | 7100.58         | 50                | 3606.00         |

\*All the above data will be changed without prior notice.  
 \*For other models please refer to SENSOR MODEL DESCRIPTION.