# DFT4800 Temperature Transmitter

## Features

- The electronic shell is made of aluminum alloy and the shell protection is IP65
- With reverse polarity protection, instant overcurrent, overvoltage and anti-interference protection measures
- Optional signal output
- LCD display, LED display
- Intrinsically safe products comply with the requirements of GB/T 3836.1, GB/T 3836.4 and GB3836.20 standards, and the explosion-proof mark is Ex ia lIC T6 Ga
- Diversified output forms

## Overview

DFT4800 temperature transmitter, which can directly measure the temperature of various liquids, gas media and solid surfaces in the range of -200 ℃ to 1200 ℃. A dedicated temperature module is used to perform linear correction of the temperature sensing element and output standard analog and digital signals. The product is easy to use and has a variety of output forms, which can meet the temperature measurement requirements of various sites in petroleum, chemical, metallurgy, power plants, light industry and other fields.

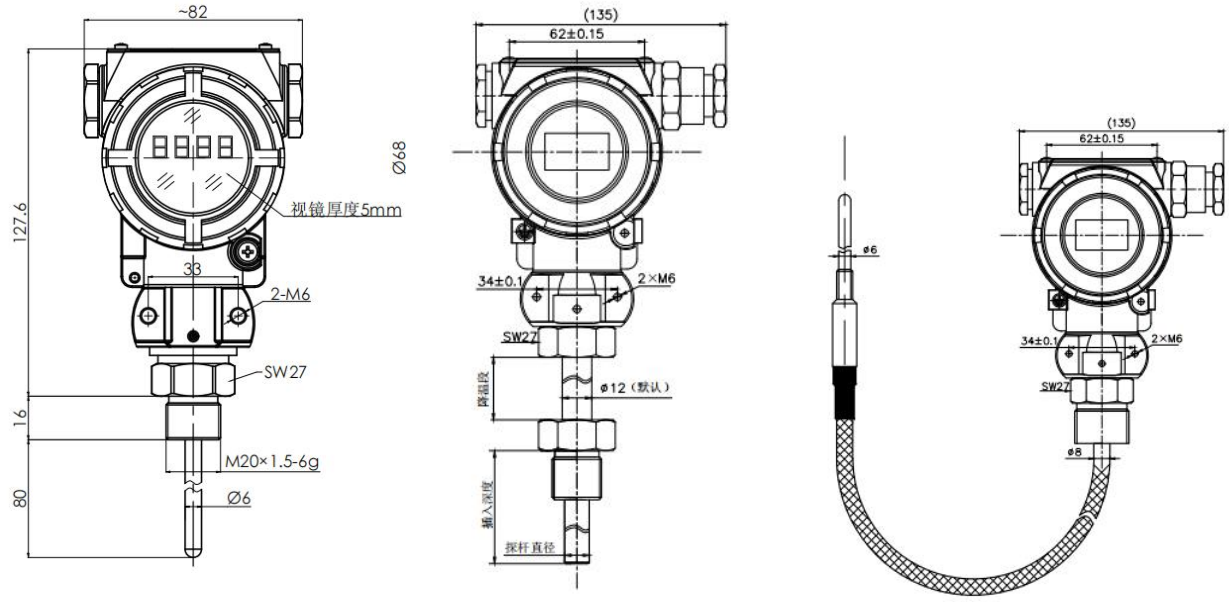
## Technical Parameters

| Sensor index number | | | | | |
|---|---|---|---|---|---|
| code | Name | Suitable temperature range | Precision classes | Allowable error/℃ | Accuracy Corresponds to Temperature Range |
| PT100 | PT100 thermal resistance | -200℃～500℃ | AA Grade | ±（0.1+0.0017\|t\|） | 0° C ~ 100° C (thin film) |
| | | | | | -50° C ~ 200° C (winding) |
| | | | Class A Classification | ±（0.15+0.002\|t\|） | -50℃～300℃ |
| | | | Class B Classification | ±（0.3+0.005\|t\|） | -200℃～500℃ |
| PT1000 | PT1000 thermal | -50℃～200℃ | Class A Classifica | ±（0.15+0.002\|t\|） | -50℃～200℃ |

| | | | | | |
|---|---|---|---|---|---|
| | resistance | | tion | | |
| | | | Class B Classification | ±（0.3+0.005\|t\|） | -50℃～200℃ |
| K | Type K thermocouple (nickel-chromium-nickel-silicon) | -10℃～1200℃ | Class I | ±1.5℃ | -40℃～375℃ |
| | | | | ±0.004\|t\| | 375℃～1000℃ |
| | | | Class II | ±2.5℃ | -40℃～333℃ |
| | | | | ±0.0075\|t\| | 333℃～2000℃ |

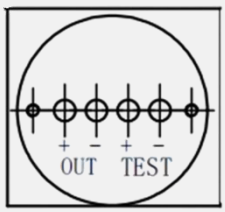
| environmental parameter | |
|---|---|
| Operating temperature | -25℃～70℃ |
| Storage Temperature | -40℃～120℃ |
| **Performance** | |
| Accuracy | ± 1.0% FS; ± 0.5° C; ± 0.25° C (depending on temperature range) |
| Stability | ± 0.5% FS/yr (Conventional) |
| **Electrical Specifications** | |
| Power Supply | 10V to 30V DC (typical 24V DC)<br>15V ~ 30V DC (with display) |
| Output Signal | 4mA～20mA DC<br>4mA～20mA DC+HART<br>4mA～20mA DC+RS485；RS485；<br>Thermistor; Thermocouple |
| Insulation Resistance | ≥20MΩ@500VDC |
| **Structural parameters** | |
| Electronic Housing | Aluminum alloy |
| Dielectric contact material | Stainless steel 304/316 or other |
| Temperature-sensitive components | PT100, PT1000, K thermocouple |
| Display window | Flameproof glass |

## Form Factor

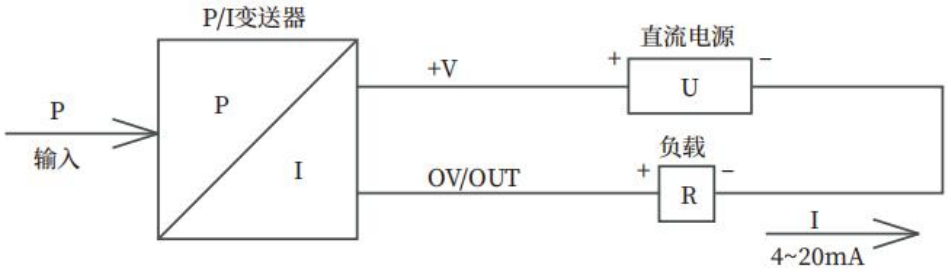



One-piece　　One-piece (with cooling section)　　Split type

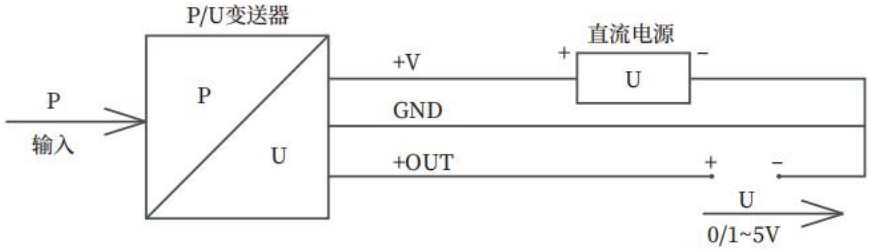
## Electrical connection



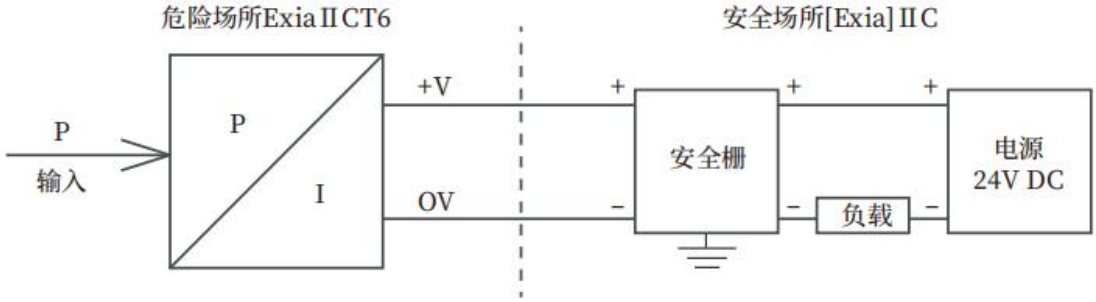

| Wiring Definition | | |
|---|---|---|
| Terminal | Two-Wire System | Three-Wire System |
| OUT+ | Power Supply positive: + V | Power Supply positive: + V |
| OUT- | Signal: + out | Public: GND |
| TEST- | Empty | Output: + out |




Schematic diagram of the electrical connection method of the two-wire 4mA ~ 20mA DC output transmitter




Three-Wire System 0... 1V ~ 5... 10VDC output transmitter electrical connection method schematic diagram




Schematic diagram of the electrical connection method of the intrinsically safe explosion-proof type

| Transmitter explosion-proof parameters | |
|---|---|
| Ui | 28V DC |
| Ii | 93mA DC |
| Li | 0uH |
| Ci | 0.022uF |
| Pi | 0.65W |

| Safety barrier output explosion-proof parameters | |
|---|---|
| Uo | 28V DC |
| Io | 93mA DC |

## Selection Guide

| DFT4800 | Type Temperature Transmitter | | |
|---|---|---|---|
| | code | Measurement Temperature Range | |
| | [X～Y]° C | X, Y represent the measured lower and upper temperature limits, respectively, in degrees Celsius<br>-200 ℃... 0 ℃ ～500 ℃ (PT100 Thermal Resistance)<br>-50 ℃... 0 ℃ ～200 ℃ (PT1000 Thermal Resistance)<br>-40 ℃... 0 ℃ ～1200 ℃ (K value thermocouple) | |
| | L | Accuracy: ± 1.0% FS (temperature range: -200 ℃... 0 ℃ ～1200 ℃) | |
| | M | Accuracy: ± 0.5 ℃ (temperature range: -40 ℃... 0 ℃ ～150 ℃) | |
| | H | Accuracy: ± 0.25 ℃ (temperature range: -20 ℃... 0 ℃ ～105 ℃) | |
| | | code | Output Signal |
| | | E | 4～20mA DC |
| | | R8 | RS485 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ER8 | 4～20mA DC+RS485 | | | | | | | | | | |
| | code | Protection pipe diameter, unit: mm | | | | | | | | | |
| | 6 | Φ6 | | | | | | | | | |
| | 8 | Φ8 | | | | | | | | | |
| | 12 | Φ12 | | | | | | | | | |
| | 16 | Φ16 | | | | | | | | | |
| | | code | Dielectric contact material | | | | | | | | |
| | | bbPress Default | Stainless steel 304L | | | | | | | | |
| | | | Other materials, please note | | | | | | | | |
| | | | code | Showing | | | | | | | |
| | | | bbPress Default | No Show | | | | | | | |
| | | | M3 | 4-digit LCD digital display head | | | | | | | |
| | | | M4 | 4-bit led digital display head | | | | | | | |
| | | | | code | Additional options (checked) | | | | | | |
| | | | | i | Ben 'an | | | | | | |
| | | | | d | Flameproof | | | | | | |
| | | | | N | No explosion protection | | | | | | |
| | | | | | code | Dimensions of cooling section, in mm | | | | | |
| | | | | | XXX (indispensable) | 0mm[-50℃~100℃] | | | | | |
| | | | | | | ≥100mm[-200℃~150℃] | | | | | |
| | | | | | | ≥150mm[-200℃~1200℃] | | | | | |
| | | | | | F | Split Type | | | | | |

DFT4800 [0° C ~ 200° C] L E 6 M3 d 150 Full Specification Model

Note: The integral type selection table ends here, and the split type should continue to be selected according to the following table.

## Split type selection

| | | | | | | |
|---|---|---|---|---|---|---|
| F | Split type Continue to select according to the following selection | | | | | |
| | code | Cable | | | | |
| | XXX | Specific length of high-temperature shielded cable (unit: m) | | | | |
| | | code | Cable type | | | |
| | | N | Unarmored cable | | | |
| | | KK | Armored Tube Cable (Stainless Steel Bellows) | | | |
| | | | code | Probe structure and installation method | | |
| | | | GL | Fixing thread mounting | | |
| | | | KT | Movable threaded installation | | |
| | | | FL | Flange installation | | |
| | | | KG | Clamp type installation (clamp diameter Φ25.4, Φ50.4...) | | |
| | | | TR | Direct Input | | |
| | | | BG | Clamp type (protective tube diameter and length "*") | | |
| | | | TP | Surface patch type (protective tube diameter and length "*") | | |
| Attached to Table F 5 KK TR Split Model Specifications | | | | | | |

## Selection tips

1、Unless otherwise specified, the material other than the probe part and the explosion-proof housing is stainless steel 304;

2、The selection does not contain content, please consult our company for customization, this item is replaced by '*', and the text description or drawings are provided in the notes.

3、Clamp type and surface external paste type, this measurement method is affected by the ambient temperature deviation is large, it is recommended to add thermal insulation measures.

4、Example description.

Example: DFT4800 [0°C ~ 200°C] L-E-6- * -1-M3-d-150

Overview: DFT4800 type temperature transmitter, progress ± 1% FS, temperature range [0 ℃ ~ 200 ℃], 4 ~ 20mA DC output, probe rod outer diameter 6mm, installation method see drawings, protective tube material stainless steel 304, 4-digit LCD digital display head, flameproof type, cooling section size 150mm.