



# FTM06 Series

FTM06 / FTM06T / FTM06D

Different probes flexible use for slightly corrosive or pure air  
Strong housing with analog and RS-485 output

## | Features |

- IP67
- Resistance temperature detector
- Analog and RS-485 output
- Applicable micro corrosion air
- Strong stainless steel housing, for a variety of harsh environments
- Built-in with temperature compensation, accommodate quickly any environment

## | Introduction |

FTM06 is based on thermodynamic principle, there are 2 temperature sensors inside the probe : one for temperature measurement, the other one as a measuring conveyor after heated.

Temperature difference between the two as a basis for measuring flow rate. When the medium flow rate increases, the temperature difference decreases.

The temperature difference converted to standard signal output after processed that is why flow rate can be measured by these two sensors. All-metal housing, suitable for a variety of pipe diameters.



### Application :

Industrial process gas supply / Consumption and dry flow monitoring / Compressed air consumption measurement / Buildings / Factories / Clean rooms / Hospitals / Semiconductors / Electronics / Paper / Printing / Textiles / Steel / Food / Chemicals / Pharmaceuticals / Biotechnology industries

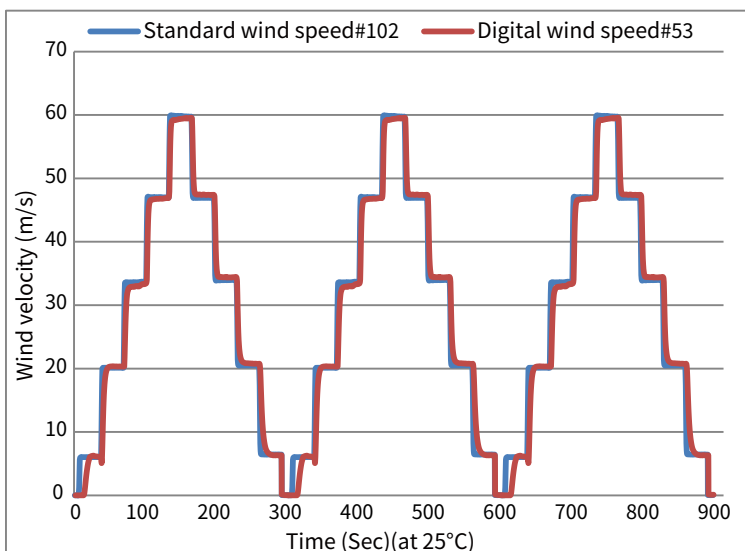


### | Specification |

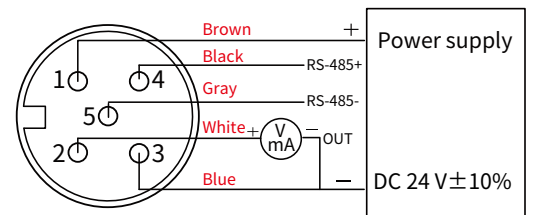
| Item          | Function & Parameter      |  |
|---------------|---------------------------|--|
| Input         | Type                      | Resistance temperature detector (RTD)  |
|               | Range                     | Air : 0 ... 60 m/s(Refer to the comparison chart for details)  |
|               | Minimum initial value     | 0.2 m/s  |
|               | Installation angle effect | <5% of the measured value (When the installation angle <math>\pm 3</math> degrees)   |
| Output        | Signal                    | Analog : 4 ... 20 mA / 0 ... 10 V ; RS-485   |
|               | Signal connection         | 3-wire   |
|               | Product accuracy          | Air (at 25°C) : 3 ... 10%(Refer to the comparison chart for details)<br>(Because the probe is affected by the operating Temp., there will be some error) |
|               | Warm-up time              | About 120 sec  |
|               | Response time             | t90>90 sec(FTM06) / t90>30 sec(FTM06T) / t90>3 sec(FTM06D)   |
|               | Load resistance           | Voltage output : $\geq 10\text{ K}\Omega$ ; Current output : $\leq 250\ \Omega$  |
| Environmental | Medium                    | Gas which is compatible with stainless steel   |
|               | Operating Temp. & Humid.  | 0 ... 50°C ; 20 ... 90%RH(Non-condensing)  |
|               | Storage Temp.             | - 20 ... 85°C  |
| Electrical    | Power supply              | DC 24 V $\pm$ 10%  |
|               | Current consumption       | 24 V : 110 mA  |
|               | Electrical connection     | M12 Metal quick connector  |
| Installation  | Flange or thread          | Metal flange mount or metal quick connector  |
| Protection    | IP rating                 | IP65 / IP67  |
|               | Electrical protection     | ■ Polarity protection ■ Over-voltage ■ Short-circuit   |
| Material      | Housing                   | SUS304   |
|               | Weight                    | Metal : 480 g (without wire, with metal quick connector)   |

\*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

### | 3-Cycle curve |



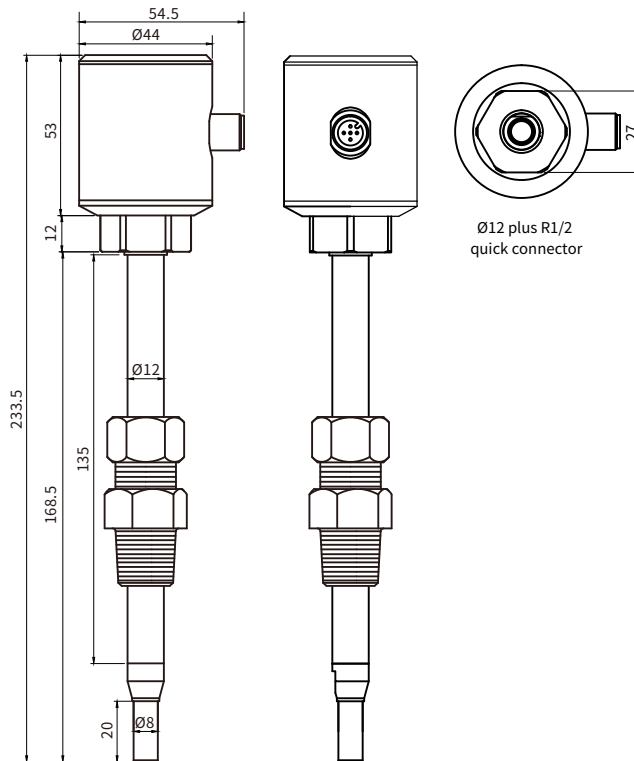
### | Connection Diagram |



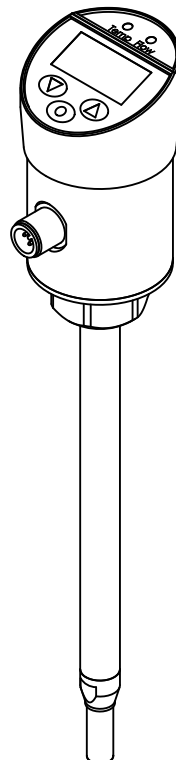
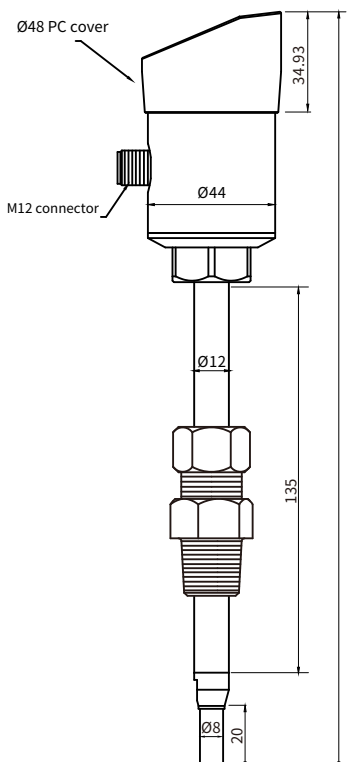
Analog with RS-485 output

**Dimension** | Unit : mm

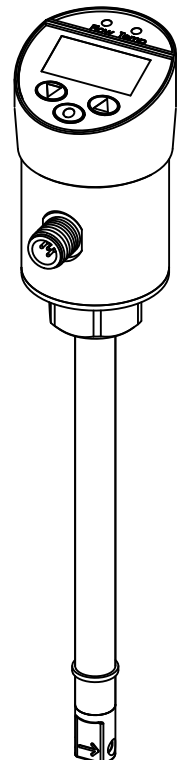
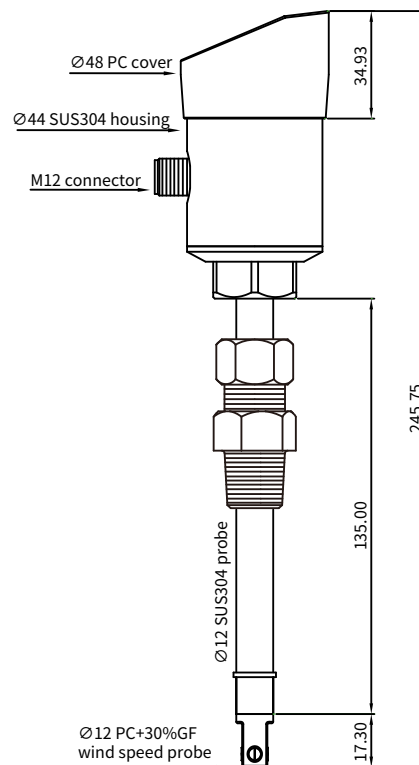
FTM06 Standard type



FTM06T Standard type



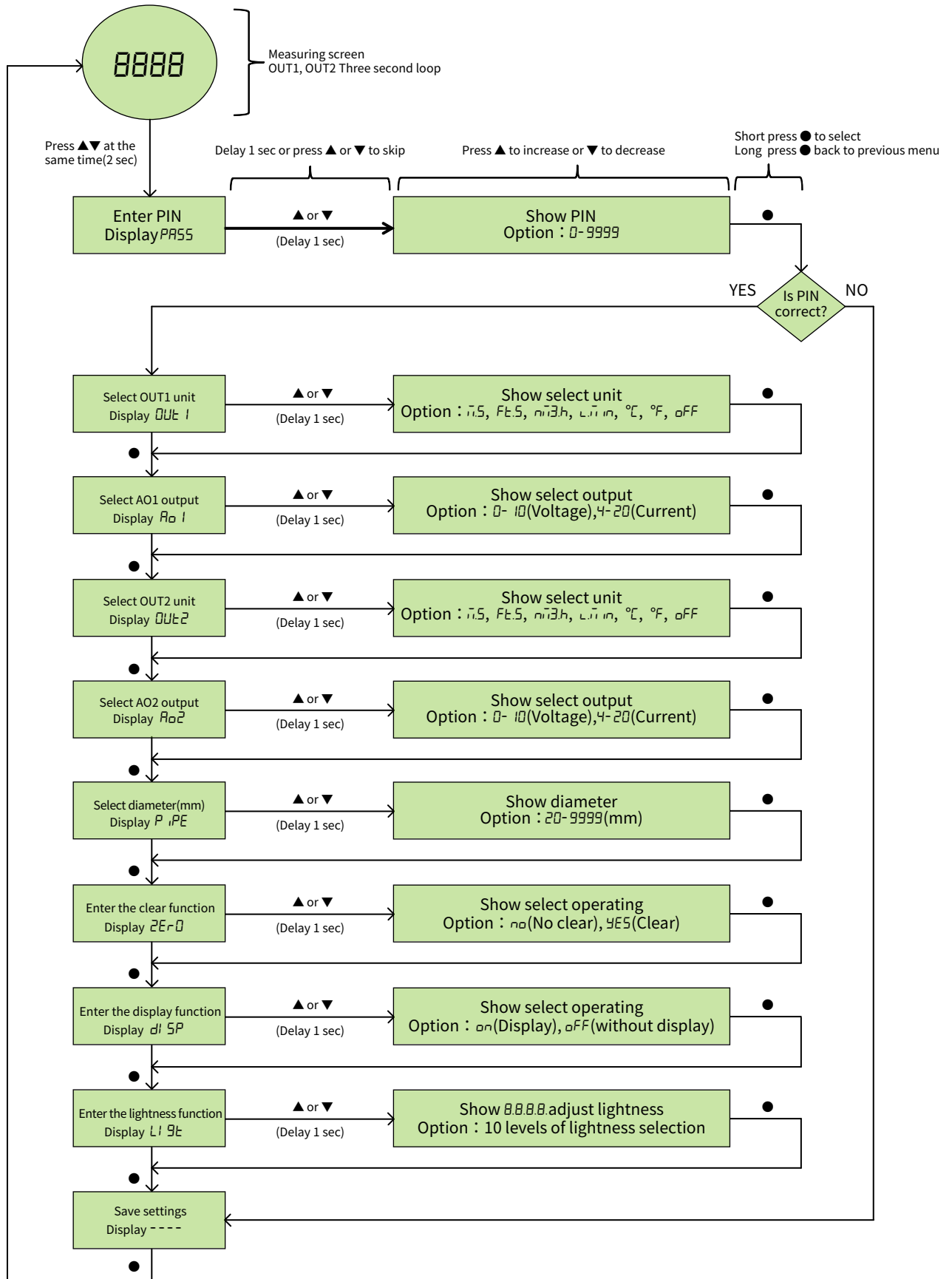
FTM06D Standard type



### | Comparison Chart |

| Type                  | FTM06<br>Hot Wire Thermal<br>Air Velocity Transmitter   | FTM06T<br>Thermo Mass Flow Transmitter  | FTM06D<br>Thermo Mass Flow Transmitter  |
|-----------------------|---|---|---|
| Probe                 |    |    |    |
| Measuring range       | 0 ... 40 m/s  | 0 ... 40 m/s  | 0 ... 60 m/s  |
| PCB type              | Flexible Print Circuit, FPC   | Flexible Print Circuit, FPC   | Module  |
| Sensor                | Heating : 1 K $\Omega$ x2(Parallel connection)<br>Bridge circuit : Pt1000x2<br>Temp. : Pt1000                                       | Parallel connection : H=Pt50 $\Omega$<br>F=Pt1000 $\Omega$<br>Temp. : Pt1000  | Parallel connection : H=Pt45 $\Omega$<br>F=Pt1200 $\Omega$<br>Temp. : Pt1000  |
| Technology            | CVA(Constant voltage anemometer)  | CTA(Constant temperature anemometer)  | CTA(Constant temperature anemometer)  |
| Output                | 1 Analog+RS-485   | 1 Analog+RS-485   | 1 Analog+RS-485   |
| Response time         | Slow  | Medium  | Fast  |
| Temp. compensation    | Yes   | Yes   | Yes   |
| Display               | No  | Yes   | Yes   |
| Accuracy              | $\pm 10\%$ F.S.(Option 5%)  | $\pm 5\%$ F.S.(Option 3%)   | $\pm 3\%$ F.S.(Option 1.5%)   |
| Electrical connection | M12 Metal connector   | M12 Metal connector   | M12 Metal connector   |
| Features              | <ul style="list-style-type: none"> <li>● IP67</li> <li>● Aluminum alloy case</li> <li>● Fit in variety harsh environment</li> </ul> | <ul style="list-style-type: none"> <li>● IP65</li> <li>● Aluminum alloy case</li> <li>● Fit in variety harsh environment</li> </ul> | <ul style="list-style-type: none"> <li>● IP65</li> <li>● Easy installation</li> <li>● Compact design and easy to install</li> </ul> |
| Material              | Stainless steel   | Stainless steel+plastic   | Stainless steel+plastic   |
| Differential          | Applicable micro corrosion air  | Applicable micro corrosion air  | Applicable clean air  |
| Other                 | None  | Support flow rate to flow volume  | Support flow rate to flow volume  |

### | Operation Form |



### | Ordering Guide |

|       |        |   |  |              |   |  |
|-------|--------|---|--|--------------|---|--|
| FTM06 | Medium | Range                                     | Type   | Power supply | Installation  | Option                                   |
|       | A      | <b>10</b>                                 | <b>2</b>                                       | 1            | <b>3</b>  | <b>N</b>                                 |
|       | Air    | 10 : 10 m/s<br>20 : 20 m/s<br>40 : 40 m/s | 2 : 4 ... 20 mA+RS-485<br>3 : 0... 10 V+RS-485 | DC 24 V±10%  | 1 : Metal flange mount<br>3 : Ø12 Plus R1/2 quick connector | N : Without display<br>W : Customization |

|        |        |   |  |              |   |                                    |
|--------|--------|---|--|--------------|---|------------------------------------|
| FTM06T | Medium | Range                                     | Type   | Power supply | Installation  | Option                             |
|        | A      | <b>10</b>                                 | <b>2</b>                                       | 1            | <b>3</b>  | <b>N</b>                           |
|        | Air    | 10 : 10 m/s<br>20 : 20 m/s<br>40 : 40 m/s | 2 : 4 ... 20 mA+RS-485<br>3 : 0... 10 V+RS-485 | DC 24 V±10%  | 1 : Metal flange mount<br>3 : Ø12 Plus R1/2 quick connector | N : Without display<br>D : Display |

|        |        |   |  |              |   |                                    |
|--------|--------|---|--|--------------|---|------------------------------------|
| FTM06D | Medium | Range   | Type   | Power supply | Installation  | Option                             |
|        | A      | <b>10</b>   | <b>2</b>                                       | 1            | <b>3</b>  | <b>N</b>                           |
|        | Air    | 10 : 10 m/s<br>20 : 20 m/s<br>40 : 40 m/s<br>60 : 60 m/s<br>90 : 90 m/s | 2 : 4 ... 20 mA+RS-485<br>3 : 0... 10 V+RS-485 | DC 24 V±10%  | 1 : Metal flange mount<br>3 : Ø12 Plus R1/2 quick connector | N : Without display<br>D : Display |

Note 1. Probe at most 1000 mm, please contact us for delivery and price.

### | Additional Option(ILAC / TAF)Test Report |



Additional option : (ILAC / TAF)Test report - Standard calibration laboratory(TAF accreditation : 3032, complying with ISO / IEC 17025)  
TAF has mutual recognition arrangement with ILAC MRA

| Project    | Measurand level or range   |
|------------|--|
| Anemometer | 0.2 ... 60 m/s(8 basic points on average or specified by customer) |