

HLX FTS34/35 Thermal Air Velocity Transmitter(Duct / Remote)



| Features |

- Linear adjustment function
- Switch for physical quantity : [m/s] 、 [ft/s] 、 [km/h] 、 [mph] 、 [knot]
- Option RS-485 Communication Interface, Modbus RTU protocol
- Configuration measuring range, analog output, station number by dip switch & RS-485
- Off SET function by bottom or RS-485
- Programmable software : DATA LOGGER, record, and chart analysis

| Applications |

Monitor gas and flow for industrial process / HVAC / Building / Factory / Clean room / Hospital / Semiconductor / Electronics / Paper / Environment / Food / Pharmaceutical / Biotechnology industry

| Specification |

Input

| | |
|----------------------|----------------------------------|
| Sensor type | Thermal mass flow sensor |
| Measuring range | 2 m/s ; 10 m/s ; 20 m/s ; 40 m/s |
| Min. Measuring range | 0.2 m/s |

Output

| | |
|---------------------------|--|
| Output | 4 ... 20 mA / 0 ... 10 V / RS-485 |
| Signal connection | 3-wire |
| Load resistance | Current output : $\leq 500 \Omega$ Voltage output : $\geq 10 K\Omega$ |
| Response time | $t_{90} \leq 3$ sec |
| Installation angle effect | $< 3\%$ measuring value (when the angle $< 10^\circ$) |
| Display type | LCD Module with black light |
| Display range | Upon request, one decimal place |
| Height of character | 5.56 mm |

Accuracy(at +25°C)

| | |
|---------------------------------|--|
| Accuracy | $\pm 2\%$ F.S. (Nonlinear error, hysteresis error, repeatability error) |
| Thermal sensitivity Temp. error | 0.1%/°C |

Environment

| | |
|--------------------|-----------------------|
| Measuring medium | Air |
| Measuring Temp. | 0 ... 50°C |
| Operating Temp. | 0 ... 50°C |
| Operating humidity | 95%RH(Non-condensing) |
| Storage Temp. | -20 ... +60°C |

Electrical

| | |
|------------------------|---|
| Power supply | DC 8 ... 35 V & AC 12 ... 30 V |
| Current consumption | DC 8 V : 300 mA / 24 V : 100 mA AC 12V : 350 mA / 24V : 180 mA |
| Overvoltage protection | DC : < 45 V / AC : < 40 V |
| Electrical connection | RS-485 or analog : M type (M12 - 4 PIN connector) N type (M12 plastic cable gland) RS-485 + analog : M type (M12 - 5 PIN connector) N type (M16 plastic cable gland) |

*M type with 2 m cable

Installation

| | |
|--------------|---------------|
| Installation | Duct / Remote |
| Way to fix | Flange |

Protection

| | |
|-----------------------|--|
| IP rating | IP54 |
| Electrical protection | <input checked="" type="checkbox"/> Reverse polarity <input checked="" type="checkbox"/> Over-voltage <input checked="" type="checkbox"/> Short circuit |

Certification

| | |
|---------------|----|
| Certification | CE |
|---------------|----|

Material

| | |
|--------------------|--|
| Housing / Probe | PC fire-proof(UL94V-2) / PC fire-proof |
| Probe head | PC with glass fiber |
| Remote probe cable | PVC (Remote FTS35) |
| Weight | FTS34 : 147 g / FTS35 : 200 g |

| Electric Connector | Unit : mm

RS-485 or Analog

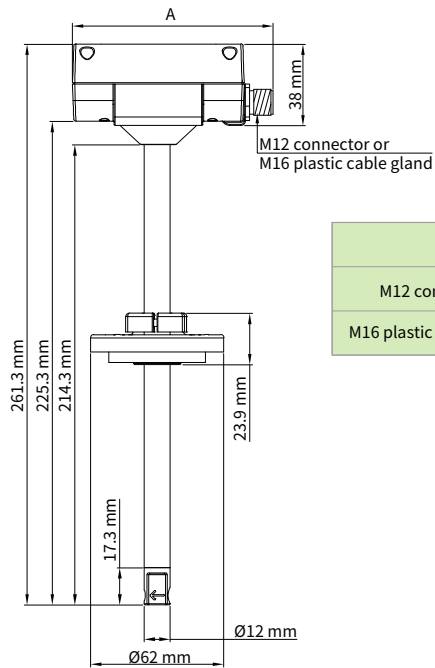
| M type (M12 - 4 PIN connector) | N type (M12 plastic cable gland) |
|--------------------------------|----------------------------------|
| | |

RS-485 + Analog

| M type (M12 - 5 PIN connector) | N type (M16 plastic cable gland) |
|--------------------------------|----------------------------------|
| | |

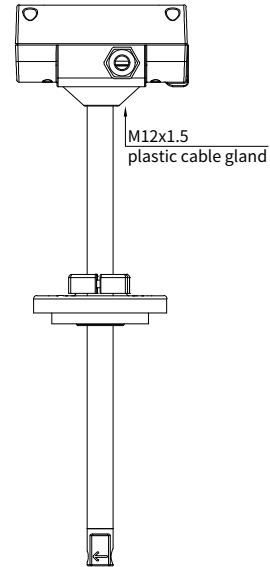
| Dimension |

FTS34 (Duct type)



plastic

| | A |
|-------------------------|---------|
| M12 connector | 93.5 mm |
| M16 plastic cable gland | 108 mm |

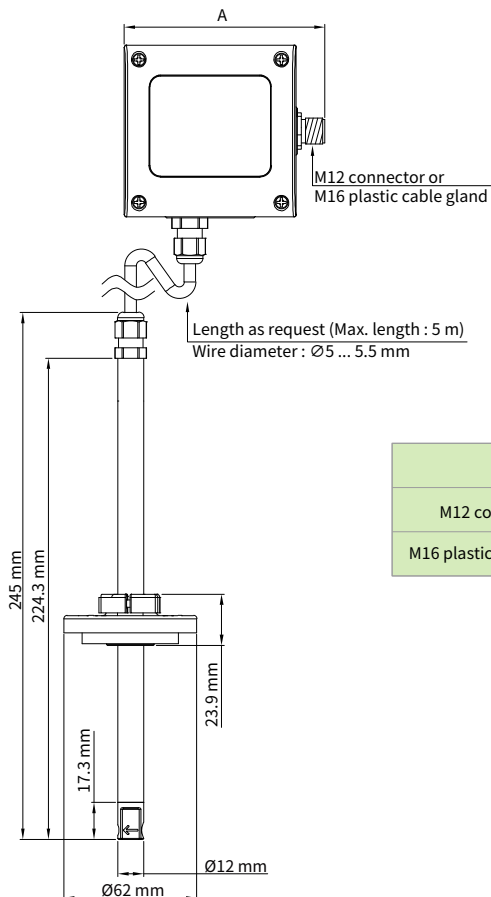


RS-485 or analog : M type (M12 - 4 PIN connector)

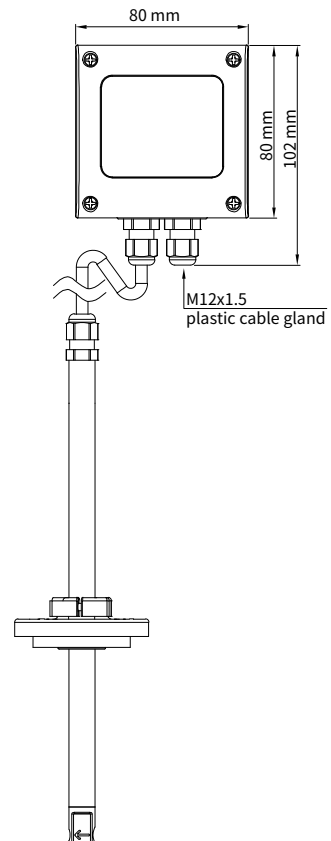
RS-485 + analog : M type (M12 - 5 PIN connector) / N type (M16 plastic cable gland)

RS-485 or analog : N type (M12 plastic cable gland)

FTS35 (Remote type)



| | A |
|-------------------------|---------|
| M12 connector | 93.5 mm |
| M16 plastic cable gland | 108 mm |

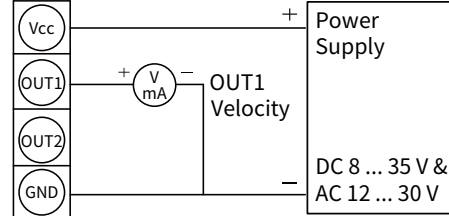
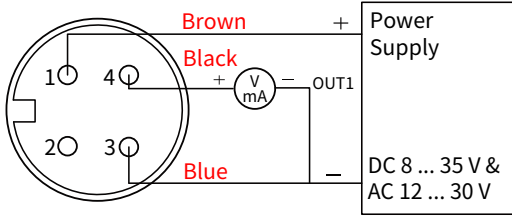


RS-485 or analog : M type (M12 - 4 PIN connector)

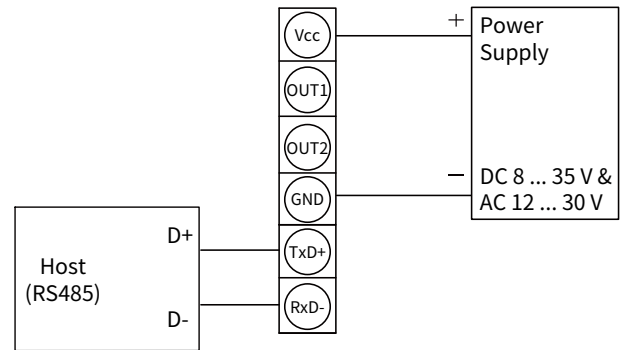
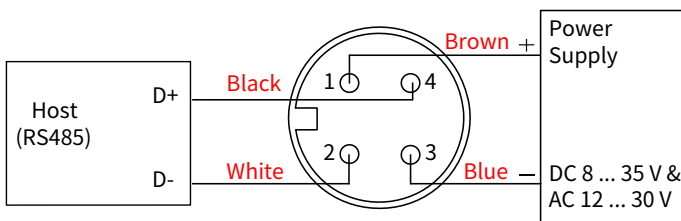
RS-485 + analog : M type (M12 - 5 PIN connector) / N type (M16 plastic cable gland)

RS-485 or analog : N type (M12 plastic cable gland)

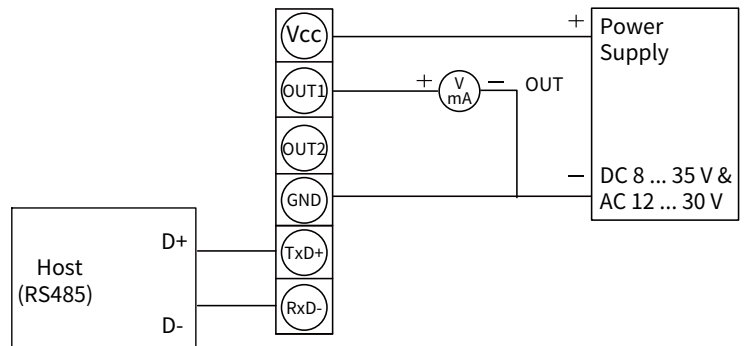
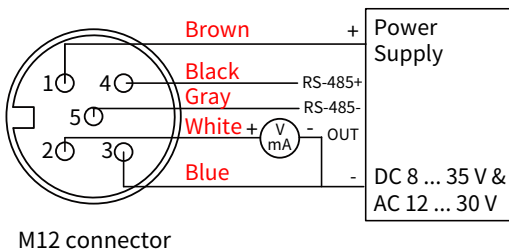
| Analog Diagram |



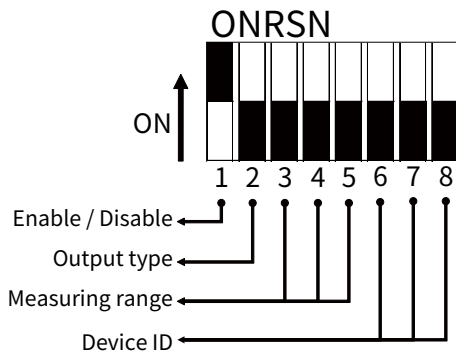
| RS-485 Diagram |



| Analog + RS-485 Diagram |



| DIP Switch |



For FTS34 / 35 products, the setting status of DIP switch will be read by software while power on, and this reading action will not happen later on.

Thus in order to read the DIP switch status again by software, the user must to reboot again if re-setting the DIP switch.

The function of DIP **Switch_2** to 8 only be effective while setting the DIP **Switch_1** as “On” .

1. DIP switch active / deactivate :
Set the DIP switch as On/ Off

| STATUS | ON | OFF |
|--------------|-------------------------------------|--------------------------|
| DIP Switch 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2. The type for analog output :
Analog output type for Out1 & Out2

| STATUS | 0 ... 10 V | 4 ... 20 mA |
|--------------|-------------------------------------|--------------------------|
| DIP Switch 2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

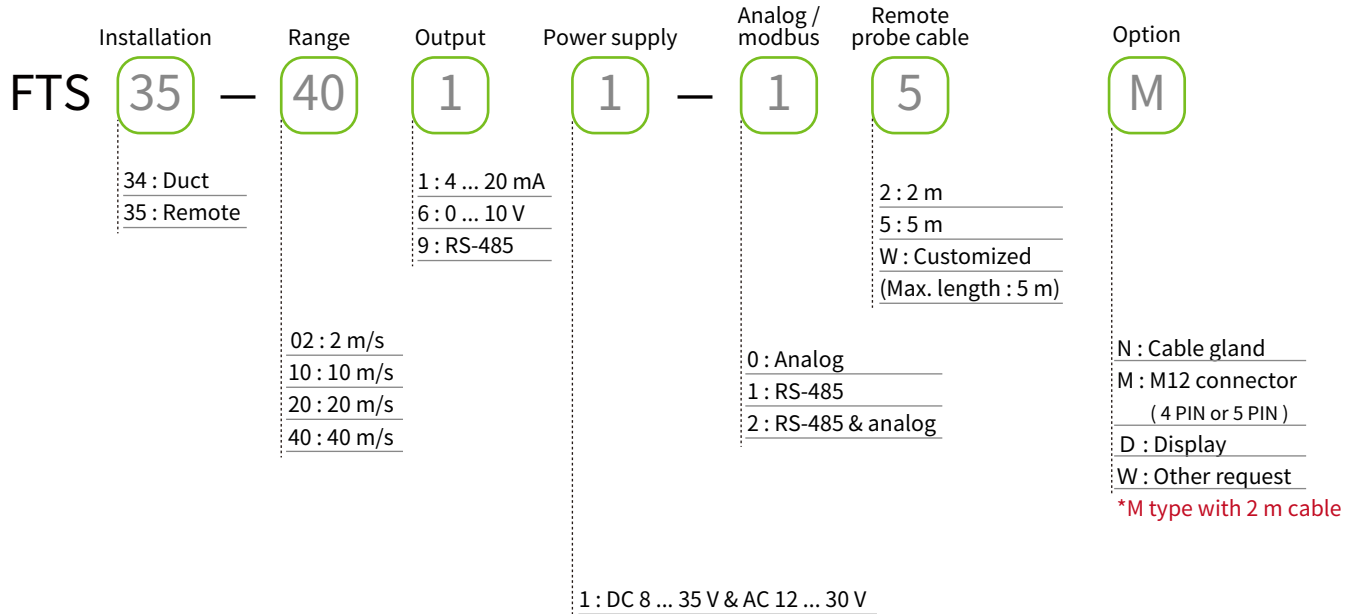
3. Setting the output measuring range :
Set the maximum value for analog output
(The output physical type must be “Air Flow Velocity”) ※Only switch wide to small range

| DIP Switch 3 | DIP Switch 3 | DIP Switch 5 | Range (m/s) |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 1 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 5 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 15 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20 |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 40 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 60 |

4. Setting the device ID :
Set the slave device ID for modbus RTU.

| DIP Switch 6 | DIP Switch 7 | DIP Switch 8 | Device ID |
|-------------------------------------|-------------------------------------|-------------------------------------|-----------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 3 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 |

| Ordering Guide |



| Additional Option Test Report | For more detailed information please contact us.

■ ILAC / TAF

(ILAC / TAF) Test report.

(TAF accreditation : 3032, complying with ISO / IEC 17025) TAF has mutual recognition arrangement with ILAC MRA

| Project | Measurand level or range |
|--------------------------|--------------------------|
| Air velocity transmitter | 0.2 m/s ... 60 m/s |

■ ISO 9001

| Project | Measurand level or range |
|---------------------------|---|
| Air velocity / Air volume | Air velocity : ≤ 120 m/s |
| | Air volume : 0.5 m ³ /h ... 1000 m ³ /h |