

013.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 / DC 0 ... 10 V
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 deimal place
Height of character	5.56 mm
Analog / modbus	Analog / RS-485 / RS-485 & Analog

Accuracy(at +25°C)

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

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

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	Terminal / M12 connector

Installation ; Protection

Installation ; Way to fix	Duct / Remote ; Flange
IP rating	IP54
Electrical protection	■ Polarity protection ■ Over-voltage ■ Short circuit

Certification

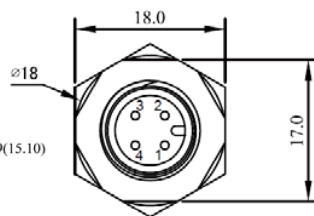
Certification	CE
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Material

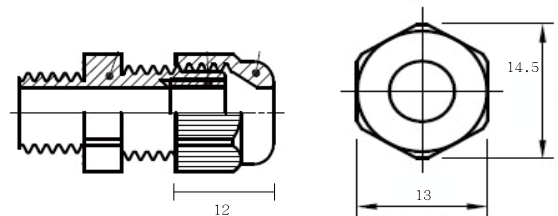
Housing / Probe	PC fire-proof(UL94V-2) / PC fire-proof
Probe head / Cable	PC with glass fiber / PVC(FTS35)
Weight	FTS34 : 147 g / FTS35 : 200 g

| Electric Connector | Unit : mm

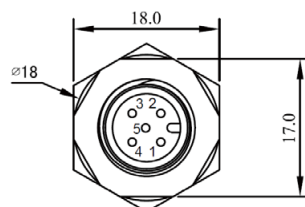
【M type(M12-4PIN metal connector)】 RS-485 or analog



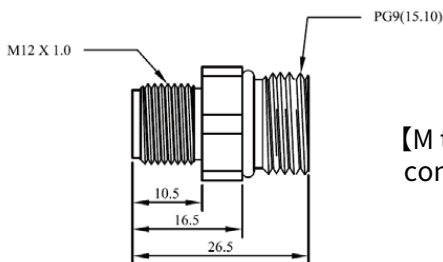
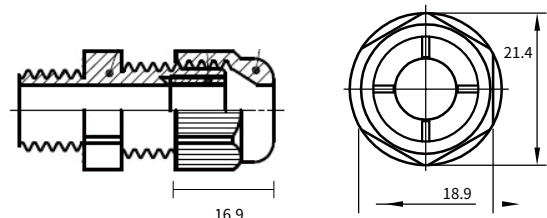
【N type(M12 cable gland)】 RS-485 or analog



【M type(M12-5PIN metal connector)】 RS-485+analog

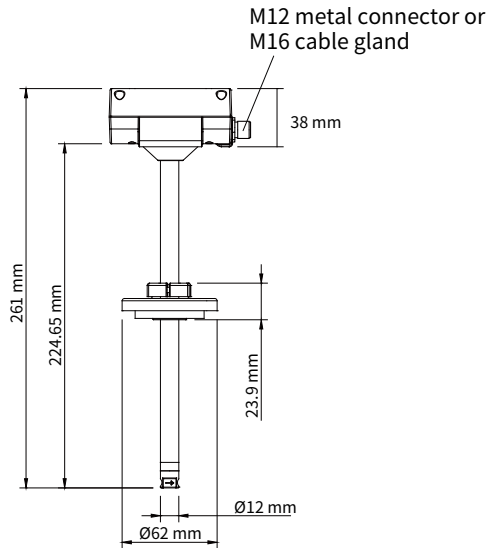


【N type(M16 cable gland)】 RS-485+analog

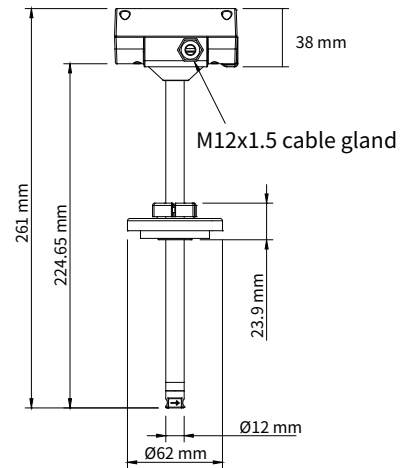


| Dimension |

FTS34(Duct)

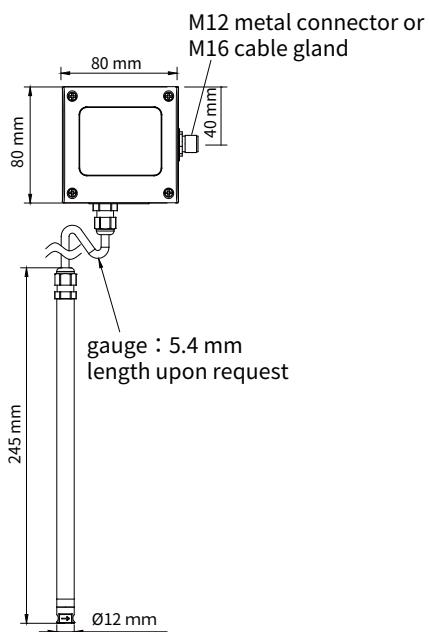


N type(M16) or M type(M12, 5P) : RS-485+analog
 M type(M12, 4P) : RS-485 or analog

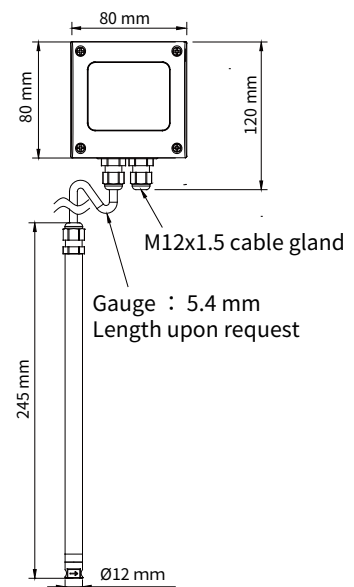


N type : RS-485 or analog

FTS35(Remote)

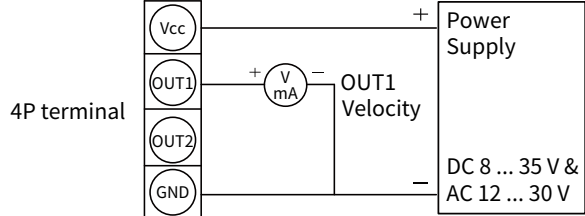
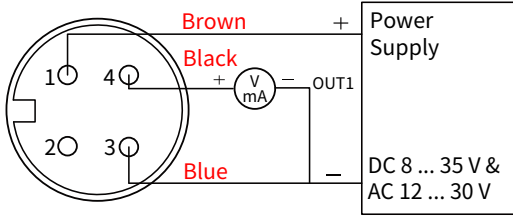


N type(M16) or M type(M12, 5P) : RS-485+analog
 M type(M12, 4P) : RS-485 or analog

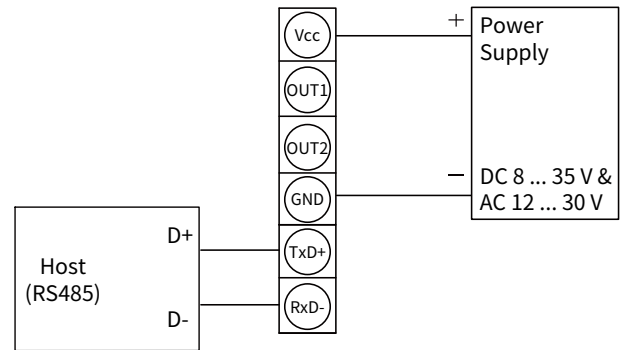
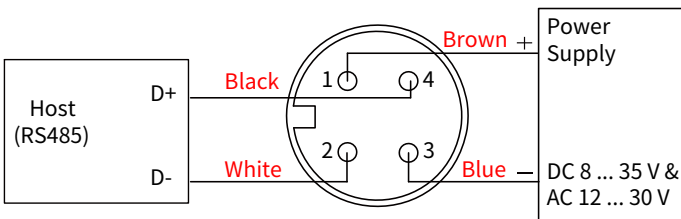


N type : RS-485 or analog

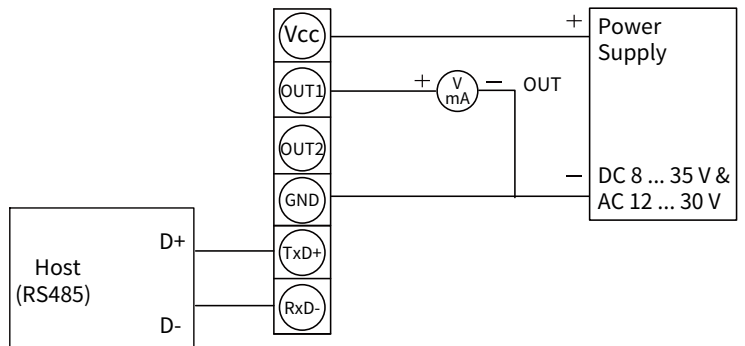
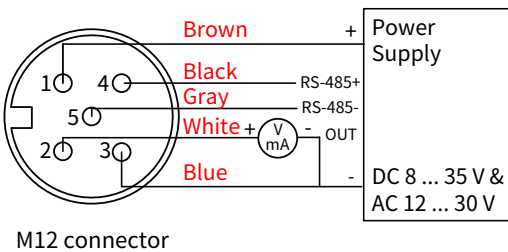
| Analog Diagram |



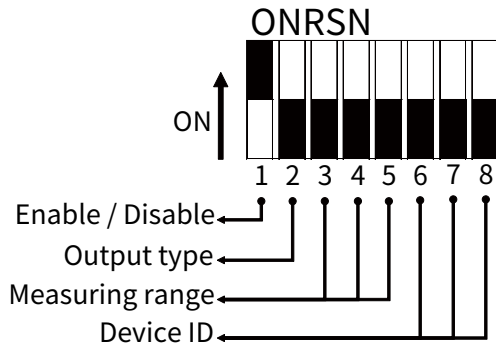
| RS-485 Diagram |



| Analogue + RS-485 Diagram |



| DIP Switch |



For FTM34 / 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		

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

STATUS	0 ... 0 V	4 ... 20 mA
DIP Switch 2		

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 4	DIP Switch 5	Range (m/s)
			1
			2
			5
			10
			15
			20
			40
			non

4. Setting the device ID :

DIP Switch 6	DIP Switch 7	DIP Switch 8	Device ID
			1
			2
			3
			4
			5
			6
			7
			8

| Ordering Guide |

013.FTS . **35** . **40** . **1** . **1** . **1** . **1** . **M**

<p>Installation</p> <p>34 : Duct 35 : Remote</p>	<p>Range</p> <p>02 : 2 m/s 10 : 10 m/s 20 : 20 m/s 40 : 40 m/s</p>	<p>Output</p> <p>1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485</p>	<p>Power supply</p> <p>1 : DC 8 ... 35 V & AC 12 ... 30 V</p>	<p>Analog / modbus</p> <p>0 : Analog 1 : RS-485 2 : RS-485 & analog</p> <p>※ M type - M12(5P) metal connector or N type - M16 cable gland</p>	<p>Cable (for remote type)</p> <p>2 : 2 m cable(FTS35) 5 : 5 m cable(FTS35) W : Customize(FTS35)</p>	<p>Option</p> <p>N : Cable gland M : M12(4P or 5P) onnector (with 2 m electrical cable) D : Display W : Other request</p>
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| Additional Option Test Report | For more detailed information please contact us.

■ ILAC / TAF

Calibration Laboratory - (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