



# PMM33/34 Differential Pressure Transmitter



## Application

- The principle of differential pressure transmitter is measuring trace of differential pressure, the air through pressure in and pressure out, PCB will transduce it to differential pressure signal.
- Silicon chips on Thermo Differential Pressure Module of MEMS integration technology
- Off set function by bottom / UI software
- Low-pressure monitoring, high pressure bearable
- Option RS-485 communication interface, Modbus RTU protocol
- DIP switch output and range
- Physical switch : mbar / Pa / hPa / kPa / mmH<sub>2</sub>O / mmWS / inH<sub>2</sub>O / mmHg
- Square root function
- Application Field — monitor differential pressure of Cleanroom / hospital / air duct / filter environment and monitor air flow

## Specification

### Input

Input type	Thermo Differential Pressure Module
Measuring range	0 ... 500 pa

### Output

Output	0-20mA / 4-20mA / 0-1V / 0-5V / 1-5V / 2-10V / 0-10V
Signal connection	3-wire
ModBus	RS-485
Accuracy ( at 25°C )	± 0.5 % of F.S.
Load resistance ( current output )	4-20mA < 500Ω / 0-10V ≥ 10KΩ
Response time ( t 63 )	≤ 2 ms
Display Type	LCD Module with back light, double line character
Display Range	upon request, 2 decimal place (as unit is Pa : 1 decimal place )
Height of character	5.56 mm

### Environment

Media measured	air
Environment Temperature	0...+50 °C
Environment Humidity	0~95 % (non-cond.)
Storage temperature	-20...+60 °C

### Temperature Influence

Temperature drift	± 1.75 % ( 5°C ... 55°C )
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### Electrical

Power supply	8 ... 35 VDC / 12 ... 30 VAC
Current consumption	DC 8V : ≤ 120 mA(display) / ≤ 100 mA(non-display) DC 24V : ≤ 45 mA(display) / ≤ 40 mA(non-display) AC 12V : ≤ 140 mA(display) / ≤ 120 mA(non-display) AC 24V : ≤ 90 mA(display) / ≤ 80 mA(non-display)
Overvoltage protection	≤ 40VDC
Electrical connection	M12 connector / M16 terminal

### Installation

Installation	wall / duct
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### Protection

Protect degree	IP 65
Electric protection	⊙Polarity protection ⊙over-voltage ⊙short circuit
Proof Pressure	2 bar
Burst Pressure	5 bar

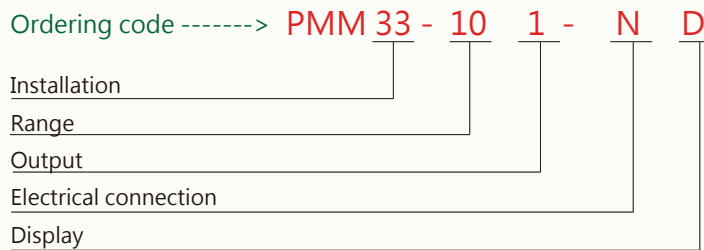
### Certification

Certification	CE
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### Material

Case	PC fire-proof class ( PC-110 ) ( UL94V-2 ) display : 152g ; non-display : 127g
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## Ordering Guide



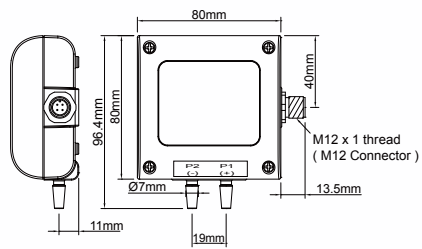
### 【Ordering item】

Installation	Code	Range	Code	Output	Code	Electrical Connection	Code	Option	Code
Indoor	33	50 / 100 / 250 pa	10	4~20mA	1	Plastic Cable Gland	N	Display	D
Duct	34	100 / 300 / 500 pa	20	0~20mA	2	M12x1 metal connector	M	RS-485	1
				2~10V	4				
				1~5V	5				
				0~10V	6				
				0~5V	7				
				0~1V	8				

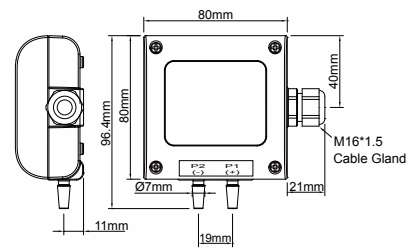
# Pressure unit conversion table

Unit	Pa	mbar	hPa	kPa	mmWS	inH2O	mmHg
Range	50/100/250	0.5/1/2.5	0.5/1/2.5	0.05/0.1/0.25	5/10/25	0.2/0.4/1	0.375/0.75/1.875
	100/300/500	1/3/5	1/3/5	0.1/0.3/0.5	10/30/50	0.4/1.2/2	0.75/2.25/3.75

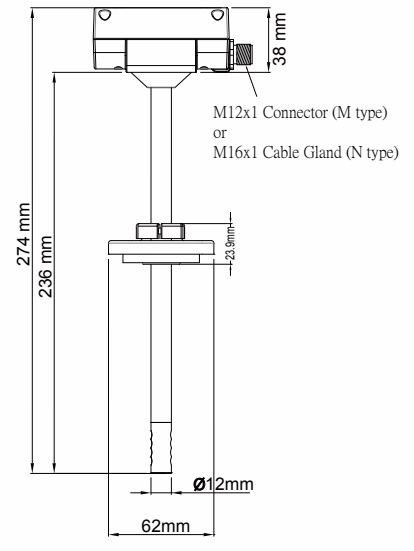
## Diagram



Indoor – M type

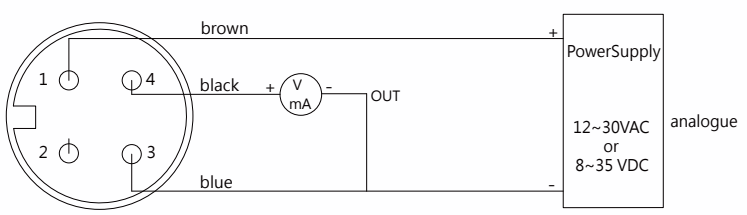


Indoor – N type

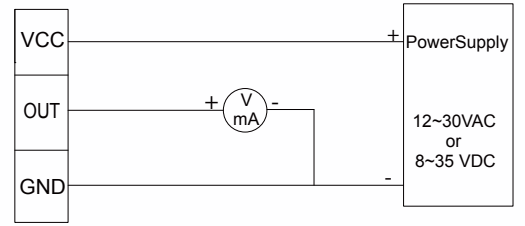


Duct

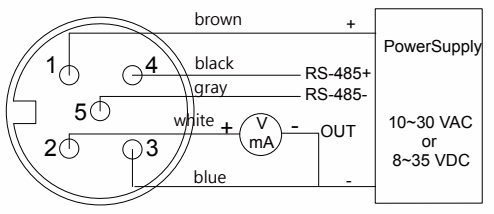
## Connection



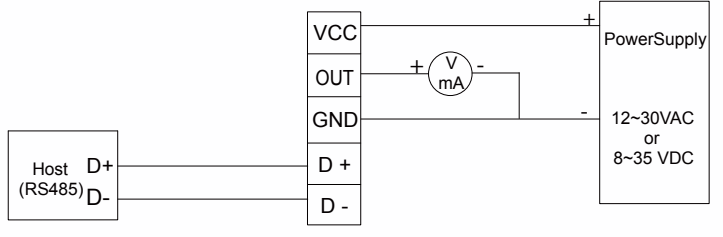
4P M12 Connector + Analogue



3P Terminal, Analogue

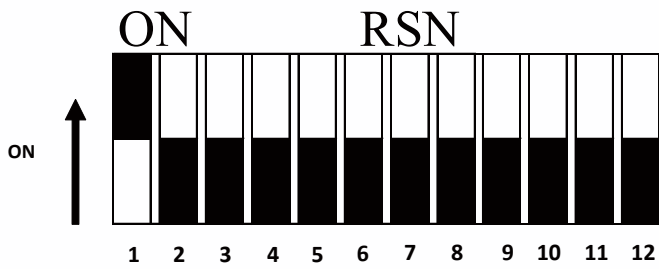


5P M12 Connector + RS-485



5P Terminal, Analogue + RS-485

DIP Switch



【 Function 】

- 1. DIP Switch Active / Deactivate
- 2. The Type for Analog Output
- 3 & 4. Switch Measuring range
- 5 & 6 & 7. Switch physical quantity unit
- 8. Zero switch
- 9. Linear / square root output switching
- 10. Filtering On / Off
- 11 & 12 . RS-485 Station no. switch

◎ 1. DIP Switch Active / Deactivate : Set the DIP switch as On/ Off

STATUS	OPEN	CLOSE
DIP Switch 1		

◎ 2. The Type for Analog Output

STATUS	0-10V	4-20mA
DIP Switch 2		

◎ 3 & 4. Switch Measuring range : upon ordering code ( unit : Pa )

DIP Switch 3	DIP Switch 4	Range (10)	Range (20)
		50	300
		100	500
		250	1000
		upon request	

( Other unit : please refer to pressure unit conversion table)

◎ 8. Zero switch

STATUS	0-100 %	-100~100%
DIP Switch 8		

◎ 9. Linear / square root output switching

STATUS	√	LINEAR
DIP Switch 9		

◎ 10. Filtering On / Off

STATUS	OPEN	CLOSE
DIP Switch 10		

◎ 11 & 12. Switch RS-485 station no. : ID 1-4

DIP Switch 11	DIP Switch 12	STATION
		1
		2
		3
		4

◎ 5 & 6 & 7. Switch physical quantity unit

DIP Switch 5	DIP Switch 6	DIP Switch 7	UNIT
			mbar
			Pa
			hPa
			kPa
			mmH2O
			mmWS
			inH2O
			mmHg