PHM33 Differential Pressure Transmitter

Range	Air velocity measurement	MEMS	Proof pressure	Burst pressure	Monitor in time	Protect rating	Digital output
pa 0 pa 500 pa	√	MEMS	2 bar	5 bar	LCD Local Display	IP65	RS-485 Programmable

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 / mmH2O / mmWS / inH2O / 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℃)	± 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	as unit is Pa : V = air velocity (at 25℃) / Q = air quantity (use with eYc AFMT)
height of character	5.56 mm

Environment

media measured	air
environment temperature	- 20 ... + 80 ℃ (without display) ; 0...+50 ℃ (without display)
environment humidity	97 %RH (non-cond.)
storage temperature	- 40 ... + 80 ℃
compensation	0 ... + 70 ℃

Temperature Influence

temperature drift	± 1.75 % (5℃ ... 55℃)

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

Installation

installation	wall

Protection

protect rating	IP 65
elecric protection	◎Polarity protection ◎over-voltage ◎short circuit
proof pressure	2 bar
burst pressure	5 bar

Certification

certification	CE

Material

case	Aluminum alloy
weight	display : 497g ； non-display : 478g

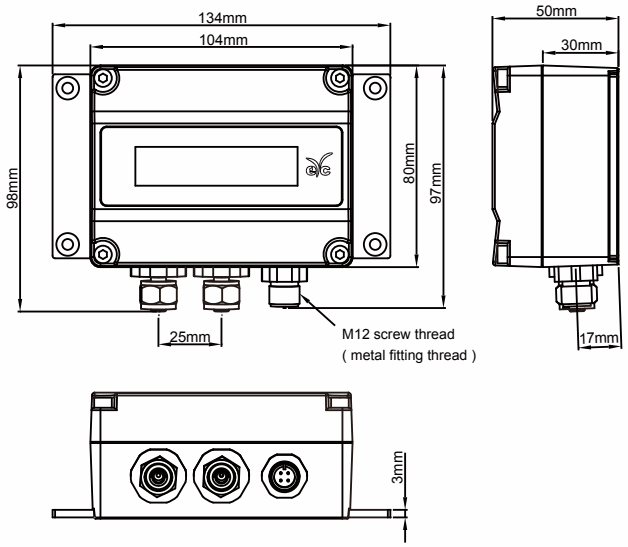
Ordering Guide

type	PMM	33	—	10	1	—	N	D
installation	wall duct	33 34						
range	50 / 100 / 250 pa 100 / 300 / 500 pa		— —	10 20				
output	4 ... 20mA 0 ... 20mA 2 ... 10V 1 ... 5V 0 ... 10V 0 ... 5V 0 ... 1V				1 2 4 5 6 7 8			
electrical connection	plastic cable gland M12x1 metal connector					— —	N M	
display	display RS-485							D 1

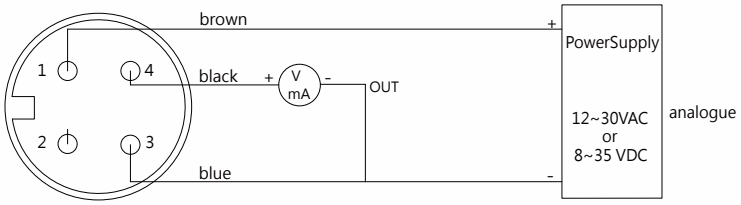
Pressure unit conversion table

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

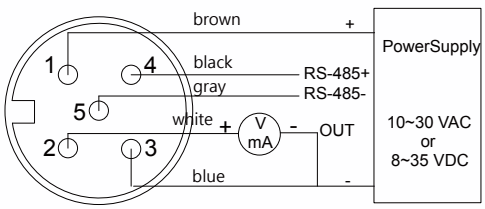
Diagram



Connection

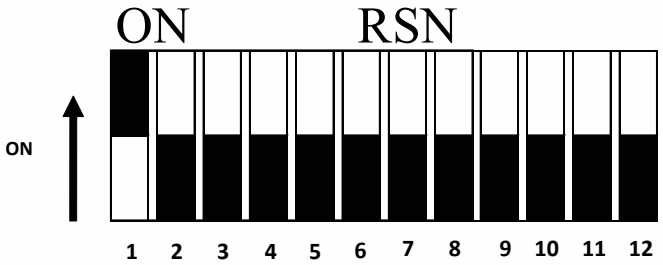


4P M12 Connector + Analogue



5P M12 Connector + 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)

◎ 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

◎ 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