

# Manostar Electronic Micro Differential Pressure Measurement System

WO81

WO70

FR51A

MS30

MS61A

MS65

EB3C

EMD8

EMD7

EMT6

EMT1

EMTGP1

EMT1H

EMP5

EMA3

EMRT1

HWS15

Combination of Manosys

Accessories

Application Cautions for use Maintenance

## Manosys Pressure Transmitter EMTGP1 Corrosion-proof type only negative pressure measurement.

**RoHS compliant**

EMTGP1 is corrosion-proof type of Manosys micro pressure transmitter only negative pressure measurement.

It is available for monitoring of static pressure (negative pressure) in exhaust gas duct filled with corrosive gas.



**EMTGP1A**  
(drip-proof indoor-use type)



**EMTGP1B**  
(exposed terminal connection type)

**<Example of main use field>**  
 Air conditioning control system of factories  
 Measuring negative pressure in bag filter and differential pressure in air conditioning  
 Monitoring of pressure loss in filter  
 Production lines of precision machine  
 Air conditioning control system of buildings

**<Example of use>**  
 Detector of a pressure loss in an air filter  
 Measuring the inside pressure of clean rooms  
 Detector of a pressure loss in a bag filter  
 Measuring of dynamic pressure in a ventilator and a exhauster

\* (refer to p.93)

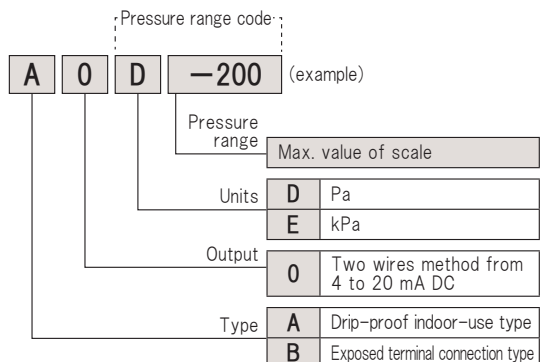
### Specification

Types	Drip-proof indoor-use and corrosion-proof type	Exposed terminal connection and corrosion-proof type	
	EMTGP1A	EMTGP1B	
Pressure units	Pa, kPa		
Pressure measuring method	Single pressure measuring method (only negative pressure measurement)		
Gas to be measured	Corrosive gas (except sulfuric acid gas, please ask us details)		
Pressure receiving element	Diaphragm		
Withstanding pressure of receiving element	-10 kPa (refer to p.104)		
Material facing to gas	Diaphragm PEEK film and molded article Base PEEK		
Material of the outer case	Aluminum die-cast Painted outer case surfaces (color gray)		
Installation position	Upward horizontal (0 ± 5°)		
Conversion method of electric signal	Variable inductance		
Output and transmission method	2-wire method :Output signal from 4 to 20 mA DC (load resistance : 500 Ω or less) Power supply voltage 24 V DC ± 10 % (ripple : Within 0.2 V P-P)		
Insulation resistance	Between each terminal and case : 20 MΩ or more. (500 V DC megger)		
Medium and ambient temperature	10 to 40 °C		
Ambient humidity	90 % RH or less (no dewing)		
Withstanding vibration	5 to 10 Hz Amplitude : 10 mm, 10 to 50 Hz Acceleration : 39 m / s <sup>2</sup> (each two hours on triaxial directions)		
Withstanding impact	100 m / s <sup>2</sup> (each six times on triaxial directions)		
Installation screw size of piping connector port	Internal thread for American standard tube thread 1 / 4 - 18 NPT		
Mass	EMTGP1A Approximately 980 g EMTGP1B Approximately 860 g		
Pressure range codes	Pressure ranges	Accuracy (at 20 °C)	Temperature characteristic (zero + span)
	D - 200	0 ~ - 200 Pa	± 2.5 % FS ± 0.15 % FS/°C
	D - 300	0 ~ - 300 Pa	
	D - 500	0 ~ - 500 Pa	
	D - 1000	0 ~ - 1000 Pa	
	E - 2	0 ~ - 2 kPa	

- ◆ This transmitter can not measure combustible gas pressure.
- ◆ Available installation position is "Upward horizontal" only.

### Product code

EMTGP1



◆ If you order or ask, please specify the product code and the pressure range code.

# EMTGP1

## Outline drawing

### EMTGP1A (drip-proof indoor-use type)

100 (width), 88 (inner width), 4 × φ 5 installation long holes, 88 ± 0.3 (hole spacing), φ 30 hole, 116 ± 0.3 (height), 100 (inner height), 116 (total height), G 1/2 internal thread, 115 (height to bottom), 4 (bottom flange), 1/4-18 NPT (thread), Internal thread for American standard tube 1/4-18 NPT, 91 (height to bottom), High pressure side pressure release port.

### EMTGP1B (exposed terminal connection type)

100 (width), 88 (inner width), 4 × φ 5 installation long holes, 88 ± 0.3 (hole spacing), φ 30 hole, 116 ± 0.3 (height), 100 (inner height), 116 (total height), M4 terminal screws, Panel cut size, 94 (height to bottom), 1/4-18 NPT (thread), Internal thread for American standard tube 1/4-18 NPT, 91 (height to bottom), High pressure side pressure release port.

## Terminal connection diagram

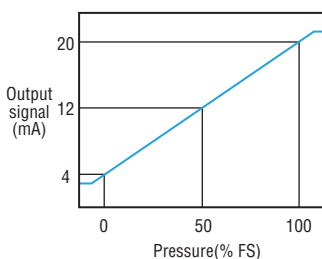
Check terminal from 4 to 20 mA. EMTGP1 terminals 1, 2, 3, 4. Power supply DC 24 V. Receiving equipment. 4-20 mA signal. Grounding.

Manosys transmitter can monitor output signal during working, if they are connected to ammeter with internal resistance of 10 Ω or less to check terminal.

◆Manosys receiver is equipped with DC power supply circuit for two wires method Manosys transmitter. therefore, in using combination with Manosys receiver, there is no need of the DC power supply equipment which is separately available. (refer to p.72)

**Caution** Do not apply excessive torque more than necessary, otherwise it will damage the instrument body. Tighten the screw of terminal with the torque from 1.0 to 1.3 N·m.

## Transmission output diagram (pressure-output signal)



## Accessory for EMT1 RoHS compliant

### Installation bracket on vertical wall

φ 30 hole, 8 × φ 5 installation holes Manosys Transmitter, 135 (width), 135 (height), 0.5m or more (distance to wall), Vertical wall, 110 (width), 1.6 (height), 25 (height), 55 (height), 100 (height), 4 × φ 7 installation holes on wall.

Product code BRKT-EMTGP1

- WO81
- WO70
- FR51A
- MS30
- MS61A
- MS65
- EB3C
- EMD8
- EMD7
- EMT6
- EMT1
- EMTGP1
- EMT1H
- EMP5
- EMA3
- EMRT1
- HWS15
- Combination of Manosys
- Accessories
- Application Cautions for use Maintenance

## Product Warranty

### Warranty Period

This product warranty is valid for one year from the date of delivery to a place specified by an ordering party who has transacted directly with Yamamoto Electric Works Co., Ltd.

### Coverage

If a product breaks down due to a reason for which we are responsible during the warranty period and you return the product to us, we will either repair or replace the product free of charge.

This warranty does not cover:

- (1) Usage of the product under any inappropriate conditions or environment contrary to what is described in our product catalog, specifications or manual.  
Handling or usage of the product other than as described in our product catalog, specifications or manual.
- (2) Breakdown due to a reason other than a fault within our product.
- (3) Any product that has been modified or repaired by a party other than us.
- (4) Any breakdown due to a reason that was not foreseeable based on scientific and technical standards applied at the time of shipment.
- (5) Any breakdown due to a reason not attributable to us such as a natural calamity or other disaster.

These terms of warranty represent our entire liability with respect to the product, and we shall have no liability for any other loss arising in connection with a breakdown of the product.

\*This product warranty is only valid within Japan.

This document is a translation from the original Japanese version, and the original Japanese version has priority over this translation.

Be sure to refer to the original Japanese for the details of this warranty.



Caution

The Japanese original document shall always take precedence over the translated versions.

You should be sure to refer to the Japanese original document.

Sole Agent  **Manostar CO.,LTD.**

1-2-3, Nishishiriike-cho, Nagata-ku, Kobe,  
Hyogo 653-0031 JAPAN  
TEL. +81 (78) 621-7000 FAX. +81 (78) 621-7788

Manufacturer

 **Yamamoto Electric Works Co., Ltd.**

1-2-3, Nishishiriike-cho, Nagata-ku, Kobe,  
Hyogo 653-0031 JAPAN  
TEL. +81 (78) 631-6000 FAX. +81 (78) 631-6020