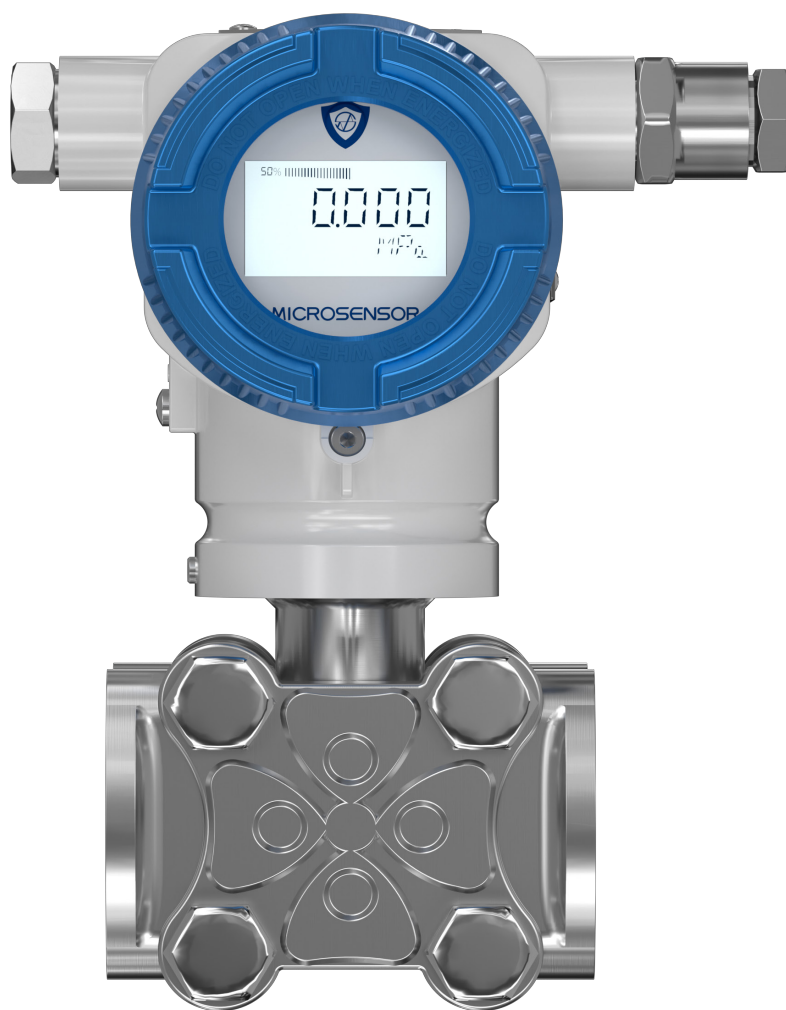


# MDM7000-DP

## Smart Differential Pressure Transmitter



Note: Some certificates are still pending.

## Range

| Normal Range | Minimum range | Lower (LRL) | Upper (URL) | Line pressure range | One-sided high pressure overload | One-sided low pressure overload |
|--------------|---------------|-------------|-------------|---------------------|----------------------------------|---------------------------------|
| 20mbar       | 2mbar         | -20mbar     | 20mbar      | 420bar              | 250bar                           | 250bar                          |
| 60mbar       | 2mbar         | -60mbar     | 60mbar      | 420bar              | 250bar                           | 250bar                          |
| 0.4bar       | 4mbar         | -0.4bar     | 0.4bar      | 420bar              | 250bar                           | 250bar                          |
| 2.5bar       | 25mbar        | -2.5bar     | 2.5bar      | 420bar              | 250bar                           | 250bar                          |
| 10bar        | 0.1bar        | -10bar      | 10bar       | 420bar              | 250bar                           | 250bar                          |
| 30bar        | 0.3bar        | -30bar      | 30bar       | 420bar              | 250bar                           | 250bar                          |
| 100bar       | 1bar          | -30bar      | 100bar      | 420bar              | 200bar                           | 200bar                          |

LRV/URV setting: the lower limit value (LRV) and upper limit value (URV) are achieved between the upper and lower limits. If  $|URV| \geq |LRV|$ ,  $|URV|$  must be larger than the minimum pressure; if  $|URV| \leq |LRV|$ ,  $|LRV|$  must be larger than the minimum pressure. It is recommended to choose a range ratio with the minimum possible value.

## Accuracy

1 Stated reference accuracy include best fit straight line(BFSL), hysteresis, and repeatability as per the standard and reference test conditions. Calibration temperature: 20°C ±5°C, based on Zero value.

2 Total performance is based on combined errors of indoor temperature accuracy, ambient temperature effects and static pressure effects, calculated by the following formula: Total performance =  $\pm \sqrt{(E1)^2 + (E2)^2 + (E3)^2}$ ;

E1=Indoor temperature accuracy E2=Ambient temperature effects E3=Static pressure effects

|                        |                    |                               |                                      |
|------------------------|--------------------|-------------------------------|--------------------------------------|
| Linear output accuracy | TD <sup>①</sup> ≤5 | ±0.075%                       | 20mbar, 60mbar <sup>②</sup>          |
|                        |                    | ±0.05% <sup>③</sup> , ±0.075% | 0.4bar, 2.5bar, 10bar, 30bar, 100bar |
|                        | TD>5               | ±(0.001+0.0148TD) %           | 20mbar, 60mbar <sup>②</sup>          |
|                        |                    | ±(0.0275+0.0095TD) %          | 0.4bar, 2.5bar, 10bar, 30bar, 100bar |

Square root output accuracy is 1.5 times linear output accuracy.

**Note:** <sup>①</sup> TD(Turn down) represents the range ratio, TD= Maximum range / Current range

[Maximum range = URL (range starts with 0, same as factory calibration range); Current range = SPAN (equivalent to  $|URV-LRV|$ )].

<sup>②</sup> 60mbar output accuracy of ±0.075% SPAN is only available for TD≤2.

<sup>③</sup> Optional linear output accuracy is 0.05%. Please consult MICROSENSOR for details.

## Specifications

|                             |                                                                                                                              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Accuracy                    | ±0.05% <sup>①</sup> , ±0.075%URL                                                                                             |
| Range                       | 20mbar~100bar, see the specifications for details                                                                            |
| Turn down ratio             | 100:1                                                                                                                        |
| Long-term stability         | ±0.1% Span/10 years                                                                                                          |
| Ambient temperature effects | At 60mbar, the total effect per 10°C is (0.1+0.05TD)% SPAN; For other ranges: total effect per 10°C : (0.075+0.0375TD)% SPAN |
| Voltage effects             | When the power supply voltage changes within 18.3V~44V DC, its zero point and range change should not exceed ±0.005% SPAN/V  |
| Mounting position effects   | Less than 4mbar at any position, which can be corrected by PV(primary value)=0 reset                                         |
| Vibration effects           | < 0.1% SPAN as per GB/T18271.3/IEC61298-3                                                                                    |
| Output signal               | 4mA~20mA DC, HART                                                                                                            |
| IP rating                   | IP67, IP66                                                                                                                   |
| Weight                      | About : 4kg (without mounting bracket and process connection accessories)                                                    |

**Note:** <sup>①</sup> The accuracy is dependent on the range. Please consult MICROSENSOR for details.

## Environmental Conditions

| Items                                     | Conditions                                                        |                                            |
|-------------------------------------------|-------------------------------------------------------------------|--------------------------------------------|
| Operating temperature <sup>①</sup>        | Without LCD display: -50°C ~85°C ; with LCD display: -40°C ~70°C  |                                            |
| Storage temperature                       | Without LCD display: -50°C ~100°C ; with LCD display: -40°C ~85°C |                                            |
| Sensor Operating temperature <sup>②</sup> | -40°C ~105°C                                                      |                                            |
| Medium temperature <sup>③</sup>           | Silicone oil filled: -40°C ~200°C                                 | Low temperature silicone oil: -55°C ~120°C |
|                                           | Fluorocarbon oil 2: -55°C ~85°C                                   |                                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Operating humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5%RH~100%RH@40°C |
| <b>Note:</b> ① Short pipeline explosion-proof products shall have a surface temperature $\leq 80^{\circ}\text{C}$ . If uncertain, medium temp. shall be $\leq T_6/T_{80}^{\circ}\text{C}$ .<br>② If the medium temperature exceeds this range, heat dissipation accessories may be added. Please consult the MICROSENSOR for details.<br>③ The medium temperature in contact with the sensor diaphragm must be within the range of the selected oil filling, O-ring, and sensor operating conditions. |                  |

## Power Supply and Load Requirements

| Items                                                                                                                                                | Conditions                                                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--|
| Power supply voltage                                                                                                                                 | HART communication protocol/RS 485: 18.3V~44V DC ①                 |  |
|                                                                                                                                                      | Intrinsically safe HART communication protocol: 18.3V~30V DC       |  |
| Load resistance                                                                                                                                      | 0Ω~1476Ω ② for operation mode;<br>250Ω~800Ω for HART communication |  |
| Transmission distance                                                                                                                                | <1000m                                                             |  |
| Power consumption                                                                                                                                    |                                                                    |  |
| 4mA~20mA                                                                                                                                             | $\leq 500\text{mW}@24\text{V DC}$ , 20.8mA                         |  |
| <b>Note:</b> ① Non intrinsically safe power supply voltage can be selected as 13V. Please consult engineers for details.<br>② 1476Ω= (44V-13V) /21mA |                                                                    |  |

## EMC Effects

| SN | Test items                                                           | Basic Standards           | Test Conditions                                       | Performance Level |
|----|----------------------------------------------------------------------|---------------------------|-------------------------------------------------------|-------------------|
| 1  | Radiated interference (Casing)                                       | GB/T 9254.1/CISPR 32      | 30MHz~1000MHz                                         | Qualified         |
| 2  | Conducted interference (DC power port)                               | GB/T 9254.1/CISPR 32      | 0.15MHz~30MHz                                         | Qualified         |
| 3  | Electrostatic discharge immunity test                                | GB/T 17626.2/IEC61000-4-2 | 8kV (Contact), 15kV (Air)                             | B                 |
| 4  | Immunity to radio frequency EM-fields                                | GB/T 17626.3/IEC61000-4-3 | 10V/m (80MHz~1GHz)                                    | A                 |
| 5  | Power frequency magnetic field Immunity test                         | GB/T 17626.8/IEC61000-4-8 | 30A/m                                                 | B                 |
| 6  | Electrical fast transient / Burst Immunity test                      | GB/T 17626.4/IEC61000-4-4 | 4kV (5/50ns, 100kHz)                                  | B                 |
| 7  | Surge immunity requirements                                          | GB/T 17626.5/IEC61000-4-5 | 2kV (line to line)<br>4kV (line to ground) (1.2/50μs) | B                 |
| 8  | Immunity to conducted disturbances induced by radio frequency fields | GB/T 17626.6/IEC61000-4-6 | 3V/m (150kHz~80MHz)                                   | A                 |

**Note:** At performance level A, the performance is normal within the limits of the technical specifications.

At performance level B, functions or performance are temporarily reduced or lost, but can be restored by themselves, and the actual operating conditions, storage and data remain unchanged.

## Time Index

|                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Damping time constant: equals to the combined damping time of electronic components and sensor module                                                                                                     |
| Electronic components damping time: 0s~100s configurable                                                                                                                                                  |
| Sensor module damping time( sensor isolated diaphragm and filled silicone oil): $\leq 0.2\text{s}$<br>( <b>Note:</b> This item is related to the sensor type and whether there is a diaphragm component.) |
| Turn-on time: $\leq 6\text{s}$                                                                                                                                                                            |
| Factory reset time: $\leq 31\text{s}$                                                                                                                                                                     |
| Response time: $\leq 100\text{ms}$                                                                                                                                                                        |

|| Static Pressure Effects ||

| Range                   | Effects              |
|-------------------------|----------------------|
| Range ≤ 0.1bar          | δ≤±0.5%F.S./100bar   |
| 0.1bar < Range ≤ 0.4bar | δ≤±0.1%F.S./100bar   |
| 2.5bar≤ Range ≤ 10bar   | δ≤±0.075%F.S./100bar |
| 30bar ≤ Range ≤ 100bar  | δ≤±0.15%F.S./100bar  |

||Hazardous Area ||

|                |                                               |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazardous area | Ex standards (association)                    | Mark                                                                                                                                                                                                                    | Standard                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                | Ex Intrinsically safe (PCEC)                  | Ex ia IIC T4 Ga                                                                                                                                                                                                         | GB/T 3836.1-2021<br>GB/T 3836.4-2021                                                                                                                                                                                                                                                                                                                                                                                                        |
|                | Ex Flameproof (PCEC)                          | Ex db IIC T6 Gb                                                                                                                                                                                                         | GB/T 3836.1-2021<br>GB/T 3836.2-2021                                                                                                                                                                                                                                                                                                                                                                                                        |
|                | Ex Dust explosion-proof (NEPSI)               | Ex tb IIC T85°C Db                                                                                                                                                                                                      | GB/T 3836.1-2021<br>GB/T 3836.31-2021                                                                                                                                                                                                                                                                                                                                                                                                       |
|                | ATEX Intrinsically safe (CSA) <sup>①</sup>    | II 1G Ex ia IIC T4 Ga                                                                                                                                                                                                   | EN IEC 60079-0:2018<br>EN 60079-11:2012                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | ATEX Flameproof (CSA) <sup>①</sup>            | II 2G Ex db IIC T6 Gb                                                                                                                                                                                                   | EN IEC 60079-0:2018<br>EN 60079-1: 2014                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | ATEX Dust explosion-proof (CSA) <sup>①</sup>  | II 2D Ex tb IIIC T80°C Db                                                                                                                                                                                               | EN IEC 60079-0:2018<br>EN 60079-31: 2014                                                                                                                                                                                                                                                                                                                                                                                                    |
|                | IECEx Intrinsically safe (CSA)                | Ex ia IIC T4 Ga                                                                                                                                                                                                         | IEC 60079-0: 2017<br>IEC 60079-11: 2011                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | IECEx Flameproof (CSA) <sup>①</sup>           | Ex db IIC T6 Gb                                                                                                                                                                                                         | IEC 60079-0: 2017<br>IEC 60079-1: 2014                                                                                                                                                                                                                                                                                                                                                                                                      |
|                | IECEx Dust explosion-proof (CSA) <sup>①</sup> | Ex tb IIIC T80°C Db                                                                                                                                                                                                     | IEC 60079-0: 2017<br>IEC 60079-31: 2022                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | NA Intrinsically safe (CSA)                   | Class I, Division 1, Groups A, B, C and D T4<br>Ex ia IIC T4 Ga<br>Class I, Zone 0, AEx ia IIC T4 Ga                                                                                                                    | CSA C22.2 No. 60079-0:19<br>CAN/CSA C22.2 No. 60079-11:14(R2023)<br>CAN/CSA C22.2 No. 61010-1-12, UPD1:2015, UPD2:2016, AMD1:2018<br>ANSI/UL 60079-0-2020 Seventh Edition<br>ANSI/UL 60079-11-2018 (R2023)Sixth Edition<br>ANSI/UL 913-2022 Eighth Edition<br>UL 61010-1, 3rd Edition (2012), AMD1: 2018                                                                                                                                    |
|                | NA Flameproof (CSA) <sup>①</sup>              | Class I, Division 1, Group A, B, C and D T6<br>Class II, Division 1 Group E, F and G T80°C<br>Class III<br>Ex db IIC T6 Gb<br>Class I, Zone 1, AEx db IIC T6 Gb<br>Ex tb IIIC T80°C Db<br>Zone 21, AEx tb IIIC T80°C Db | CAN/CSA C22.2 No.61010-1-12. UPD1:2015. UPD2:2016.AMD1:2018<br>CSA C22.2 No.25-17<br>CSA C22.2 No.30-20+UPD1(2023)<br>CSA-C22.2 No.60079-0:19<br>CAN/CSA-C22.2 No.60079-1:16 (R2021)<br>CAN/CSA-C22.2 No.60079-31:15 (R2020)<br>UL 61010-1. 3rd Edition (2012). AMD1:2018<br>FM 3600:2022 FM 3615:2022 FM 3616:2022<br>ANSI/UL 60079-0-2020 Seventh Edition<br>ANSI/UL 60079-1-2020 Seventh Edition<br>ANSI/UL 60079-31-2015 Second Edition |
|                | EAC Explosion-proof                           | 1Ex db IIC T6 Gb<br>0Ex ia IIC T4 Ga                                                                                                                                                                                    | TP TC012/2011<br>GOST 31610.0-2019<br>GOST 31610.11-2014<br>GOST IEC 60079-1-2013                                                                                                                                                                                                                                                                                                                                                           |

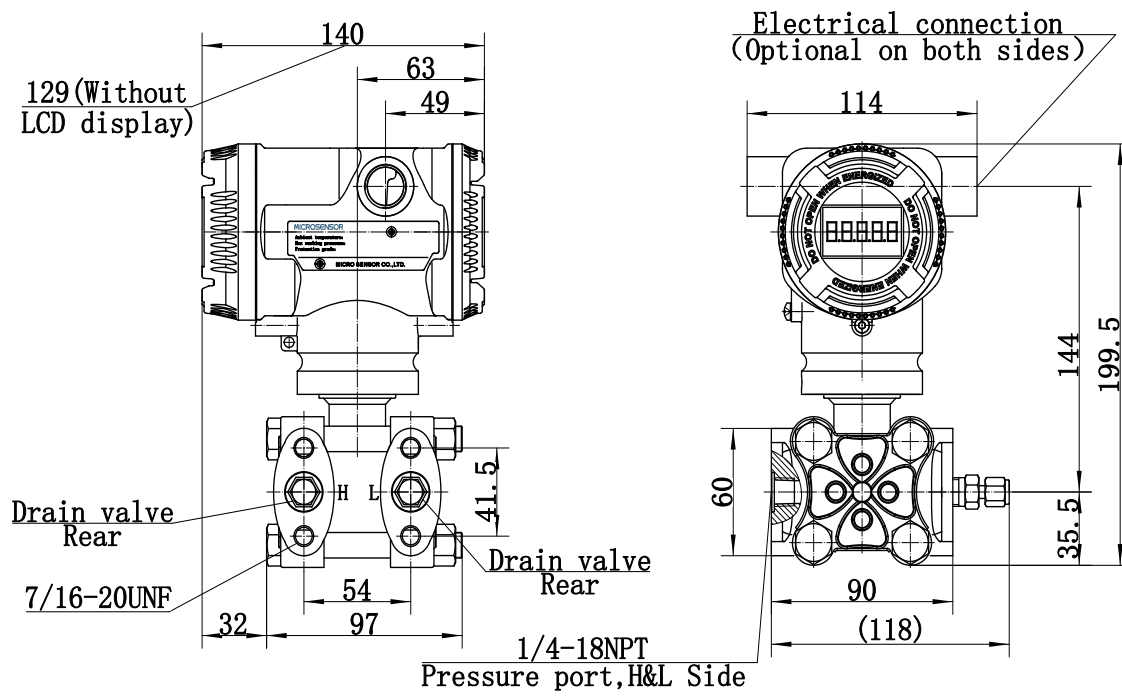
Note: Please consult MICROSENSOR for details.

## || Dimensions ||

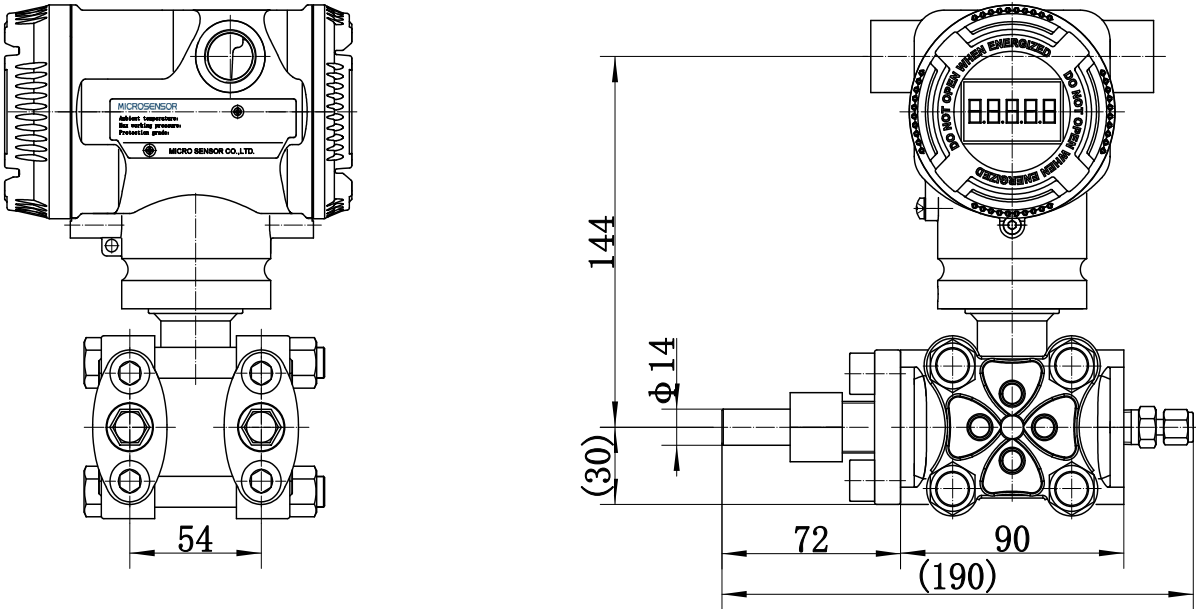
Unit: mm

Note: The gland head is sent as an accessory with the product when it leaves the factory, and it is to be installed by the user. s

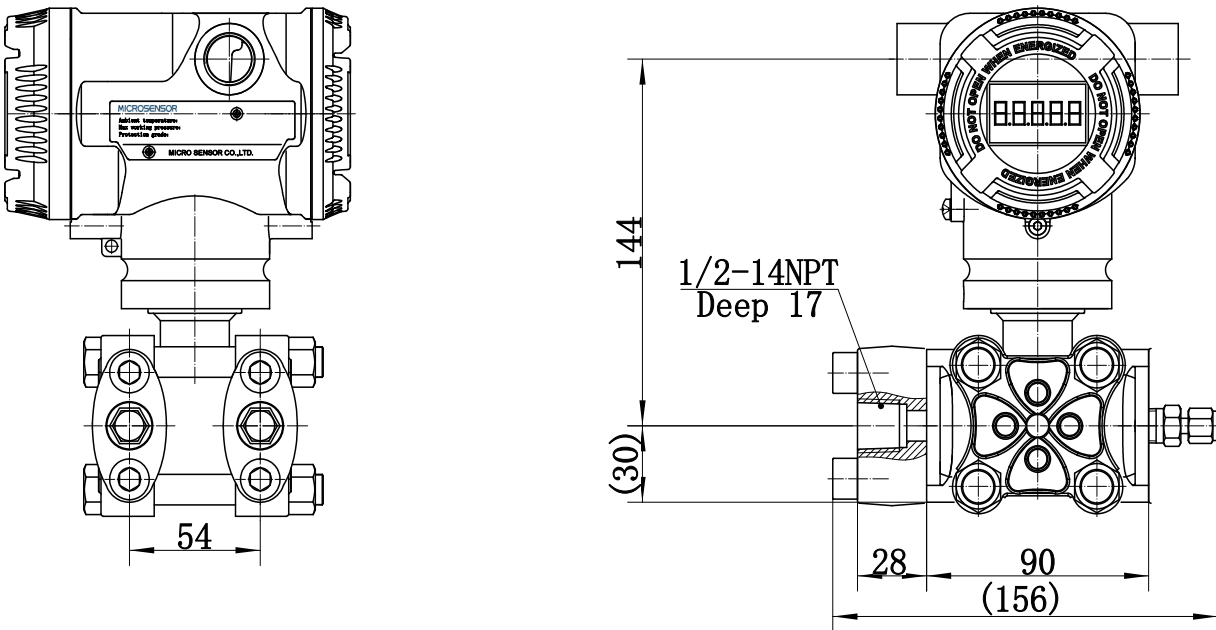
### MDM7000 Transmitter With Display



MDM7000 Transmitter with D1 Adapter



MDM7000 Transmitter with D2 Adapter



## || Mounting Bracket Illustration ||

Pipe Mounting(Code: G7, G8)

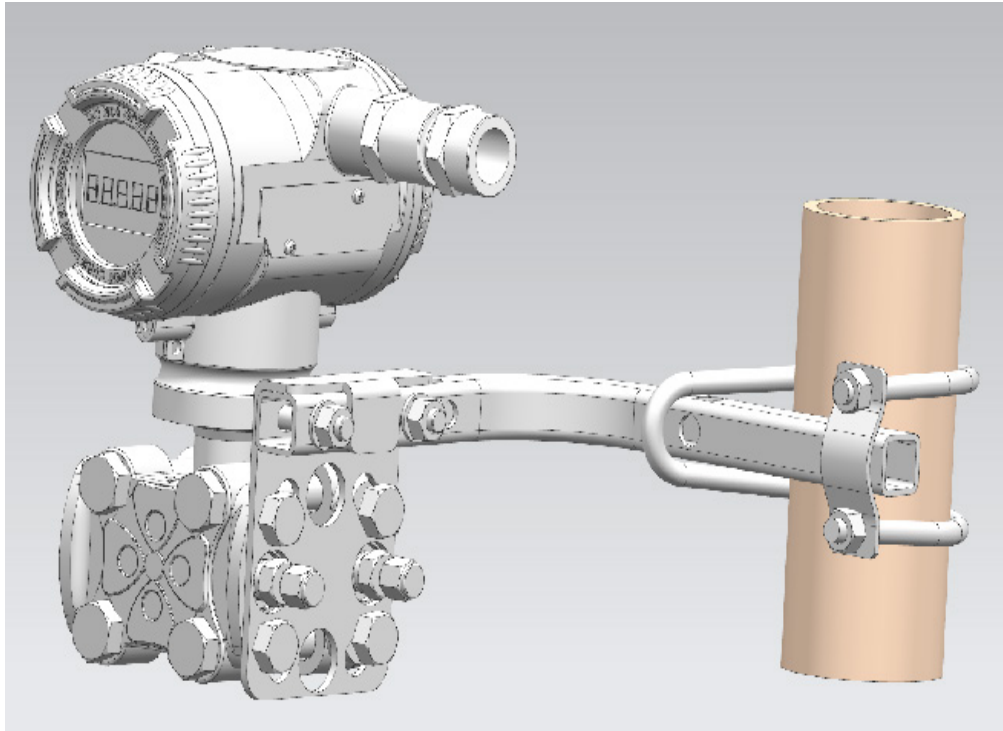
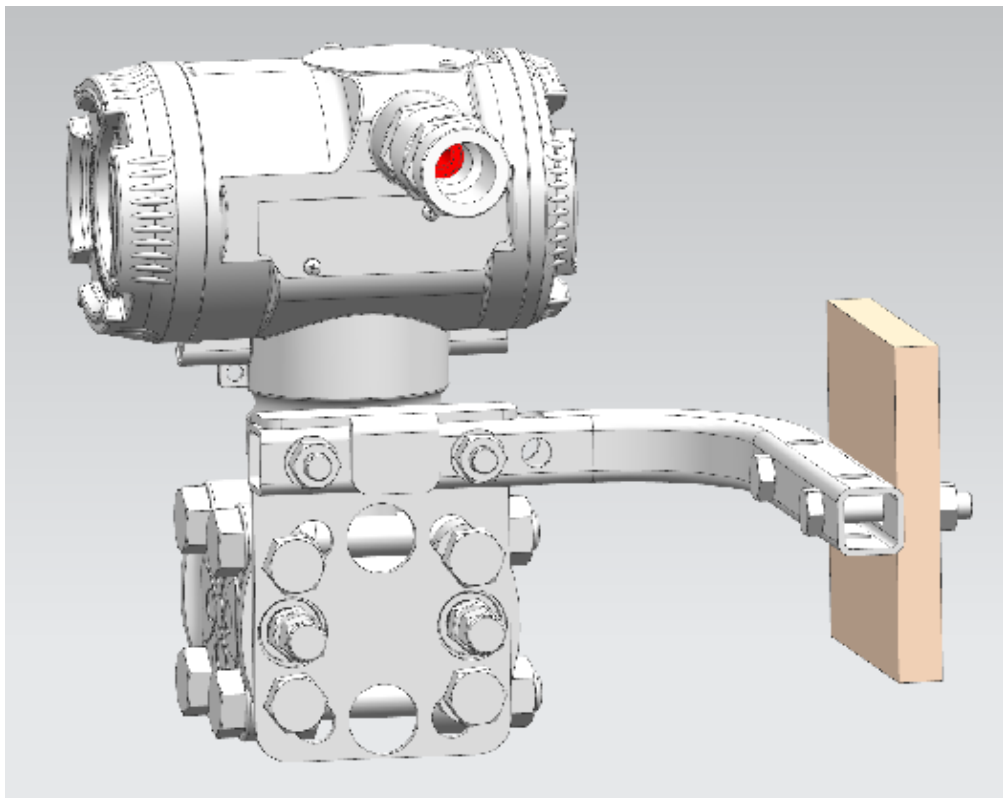


Plate Mounting(Code: G7, G8)





## Order Guide

### MDM7000-DP Smart Differential Pressure Transmitter

| Items      | Code | Description                             |
|------------|------|-----------------------------------------|
| MDM7000-DP | —    | Smart Differential Pressure Transmitter |

#### Basic options

|                               |   |                                                                                                                                                                                                                                                               |                                                                                                                                                                                |   |
|-------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Application of hazardous area | 1 | China, Flameproof, No.CE23.6650<br>Ex db IIC T6 Gb, GB/T3836.1-2021, GB/T3836.2-2021                                                                                                                                                                          | <br>     |   |
|                               | 2 | China, Intrinsically safe, No.CE23.7688X<br>Ex ia IIC T4 Ga, GB/T3836.1-2021, GB/T3836.4-2021                                                                                                                                                                 |                                                                                                                                                                                |   |
|                               | 3 | China, Dust explosion-proof, GYB24.1215X<br>Ex tb III C T85°C Db, GB/T3836.1-2021, GB/T 3836.31-2021                                                                                                                                                          |                                                                                                                                                                                |   |
|                               | 4 | China, Flameproof, Intrinsically safe                                                                                                                                                                                                                         |                                                                                                                                                                                |   |
|                               | 5 | China, Flameproof, Dust explosion-proof, Intrinsically safe                                                                                                                                                                                                   |                                                                                                                                                                                |   |
|                               | A | CSA, Flameproof, CSA 25CA80192884X<br>Class I, Division 1, Group A, B, C and D T6<br>Class II, Division 1 Group E, F and G T80°C<br>Class III<br>Ex db IIC T6 Gb<br>Class I, Zone 1, AEx db IIC T6 Gb<br>Ex tb IIIC T80°C Db<br>Zone 21, AEx tb IIIC T80°C Db |                                                                                             | ※ |
|                               | B | CSA, Intrinsically safe, CSA24CA80156531X<br>Class I, Division 1, Groups A, B, C and D T4<br>Ex ia IIC T4 Ga<br>Class I, Zone 0, AEx ia IIC T4 Ga                                                                                                             |                                                                                                                                                                                |   |
|                               | C | CSA, Flameproof, Intrinsically safe                                                                                                                                                                                                                           |                                                                                                                                                                                |   |
|                               | E | ATEX, Flameproof, CSANe 25ATEX1107X<br>II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T80°C Db                                                                                                                                                                       |                                                                                           | ※ |
|                               | F | ATEX, Intrinsically safe, CSANe 24ATEX1178X<br>II 1G Ex ia IIC T4 Ga                                                                                                                                                                                          |                                                                                                                                                                                |   |
|                               | G | ATEX, Flameproof, Intrinsically safe                                                                                                                                                                                                                          |                                                                                                                                                                                |   |
|                               | J | IECEX, Flameproof, IECEX CSA 25.0059X<br>Ex db IIC T6 Gb, Ex tb IIIC T80°C Db                                                                                                                                                                                 | <br> | ※ |
|                               | K | IECEX, Intrinsically safe, IECEX CSA 24.0045X<br>Ex ia IIC T4 Ga                                                                                                                                                                                              |                                                                                                                                                                                |   |
|                               | L | IECEX, Flameproof, Intrinsically safe                                                                                                                                                                                                                         |                                                                                                                                                                                |   |
|                               | M | EAC, Explosion-proof, RU C-CN.AK58.B.05884/24<br>1Ex db IIC T6 Gb, 0Ex ia IIC T4 Ga                                                                                                                                                                           |                                                                                                                                                                                | ※ |
|                               | 0 | Non-hazardous area                                                                                                                                                                                                                                            |                                                                                                                                                                                |   |
| Output signal                 | H | 4mA~20mA DC, HART                                                                                                                                                                                                                                             |                                                                                           |   |
|                               | B | 4mA~20mA DC, HART, Bluetooth                                                                                                                                                                                                                                  |                                                                                                                                                                                |   |
|                               | R | Modbus-RS485                                                                                                                                                                                                                                                  |                                                                                                                                                                                |   |

**Note:** The default is HART5, please select in Options-Specifications if HART7 is required.

|      |   |                                                                                 |                                                                                       |
|------|---|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Case | S | 316L Stainless steel case with two outlet ports (F) M20×1.5                     |  |
|      | U | 316L Stainless steel case with two outlet ports (F) 1/2NPT                      |                                                                                       |
|      | P | Aluminum alloy case (Polyester resin coating) with two outlet ports (F) M20×1.5 |  |
|      | N | Aluminum alloy case(Polyester resin coating) with two outlet ports (F) 1/2NPT   |                                                                                       |

**Note:** The outlet port, (F) 1/2NPT, without cable glands. The explosion-proof conduit is directly connected. The default material for the nameplate is 304 stainless steel. Please consult MICROSENSOR for other materials.

| Waterproof/explosion-proof connector | Specification                                                 | Material | Applicable wire diameter | IP rating |
|--------------------------------------|---------------------------------------------------------------|----------|--------------------------|-----------|
| 0                                    | Without cable glands                                          |          |                          |           |
| A                                    | Single-ended with a flameproof metal plug                     | 316 SS   |                          |           |
| 1                                    | M20×1.5 waterproof connector, with plug                       | PVC      | 6mm~12mm                 | IP67      |
| 2                                    | Non-flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug | 316 SS   | 6mm~8mm                  | IP67      |

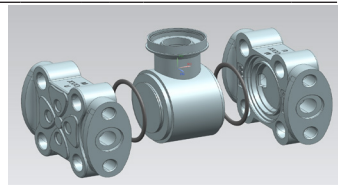
|   |                                                           |        |          |      |
|---|-----------------------------------------------------------|--------|----------|------|
| 3 | Flameproof adapter M20x1.5 (M) to 1/2 NPT (F) , with plug | 316 SS | 6mm~12mm | IP67 |
| 4 | Flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug | 316 SS | 6mm~12mm | IP67 |
| 5 | Flameproof adapter M20x1.5 (M) to G1/2 (F) , with plug    | 316 SS | 6mm~12mm | IP67 |

**Note:** Flameproof configuration is applicable to PCEC/ATEX/IECEX standards. Flameproof adapter obtained CCC certificate. Please contact MICROSENSOR if double sealing is required.

|         |   |                                                                                              |
|---------|---|----------------------------------------------------------------------------------------------|
| Display | N | Without LCD display, explosion proof type -40°C ~70°C , non-explosion proof type -50°C ~85°C |
|         | L | With LCD display, explosion proof type/non-explosion proof -40°C ~70°C                       |

| Range |  | Nominal range | Minimum range | Lower (LRL) | Upper (URL) | Static pressure range | One-sided high/low pressure overload |
|-------|--|---------------|---------------|-------------|-------------|-----------------------|--------------------------------------|
| 0     |  | 20mbar        | 2mbar         | -20mabr     | 20mbar      | 420bar                | 250bar                               |
| 1     |  | 60mbar        | 2mbar         | -60mbar     | 60mbar      | 420bar                | 250bar                               |
| 2     |  | 0.4bar        | 4mbar         | -0.4bar     | 0.4bar      | 420bar                | 250bar                               |
| 3     |  | 2.5bar        | 25mbar        | -2.5bar     | 2.5bar      | 420bar                | 250bar                               |
| 4     |  | 10bar         | 0.1bar        | -10bar      | 10bar       | 420bar                | 250bar                               |
| 5     |  | 30bar         | 0.3bar        | -30bar      | 30bar       | 420bar                | 250bar                               |
| 6     |  | 100bar        | 1bar          | -30bar      | 100bar      | 420bar                | 200bar                               |

| Wetted parts material |  | Diaphragm | Flange block | Discharge valve/plug | Sealings                   |   |
|-----------------------|--|-----------|--------------|----------------------|----------------------------|---|
| A                     |  | 316L      | 316          | 316                  | FKM                        |   |
| B                     |  | 316L      | 316          | 316                  | Stainless steel frame PTFE |   |
| E                     |  | 316L      | 316          | 316                  | Modified FKM               |   |
| C                     |  | HC-276    | 316          | 316                  | FKM                        |   |
| D                     |  | HC-276    | 316          | 316                  | Stainless steel frame PTFE |   |
| F                     |  | HC-276    | 316          | 316                  | Modified FKM               |   |
| G                     |  | Tantalum  | 316          | 316                  | FKM                        | ※ |
| H                     |  | Tantalum  | 316          | 316                  | Stainless steel frame PTFE | ※ |
| I                     |  | Tantalum  | 316          | 316                  | Modified FKM               | ※ |



**Note:** FKM (-20°C ≤ Medium temperature ≤ 120°C) , PTFE (-60°C ≤ Medium temperature ≤ 180°C) , Modified FKM (-40°C ≤ Medium temperature ≤ 180°C) , Tantalum diaphragm is not available when the range is below 0.4 bar.

| Process connection |  | Specifications   | Drain/vent valve position | Thread        | Mounting method |  |
|--------------------|--|------------------|---------------------------|---------------|-----------------|--|
| 1                  |  | Female 1/4-18NPT | Rear end of flange        | 7/16-20UNF(F) | Horizontal      |  |
| 2                  |  | Female 1/4-18NPT | Above the side of flange  | 7/16-20UNF(F) | Horizontal      |  |
| 3                  |  | Female 1/4-18NPT | Under the side of flange  | 7/16-20UNF(F) | Horizontal      |  |
| 4                  |  | Female 1/4-18NPT | Side drain/vent valve*    | 7/16-20UNF(F) | Vertical        |  |

**Note:** The side drain/vent valve is not specified as left or right when it leaves the factory.

|             |   |                                            |   |
|-------------|---|--------------------------------------------|---|
| Oil filling | S | Silicone oil: -40°C ~200°C                 |   |
|             | L | Low temperature silicone oil: -55°C ~120°C | ※ |
|             | E | Fluorocarbon oil 2: -55°C ~85°C            | ※ |

**Note:** The medium operating temperature must be within the ranges of ① oil filling temperature, ② sensor operating temperature, and ③ O-ring temperature.

|                           |     |                                                                                                                                                   |
|---------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Clamp block fastener      | 1   | Bolts, nuts, and other components, 35CrMo                                                                                                         |
| Clamp block mounting      | H   | Horizontal mounting                                                                                                                               |
|                           | E   | Vertical mounting                                                                                                                                 |
| Factory calibration range | CAL | Provide MICROSENSOR standard verification report based on the range, default linear output<br><b>Contract specifies:</b> LRL - URL, display unit* |

| Options-Certificates                      |      | Description (Detailed specifications as following, multiple options or null) |                                                                                     |
|-------------------------------------------|------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Approvals                                 | /CS1 | CCS, China Classification Society, XA25PTB00010                              |  |
|                                           | /CS2 | DNV, Det Norske Veritas, TAA00000Y1                                          |  |
|                                           | /CS3 | BV, Bureau Veritas, 77759/A0 BV                                              |  |
|                                           | /CS4 | ABS, American Bureau of Shipping, 24-2536413-PDA                             |  |
|                                           | /CS5 | LR, Lloyd's Register, LR2520052TA                                            |  |
|                                           | /CS6 | KR, Korean Register, NAJ50160-AE001                                          |  |
|                                           | /CS7 | NK, Nippon Kaiji Kyokai, TA24376M                                            |  |
|                                           | /CS8 | RS, Russian Maritime Register of Shipping, 24.44.01.01398.266                |  |
| Metrological certification (Russia & CIS) | /PAC | Pattern Approval Certificate of Measuring Instruments, Russian, 94159-24     |  |
|                                           | /PBY | Pattern Approval Certificate of Measuring Instruments, Belarus, 18634        |  |

| Options-specifications                                                                        |      | Description (Detailed specifications as following, multiple options or null)                                                                                                                                          |                                                                                         |
|-----------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Mounting bracket accessories                                                                  | /G7  | L-shaped brackets (sq), 316 SS                                                                                                                                                                                        |                                                                                         |
|                                                                                               | /G8  | L-shaped brackets (sq), Q235 carbon steel                                                                                                                                                                             |                                                                                         |
| Process connection accessories                                                                | /D3  | T-shaped adapter(M) M20×1.5 and vent tube Φ14mm×2mm×30mm, 316 SS, ×2                                                                                                                                                  |                                                                                         |
|                                                                                               | /D4  | Waist-shaped adapter, 1/2-14NPT (F), 316 SS, ×2                                                                                                                                                                       |                                                                                         |
| Output signal mode                                                                            | /SQ  | Both the output signal and display are in "square root" format, with the LRL set to zero                                                                                                                              |                                                                                         |
| Verification report                                                                           | /Q1  | Provide data according to the customer's template requirements.<br><b>Contract specifies:</b> LRL - URL, display unit and other requirements*                                                                         | ※                                                                                       |
| Damping time setting                                                                          | /ST  | Adjustable range 0s~100s, default 0s<br><b>Contract specifies:</b> Damping time*                                                                                                                                      |                                                                                         |
| Fault alarm setting                                                                           | /WH  | High alarm current value, 20.8mA (HART5), 21mA (HART7)                                                                                                                                                                |                                                                                         |
|                                                                                               | /WL  | Low alarm current value, 3.8mA (HART5), 3.7mA (HART7), default                                                                                                                                                        |                                                                                         |
| Identification plate                                                                          | /PT  | Supplied with 316L SS hanging nameplate<br><b>Contract specifies:</b> Identification number, not exceeding 16 characters*                                                                                             |                                                                                         |
| Integrated valve manifold                                                                     | /VT  | Differential pressure transmitter is factory assembled with MICROSENSOR valve manifold. See attachment for order guide of valve manifold.<br><b>Contract specifies:</b> Complete model of MICROSENSOR valve manifold* |                                                                                         |
| Leakage test report                                                                           | /QD1 | Nitrogen (N <sub>2</sub> ) or air, 200bar, pressure holding for 10 minutes, provide MICROSENSOR standard leakage test report (Applicable to nominal range 100bar)                                                     | ※                                                                                       |
|                                                                                               | /QD2 | Nitrogen (N <sub>2</sub> ) or air, 250bar, pressure holding for 10 minutes, provide MICROSENSOR standard leakage test report (Applicable to nominal range 60mbar~30bar)                                               | ※                                                                                       |
| HART configuration                                                                            | /H5  | HART5 configuration, default                                                                                                                                                                                          |                                                                                         |
|                                                                                               | /H7  | HART7 configuration                                                                                                                                                                                                   |                                                                                         |
| Diaphragm with gold plated                                                                    | /J2  | High and low pressure side diaphragm with gold plated (5μ)                                                                                                                                                            |  ※ |
| Oil-free treatment                                                                            | /CL1 | Degreasing and cleaning treatment of the wetted parts                                                                                                                                                                 | ※                                                                                       |
| <b>Note:</b> Select this item; fluorocarbon oil is needed in oxygen environments (code: D, E) |      |                                                                                                                                                                                                                       |                                                                                         |
| Lithium battery                                                                               | /LD  | General requirements for low copper and zinc in the lithium battery industry                                                                                                                                          |                                                                                         |

|                  |     |                                                                                                                                                                     |
|------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Language         | /LE | English nameplate, operation manual, certificate of conformity, factory inspection report.                                                                          |
|                  | /LR | Russian nameplate, operation manual, certificate of conformity, factory inspection report.                                                                          |
| Delivery service | /XM | Additional acceptance documents (to be specified in the order), in addition to standard supply (product certificate, operation manual, factory verification report) |
| Warranty period  | /Y2 | 2-year warranty                                                                                                                                                     |
|                  | /Y3 | 3-year warranty                                                                                                                                                     |
|                  | /Y5 | 5-year warranty                                                                                                                                                     |

**\*Note:** The specifications required for these options should be specified in the contract. Products with ※ have longer delivery times.

**Example:** MDM7000-DP-0HS1L-1A1S6H/G1- 【CAL: 0-50mbar】