

# GMUD-MP - Пьезорезистивный датчик давления с встроенной температурной компенсацией GHM MESSTECHNIK



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# PRESSURE MEASURING TRANSDUCER FOR ABSOLUTE PRESSURE OR OVER/UNDER PRESSURE AND PRESSURE DIFFERENCE



**FREELY SCALABLE**



## HIGHLIGHTS:

- change between 4-20 mA / 0-10 V
- with display
- switching output
- Configuration protected by code lock

## GMUD-MP-S

Pressure measuring transducer for pressure difference or absolute pressure (pressure range > 25 mbar)

## GMUD-MP-F

Pressure measuring transducer for pressure difference (fine pressure range ≤ 25 mbar)

### General:

Microprocessor controlled, digital pressure transducer with display and operation via 3 buttons. With freely scalable analog output that can be switched between 4-20 mA and 0-10 V. Code lock for input, after code input parameters can be changed (code permanently stored).

### Application:

Suitable for: air and non-aggressive gases

### Area of application:

controlling, measuring and monitoring, climate and ventilation, environmental and medical technology

### Measuring ranges:

#### Difference fine pressure range:

<b>GMUD MP-F-MD0:</b> Product-ID: 602483	<b>Measuring ranges:</b> 0,000 ... 1,000 mbar <b>Overload:</b> 150 mbar, <b>Burst pressure:</b> 200 mbar
<b>GMUD MP-F-MD1:</b> Product-ID: 602485	<b>Measuring ranges:</b> 0,00 ... 10,00 mbar <b>Overload:</b> 150 mbar, <b>Burst pressure:</b> 200 mbar
<b>GMUD MP-F-MD2:</b> Product-ID: 602487	<b>Measuring ranges:</b> 0,00 ... 20,00 mbar <b>Overload:</b> 150 mbar, <b>Burst pressure:</b> 200 mbar
<b>GMUD-MP-F-MD3:</b> Product-ID: 605958	<b>Measuring ranges:</b> -1,999 ... +2,500 mbar <b>Overload:</b> 250 mbar, <b>Burst pressure:</b> 500 mbar
<b>GMUD-MP-F-MD4:</b> Product-ID: 604355	<b>Measuring ranges:</b> -19,99 ... +20,00 mbar <b>Overload:</b> 150 mbar, <b>Burst pressure:</b> 200 mbar

#### Difference pressure range:

<b>GMUD MP-S-MD0:</b> Product-ID: 602482	<b>Measuring ranges:</b> 0,0 ... 100,0 mbar <b>Overload:</b> 1000 mbar, <b>Burst pressure:</b> 1500 mbar
<b>GMUD MP-S-MD1:</b> Product-ID: 602491	<b>Measuring ranges:</b> 0,0 ... 500,0 mbar <b>Overload:</b> 1000 mbar, <b>Burst pressure:</b> 1500 mbar
<b>GMUD MP-S-MD2:</b> Product-ID: 602493	<b>Measuring ranges:</b> 0 ... 1000 mbar <b>Overload:</b> 2000 mbar, <b>Burst pressure:</b> 3000 mbar
<b>GMUD MP-S-MD3:</b> Product-ID: 602495	<b>Measuring ranges:</b> 0 ... 2000 mbar <b>Overload:</b> 4000 mbar, <b>Burst pressure:</b> 6000 mbar
<b>GMUD MP-S-MD4:</b> Product-ID: 602497	<b>Measuring ranges:</b> 0 ... 5000 mbar <b>Overload:</b> 7000 mbar, <b>Burst pressure:</b> 7000 mbar
<b>GMUD-MP-S-MD5:</b> Product-ID: 607278	<b>Measuring ranges:</b> -100,0 ... +100,0 mbar <b>Overload:</b> 1000 mbar, <b>Burst pressure:</b> 1500 mbar
<b>GMUD-MP-S-MD6:</b> Product-ID: 607925	<b>Measuring ranges:</b> -500 ... +500 mbar <b>Overload:</b> 1000 mbar, <b>Burst pressure:</b> 1500 mbar
<b>GMUD-MP-S-MD7:</b> Product-ID: 607252	<b>Measuring ranges:</b> -1000 ... +1000 mbar <b>Overload:</b> 2000 mbar, <b>Burst pressure:</b> 3000 mbar

#### Absolute pressure range:

<b>GMUD MP-S-MA0:</b> Product-ID: 602499	<b>Measuring ranges:</b> 0 ... 1100 mbar abs. <b>Overload:</b> 2000 mbar, <b>Burst pressure:</b> 3000 mbar
<b>GMUD MP-S-MA1:</b> Product-ID: 602501	<b>Measuring ranges:</b> 0 ... 2000 mbar abs. <b>Overload:</b> 4000 mbar, <b>Burst pressure:</b> 6000 mbar

### Types of pressure:

**Types of pressure:** Absolute pressure is the pressure related to vacuum (zero pressure). When no pressure is applied (pressure port open), the ambient pressure is displayed.

Examples: meteorological measurements (eg 1013 hPa abs), vacuum processes  
**Differential pressure** is the pressure difference between 2 Press. Mostly both pressures are connected to a respective side of the measuring membrane, the sensor must have two pressure connections.

Examples: ventilation technology / filters, dynamic pressure measurements

**The relative pressure** is the pressure difference between a pressure / vacuum and the ambient pressure. For relative pressure measurement with a differential pressure sensor (2 pressure ports) one of the terminals is left open.

Examples: pneumatic, tire pressure, hydraulic

### Specifications:

<b>Sensor element:</b>	piezoresistive pressure sensor with integrated temperature
<b>Typ. accuracy:</b>	depends on type (see manual) ± 0.15 % (linearity) ± 0.6 % FS (hysteresis and temperature 0 ... 70 °C)
<b>Output signal:</b>	4 ... 20 mA / 0 ... 10 V (selectable in menu)
<b>Auxiliary energy:</b>	only needed if 0 ... 10 V output signal is selected (18 ... 30 V DC / 24 V AC)
<b>Permissible burden:</b>	(4 ... 20 mA): $R_2[Q] \leq (U_v[V] - 12[V]) / 0.02 A$
<b>Permissible load:</b>	(0 ... 10 V): $\geq 3000 \Omega$
<b>Operating temperature:</b>	-20 ... +70 °C
<b>Storage temperature:</b>	-40 ... +70 °C
<b>Display / operation:</b>	4-digit 7-segment display and 3 buttons
<b>Display range:</b>	-1999 ... 9999 digit
<b>Pressure connection:</b>	universal pressure connecting pieces for 6 x 1 mm or 8 x 1 mm plastic tubes (4 or 6 mm inner pipe diameter)
<b>Mounting position:</b>	any position (small influence of mounting position for low ranges)
<b>Housing:</b>	ABS (IP65): with fixing holes for wall mounting (accessible after cover has been removed)
<b>Dimensions:</b>	Housing 80 x 82 x 55 mm (without elbow-plug and pressure connecting pieces)
<b>Electric connection:</b>	elbow-type plug acc. to EN 175301-803/A (IP65) max. wire cross section: 1.5 mm <sup>2</sup> , wire/cable Ø: 4.5 ... 7 mm

### Option:

#### LACK

card coated on both sides (for outdoor application)

#### OUT

switching output (max 28 V, 40 mA), switches if meas. value falls below or exceeds limit value connection via 2nd elbow-type plug

#### WE

default settings according to customer's specifications, includes: output signal, measuring range, default state in case of error (without upcharge if together with MBF / MBS)

#### MBF

option any fine pressure range < 25 mbar, please state desired measuring range

#### MBS

option any pressure range > 25 mbar ... 5000 mbar please state desired measuring range

### Accessories and spare parts:

Tube and accessories: see page 62-63.



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