Hand-Held pressure gauges

with changeable sensor // -1...1000 bar



MH 3111



MH 3151 / 3156

Highlights – MH 3111 / MH 3151

- One instrument for any pressure measuring range
- Digitally adjustable
- Integrated acoustic alarm function

Highlights – MH 3156

- One instrument for any pressure measuring range
- Two sensor connections
- Differential pressure measurement of two sensors

Technical data			
Type	**MH 3111**	**MH 3151**	**MH 3156**
Druckarten	Overpressure, negative pressure, differential and absolute pressure, air pressure / barometer, vacuum (depending on sensor)		
Measuring range	Depending on sensor		
Resolution	Depending on sensor		
Accuracy	±0.1 % of range (Hysteresis / Linearity)		
Equipment			
Output		Analogue output 0...1 V, free scaleable	
Measurement features			
Data memory		Number of memory Manual - 99 values Cyclic - 10 000 values Adjustable measuring interval 1 s...60 min	Number of memory Manual - 99 values Cyclic - 4000 values Adjustable measuring interval 1 s...60 min
Sampling rate → SLOW → PEAK / FAST	4 measurements / s	4 measurements / s ≥1000 measurements / s	
Other functions		peak value memory, averaging, Sea-level-correction, differential pressure measurement	

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Technical data

General data			
Type	**MH 3111**	**MH 3151**	**MH 3156**
Units (switchable)	mbar, bar, Pa, kPa, MPa, mmHg, PSI, mH2O*		
Sensor connection	1 x mini-DIN-socket, 6-pole with locking and automatic sensor identification and corresponding measuring range setting		2 x Mini-TC-socket, 6-pole, with locking and automatic sensor identification and corresponding measuring range setting
Linearisation	Offset and gradient		
Power supply	Battery supply, 9 V block battery or power supply (optional)		
PC Interface	Via galvanically isolated interface converter (accessory) directly to RS232 or USB interface		
Display			
Display	2 x 4½ digit LCD		
Display range	-19 999 ... 19 999 digit		
Functions	Hold, Auto-Off	Hold, Auto-Off Alarm and time / date Min-max alarm signal via display, interface and buzzer, Real time clock with year and date, power save mode	
Housing			
Features	Shock-resistant ABS plastic, foil keyboard, clear window, frontseitig IP65		
Dimensions (H x B x T)	142 x 71 x 26 mm		
Weight	Approx. 150 g		
Approvals (optional)			
			EEx ib IIC T4 - 03ATEX0136X
Certificates (optional)			
	DAkkS-certificate Works certificate		

* MH 3111: The selection of different pressure units is only possible if the full measuring range of this unit can be shown on the display and the sensor also supports this resolution.

Article numbers

Order code	
Type	**Order number**
MH 3111	EME8GMH3111000
MH 3151	EME8GMH3151000
MH 3156	EME8GMH3156000

Order code	
Accessories	**Order number**
Higher sensor accuracy (up to 350 mbar)	on request
Connection cable (1 m) with M12-socket (stainless steel sensors only)	EME8GMSDK31000
Battery pack	EME8GAK9V00000

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Hand-Held Manometer

Pressure sensors type MSD



MSD 250 MRE



MSD 160 BRE

Highlights – MSD MRE

- For air or non-aggressive gases
- Suitable for differential pressure measurement
- Integrated data memory
- Higher sensor accuracy from 350 mbar (optional)

Highlights – MSD BRE

- For air, aggressive gases and liquids
- Integrated data memory
- Higher sensor accuracy from 350 mbar (optional)

Technical data		
Type	**MSD MRE**	**MSD BRE**
Sensor	Piezoresistive pressure sensor	Pressure sensor made of stainless steel (wetted parts)
Accuracy	±0.2 % of range (Hysteresis / Linearity)	± 0.2 % of range (Hysteresis / Linearity) ± 0.02 % of range / K (TK for offset or gradient)
Features Elektronik	Board with amplifier and memory for sensor data, integrated in sensor housing	Integrated amplifier and memory for sensor data, encapsulated
Degree of protection		IP67
General data		
Type	**MSD MRE**	**MSD BRE**
Connections		
Pressure connection	2 Nylon connection plugs for hoses 6 x 1 mm (Outer-Ø: 6 mm Inside-Ø: 4 mm)	Stainless steel connection G½ B (others on request)
Cable connection	1.2 m PVC connection cable, shielded, with moulded 6-pole Mini-DIN-plug and locking	M16-built-in plug
Housing		
Features	ABS with hanging lug and nylon connection plug	CrNi-steel or Elgiloy (wetted parts)
Dimensions	68 x 32.5 x 27.5 mm (H x B x T)	Length: 88.5 mm, Ø 27 mm
Weight	Approx. 75 g	Approx. 220 g
Approvals (optional)		
	EEx ib IIC T4 - 03ATEX0136X	

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Measuring ranges and resolution

Measuring ranges and resolution				
Type (Nylon)	**Measuring range**	**Overload**	**Resolution**	**Order number**
MSD 2.5 MR	-2...2.5 mbar (rel.)	200 mbar	0.001 mbar	EME8GMSD2,5MR0
MSD 25 MR	-20...25 mbar (rel.)	300 mbar	0.01 mbar	EME8GMSD25MR00
MSD 350 MR	-200...350 mbar (rel.)	1 bar	0.1 mbar	EME8GMSD350MR0
MSD 1.3 BA	0...1.3 bar (abs.)	4 bar	1 mbar	EME8GMSD1,3BA0
MSD 2 BA	0...2 bar (abs.)	4 bar	1 mbar	EME8GMSD2BA000
MSD 2 BR	-1...2 bar (rel.)	4 bar	1 mbar	EME8GMSD02BR00
MSD 7 BA	0...7 bar (abs.)	10 bar	10 mbar	EME8GMSD7BA000
MSD 10 BR	-1...10 bar (rel.)	10.5 bar	10 mbar	EME8GMSD10BR00
Type (Stainless steel)	**Measuring range**	**Overload**	**Resolution**	**Order number**
MSD 100 MRE	0...100 mbar (rel.)	1 bar	0.1 mbar	EME8GMSD000100
MSD 250 MRE	0...250 mbar (rel.)	2 bar	0.1 mbar	EME8GMSD250MRE
MSD 400 MRE	0...400 mbar (rel.)	2 bar	0.1 mbar	EME8GMSD400MRE
MSD 1 BAE	0...1 bar (abs.)	5 bar	1 mbar	EME8GMSD10BAE0
MSD 1 BRE	0...1 bar (rel.)	5 bar	1 mbar	EME8GMSD10BRE0
MSD -1/1.5 BRE	-1...1.5 bar (rel.)	10 bar	1 mbar	EME8GMSD11BRE0
MSD -1/3 BRE	-1...3 bar (rel.)	17 bar	1 mbar	EME8GMSD13BRE0
MSD 2.5 BAE	0...2.5 bar (abs.)	10 bar	1 mbar	EME8GMSD2,5BAE
MSD 2.5 BRE	0...2.5 bar (rel.)	10 bar	1 mbar	EME8GMSD2,5BRE
MSD 4 BAE	0...4 bar (abs.)	17 bar	1 mbar	EME8GMSD004BAE0
MSD 4 BRE	0...4 bar (rel.)	17 bar	1 mbar	EME8GMSD004BRE0
MSD 6 BAE	0...6 bar (abs.)	35 bar	1 mbar	EME8GMSD006BAE
MSD 6 BRE	0...6 bar (rel.)	35 bar	1 mbar	EME8GMSD006BRE
MSD 10 BAE	0...10 bar (abs.)	35 bar	10 mbar	EME8GMSD100BAE
MSD 10 BRE	0...10 bar (rel.)	35 bar	10 mbar	EME8GMSD100BRE
MSD 16 BAE	0...16 bar (abs.)	80 bar	10 mbar	EME8GMSD016BAE
MSD 25 BAE	0...25 bar (abs.)	50 bar	10 mbar	EME8GMSD25BAE0
MSD 25 BRE	0...25 bar (rel.)	50 bar	10 mbar	EME8GMSD25BRE0
MSD 40 BRE	0...40 bar (rel.)	80 bar	10 mbar	EME8GMSD40BRE0
MSD 60 BRE	0...60 bar (rel.)	120 bar	10 mbar	EME8GMSD60BRE0
MSD 100 BRE	0...100 bar (rel.)	200 bar	0.1 bar	EME8GMSD100BRE
MSD 160 BRE	0...160 bar (rel.)	320 bar	0.1 bar	EME8GMSD160BRE
MSD 250 BRE	0...250 bar (rel.)	500 bar	0.1 bar	EME8GMSD250BRE
MSD 400 BRE	0...400 bar (rel.)	800 bar	0.1 bar	EME8GMSD400BRE
MSD 600 BRE	0...600 bar (rel.)	1200 bar	0.1 bar	EME8GMSD600BRE
MSD 1000 BRE	0...1000 bar (rel.)	1500 bar	1 bar	EME8GMSD1K0BRE