Hand-Held Pressure Measuring Instrument "Manoport"

Digital pressure Indicator with microprocessor

for external pressure sensors

Accuracy: 0.2%, (Option: 0.1%)

LCD display 2 x 4 ½-digit

Description

The hand-held pressure measuring instrument **"Manoport"** is a digital indicator for the measurement of gauge pressure or absolute pressure. Optionally the Manoport is available as a two channel version. With this version also differential pressure can be measured.

The measuring range of the external sensors starts with 0…25 mbar and the highest range is 0…1000 bar. The **"Manoport"** has an automatic detection of the measuring range of the connected sensor. All wetted parts are made of stainless steel and are resistant against aggressive gases or liquids.

Depending on the range of the connected sensors the user can select between 8 different units. The integrated data logger offers different features like Min or Max memory, single value memory („Hold") and cyclic data logging. An additional feature is the peak detection – in this mode more than 1000 measurements per second are done to detect peaks in the process.

The standard accuracy of the system is ±0.2% full scale – optionally an accuracy of ± 0.1% is also available.

With the integrated 9V battery the system works independent of a local power supply.

The **"Manoport"** is allways delivered together with an inspection certificate, on demand the customer can get a DAkks certificate from tecsis.

Features

O   Wide application range due to exchangeable sensors

O   Automatic detection of the measuring range

O   8 different pressure units

O   Data logger

O   Zero point adjustment

O   Good resistance of the sensor against aggressive media

O   Min/Max memory and single value memory (HOLD)

O   Serial interface / USB

O   Optional data logger software

Measuring ranges

Gauge pressure

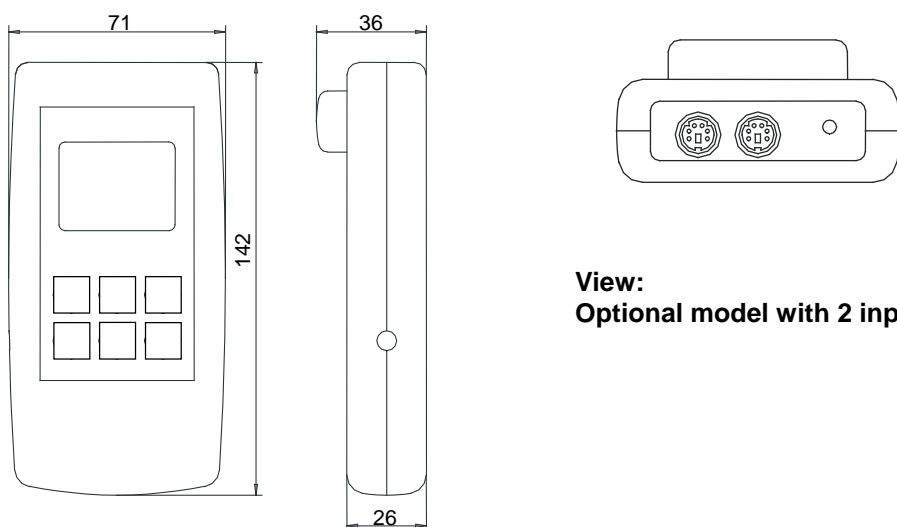|		
positive	0...25 mbar	up to 0...1000 bar
negative	-1...0 bar	up to -0.1...0 bar
compound	-1...+1.5 bar	up to -1...+24 bar
Absolute pressure	0...0.25 bar	up to 0...25 bar

Applications

Service and maintainance

Process and gas pressure measurement

Pneumatics and hydraulics

Model: E3905, P3394

Technical data - Digital Indicator Model E3905

Digital Indicator	Model E3905
Measuring input	1 input E3905X500001
	2 inputs E3905X500002
Indication	
Display	7-Segment-LCD-display for indication of two pressure values and additional information
Indication range	-19999 … 19999
Units	mbar, bar, Pa, kPa, MPa, mmHg, inHg, psi (depending on the measuring range of the connected sensor)
Functions	
Measuring rate	slow (4/s); fast (1000/s); peak detect (>1000/s, no filter)
Memory	Min/Max; integrated data logger
Data logger	Single value logger „Hold": max. 99 recordings including time Cyclic data logger: automatic recording of up to 10000 values including time; Cycle time selectable from 1 to 3600 seconds
Average filter	Off, 1 … 120 s
Auto off function	Off, 1 … 120 min
Clock	Integrated display of time and date
Power supply	9V-battery or 8.4V rechargable battery, optionally power supply
Ambient conditions	
Operating temperature	0°C … 50°C
Storage temperature	-20°C … 70°C
Humidity	0% … 95% relative humidity, non condensing
Communication	
Interface	RS-232 or USB via special interface cable
Analogue output	0 … 1VDC, configurable
Gehäuse	
Material	ABS plastic, membrane keypad, transparent screen
Weight	approximately. 160 g

Dimensions (mm)

**View:
Optional model with 2 inputs**

Technical data - Pressure sensor model P3394

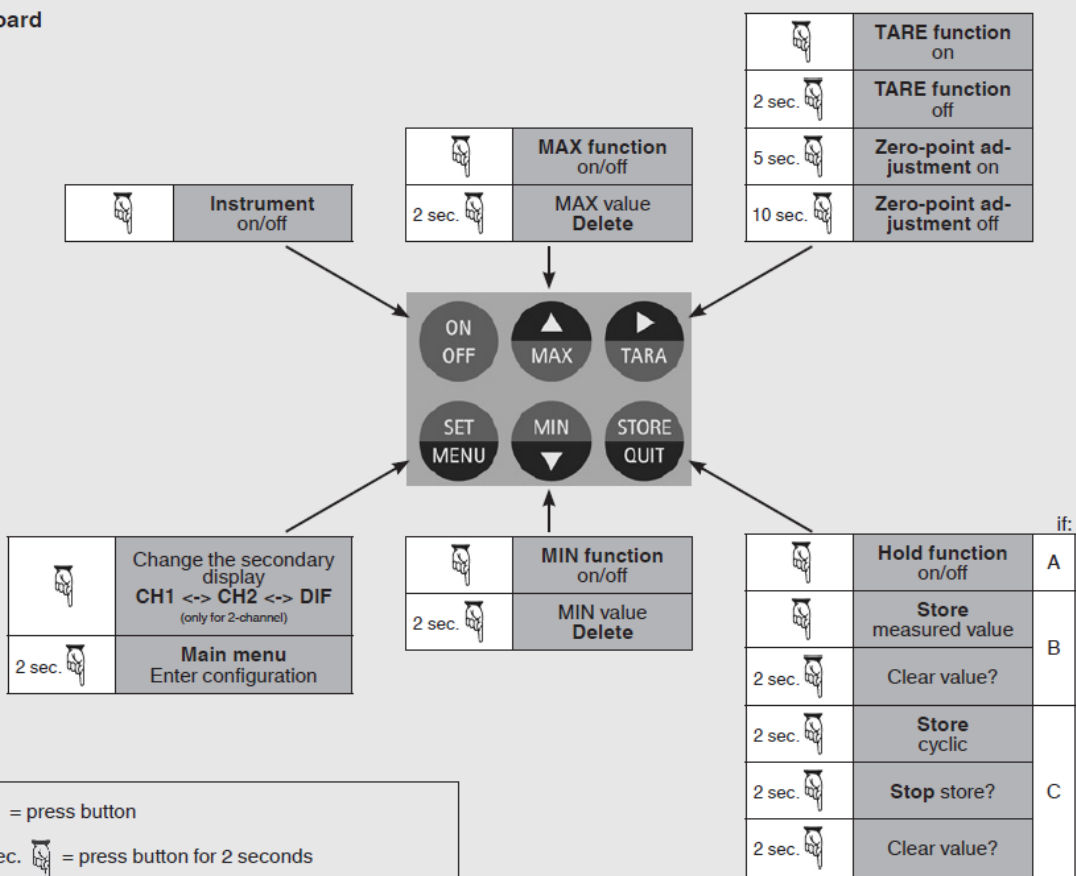| Pressure sensor	Model P3394
Pressure connection	G ½ B; front flush or various adapters on request
Types of pressure	Relative pressure, absolute pressure
Measuring ranges	
mbar	-600...0; -400...0; -250...0; 0...25; 0...40; 0...60; 0...100; 0...160; 0...250; 0...400; 0...600
bar relative	-1...0; -1...+1,5; -1...+3; -1…+5; -1...+9; -1...15; -1...+24 0...1; 0...1.6; 0...2.5; 0...4; 0...6; 0...10; 0...16; 0...25; 0...40; 0...60; 0...100; 0...160; 0...250; 0...400; 0...600; 0...1000
mbar absolute	0...250; 0...400; 0...600
bar absolut e	0...1; 0...1.6; 0...2.5; 0...4; 0...6; 0...10; 0...16: 0...25; 0.8...1.2
Sensor element	Piezoresistive; >16 bar: thin film
Accuracy (Handheld incl. sensor)	±0.2% full scale; option 0.1% full scale
Temperature influence	±0.2% / 10K for zero and span
Temperature ranges	
Medium	-30°C … 100°C
Ambient	-20°C … 80°C
Storage	-40°C … 100°C
Compensated range	0°C … 80°C
Elektrical connection	7-pole 1.2 m connection cable, optional up to 5 m
Ingress protection	IP67

Dimensions (mm)

Housing
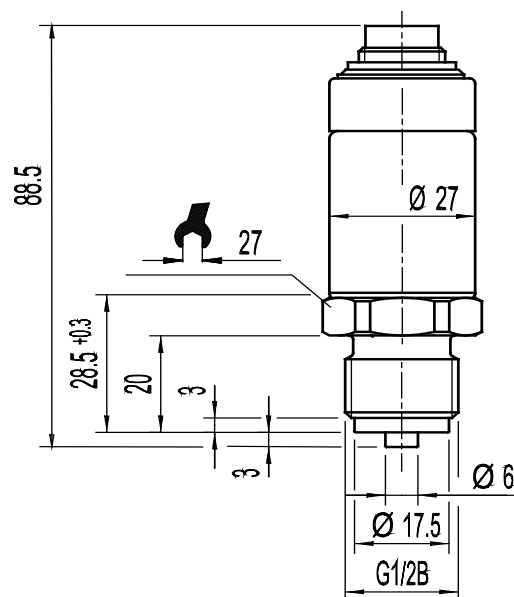
Operating function
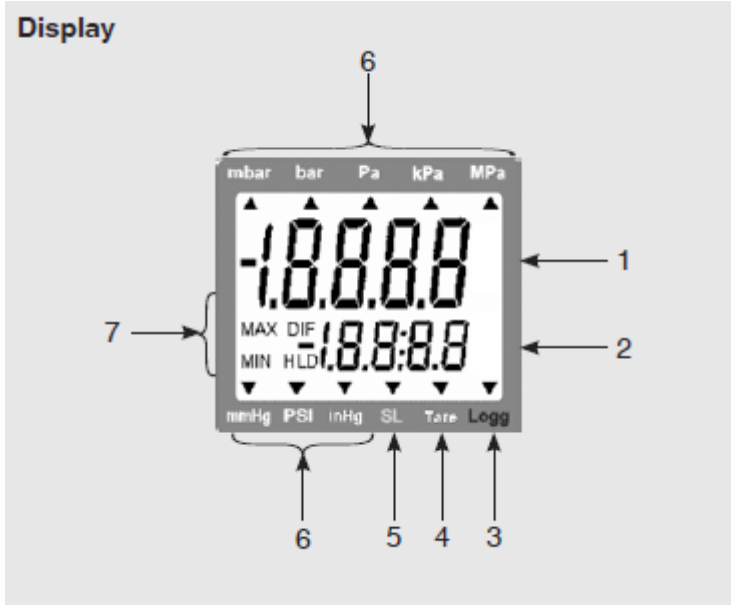
Display

1   Main display shows current measured value for sensor 1

2   Secondary display: shows
    Current measured value for sensor 2
    Difference (Sensor 1- Sensor 2)
    Min oder Max Value
    Hold Value

3   Logg arrow:
    Arrow displayed: logger is ready
    Arrow blinking: logger recording

4   Tara arrow:
     Tara (zero point adjustment) activated

5   SL arrow: Height correction (Sea-Level) activated

6   Arrow indicating selected pressure unit

7   Indication elements for secondary display

Keyboard

	TARE function on
2 sec.	TARE function off
5 sec.	Zero-point adjustment on
10 sec.	Zero-point adjustment off

	MAX function on/off
2 sec.	MAX value **Delete**

	Instrument on/off

	Change the secondary display **CH1 <-> CH2 <-> DIF** (only for 2-channel)
2 sec.	**Main menu** Enter configuration

	MIN function on/off
2 sec.	MIN value **Delete**

if:

	Hold function on/off	A
	Store measured value	B
2 sec.	Clear value?	
2 sec.	Store cyclic	
2 sec.	Stop store?	C
2 sec.	Clear value?	

= press button

2 sec. = press button for 2 seconds

For more information: see operating instructions

A = Logger functions deactivated
B = Logger function "Store measured value" activated via menu
C = Logger function "Store cyclically" activated via menu

Accessories

Description	Article number
Cable	
Connection cable for sensor 1.2 m (in scope of delivery)	EZE53X001005
Extension cable for sensor 3.8 m, extends connection cable to 5m	EZE53X001006
Power supply	
9 V battery	A5087X001002
8.4 V rechargeable battery	EZE50X012002
Charger for 8.4 V battery – European standard	EZE50X001005
Charger for 8.4 V battery – U.K. standard	EZE50X001007
Communication & Data acqusition	
USB interface cable	EZE53X011088
GSoft data logger evaluation software	EZE53X080027
Pressure generation	
Pneumatic hand pump -0.95 bar…+35 bar	C1351X085005
Hydraulic spindle pump, single piston, up to 250 bar	C1360X230001
Hydraulic spindle pump, double piston up to 1000 bar	C1361X230001
Cases	
Transport case for one hand-held, 3 pressure sensors, spare battery and various seals (items not included in the case)	AZM49X090021
Transport case for one hand-held, 5 sensors, one pressure pump C1351X085005 (items not included)	AZM49X090022

Order information

1. Instrument version
2. Pressure sensor version
3. Measuring range pressure sensors
4. Options