

Gebrauchsanleitung / Operating Instructions

für / for

Differential Pressure Transducer MPX

Type 399/2

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8. Introduction, manufacturer's details

These Operating Instructions describe the operation and use of the Differential Pressure Transducer MPX Type 399/2. It is part of the equipment and should be kept close to it.

All the information in these Instructions has been drawn up after careful examination but does not represent a warranty of product properties. Alterations in line with technical progress are reserved.

This transducer is manufactured by

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Safety note



Important: This transducer is not suitable for operation in hazardous areas and/or in a flammable atmosphere.

The transducer is not approved for measurement on humans!

9. Application

The primary application for this transducer is the measurement of oesophageal pressure in physiological and pharmacological research.

10. Description

The basic sensor is a monolithic silicon piezoresistor. The resistive element is ion implanted on a thin silicon diaphragm. The special manufacturing technic as well as the configuration of the membrane result in a high sensitivity and a low temperature drift. The sensor is mounted in a user friendly plastic case.

The transducer can be fixed on a tripod using the removable mounting rod

Electrically the transducer is equivalent to a Wheatstone bridge. It can be connected to any bridge amplifier.

11. Pressure connection

The transducer is a differential pressure transducer and therefore equipped with two pressure ports. These are labelled (+) for the positive pressure side of the membrane and (-) for the negative pressure side (vacuum).

12. Pressure media

The pressure transducer can be used without restrictions with dry air. If water vapour containing air is used as media the user must take care that condensing water drops will not enter the ports. To prevent this, the transducer must be mounted in an inclined position with the ports looking downwards.

13. CE Declaration of Conformity



This product and accessories conform to the requirements of the Low-voltage Directive 73/23 EEC as well as the EMC Directive 89/336 EEC and are accordingly marked with the CE mark. For conformity to the standards during operation it is essential that the details in the instructions provided are observed.

14. Technical data

Pressure range:	± 100 mbar (~100 cm W.G. or 75 mmHg)
Sensitivity:	0.1 mV/mbar · V
Linearity:	-0.5...+3% FSS
Zero temperature drift:	± 0.03 mbar/°C
Response time:	1ms
Input impedance:	400...550 Ω
Output impedance:	750...1250 Ω
Zero pressure error:	1 mV max. (Offset at excitation voltage of 5V)
Excitation voltage:	5 V (0...6 V)
Warm-up:	15s
Differential overpressure:	1000 mbar
Maximum common mode pressure:	7000 mbar (Same pressure on both ports)
Pressure connection ports:	fit to tubing with ID = 3.2 mm
Polarity:	a positive output voltage is generated by applying a positive pressure on the (+) port

Electrical connection:

Standard connector:	Binder, 6-pins, male
Excitation (+):	Pin 1 (white lead)
Excitation (-):	Pin 5 (brown lead)
Output (+):	Pin 4 (green lead)
Output (-):	Pin 2 (yellow lead)
shield:	Pin 6 and connector case (Pin 3 is not used)

Dimensions:

Plastic case:	36 mm x 24 mm x 42 mm
Mounting rod:	8 mm x 155 mm, can be unscrewed (thread: M 5)

