

# METAPOT ROTARY MEMBRANE SENSOR MTP-R



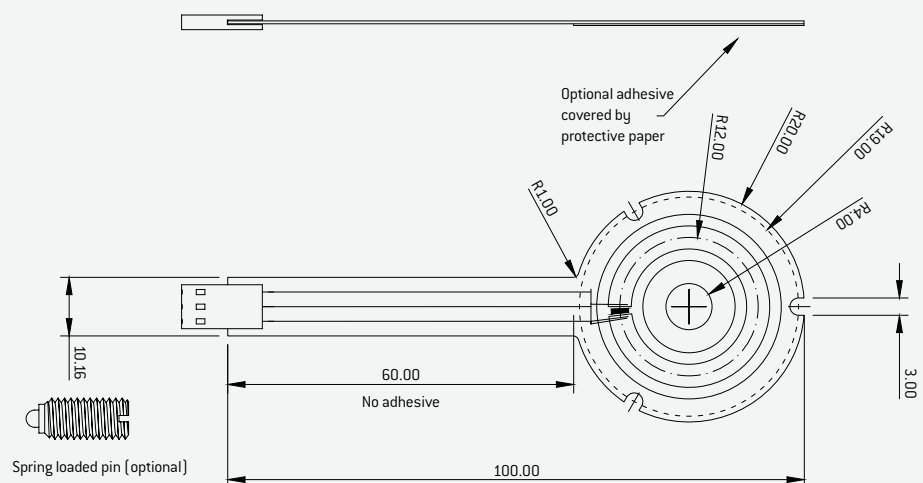
MetaPot membrane sensors are flat, non-wearing and with an IP65 protection class, offer a favourably priced alternative to other sensor systems. The rotary membrane sensors are ideal for use in precision positioning applications in many applications.

## FEATURES

- Extremely flat
- IP 65
- Optional: Adhesive backing
- Long lifetime

## APPLICATIONS

- Rotary position sensing
- Servo systems
- Industrial applications
- Automotive
- Accu driven devices



## ELECTRICAL SPECIFICATIONS

<b>Resistance range (Rn)</b>	2.5 k $\Omega$ / 25 mm perimeter
<b>Resistance tolerance</b>	$\pm 30\%$
<b>Electrical angle</b>	25° – 345°
<b>Independent linearity</b>	$\pm 2\%$ **
<b>Resolution</b>	< 0.05 mm perimeter **
<b>Maximum wiper current</b>	5 mA in case of malfunction
<b>Typical supply voltage</b>	3 – 30 VDC
<b>Wiper load</b>	> 100 x Rn
<b>Spring loaded pin</b>	Mechanical wiper pin as M6 threaded part with spring-loaded ball

Mechanical and electrical characteristics are customizable. Specifications are subject to change without notice. \* Others on request. \*\* Specifications may deviate according to temperature and installation conditions.

## MECHANICAL SPECIFICATIONS

<b>Lifetime</b>	> 5 million cycles **
<b>Max. travel speed</b>	0.1 m/s **
<b>Sensor thickness</b>	0.5 mm
<b>Actuation force</b>	1 – 3 N **
<b>Wiper</b>	See mounting recommendation for MTP

## AMBIENT CONDITIONS

<b>Operating temperature</b>	– 25°C ... +85°C **
<b>Protection class</b>	IP65 according to DIN EN 60529, electrical connection and plug excluded

## MATERIALS

<b>Substrates</b>	PET polyester film, FR4
<b>Electrical connectors</b>	Female crimp contacts, Crimpflex solder tabs * (Poka Yoke)

## SAMPLE ORDER

Part no.	Type series	Resistance range	Elect. measuring range	Elect. connection
E080200345	MTP-R	2.5 K	345° *	Female crimp contacts
H959000000	Spring loaded pin			

# MOUNTING RECOMMENDATION FOR MTP-L, MTP-R, MTP-LX



Selecting the correct type of actuation and the correct materials is essential for ensuring the operational reliability of our MetaPot membrane sensors. Below, you will find the most important information for mounting. Our development team will be happy to assist you with your application.



## PREPARING THE SURFACE

- The surface on which the membrane sensor is to be mounted has to be free of moisture, oil, grease and dust. Avoid change in temperature between the membrane sensor and the supporting surface.
- In addition, the surface should be flat in order to ensure faultless mounting and operation of the membrane sensor.
- Depending on the material of the supporting surface, isopropanol or butanone may be used as a cleaning agent.

MATERIALS	BALL	SPRING FORCE
POM / Stainless steel	R 8 – 10 mm	0.5 N – ...5 N *

\* **Contact force:** The contact force is the force required in order to establish the first electrical contact.  
**Optimal spring force:** = 1.5 x contact force

## EXAMPLE:

Contact force	0.4 N
Max. contact force	5 N

## FACTORS THAT INFLUENCE THE SPRING FORCE:

- Active measuring width
- Film material
- Travel speed

## STANDARD OPERATION SPRING LOADED PIN FOR MTP/MTP-LX ARTICLE NO. H959000000

