



MINIATURE MEASURING CELL

The A124 miniature measuring cell has been developed to satisfy the increasing demand for a compact and easy to use measuring component. Thanks to its small dimensions A124 can be applied in simple as well as multidimensional measuring applications. Compact dimensions, ease of use and universal applicability make TESTAR A124 the first choice for gauging designers.

APPLICATION ADVANTAGES

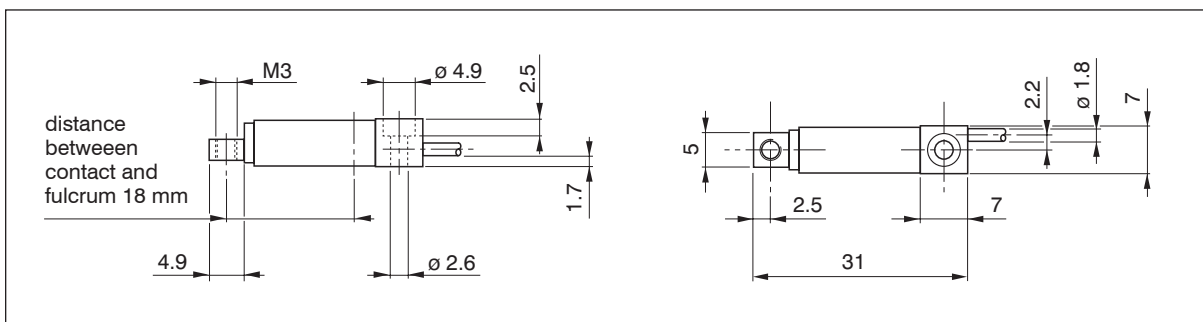
1. The 7 x 7 x 31 mm compact dimensions allow solving measuring tasks for limited space applications in place of pencil probes and transmission devices.
2. Despite these small dimensions A124 is provided with a replaceable contact, a feature normally available only in larger measuring devices. Therefore contact replacement would no longer require disassembly of the com-

plete measuring cell resulting in time and cost savings. This design allows also use of different types of contacts depending on the application requirement without the need for a special cell configuration.

3. The simple design and the reduced number of components make A124 a product that is:
 - easy to install
 - reliable and robust
 - maintenance free (IP67)
 - shop floor proof
4. The universal applicability is determined by the possibility of using the A124 in virtually any measuring task still maintaining great accuracy and reliability. In addition the A124 electrical characteristics allow connection to TESTAR or MARPOSS measuring amplifiers as well as electronics made by TESA. Therefore A124 does not require any special proprietary interface box or amplifier card thus reducing the cost of the application. Based on the experience gained on Red Crown pencil probes compatible line, TESTAR has a development program to extend A124 electrical compatibility to other electronics.

TESTAR A124 the cost effective way of designing your compact gauging application.

DIMENSIONS (mm)



TECHNICAL SPECIFICATIONS AND APPLICATION MODES

Mechanical specifications

MEASURING RANGE	$\pm 200 \mu\text{m}$
PRE-TRAVEL AT ELECTRICAL ZERO	$270 \pm 30 \mu\text{m}$
OVERTRAVEL FROM ELECTRICAL ZERO	$290 \pm 40 \mu\text{m}$
TIP FORCE AT ELECTRICAL ZERO	$0,9 \pm 0,2 \text{ N}$
REPEATABILITY ($\sigma \times 2,77$)	$\leq 0,1 \mu\text{m}$
DEGREE OF PROTECTION CEI/IEC 529	IP67
STANDARD CONTACT (R = 1,5 mm)	M3
LINEARITY ERROR	$\leq 3 \mu\text{m}$
THERMAL DRIFT AT ZERO	$\leq 0,3 \mu\text{m}/^\circ\text{C}$
OPERATING TEMPERATURE	$+5 / +40 ^\circ\text{C}$
STANDARD CONNECTOR	Lumberg SV50/6
CABLE LENGTH	3 m

Below electrical specifications refer to A124 with contact and arm ratio 1:1

Full-bridge (LVDT) electrical specifications

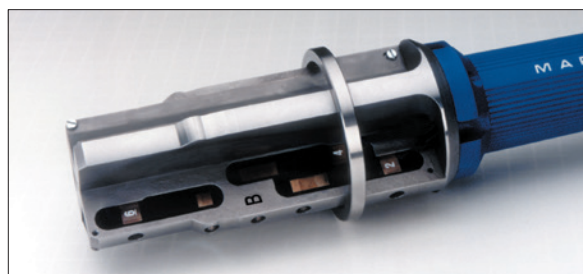
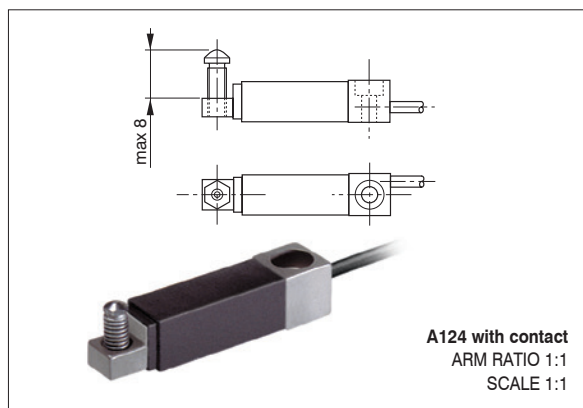
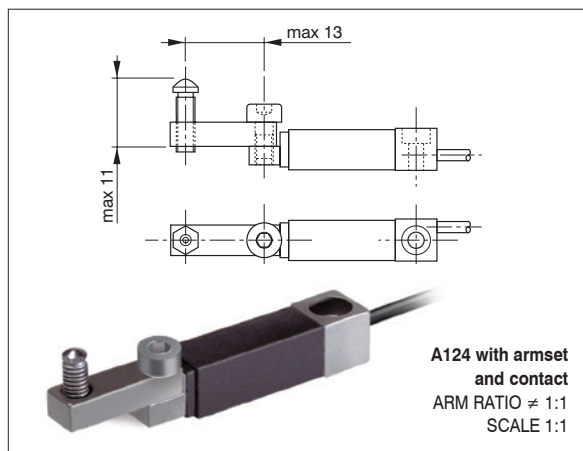
TYPE OF TRANSDUCER	LVDT compatible with TESTAR / MARPOSS amplifiers
CALIBRATION FREQUENCY	7,5 KHz
CALIBRATED AT	3,5 V RMS with load 1 MOhm/360 pF
MAX. CURRENT	5 mA / V
I/O PHASE SHIFT	$\leq 8^\circ$
SENSITIVITY	230 mV/V/mm $\pm 1\%$
ORDER CODE	3419886153

Half-bridge (HBT) electrical specifications

TYPE OF TRANSDUCER	HBT compatible with TESTAR / MARPOSS amplifiers
CALIBRATION FREQUENCY	7,5 KHz
CALIBRATED AT	3,5 V RMS with load 2 KOhm $\pm 0,1\%$
MAX. CURRENT	4 mA / V
I/O PHASE SHIFT	$\leq 10^\circ$
SENSITIVITY	73,75 mV/V/mm $\pm 1\%$
ORDER CODE	3419886154

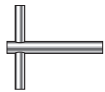
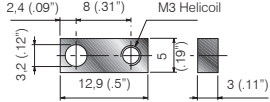
Half-bridge (HBT) electrical specifications of the version compatible with amplifiers of TESA

TYPE OF TRANSDUCER	HBT compatible with amplifiers of TESA
CALIBRATION FREQUENCY	13 KHz
CALIBRATED AT	3 V RMS with load 2 KOhm $\pm 0,1\%$
MAX. CURRENT	2,5 mA / V
I/O PHASE SHIFT	$\leq 8^\circ$
SENSITIVITY	73,75 mV/V/mm $\pm 1\%$
ORDER CODE	3419886155



Application example

ACCESSORIES

ACCESSORIES	DESCRIPTION	ORDER CODE
	Carbide contact R=1,5 mm; L=12 mm	1408612020
	Diamond contact R=1,5 mm; L=12 mm	1408612035
	Carbide contact R=3,5 mm; L=12 mm	3321120230
	Diamond contact R=3,5 mm; L=12 mm	3360120230
	Carbide contact R=10 mm; L=12 mm	3323120230
	Diamond contact R=10 mm; L=12 mm	3362120230
	Contact wrench (2,5 mm)	1300538000
	Contact wrench (4 mm)	1300540000
	Wrench for diameter set-up	1320893000
	Standard armset L= 8 mm	3191988600