Displacement Sensor, Ultra Flat

FEATURES

- Sealed
- Infinite resolution
- High integration capacity
- Durability
- Rectilinear: PMA type
- Circular: PMC type

Pb-free
RoHS COMPLIANT
HALOGEN FREE

QUICK REFERENCE DATA	
Sensor type	LINEAR or ROTATIONAL, conductive plastic
Output type	Output by wires or connector
Market appliance	Avionics
Dimensions	4 mm (thickness max.)

ELECTRICAL SPECIFICATIONS		
PARAMETER	**PMA**	**PMC**
Total resistance (R_n)	4.7 kΩ	
Tolerance on R_n	± 20 %	
Dissipation	≤ 0.1 W/cm of travel (1)	≤ 1 W to 70 °C
Theoretical electrical travel (TET)	20 mm to 250 mm (1)	270°
Tolerance on TET	± 1 mm	± 3°
Total electrical travel	TET + 4 mm	310°
Linearity	± 2 %	± 1.5 %
Temperature coefficient	-300 ppm/°C ± 300 ppm/°C	
Collector / track current (I_c)	≤ 1 mA	
Recommended current I_c	≤ 100 µA	
Recommended load impedance	≥ 100 R_n	
Output smoothness	< 0.1 % (NFC 93 255)	

Note

(1) See “Specific PMA Characteristics” table

MECHANICAL SPECIFICATIONS		
PARAMETER	**PMA**	**PMC**
Design	Flexible insulating films	Flexible insulating films on FR4 substrate
Mechanical travel	= Total electrical travel	= Total electrical travel (customer stops)
Backlash	< 0.1 mm	< 0.3°
Mounting	With double-sided adhesive on flat, clean, and dry support	
Speed displacement	≤ 1.5 m/s	
Drive	Torque ≥ 0.3 N	Torque ≥ 1 N cm
Protection class (NFC 20 010)	IP 66	
Maximum alignment fault	± 1 mm	-

PERFORMANCE		
PARAMETER	**PMA**	**PMC**
Life	25M operations for TET < 200 mm	> 10M cycles
	15M operations for TET ≥ 200 mm	
Operating temperature range	-30 °C to +80 °C	
Storage temperature range	-40 °C to +90 °C	
Support	Flat, clean, and dry	

For technical questions, contact: mcbfixedresistors@vishay.com

ORDERING INFORMATION / DESCRIPTION

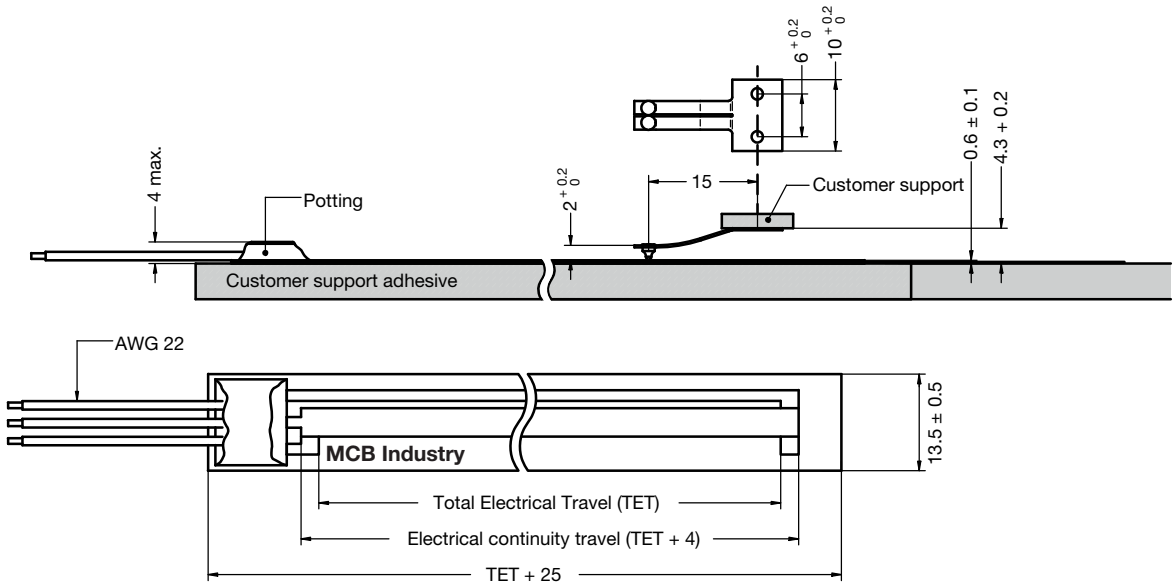
PMA	250	A	.....
SENSOR TYPE (PMA or PMC)	USABLE ELECTRICAL TRAVEL (PMA only)	SPECIAL PRESSER (Optional)	SPECIAL FEATURE (Plain language)

CONNECTIONS

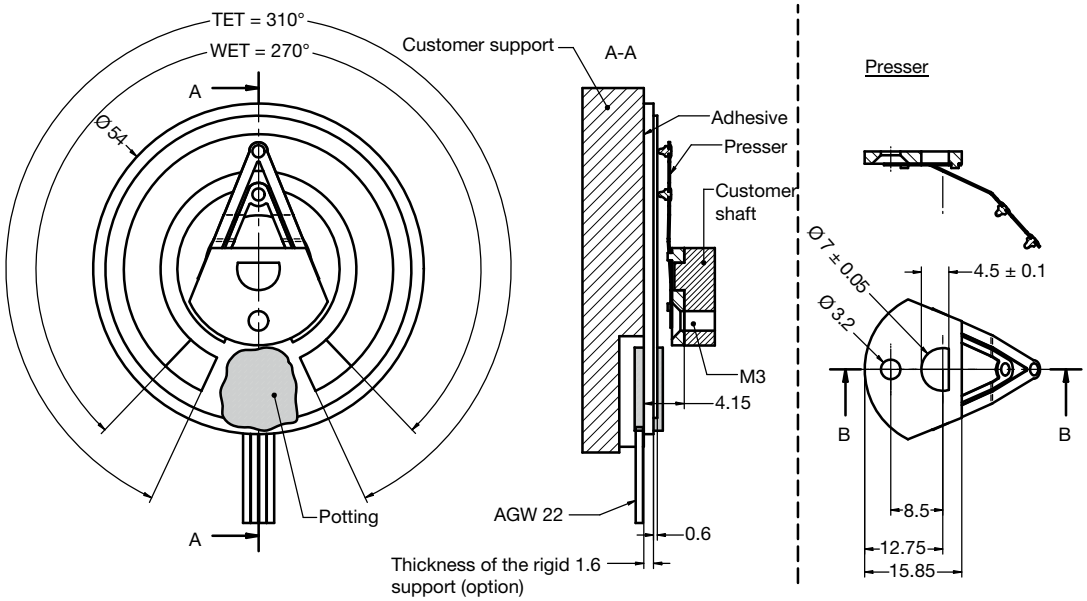
3 x AWG 22 color wires length 300 mm

DIMENSIONS in millimeters

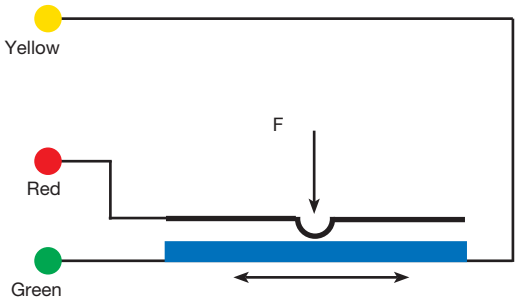
PMA



PMC



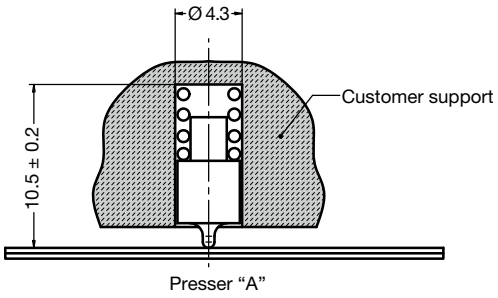
ELECTRICAL DIAGRAM



The voltage varies according to the position of the presser on the deformable membrane.

OPTIONS (on request)

- Other presser

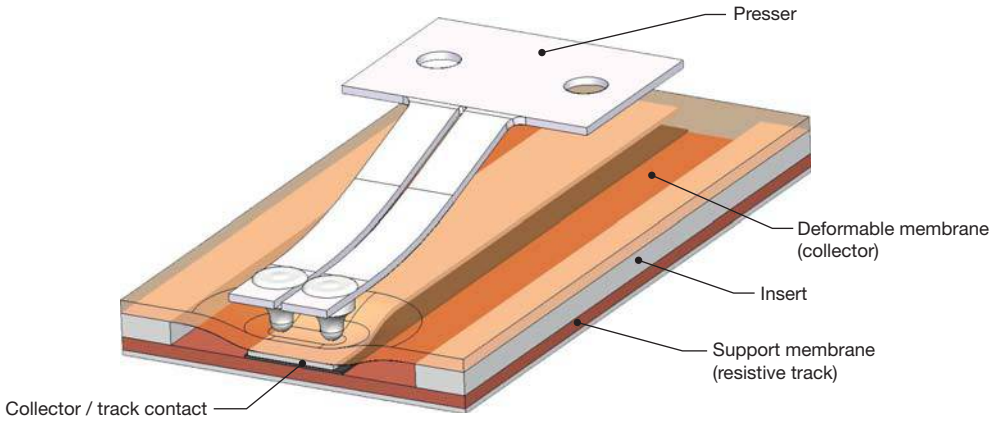


SPECIFIC VERSIONS (on request)

- Other electrical or mechanical characteristics
- Other bases
- Integration in equipment
- Other versions: outdoor design, ...
- Integration in equipment (flat flex cable, contacts, connector, ...)

SPECIFIC PMA CHARACTERISTICS			
THEORETICAL ELECTRICAL TRAVEL (TET) (mm)	DISSIPATION AT +40 °C (W)	TOTAL ELECTRICAL TRAVEL (mm)	FILM LENGTH (mm)
50	≤ 0.5	54	75
100	≤ 1.0	104	125
150	≤ 1.5	154	175
200	≤ 2.0	204	225
250	≤ 2.5	254	275

OPERATING DESCRIPTION



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