

Displacement Sensor, Ultra Flat



FEATURES

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



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 k Ω	
Tolerance on R_n	$\pm 20\%$	
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	$\pm 3^\circ$
Total electrical travel	TET + 4 mm	310°
Linearity	$\pm 2\%$	$\pm 1.5\%$
Temperature coefficient	-300 ppm/°C \pm 300 ppm/°C	
Collector / track current (I_c)	≤ 1 mA	
Recommended current I_c	≤ 100 μ A	
Recommended load impedance	$\geq 100 R_n$	
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	$< 0.3^\circ$
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	-

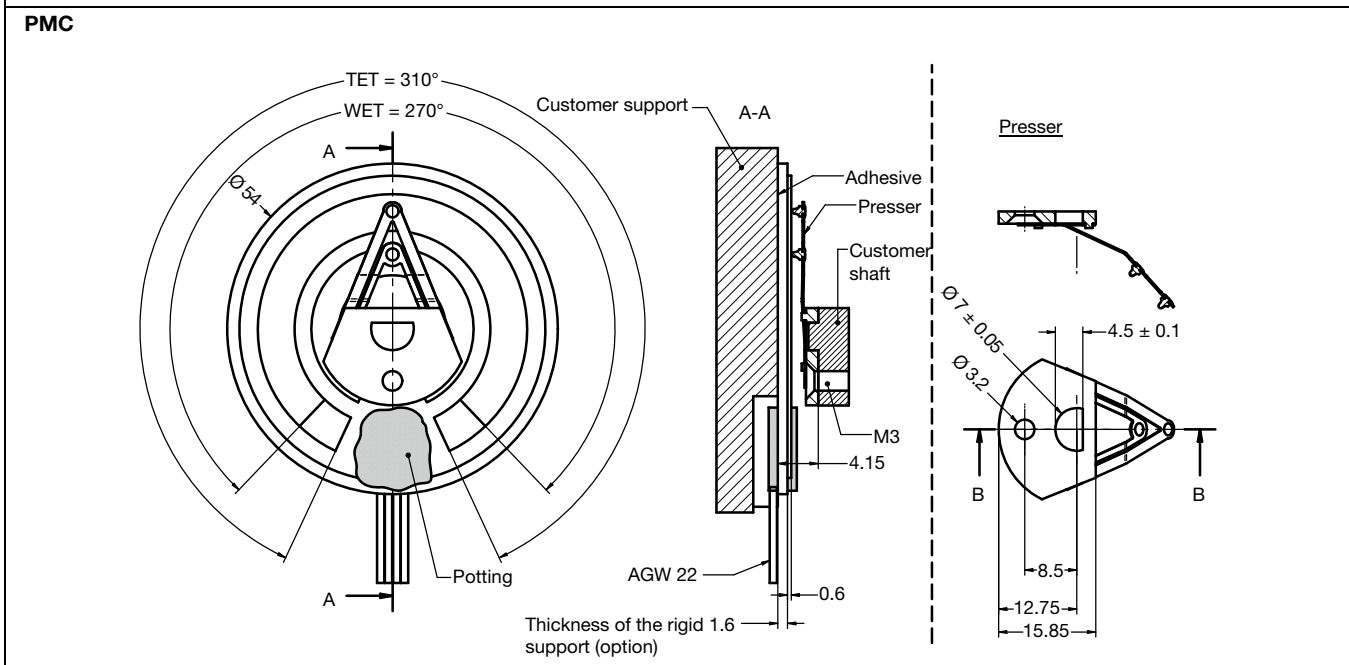
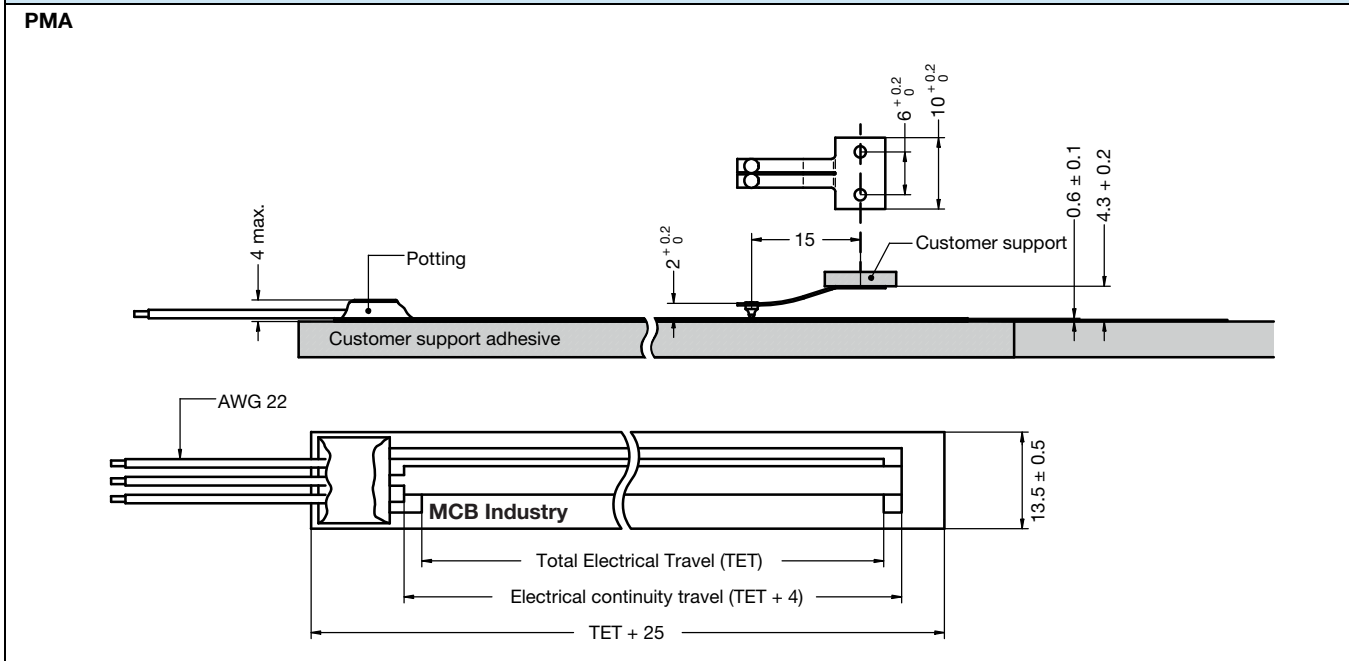
PERFORMANCE

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

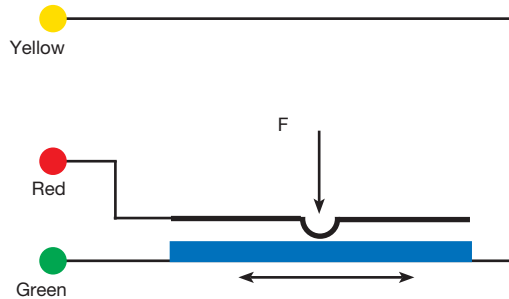
ORDERING INFORMATION / DESCRIPTION			
PMA	250	A
SENSOR TYPE (PMA or PMC)	USABLE ELECTRICAL TRAVEL (PMA only)	SPECIAL PRESSER (Optional)	SPECIAL FEATURE (Plain language)

CONNECTIONS
3 x AWG 22 color wires length 300 mm

DIMENSIONS in millimeters



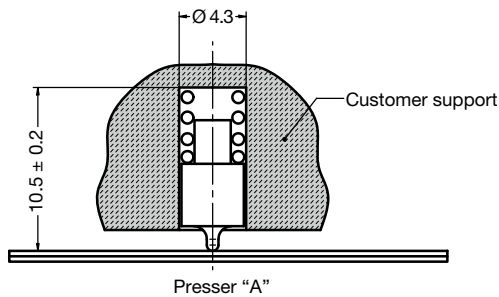
ELECTRICAL DIAGRAM



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

