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Vishay MCB

ROHS

Displacement Sensor, Ultraflat Industrial Potentiometer Membrane



LINKS TO ADDITIONAL RESOURCES





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

FEATURES

• Sealed IP66

· Infinite resolution



Durability

Rectilinear: UIPMA typeRotational: UIPMC type

 Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

ELECTRICAL SPECIFICATIONS					
PARAMETER	UIPMA	UIPMC			
Total resistance (R _n)	4.7 kΩ	10 kΩ			
Tolerance on R _n	± 30 %				
Dissipation	≤ 0.1 W/cm of travel (1)	≤ 1 W to 70 °C			
Theoretical electrical travel (TET)	20 mm to 250 mm ⁽¹⁾ 312°				
Tolerance on TET	± 1 mm	± 3°			
Useful electrical travel (UET)	TET - 2 mm	306°			
Electrical continuity travel (ECT)	TET + 4 mm	325°			
Linearity	± 2 %	± 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 UIPMA Characteristics" table

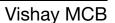
MECHANICAL SPECIFICATIONS					
PARAMETER	UIPMA	UIPMC			
Design	Flexible insulating films	Flexible insulating films			
Mechanical travel	Electrical continuity travel	Electrical continuity travel			
Backlash	< 0.1 mm	< 0.3°			
Mounting	With double-sided adhesive on flat, clean, and dry support				
Speed displacement	≤ 1.8	5 m/s			
Drive	Force ≥ 0.3 N	Torque ≥ 1 N cm			
Protection class (NFC 20 010)	IP66 (electrical connection and plug excluded)				
Maximum alignment fault	± 1 mm	-			

PERFORMANCE					
PARAMETER UIPMA UIPM					
Life	> 3M cycles (depending on chosen wiper)				
Operating temperature range	-10 °C to +50 °C				
Storage temperature range	-40 °C to +50 °C				
Support	Flat, clean, and dry				

Note

· Nothing stated herein shall be construed as a guarantee of quality or durability

Revision: 01-Apr-2022 1 Document Number: 32537



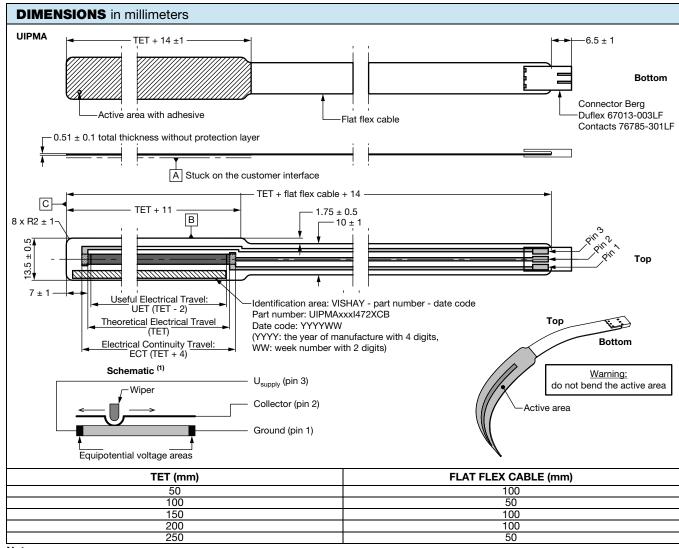


SAP PART NUMBERING GUIDELINES - UIPM							
MODEL	TYPE	UIPMA: THEORETICAL ELECTRICAL TRAVEL (mm) UIPMC: EXTERNAL DIAMETER (mm)	TYPE	VALUE	LINEARITY	LEADS	PACKAGING
UIPM	A = linear	050 100 150 200 250	I = industrial	472 = 4K7	X = ± 2 %	C = connector	B = bulk
UIPM	C = rotational	030	l = industrial	103 = 10K	U	C = connector	B = bulk

ACCESSORY WIPER				
Wiper type A	ACCSUIPMWIPERKB434			
Wiper type B ACCSUFPMWIPERKB422				
Winer type D	ACCSUIPMWIPERKB435 (packaging 10 pcs)			
Wiper type D	ACCSUIPMWIPERKG435 (packaging 100 pcs)			

CONNECTIONS

Connector Berg Duflex 67.013.003, contacts 76.785.301
The connector of UIPMA / UIPMC is intended for use with Berg terminal ref. 76785-YXX and Berg headers ref. 76384-YXX or 76382-YXX



Notes

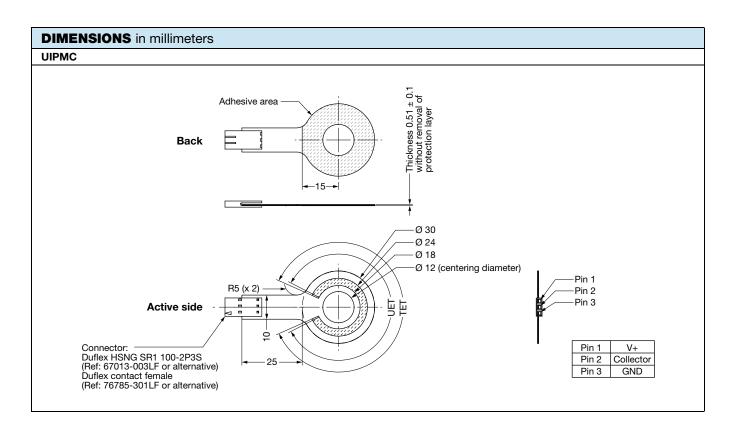
- Tolerancing according to ISO 8015
- General tolerances according to ISO 2768 mK
- (1) Ground and U_{supply} can be swapped to change the slope sign

Revision: 01-Apr-2022 Document Number: 32537

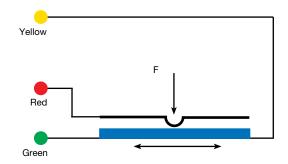


MOUNTING REQUIREMENTS FOR UIPMA

- 1. The shape of the customer interface over the active area shall be: $\square 0.05$
- 2. The roughness of the customer interface over the active area shall be: $\sqrt{Ra\ 1.6}$
- 3. Before sticking the sensor, the interface surface shall be free of all traces of dirt, grease, foreign objects, and burrs.
- 4. The bending of the flat flex cable shall be: Ø 3 mm min.



ELECTRICAL DIAGRAM



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

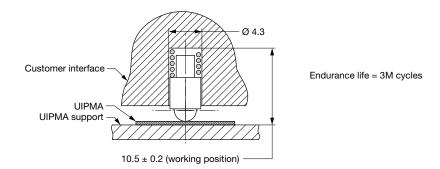
SPECIFIC VERSIONS (on request)

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

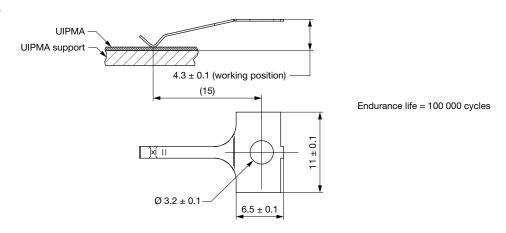
Revision: 01-Apr-2022 3 Document Number: 32537

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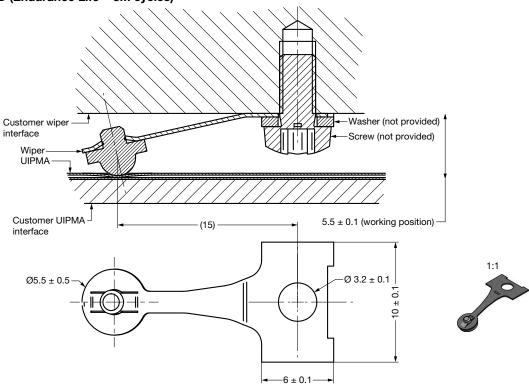
PRESSERS Wiper Type A



Wiper Type B



Wiper Type D (Endurance Life = 3M cycles)



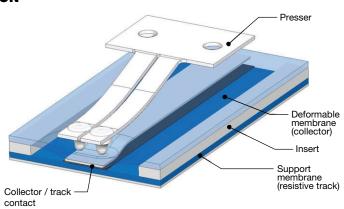
Revision: 01-Apr-2022 Document Number: 32537

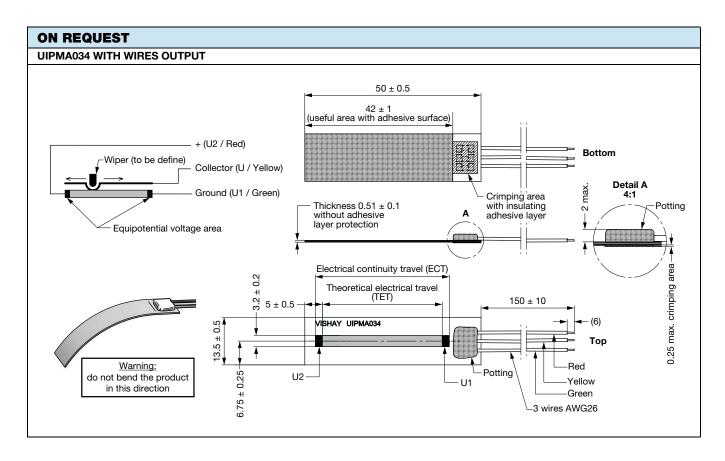


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SPECIFIC UIPMA CHARACTERISTICS						
THEORETICAL ELECTRICAL TRAVEL (TET) (mm)	DISSIPATION AT +40 °C (W)	ELECTRICAL CONTINUITY TRAVEL (ECT) (mm)	FILM LENGTH (mm)			
50	≤ 0.5	54	75			
100	≤ 1.0	104	125			
150	≤ 1.5	154	175			
200	≤ 2.0	204	225			
250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

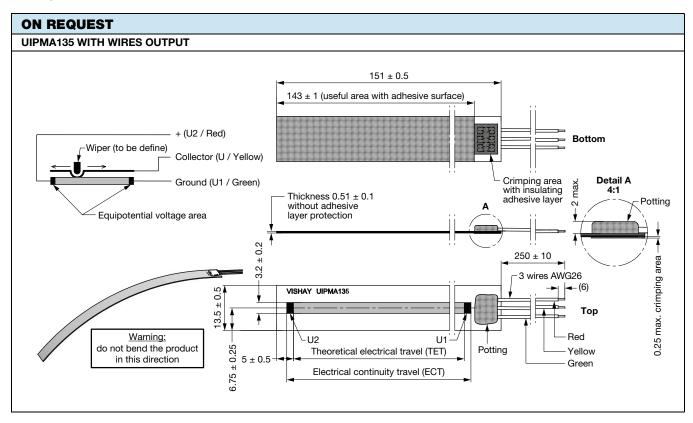
OPERATING DESCRIPTION







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