Displacement Sensor, Ultraflat Industrial Potentiometer Membrane

FEATURES

- Sealed
- Infinite resolution
- High integration capacity
- Durability
- Rectilinear: UIPMA type
- Rotational: UIPMC type
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

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3D Models Available

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

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	≤ 1.5 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**	**UIPMC**
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

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 (on request) 150 200 (on request) 250	I = industrial	472 = 4K7	X = ± 2 %	C = connector	B = bulk
UIPM	C = rotational	030	I = industrial	103 = 10K	J = ± 5 %	C = connector	B = bulk

ACCESSORY WIPER

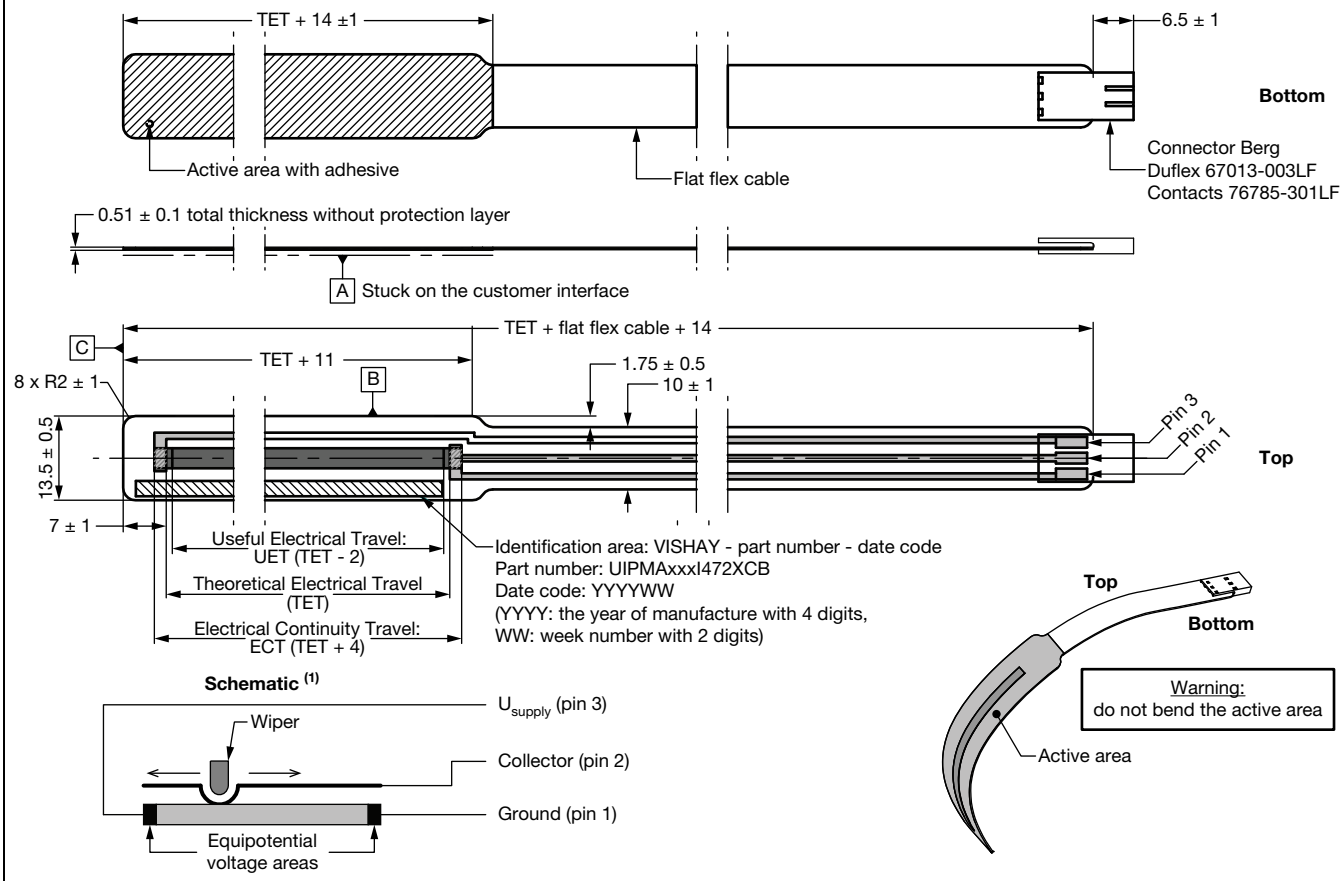
Wiper type A	ACCSUIPMWIPERKB434

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

DIMENSIONS in millimeters

UIPMA



TET (mm)	FLAT FLEX CABLE (mm)
50	100
100	50
150	100
200	100
250	50

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