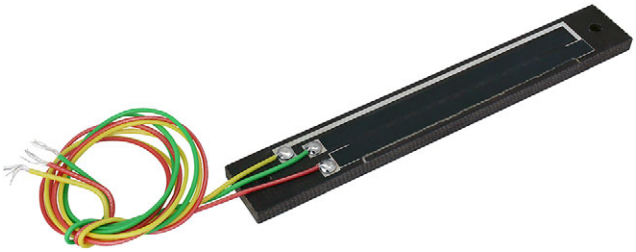
Kit Potentiometer Linear Analog Displacement Sensor



FEATURES

- Conductive plastic potentiometer technology, infinite resolution
- Analog
- Low height
- Substrate: stratified, insulated, rigid, high temperature
- Wiper: multicontacts, precious metals
- Applicable standards: NFC 93255, MIL R39023
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

QUICK REFERENCE DATA	
Sensor type	LINEAR, conductive plastic
Output type	Output by wires
Market appliance	Industrial, avionics
Dimensions	38 mm, 41 mm, 61 mm, 85 mm, 93 mm, 106 mm, 141 mm, 345 mm

ELECTRICAL SPECIFICATIONS

PARAMETER	KITPL038	KITPL041	KITPL061	KITPL085	KITPL085 (RX13-75)	KITPL093	KITPL106	KITPL141	KITPL345 (RX13-300)
Total electrical travel	29.8 mm	18 mm	38 mm	50 mm	75 mm	58 mm	19 mm	92 mm	300 mm
Useful electrical travel	28 mm	8 mm	28 mm	47 mm	70 mm	55 mm	18.7 mm	86 mm	300 mm
Independent linearity	± 0.2 %	± 0.14 %	± 0.07 %	± 0.1 %	± 0.1 %	± 0.1 %	± 5 %	± 0.5 %	± 0.1 %
Total resistance range (R_n)	4.7 kΩ	4.7 kΩ	4.7 kΩ	4.7 kΩ	4.7 kΩ	4.7 kΩ	1.13 kΩ	10 kΩ	10 kΩ
Tolerance on R_n	+ 10 % - 2 %	± 20 %	± 20 %	± 20 %	± 20 %	± 20 %	± 11 %	± 20 %	± 20 %
Output smoothness	< 0.1 %	< 0.3 %	< 0.2 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %
Power rating at 70 °C	0.15 W	0.27 W	0.57 W	0.15 W/cm	0.15 W/cm	0.15 W/cm	0.15 W/cm	0.25 W/cm	0.15 W/cm
Temperature coefficient	-300 ± 300 ppm/°C								
Wiper current	≤ 1 mA								
Recommended load impedance	≥ 1000 R_n								
Insulation resistance	1 GΩ at 50 V_{CC}	≥ 10 GΩ at 500 V_{DC}							
Dielectric strength	750 V_{RMS}, 50 Hz, 1 min	500 V_{RMS}, 50 Hz, 1 min							

MECHANICAL SPECIFICATIONS

PARAMETER	
Maximum displacement speed	1.5 m/s
Displacement force	≤ 0.08 N

For technical questions, contact: mcbprecisionpot@vishay.com

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PERFORMANCE

PARAMETER	KITPL038	KITPL041	KITPL061	KITPL085	KITPL085 (RX13-75)	KITPL093	KITPL106	KITPL141	KITPL345 (RX13-300)
Operating temperature range	-35 °C to +120 °C	-40 °C to +105 °C							
Storage temperature range	-46 °C to +71 °C	-40 °C to +105 °C							
Rotation humidity (max.)	5 % to 95 %								
Life	10M cycles								

Note

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

SAP PART NUMBERING GUIDELINES

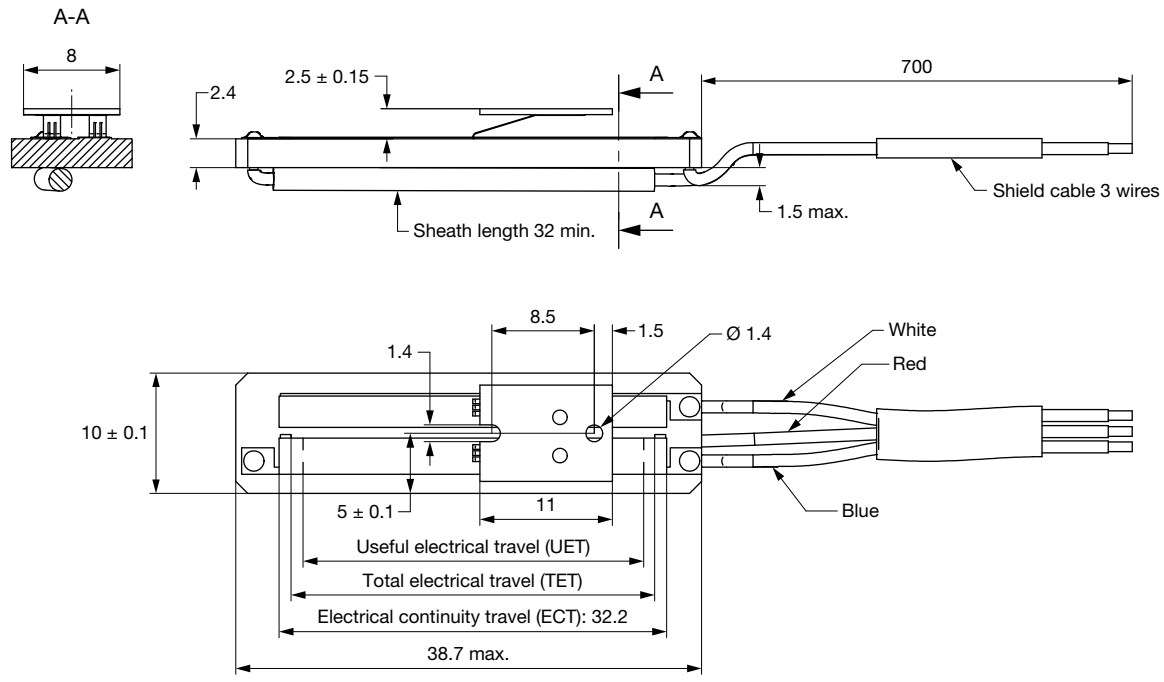
MODEL	TYPE	SIZE	FUNCTION	VALUE	LINEARITY	PACKAGING	3 DIGITS
KITP	L = linear	038	1	472 = 4K7	L = 0.2 %	B = box (1 piece)	To consult Vishay for dedicated 3 digits
		041 061			U = see Electrical Specifications		
		085 093			D = 0.1 %		
		106		112 = 1K1	U = see Electrical Specifications		
		141		103 = 10K	B = 0.5 %		
		345		103 = 10K	D = 0.1 %		-

Note

- Standard = analog output

DIMENSIONS in millimeters

KITPL038



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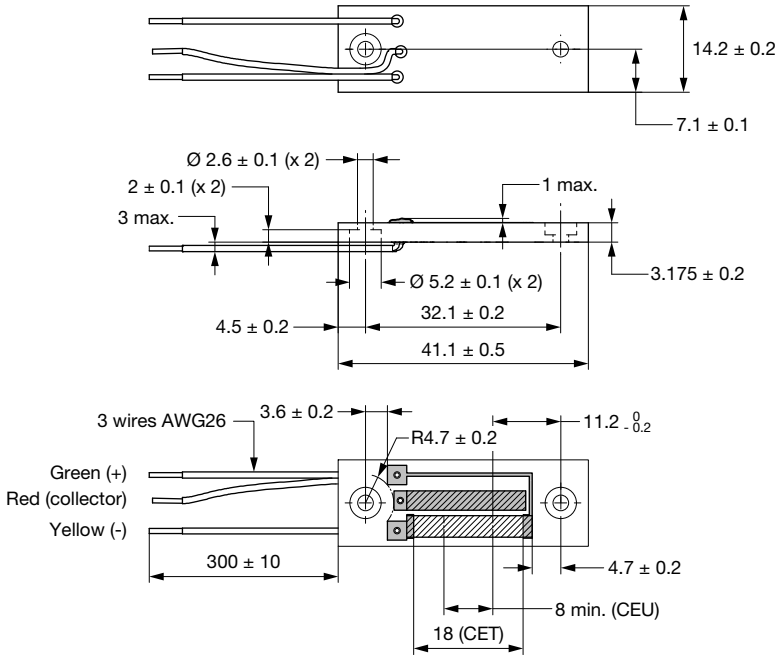
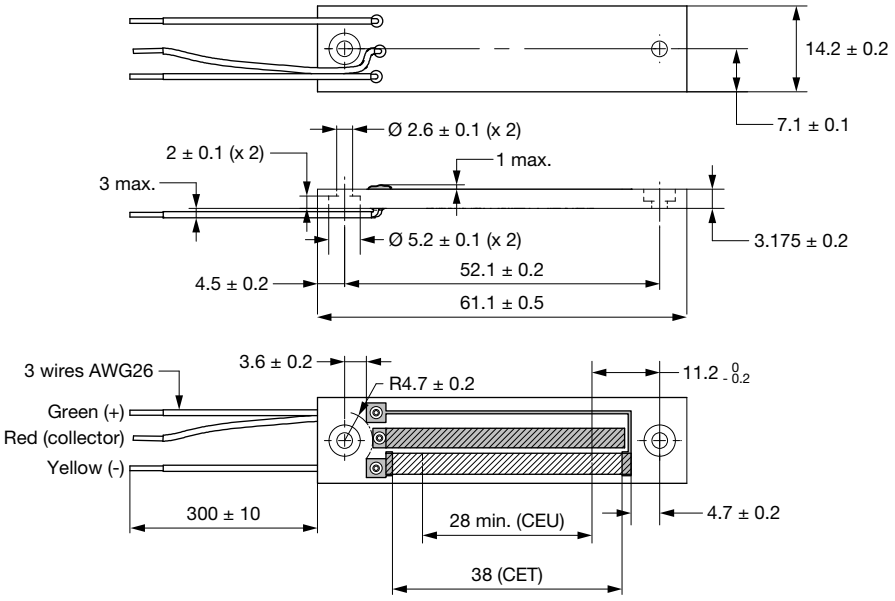
DIMENSIONS in millimeters

KITPL041



KITPL061



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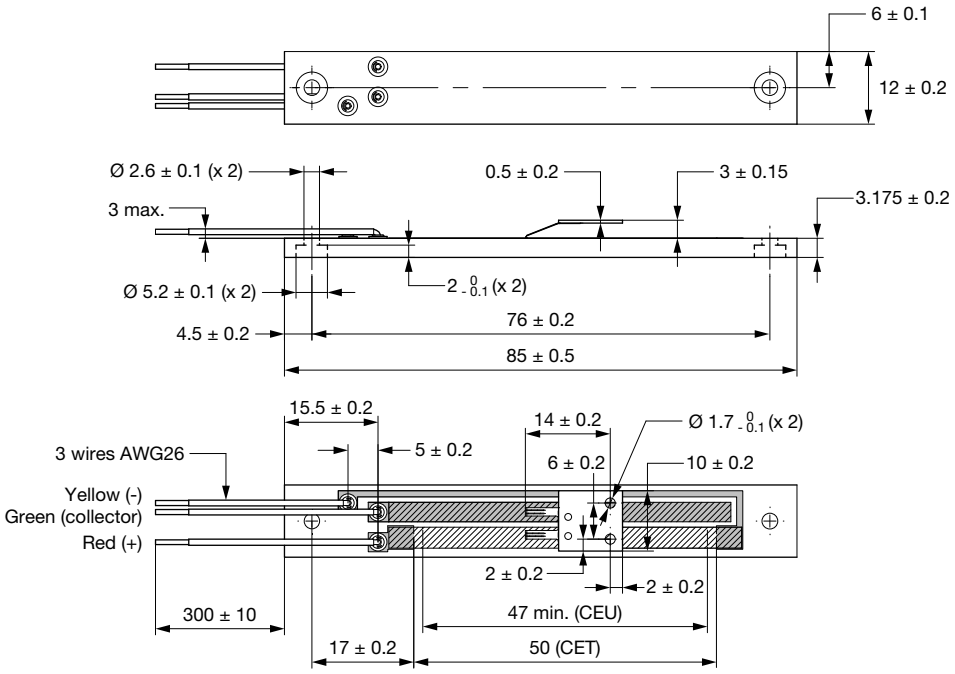
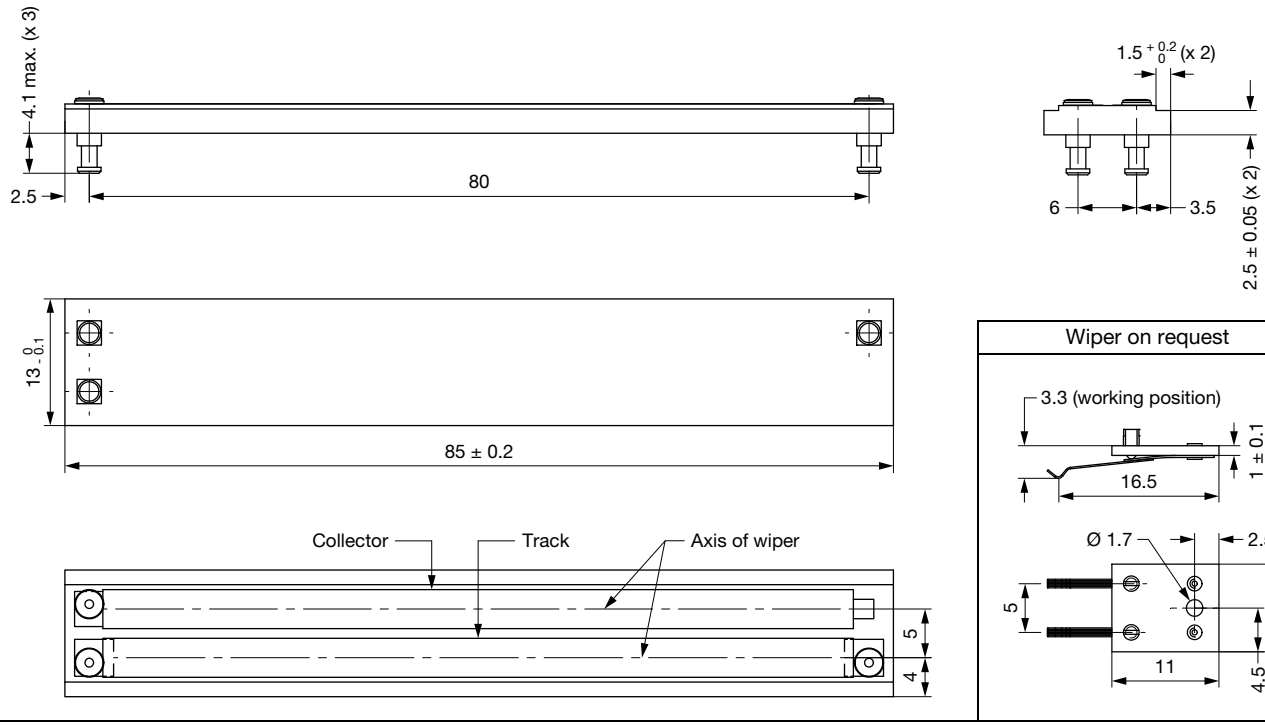
DIMENSIONS in millimeters

KITPL085



KITPL085 (RX13-75)



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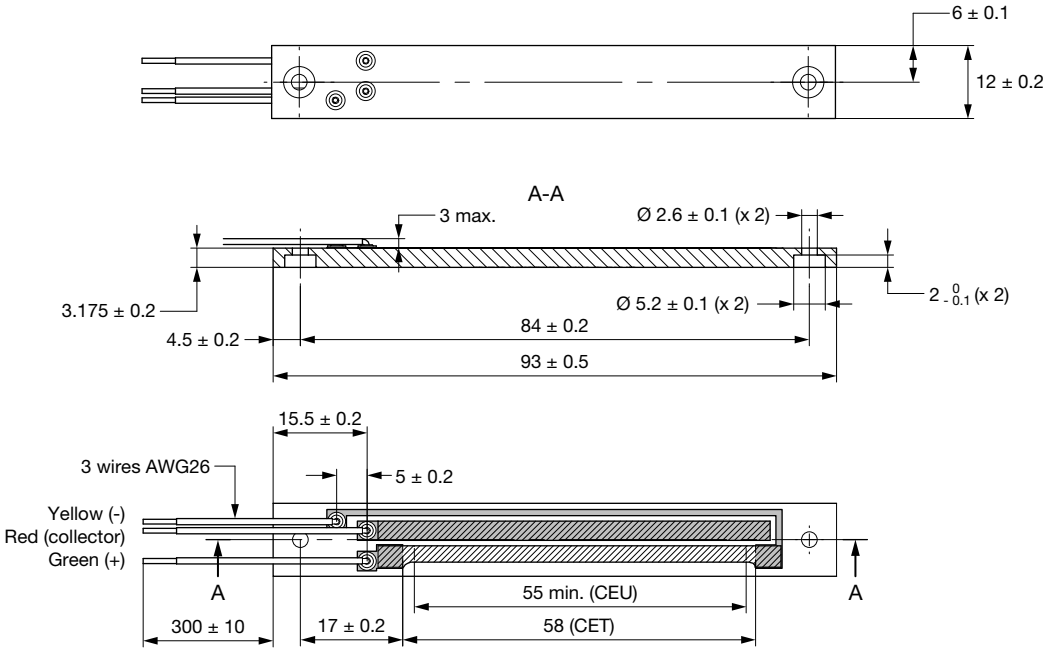
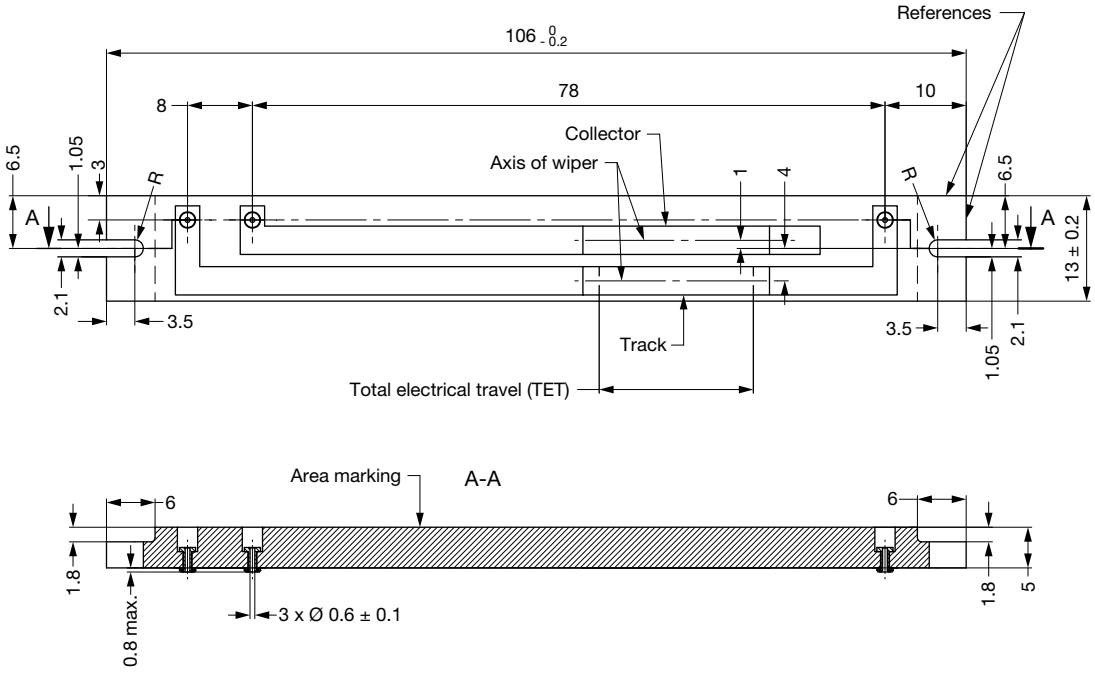
DIMENSIONS in millimeters

KITPL093



KITPL106



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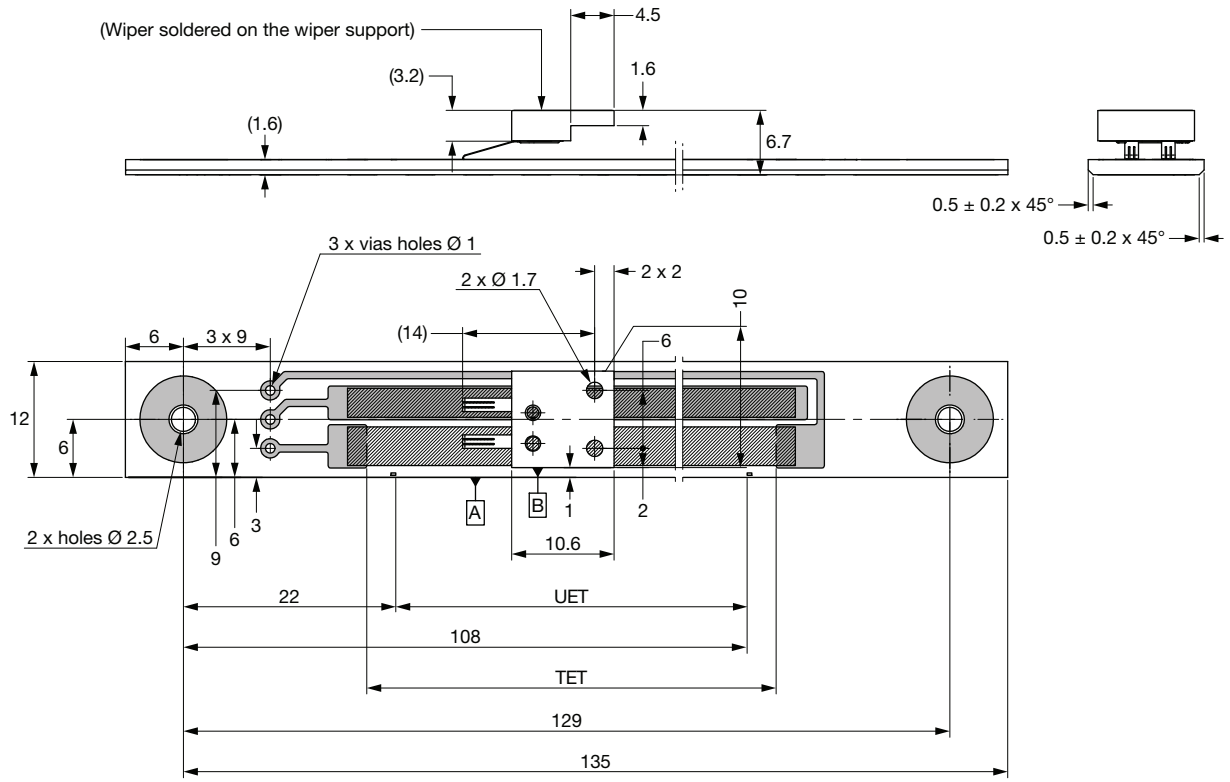
DIMENSIONS in millimeters

KITPL141



Note

- Customer mounting requirements:
  - The position of the corresponding customer interfaces of ref. B versus ref. A shall be 1 ± 0.1
  - Maximum tightening torque of the track fixing screws is 0.3 Nm

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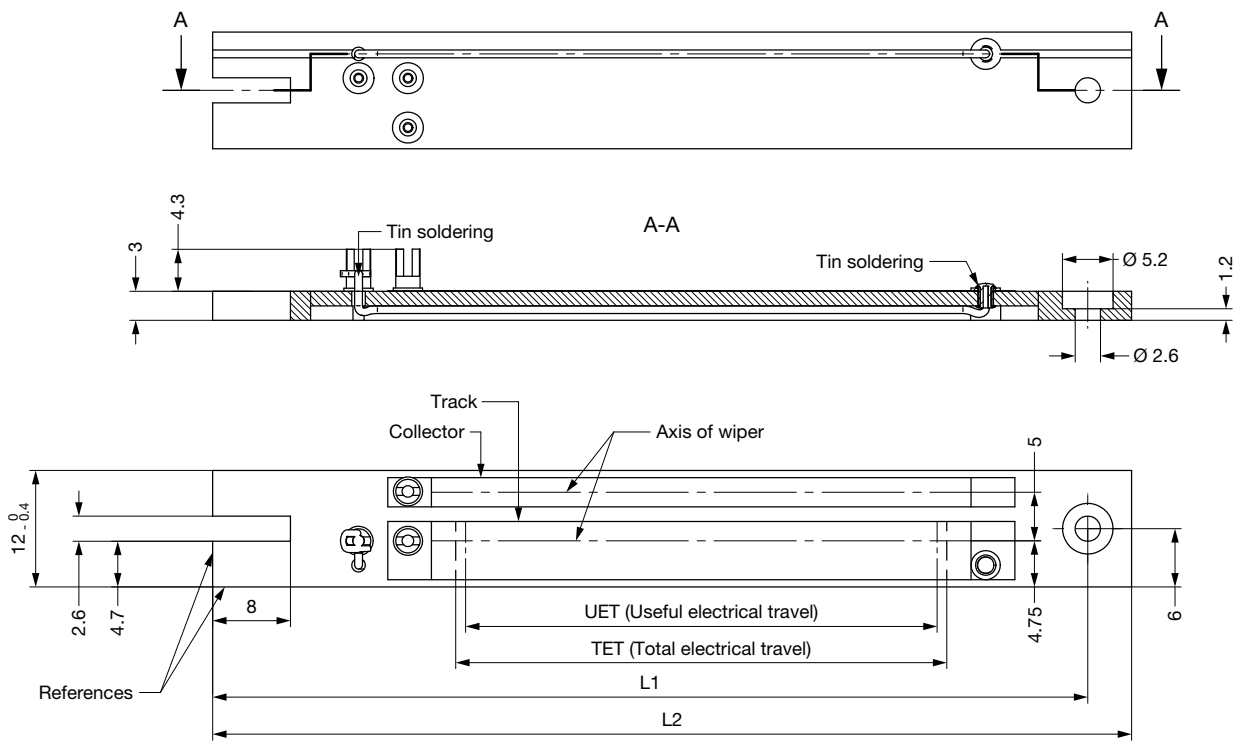
DIMENSIONS in millimeters

KITPL345 AND OTHER ON REQUEST



TYPE	TET MAX.	UET MIN.	L1 ± 0.1	L2 ± 0.5
KITPL070	26	25	65	69.5
KITPL095	51	50	90	94.5
KITPL145	102	100	140	144.5
KITPL195	152	150	190	194.5
KITPL245	202	200	240	244.5
KITPL295	252	250	290	294.5
KITPL345	302	300	340	344.5
KITPL445	402	400	440	444.5

OPTIONS (on request)

- Other ohmic values (R_n)
- Other tolerances on R_n
- Other linearities:
  KITPL085 ± 0.04 % (2.5 mm to 14.5 mm) else 0.1 %
- Other theoretical electrical travels
- Other dimensions
- KITPLA: **KIT P**otentiometer **L**inear **A**ssembled): faisability to deliver wiper assembled with the track! (active track and wiper mounted inside a metal profile for easier assembling inside customer equipment: no need to manage the distance between wiper and track)

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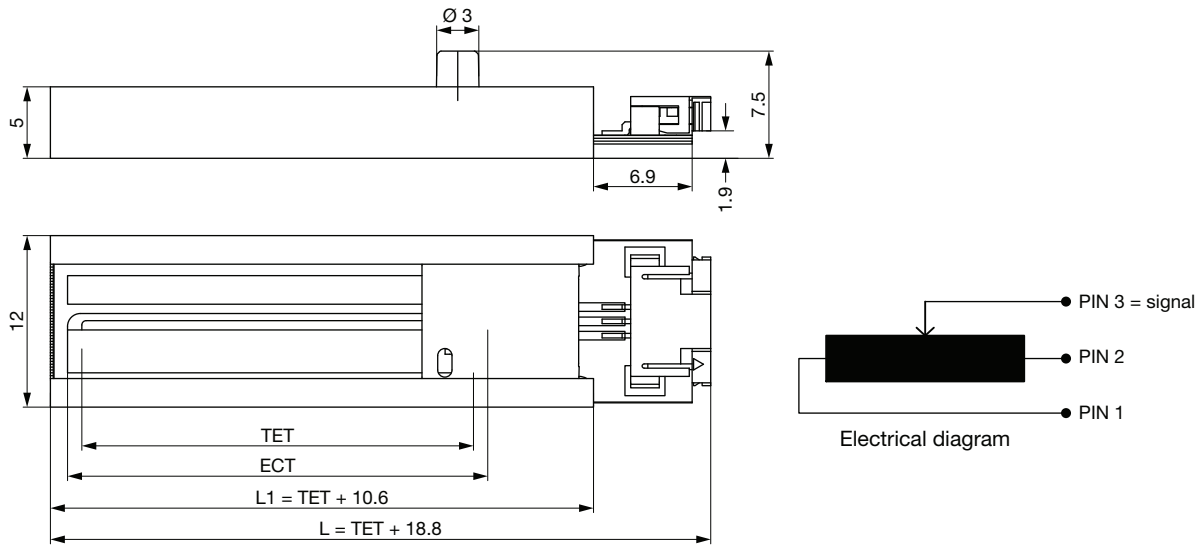
DIMENSIONS in millimeters

KITPLA ON REQUEST



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