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, 345 mm

ELECTRICAL SPECIFICATIONS

PARAMETER	KITPL038	KITPL041	KITPL061	KITPL085	KITPL085 (RX13-75)	KITPL093	KITPL106	KITPL345 (RX13-300)
Total electrical travel	29.8 mm	18 mm	38 mm	50 mm	75 mm	58 mm	19 mm	300 mm
Useful electrical travel	28 mm	8 mm	28 mm	47 mm	70 mm	55 mm	18.7 mm	300 mm
Independent linearity	± 0.2 %	± 0.14 %	± 0.07 %	± 0.1 %	± 0.1 %	± 0.1 %	± 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
Tolerance on R_n	+ 10 % - 2 %	± 20 %	± 20 %	± 20 %	± 20 %	± 20 %	± 11 %	± 20 %
Output smoothness	< 0.1 %	< 0.3 %	< 0.2 %	< 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	0.15 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

PERFORMANCE

PARAMETER	KITPL038	KITPL041	KITPL061	KITPL085	KITPL085 (RX13-75)	KITPL093	KITPL106	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

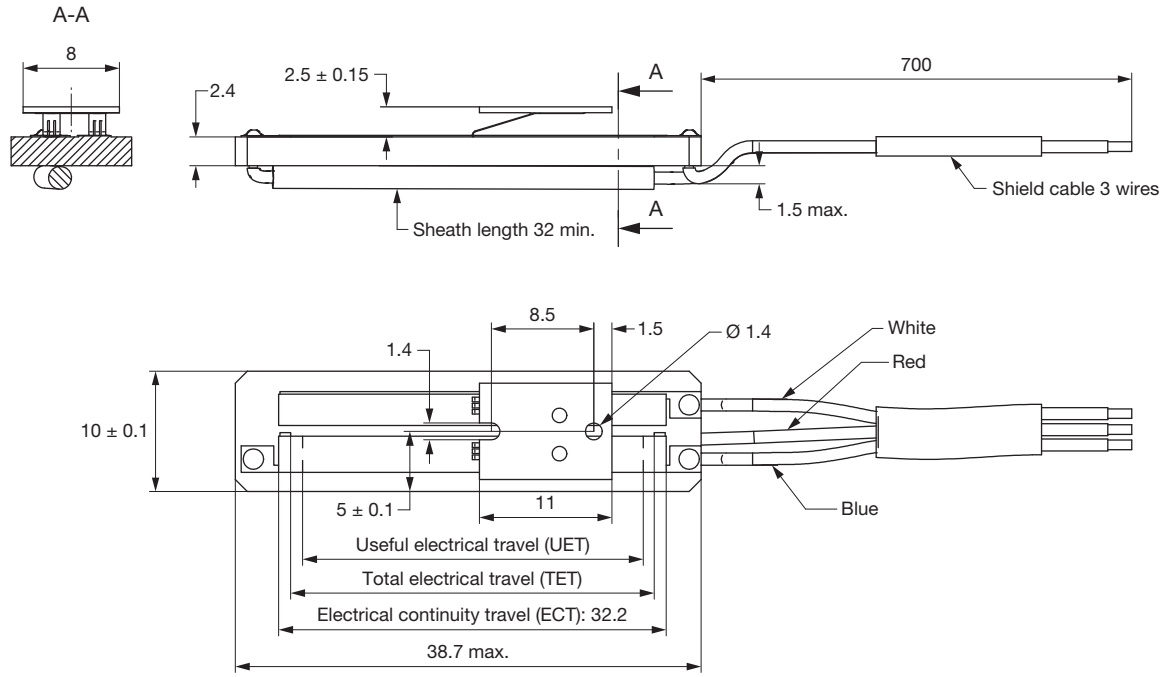
MODEL	TYPE	SIZE	FUNCTION	VALUE	LINEARITY	PACKAGING	3 DIGITS
KITP	L = linear	038	1	472 = 4K7	L = 0.2 %	B = box (1 piece)	To consult Vishay for dedicated 3 digits
		041 061			U = see Electrical Specifications		
		085 093			D = 0.1 %		
		106		112 = 1K1	U = see Electrical Specifications		
		345		103 = 10K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

Note

- Standard = analog output

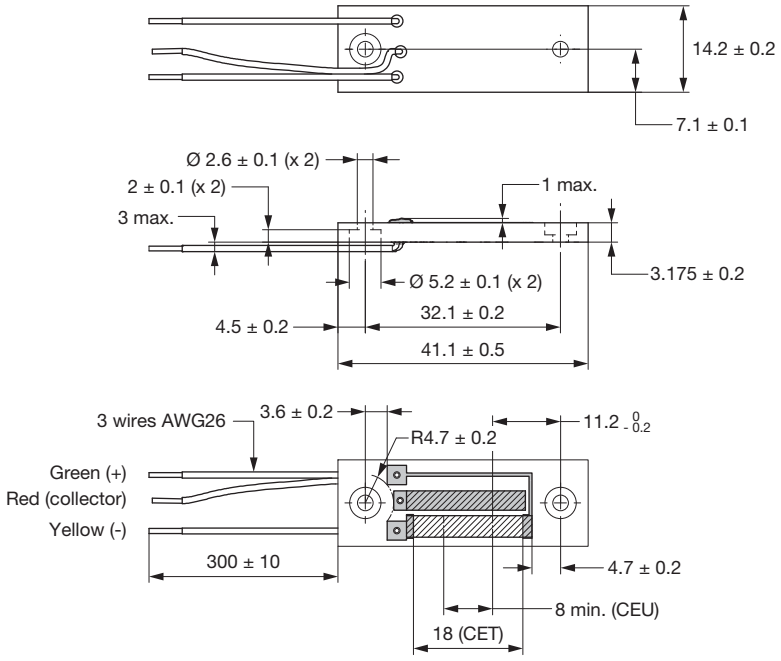
DIMENSIONS in millimeters

KITPL038

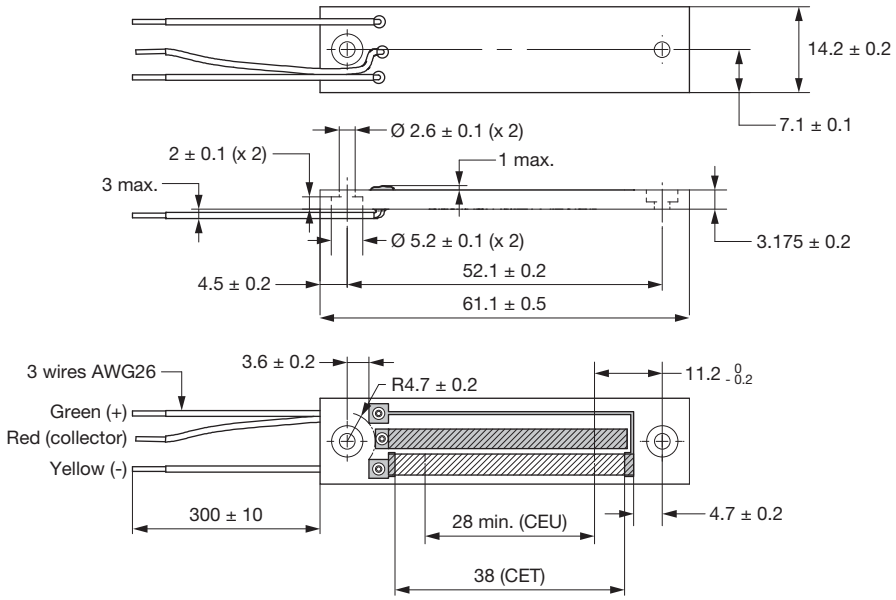


DIMENSIONS in millimeters

KITPL041

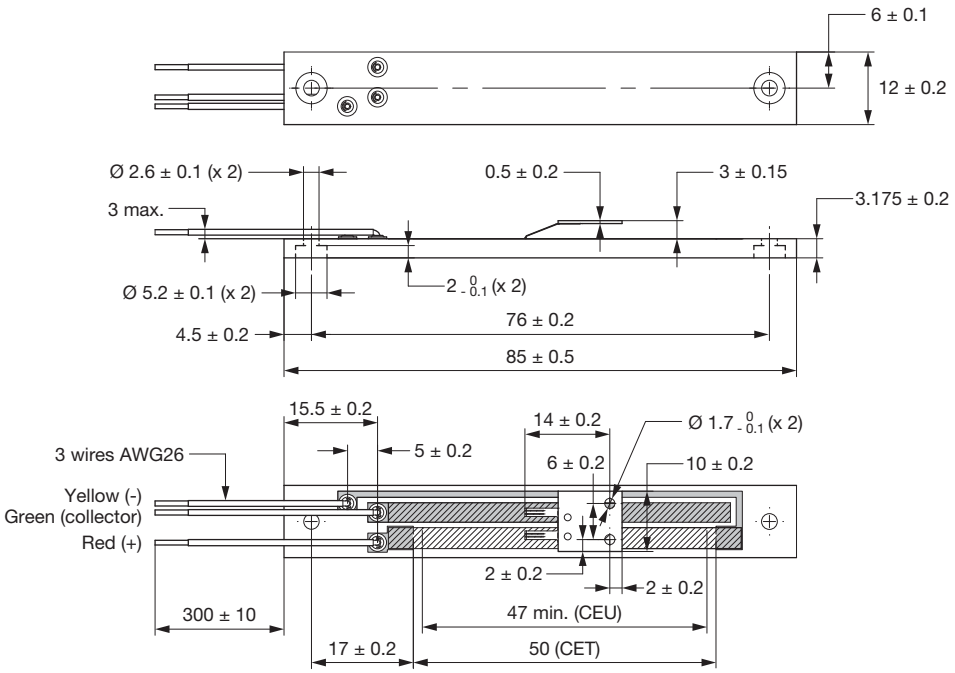


KITPL061

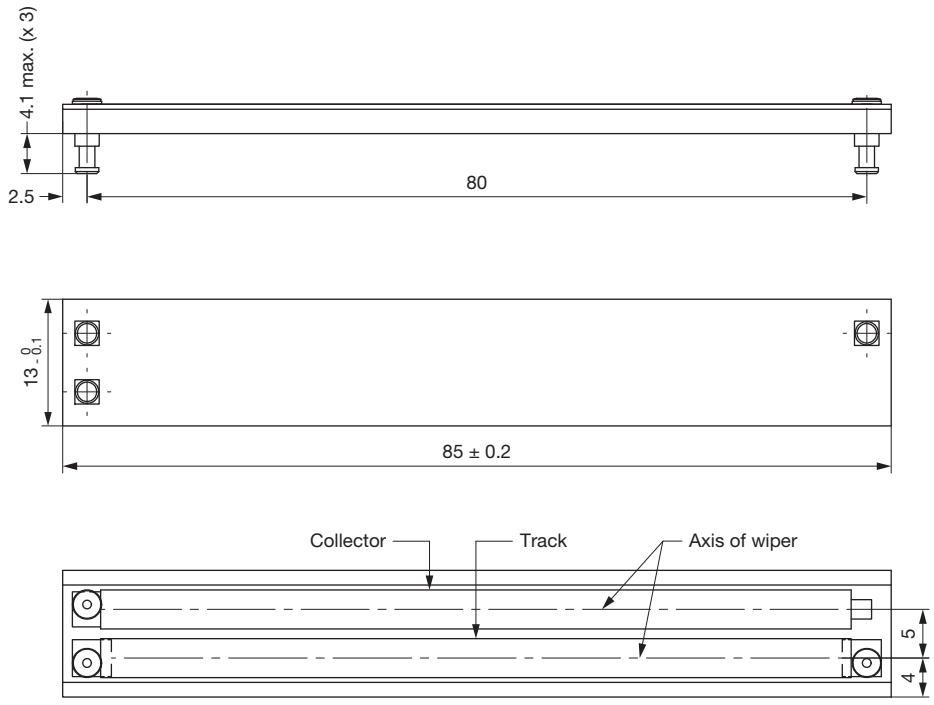


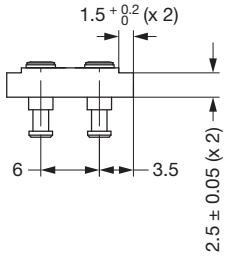
DIMENSIONS in millimeters

KITPL085

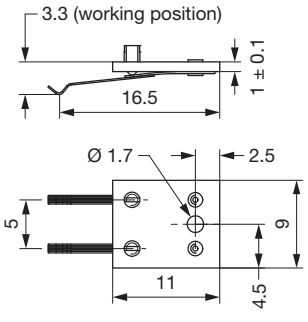


KITPL085 (RX13-75)



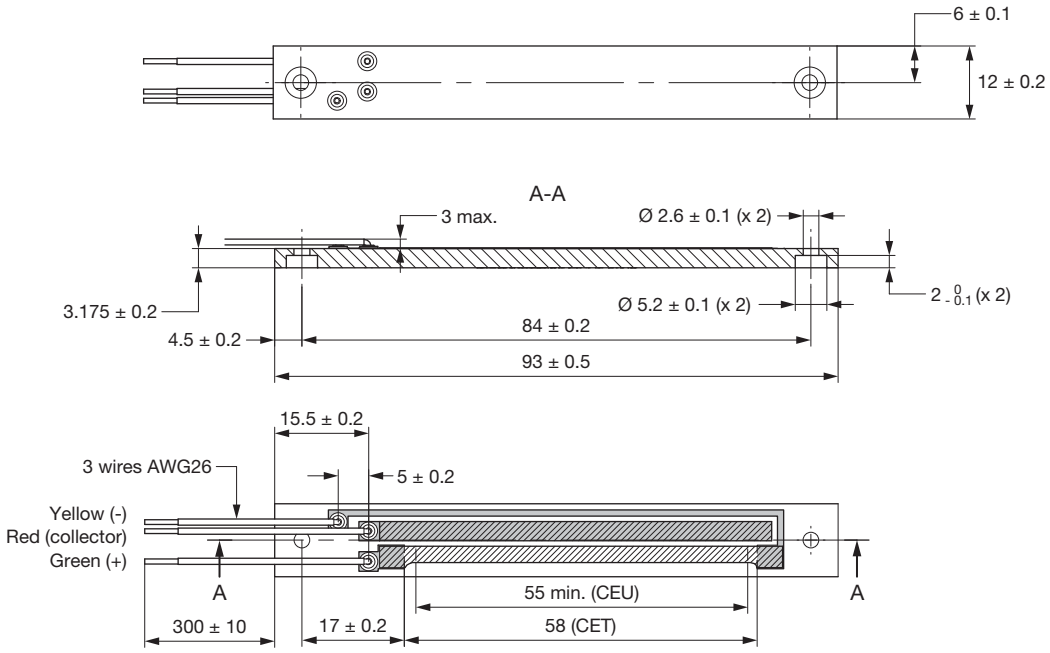


Wiper on request

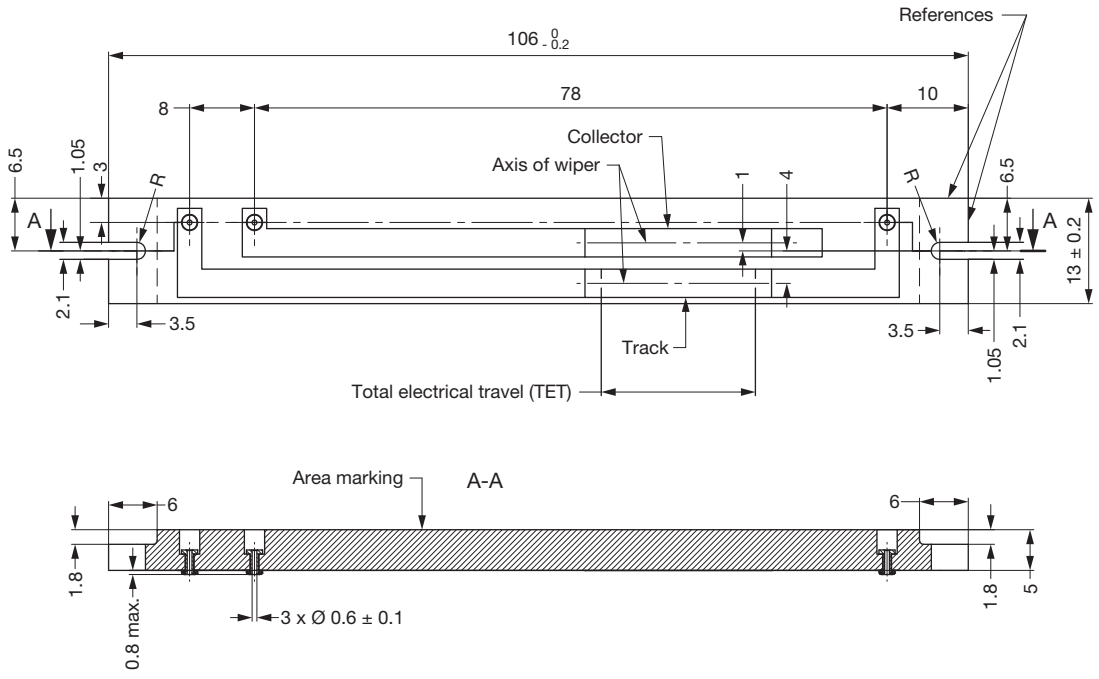


DIMENSIONS in millimeters

KITPL093

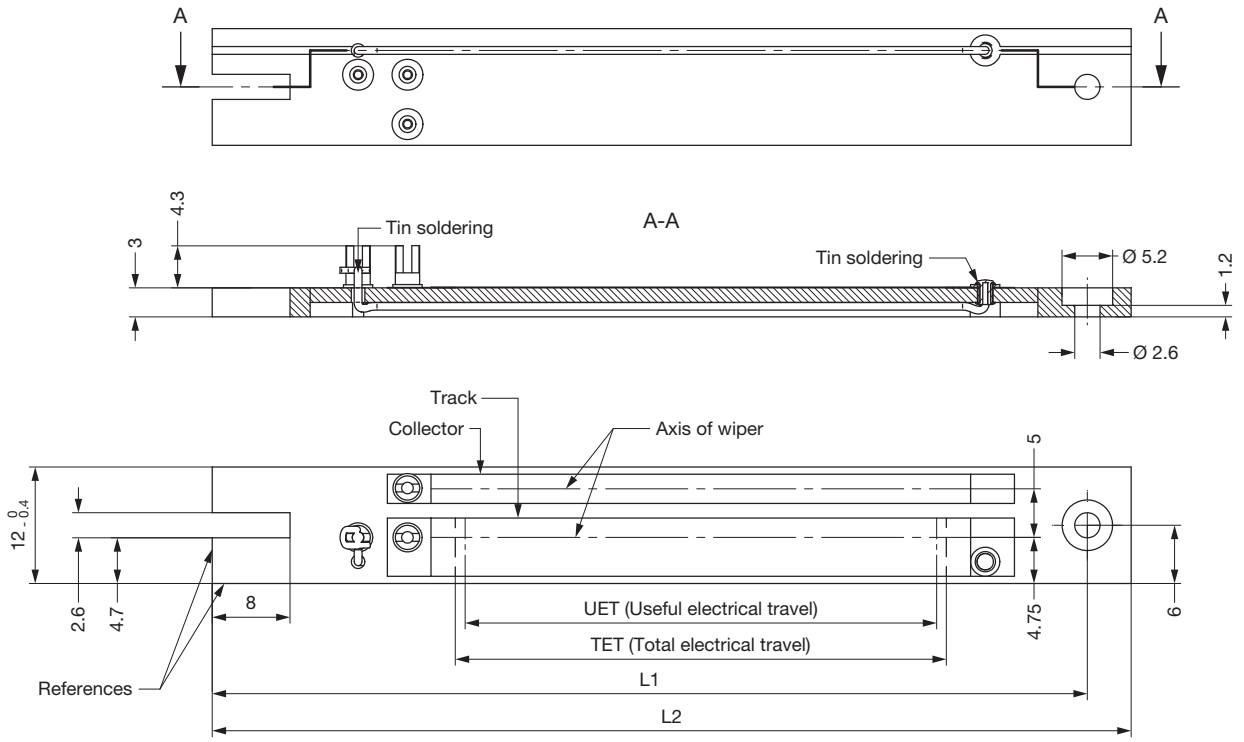


KITPL106



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

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.