COMPLIANT



## 3/8" Square Panel Potentiometer Miniature - Cermet - Fully Sealed



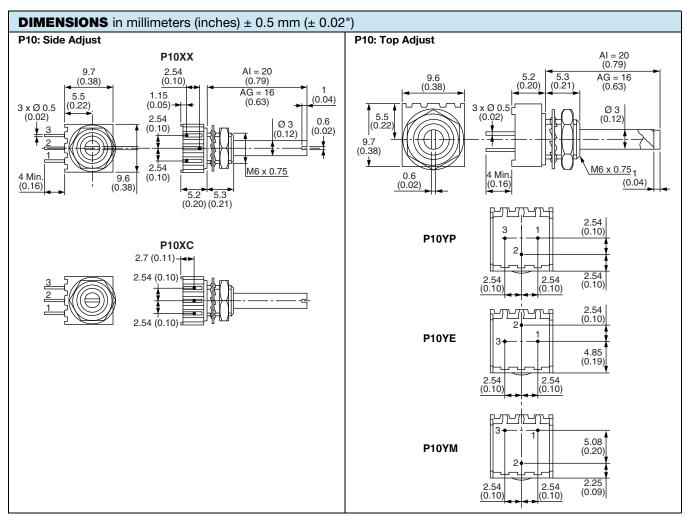
P10 panel potentiometer combines the very good setting stability offered by Vishay Sfernice trimmers (due to their proprietary multifinger wiper), with a mechanical life of 10 000 cycles.

It is an ideal choice to set and control parameters such as temperature, time, volume levels, etc.

#### **FEATURES**

- Industrial grade
- 0.5 W at 70 °C
- Cermet element
- Miniature compact
- · Plastic housing and shaft
- · Fully sealed
- 5 standard pin styles
- Test according to CECC 41000 or IEC 60393-1
- 10 000 cycles rotational life
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

QUICK REFERENCE DATA			
Multiple module	No		
Switch module	n/a		
Detent module	n/a		
Special electrical laws	No, only A: linear		
Sealing level	IP 67		
Lifespan	10K cycles		



Revision: 01-Oct-2019 1 Document Number: 51030



ELECTRICAL SPECIFICATIONS				
Resistive element		Ce	ermet	
Electrical travel		250	° ± 15°	
Standard resistance values	100 Ω to 2 MΩ			
Tolerance	10 % - 5 % on request			
Taper  Power rating	Linear A  80 100  100  100  100  100  100  100			
Circuit diagram	0.5 W at 70 °C  0 20 40 60 70 80 100 120 140  AMBIENT TEMPERATURE IN °C  10 0 0 20 40 60 70 80 100 120 140  AMBIENT TEMPERATURE IN °C			
	Standard	(2) Max. Power	Max. Working	Max. Cur.
	W	W	V	mA
	100	0.5	7	70
	200	0.5	10	50
	500	0.5	15.8	32
	1K	0.5	22.4	22
	2K	0.5	31.8	16
Standard registance clament data	5K	0.5	50.0	10
Standard resistance element data	10K	0.5	70.7	7
	1010	0.5		i I
	20K	0.5	100	5
			100 158	5 3.2
	20K	0.5		
	20K 50K	0.5 0.5	158	3.2
	20K 50K 100K	0.5 0.5 0.5	158 224	3.2 2.2
	20K 50K 100K 200K	0.5 0.5 0.5 0.28	158 224 250	3.2 2.2 1.3
	20K 50K 100K 200K 500K	0.5 0.5 0.5 0.28 0.13	158 224 250 250	3.2 2.2 1.3 0.5
Temperature coefficient (typical)	20K 50K 100K 200K 500K 1M	0.5 0.5 0.5 0.28 0.13 0.06 0.028	158 224 250 250 250 250	3.2 2.2 1.3 0.5 0.25
Temperature coefficient (typical)  Contact resistance variation (typical)	20K 50K 100K 200K 500K 1M	0.5 0.5 0.5 0.28 0.13 0.06 0.028	158 224 250 250 250 250 250	3.2 2.2 1.3 0.5 0.25
Contact resistance variation (typical)	20K 50K 100K 200K 500K 1M	0.5 0.5 0.5 0.28 0.13 0.06 0.028 ± 150 1 % F	158 224 250 250 250 250 ppm/°C	3.2 2.2 1.3 0.5 0.25
Temperature coefficient (typical) Contact resistance variation (typical) End resistance (typical) Dielectric strength (RMS)	20K 50K 100K 200K 500K 1M	0.5 0.5 0.5 0.28 0.13 0.06 0.028 ± 150 1 % F	158 224 250 250 250 250 250	3.2 2.2 1.3 0.5 0.25



# Vishay Sfernice

MECHANICAL SPECIFICATIONS				
Mechanical travel	290° ± 5			
Operating torque (typical)	2 Ncm max.	2.83 ozinch max.		
End stop torque	7 Ncm max.	9.9 ozinch max.		
Tightening torque of mounting nut	25 Ncm max.	2.2 lb-inch max.		
Unit weight	1 g	3.5 10 <sup>-2</sup> oz.		
Terminals	3: F	3: Pure Sn		
Shafts	Standard shaft 20 mm length (R or Al code) and 16 mm length (D or AG code) is measured from the mounting face to the free end of the shaft.  Vishay guarantee is lost if the customer modifies the shaft himself.			
Hardware	Nuts and washer are supplied separately (not mounted on the potentiometer) in a small bag placed in the packaging.			

ENVIRONMENTAL SPECIFICATIONS		
Temperature range	-55 °C to +125 °C	
Climatic category	55/100/56	
Sealing	Fully sealed - Container IP67	

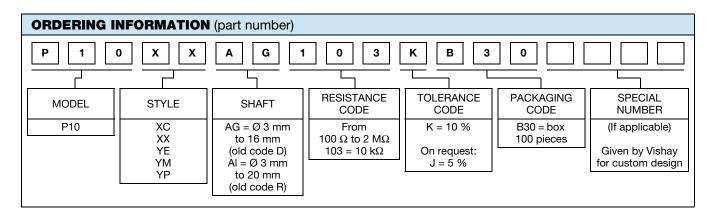
MARKING	
Vishay trademark Model Ohmic value code Tolerance code Manufacturing date code Marking of terminals 3	The ohmic value is indicated by a 3 figures code: The first two digits are significant figures, the third digit is the multiplier:

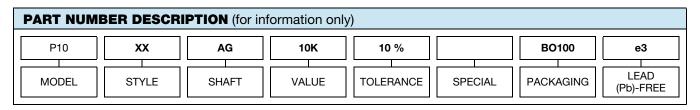
PERFORMANCE					
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS			
12313		$\Delta R_{T}/R_{T}$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER	
Electrical endurance	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 1 %	± 2 %	Contact resistance variation: 1 %	
Climatic sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles	± 1 %	± 2 %	-	
Damp heat, steady state	56 days 40 °C 93 % HR	± 1 %	± 2 %	Dielectric strength: 1000 $V_{RMS}$ Insulation resistance: $> 10^4 \ M\Omega$	
Change of temperature	5 cycles -55 °C at 100 °C	± 1 %	-	$\Delta V_{1-2}/V_{1-3} \le \pm 2 \%$	
Mechanical endurance	10 000 cycles	± 3 %	-	Contact resistance variation: ≤ 2 % R <sub>n</sub>	
Shock	50 g's at 11 ms 3 successive shocks in 3 directions	± 0.5 %	± 1 %	-	
Vibration	10 Hz to 55 Hz 0.75 mm or 10 <i>g</i> 's during 6 h	± 0.5 %	-	$\Delta V_{1-2}/V_{1-3} \le \pm 1 \%$	

#### Note

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

### Vishay Sfernice





RELATED DOCUMENTS		
APPLICATION NOTES		
Potentiometers and Trimmers	www.vishay.com/doc?51001	
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029	



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