

Fully Sealed Container Cermet Potentiometers Military and Professional Grade



P12T

P12Q

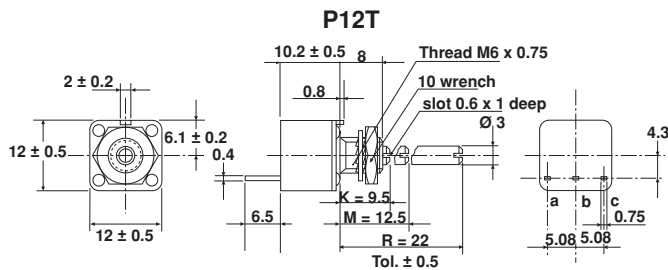
P12H

Model P12 potentiometers fully meet the requirements of CECC 41300 and also perform satisfactorily under the conditions specified by MIL-R-94.

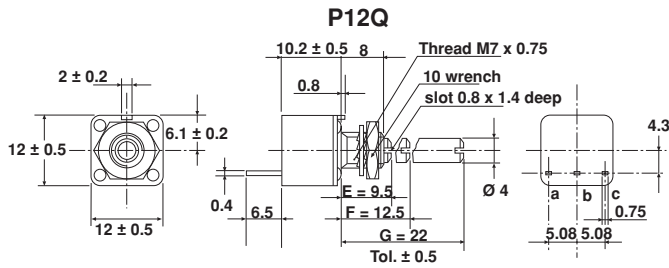
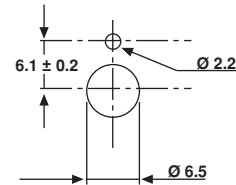
FEATURES

- 1 Watt at 70°C
- CECC 41 300
- MIL-R-94
- Full sealing
- Low contact variation
- Mechanical strength

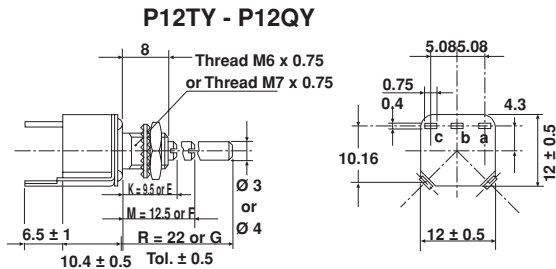
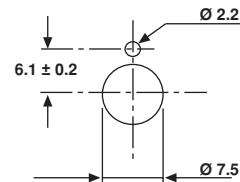
DIMENSIONS in millimeters



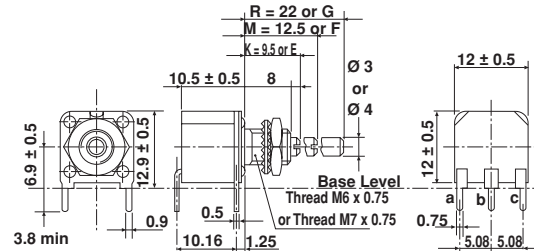
PANEL CUTOUT PANEL THICKNESS: 4 max



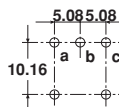
PANEL CUTOUT



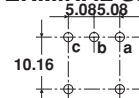
P12TX - P12QX



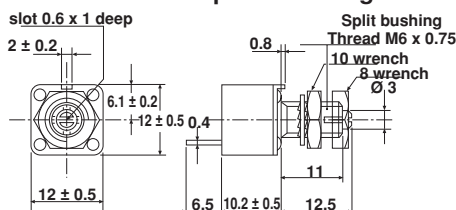
TERMINAL SPACING



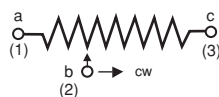
TERMINAL SPACING



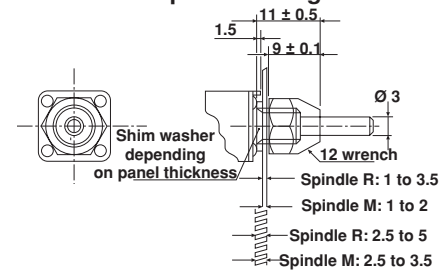
P12HL With spindle locking nut



CIRCUIT DIAGRAM



DE Shaft and panel sealing hardware



Tolerance unless otherwise specified ± 0.5



ELECTRICAL SPECIFICATIONS		
Resistive Element		cermet
Electrical Travel		270° ± 10°
Resistance Range		
	Linear Law	22Ω to 10MΩ
	Logarithmic Laws	100Ω to 2.2MΩ
Standard Series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5
Tolerance	Standard	± 20%
	On Request	± 10%
Power Rating	Linear	1 W at + 70°C
	Logarithmic	0.5 W at + 70°C
Temperature Coefficient		See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)		350V
Contact Resistance Variation		3% or 3Ω
End Resistance (Typical)		1Ω
Dielectric Strength (RMS)		2000V
Insulation Resistance (500 VDC)		10 ⁶ MΩ

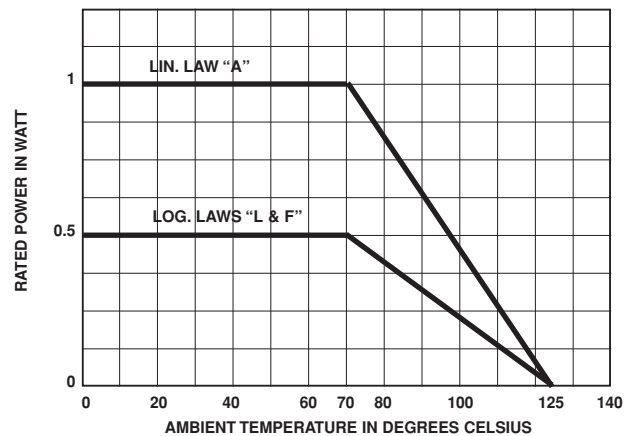
MECHANICAL SPECIFICATIONS

Mechanical Travel 300° ± 5°
 Operating Torque (max. Ncm) 2 typical
 End Stop Torque (max. Ncm) style H : 15 - T.Q.: 35
 Tightening Torque (max. Ncm) 150
 Unit Weight (max. g) 7.6 to 10

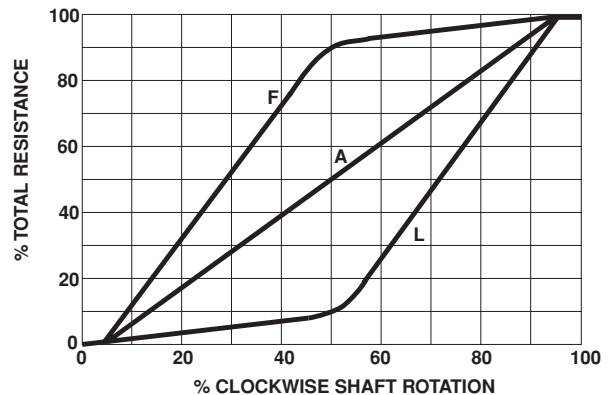
ENVIRONMENTAL SPECIFICATIONS

Temperature Range - 55°C + 125°C
 Climatic Category 55/100/56
 Sealing fully sealed container IP67

POWER RATING CHART



RESISTANCE LAWS



PERFORMANCE		
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS
		$\frac{\Delta RT}{RT}$ (%) $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 hours at rated power 90'/30' - ambient temperature 70°C	± 1% Contact resistance variation : < 3% Rn
Climatic Sequence	Phase A dry heat 125°C Phase B damp heat Phase C cold -55°C Phase D damp heat 5 cycles	± 0.5% ± 1%
Long Term Damp Heat	56 days	± 0.5% Dielectric strength : 1000 V RMS Insulation resistance : > 10 ⁶ MΩ
Rapid Temperature Change	5 cycles - 55°C at + 125°C	± 0.5 %
Shock	50 g 11 ms 3 successive shocks in 3 directions	± 0.1% ± 0.2%
Vibration	10 - 55 Hz 0.75 mm or 10 g during 6 hours	± 0.1% $\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 0.2\%$
Rotational Life	25000 cycles	± 3 % Contact resistance variation : < 2% Rn

STANDARD RESISTANCE ELEMENT DATA							
STANDARD RESISTANCE VALUES	LINEAR LAW			LOG LAWS			T.C. - 55°C + 125°C
	MAX. POWER AT +70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	MAX. POWER AT +70°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	
Ω	W	V	mA	W	V	mA	ppm/°C
22 47	1	4.69 6.85	213.2 145.8				0 + 200
100 220 470 1k 2.2k 4.7k 10k 22k 47k 100k 220k 470k 1M 2.2M 4.7M 10M		10 14.8 21.6 31.6 46.9 63.5 100 148.3 216.7 316.2 350 350 350 350 350 350	100 67.4 46.1 31.6 21.3 14.5 10 6.7 4.6 3.16 1.59 0.75 0.35 0.16 0.07 0.01	0.5	22.4 33.2 48.5 79.7 105 153 224 332 350	22.4 15.1 10.3 7.07 4.77 3.26 2.24 1.51 0.74 0.35	±100

MARKING

Printed : VISHAY trademark, series, ohmic value (in Ω), tolerance (in %), manufacturing date, marking of terminals 1, 2, 3 or a, b, c.

SPECIAL FEATURES

SHAFTS

Lengths are measured from the mounting surface to the free end of shaft. Shaft slot is aligned with the wiper within ±10°. Special shafts are available, in accordance with drawings supplied by customers. We recommend customers not to machine shafts, in order to avoid damage. Bending or torsion of terminal should be avoided.

SHAFT AND PANEL SEALING HARDWARE

The type P12T with R or M shaft can be provided with an optional "DE" sealing hardware which ensures sealing of both the shaft and the mounting panel. "DE" sealing hardware can be supplied either in a separate envelope.

SHAFT LOCKING

– The shaft locking bushing is available only with P12H potentiometers. Torque applied to locking nuts should not exceed 15 Ncm.

ORDERING INFORMATION							
P12 or P12H	T	M	470 kΩ	20%	A	DE	BO
SERIES	STYLE	SHAFT	OHMIC VALUE	TOLERANCE	RESISTANCE LAW	PANEL SEALING DEVICE	PACKAGING
or							
SHAFT LOCKING							