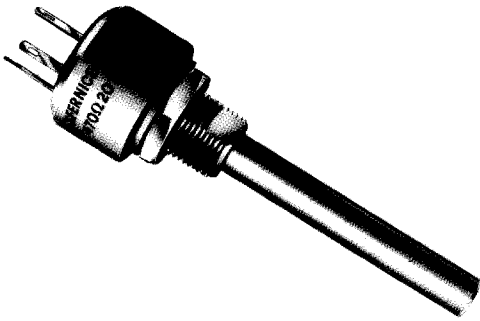




PE30

fully sealed container cermet potentiometer – military and professional grade

3 W at 70°C
NF C/UTE 83-253
CECC 41 301-002
GAM-T-1
LNZ



- HIGH POWER RATING
- LOW TEMPERATURE COEFFICIENT
- EXCELLENT STABILITY
- FULL SEALING
- LOW CONTACT RESISTANCE VARIATION
- MECHANICAL STRENGTH
- USE OF FASTON 2,86 CONNECTIONS

SPECIFICATIONS

MECHANICAL

MECHANICAL TRAVEL...	300° ±5°
OPERATING TORQUE (max. Ncm)...	3 typical
END STOP TORQUE (max. Ncm)...	70
MAX. TIGHTENING TORQUE OF MOUNTING NUT (Ncm)...	250
UNIT WEIGHT (max. g.)...	23 to 32

ENVIRONMENTAL

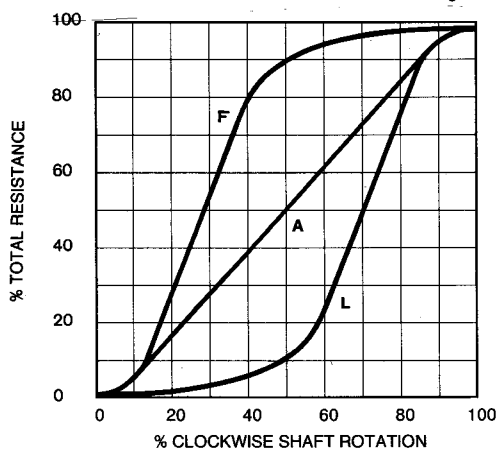
TEMPERATURE RANGE...	–55°C + 125°C
CLIMATIC CATEGORY...	55 / 125 / 56
SEALING...	fully sealed container IP67

ELECTRICAL

RESISTIVE ELEMENT...	cermet
ELECTRICAL TRAVEL...	270° ±10°
RESISTANCE RANGE	
linear law...	22 Ω... 10 MΩ
logarithmic laws...	1 kΩ... 1 MΩ
Standard series E3 (1 - 2,2 - 4,7)...	
on request series...	1 - 2 - 5
TOLERANCE standard...	±20 %
on request...	±10% - ±5%
POWER RATING linear...	3 W at 70°C
logarithmic...	1,5 W at 70°C
TYPICAL TEMP. COEFFICIENT (for R _n ≥ 100 Ω)...	±100 ppm/°C
LIMITING ELEMENT VOLTAGE (linear law)...	600 V
CONTACT RESISTANCE VARIATION ...	3% R _n or 3 Ω
END RESISTANCE (typical)...	1 Ω
DIELECTRIC STRENGTH (RMS)...	2500 V
INSULATION RESISTANCE (500 V DC)...	10 ⁶ MΩ

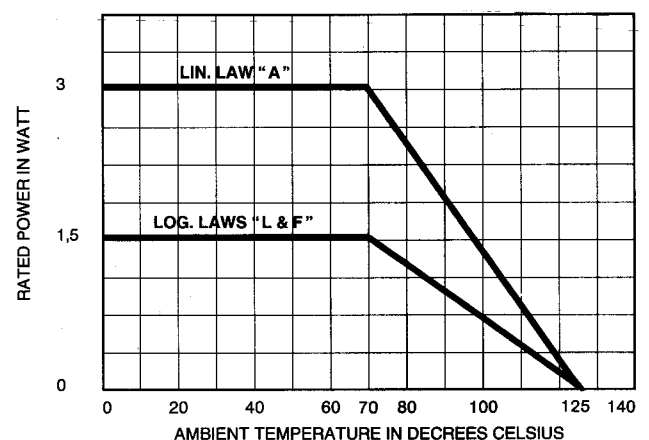
RESISTANCE LAWS

Fig. 1

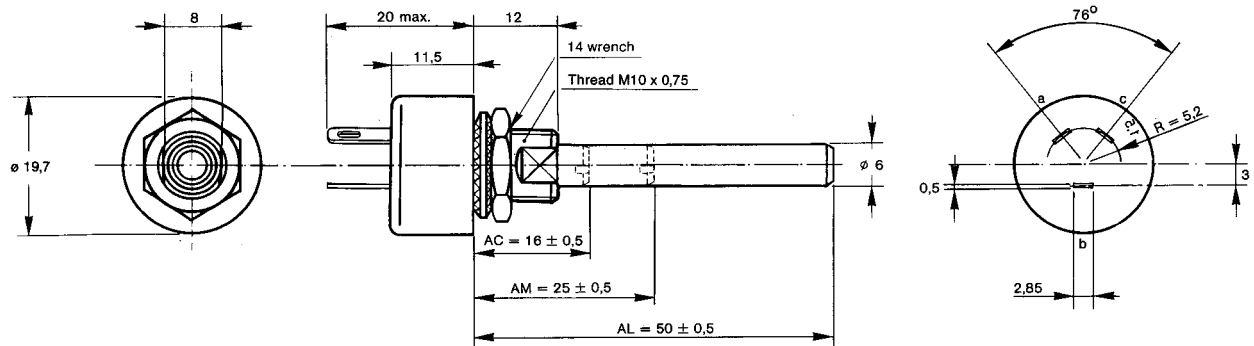


POWER RATING CHART

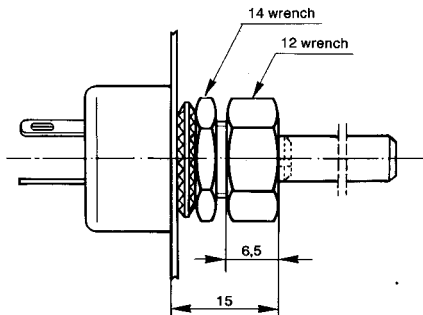
Fig. 2



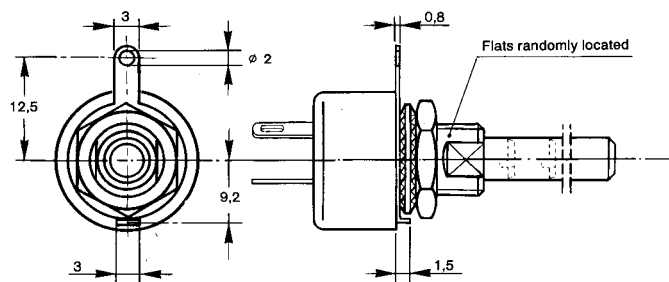
PE30 - PC30



DBAN SHAFT LOCKING



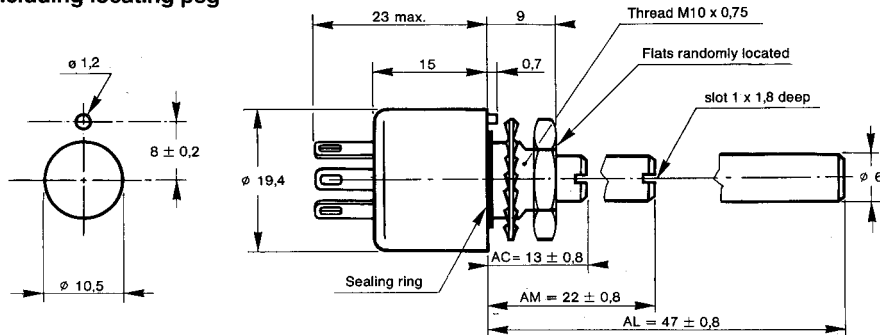
PE30 LPRP - With locating peg



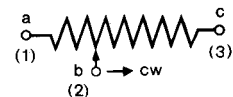
Panel sealed version

PE30P - PE30PE

PE: including locating peg



CIRCUIT DIAGRAM



Dimensions in mm.
Tolerance unless otherwise specified ± 0.1

SPECIAL FEATURES

COMMAND SHAFT

Length is measured from the mounting surface to the free end of shaft. Screwdriver slot is aligned with the wiper within $\pm 10^\circ$. Special shafts are available, in accordance to drawings supplied by customers. We recommend customers not to machine shafts, in order to avoid damage. Bending or torsion of terminals should be avoided.

PANEL SEALING: PE 30 P

The panel sealing device consists of a ring located in a slot on the potentiometer face. Sealing is obtained by tightening the ring against the panel when mounting the potentiometer.

LINEARITY

The typical linearity of linear variation law potentiometer is $\pm 5\%$. Guaranteed linearity on request. Consult SFERNICE.

SHAFT LOCKING: DBAN

The shaft locking device consists of a tapered nut tightening a slotted notched washer against both bushing and shaft. DBAN tightening torque is 200 Ncm, shaft locking torque being 30 Ncm.

DBAN is also available with all special types.

This device is normally supplied in a separate bag. Mounting on request.

LOCATING PEG: LPRP

Location is obtained by fitting a special washer in 2 holes drilled at 180° in the potentiometer face.

Undergoes European Quality Insurance System (CECC)



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PERFORMANCES

Table 1

NF C 83-253				TYPICAL VALUES AND DRIFTS	
TESTS	CONDITIONS	$\frac{\Delta R_T}{R_T}$ (%)	REQUIREMENTS $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta R_T}{R_T}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
CLIMATIC SEQUENCE	Phase A dry heat 125°C Phase B damp heat Phase C cold -55°C Phase D damp heat 5 cycles	± 10%	± 10%	± 0,5%	± 1%
LONG TERM DAMP HEAT	56 days	± 10 % Insulation resistance : > 100 MΩ		± 0,5 % Insulation resistance : > 10 ⁴ MΩ	± 1%
ROTATIONAL LIFE	25 000 cycles	± 10 % Contact res. variat. : < ±7% Rn		± 3 % Contact res. variat. : < ±2% Rn	
LOAD LIFE	1000 h at rated power 90°/30° - ambient temp. 70°C	± 10 % Contact res. variat. : < ±7% Rn		± 1 % Contact res. variat. : < ±3% Rn	
RAPIDE TEMPERATURE CHANGE	5 cycles -55°C to +125°C	± 3%		± 0,5 %	
SHOCKS	50 g 11 ms 3 successive shocks in 3 directions	± 2%		± 0,1%	± 0,2%
VIBRATIONS	10-55 Hz 0,75 mm or 10 g during 6 hours	± 2 %		± 0,1 %	± 0,2%

STANDARD RESISTANCE ELEMENT DATA

Table 2

Standard resistance values	LINEAR LAW			LOG. LAW			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	3	8,12	369				200
47	3	11,87	252				
100	3	17,32	173				
220	3	25,69	116				
470	3	37,55	79				
1 k	3	54,77	54	1,5	38,7	38,7	
2,2 k	3	81,24	37	1,5	57,4	26,1	
4,7 k	3	118,74	25	1,5	83,9	17,9	
10 k	3	173,20	17	1,5	122	12,2	
22 k	3	256,9	11	1,5	181,6	8,25	
47 k	3	375,5	8	1,5	265	5,64	
100 k	3	547,7	5,4	1,5	387	3,8	
220 k	1,63	600	2,7	1,5	574	2,61	
470 k	0,76	600	1,28	0,76	600	1,26	
1 M	0,36	600	0,60	0,36	600	0,6	
2,2 M	0,16	600	0,27				
4,7 M	0,07	600	0,12				
10 M	0,036	600	0,06				

QUALITY ASSURANCE - QUALIFICATIONS

In between 2 issues of our data sheets, quality assurance and qualification situation may be modified (NF C - UTE - CECC). For accurate information, please consult the official documents or consult us.

GUARANTEED TEMPERATURE COEFFICIENT

For ohmic values $\geq 100 \Omega$, guaranteed temperature coefficient is ± 75 ppm/°C in the temperature range -20°C to +70°C.

MARKING

SFERNICE trademark, series, NF types if applicable, ohmic value (in Ω , k Ω , M Ω), tolerance (in %), manufacturing date, marking of terminals 1, 2, 3 or a, b, c.

ORDERING PROCEDURE

SERIES	FEATURE	SHAFT LENGTH	OHMIC VALUE	TOLERANCE	RESISTANCE LAW
PE30	P	AC	200 kΩ	±20 %	A
	P Panel sealing*	AC 16 ±0,5 mm slotted		±20 % standard	A linear
	LPRP Locating peg	AM 25 ±0,5 mm slotted		±10 % on request	L clockwise logarithm
	DBAN Shaft locking	AL 50 ±0,5 mm plain round			F inverse clockwise logarithmic

* PE Panel sealing with locating peg (former designation E108).