

Size	05		09			13		
Model	50 ES	50 CB	78 ES	78 CS	78 CB	156 ES	156 CS	156 CB

ELECTRICAL CHARACTERISTICS

Theoretical electrical angle (TEA)	actual electrical angle (AEA) -2°							
Independent linearity (over TEA)	A $\leq \pm 1\%$; B $\leq \pm 0,5\%$; C $\leq \pm 0,25\%$							
Actual electrical angle (AEA)	330° $\pm 5^{\circ}$		340° $\pm 5^{\circ}$			350° $\pm 3^{\circ}$		
Ohmic values (R _T)	1 k Ω ; 5 k Ω ; 10 k Ω ; on request other values							
Ohmic value tolerances at 20°C	$\pm 10\%$	$\pm 20\%$	$\pm 10\%$	$\pm 20\%$	$\pm 10\%$	$\pm 20\%$	$\pm 10\%$	$\pm 20\%$
Output smoothness	$\leq 0,05\%$							
Maximum power rating at 70°C	0,5 W		1 W			1,5 W		
Wiper current	recommended: a few μA - 1 mA max. (continuous)							
Tap (current or voltage)	NA		1 on request					
Resistance load on wiper	minimum $10^3 \times R_T$							
End voltage	$\leq 0,2\%$	$\leq 0,5\%$	$\leq 0,2\%$	$\leq 0,5\%$	$\leq 0,2\%$	$\leq 0,5\%$	$\leq 0,2\%$	$\leq 0,5\%$
Insulation resistance	$\geq 1000 \text{ M}\Omega$ 500 V DC							
Dielectric strength	$\geq 500 \text{ V RMS}$ 50 Hz							

MECHANICAL SPECIFICATIONS

Mechanical angle (MA)	360° continuous							
on request: stops	NA		340° $\pm 3^{\circ}$			350° $\pm 3^{\circ}$		
Mounting type	servo	bushing	servo	bushing	servo	bushing	servo	bushing
Shaft guiding	ball bearings	sleeve bearings	ball bearings	sleeve bearings	ball bearings	sleeve bearings	ball bearings	sleeve bearings
Shaft	stainless steel							
Housing	plastic moulding							
Termination	turrets							
Wiper	precious metal multi-finger contact							
Starting torque (N.cm)	$\leq 0,2$	$\leq 0,5$	$\leq 0,2$	$\leq 0,5$	$\leq 0,2$	$\leq 0,5$	$\leq 0,2$	$\leq 0,5$
Torque on stops (N.cm)	50							
Weight (g)	5 ± 2	8 ± 2	13 ± 2	17 ± 2	29 ± 2	34 ± 2	29 ± 2	34 ± 2
Moment of inertia (g.cm ²)	$\leq 0,5$		≤ 1			≤ 2		

PERFORMANCES

Life (10 ⁶ cycles)	40	20	40	20	40	20	40	20
Temperature range	-55°C , $+125^{\circ}\text{C}$							
Climatic category	55 / 125 / 04							
Speed rotation (RPM)	600	150	600	150	600	150	600	150
Sine vibrations on 3 axes	1,5 mm or 20 g from 10 Hz to 2000 Hz							
Mechanical shocks on 3 axes	50 g - 11 ms - half sine							