

Precision Rotative Transducers, Conductive Plastic, Economic Series (ECS)



Low cost industrial motion transducers, conductive plastic track.

SIZE	09			
MODEL	78 RS	78 RB	78 PS	78 PB

FEATURES

- Size 09: ($7/8$ ") 22.2 mm
- Long life: 5 million cycles
- Bush or servo mounting types available
- Rear comolded terminals
- Cost effective solution for any industrial applications
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

QUICK REFERENCE DATA

Sensor type	ROTATIONAL, conductive plastic
Output type	Output by turrets
Market appliance	Industrial
Dimensions	22.2 mm ($7/8$ ") dia.

ELECTRICAL SPECIFICATIONS

Theoretical electrical angle (TEA)	(AEA) - 3°	
Independent linearity (over TEA)	$A \leq \pm 1 \%$, on request: $B \leq \pm 0.5 \%$ $C \leq \pm 0.35 \%$	$A \leq \pm 2 \%$
Actual electrical angle (AEA)	$340^\circ \pm 5^\circ$	
Ohmic values (R_T)	1 k Ω - 2 k Ω - 5 k Ω - 10 k Ω (on request other values)	1 k Ω - 2 k Ω - 5 k Ω - 10 k Ω
Ohmic value tolerances at 20 °C	Standard: $\pm 20 \%$ /special: $\pm 10 \%$	$\pm 20 \%$
Output smoothness	0.1 %	
Maximum power rating at 70 °C	0.3 W	
Wiper current	Recommended: a few μA - 1 mA max. (continuous)	
Tap (current or voltage)	1: On request	NA
Resistance load on wiper	$\geq 1000 \times R_T$	
End voltage	$\leq 0.5 \%$ DC	
Insulation resistance	$\geq 1000 M\Omega$, 500 V _{DC}	
Dielectric strength	$\geq 500 V_{RMS}$, 50 Hz	

MECHANICAL SPECIFICATIONS

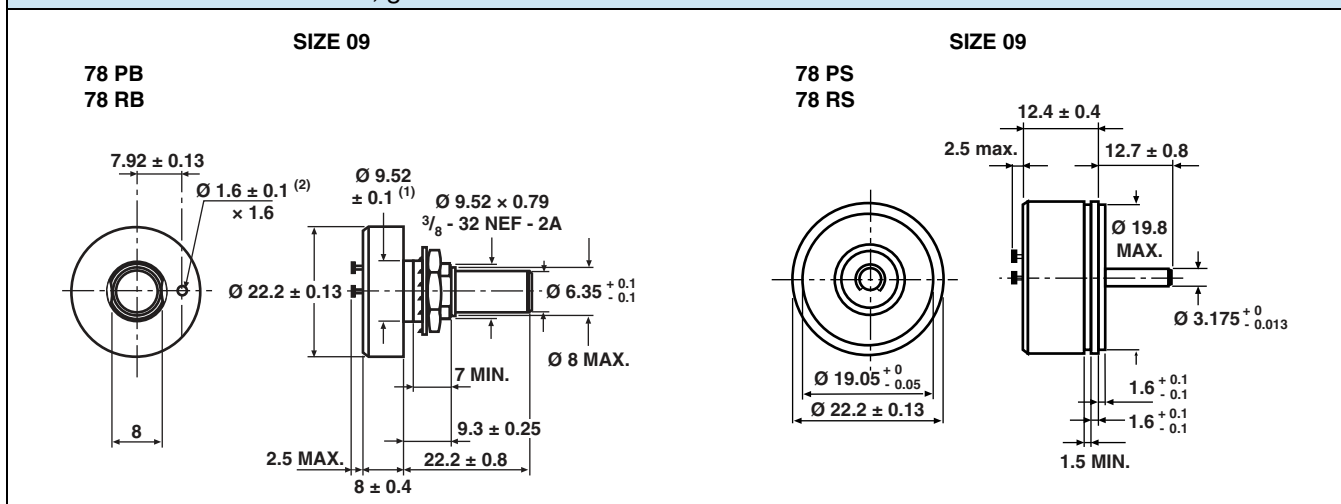
Mechanical angle (MA)	360° continuous			
On request: stops	342° ± 5°			
Mounting type	Servo	Bushing	Servo	Bushing
Shaft guiding	Sleeve bearings			
Shaft	Stainless steel			
Option: flat or screw driver slot on shaft	On request		NA	
Termination	Turrets			
Wiper	Precious metal multi-finger contact			
Starting torque (N.cm)	≤ 0.5			
Torque on stops (N.cm)	≥ 20			
Weight (g)	Bushing 17 g ± 3 g		Servo 12 g ± 3 g	

PERFORMANCE

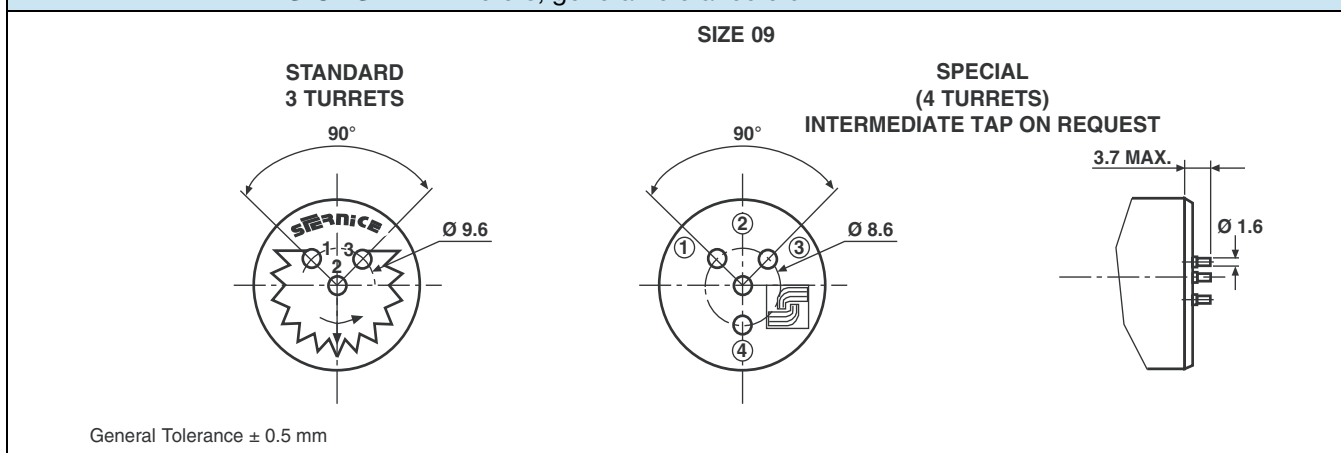
Life (10 ⁶ cycles)	5
Temperature range	-55 °C to +125 °C
Climatic category	55/125/04
Speed rotation (RPM)	150
Sine vibration on 3 axes	15 g from 10 Hz to 2000 Hz
Mechanical shocks on 3 axes	50 g - 11 ms - half sine

Note

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

DIMENSIONS in millimeters, general tolerance ± 0.5 mm

Notes

- (1) On request: $\varnothing$ 10.3 mm or 12.3 mm
(2) On request: Without antirotation pin

REAR VIEW DIMENSIONS in millimeters, general tolerance 0.5 mm




ORDERING INFORMATION/DESCRIPTION

ECS	78	P	S	M	A	T	103	e4
SERIES	MODEL	TYPE	FIXATION	MECHANICAL STOPS	LINEARITY	TAP	OHMIC VALUE	LEAD FINISH
		P	S: Servo	On request	A: $\pm 1\%$ or $\pm 2\%$	On request	102: 1 k Ω	
		R	B: Bushing	M	B: $\pm 0.5\%$	T: Voltage	202: 2 k Ω	
					C: $\pm 0.35\%$	U: Current position to be specified	502: 5 k Ω	
							103: 10 k Ω	

SAP PART NUMBERING GUIDELINES

ECS	78RB	B	102
SERIES	MODEL	LINEARITY	OHMIC VALUE