

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



FEATURES

- Size 09: ($\frac{7}{8}$ ") 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

Low cost industrial motion transducers, conductive plastic track.

SIZE	09			
MODEL	78 RS	78 RB	78 PS	78 PB

QUICK REFERENCE DATA

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

ELECTRICAL SPECIFICATIONS

MODEL	78RS / 78RB	78PS / 78PB
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	n/a
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

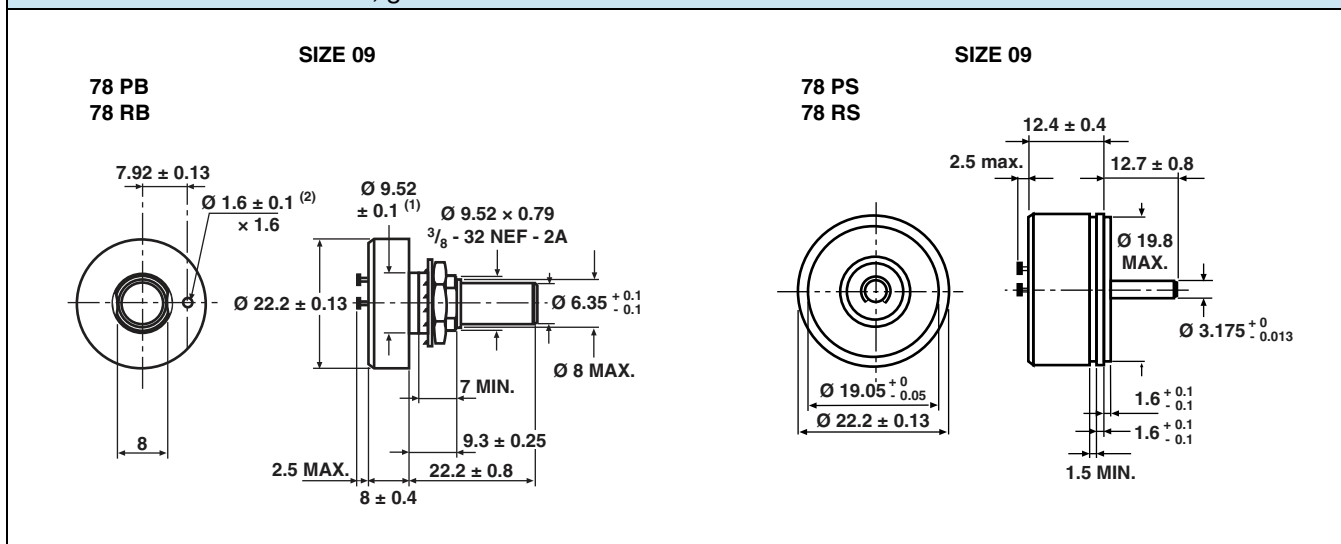
MODEL	78RS / 78RB	78PS / 78PB
Mechanical angle (MA)	360° continuous	
On request: stops	$342^\circ \pm 5^\circ$	
Mounting type	Servo	Bushing
Shaft guiding	Sleeve bearings On request: ball bearings for servo mounting type	
Shaft	Stainless steel	
Option: flat or screw driver slot on shaft	On request	n/a
Termination	Turrets	
Wiper	Precious metal multi-finger contact	
Starting torque (N.cm)	≤ 0.5	
Torque on stops (N.cm)	≥ 20	
Weight (g)	Bushing 17 ± 3	Servo 12 ± 3

PERFORMANCE

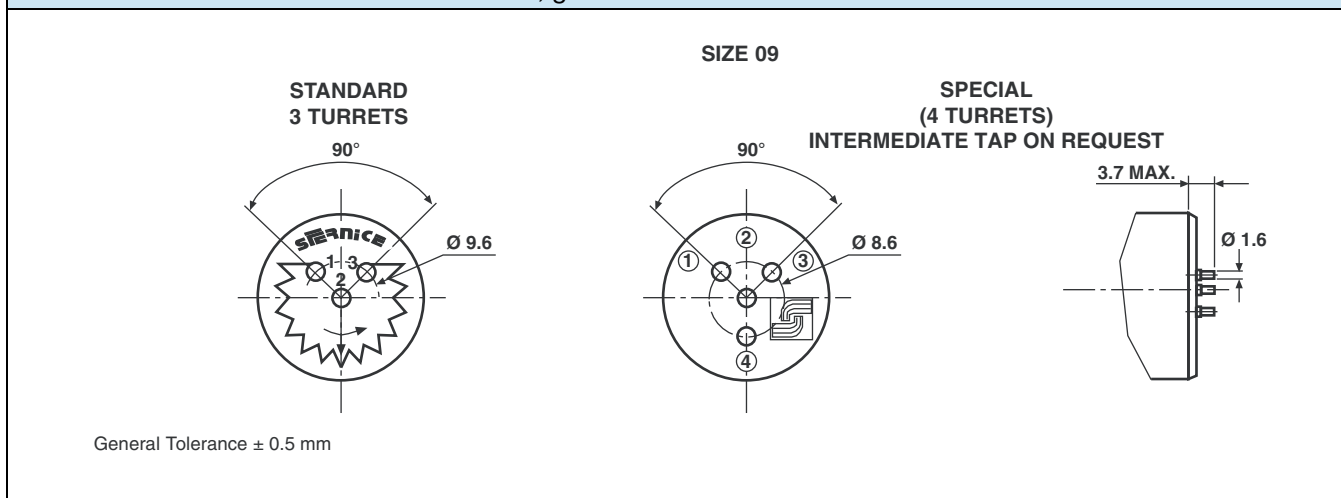
Life (10 ⁶ cycles)	5
Storage temperature range	-55 °C to +125 °C
Operating temperature range	-30 °C to +85 °C
Speed rotation (RPM)	150
Sine vibration on 3 axes	15 g from 10 Hz to 2000 Hz
Mechanical shocks on 3 axes	50 g - 11 ms - half sine

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: Ø 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 R	S: servo B: bushing	On request M	A: $\pm 1\%$ or $\pm 2\%$ B: $\pm 0.5\%$ C: $\pm 0.35\%$	On request T: voltage U: current position to be specified	102: 1 k Ω 202: 2 k Ω 502: 5 k Ω 103: 10 k Ω	

SAP PART NUMBERING GUIDELINES

ECS	78RB	B	102
SERIES	MODEL	LINEARITY	OHMIC VALUE



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