

SRS 280 SEALED ROTARY SENSOR

PERFORMANCE

ELECTRICAL

Electrical angle ± 2	$^{\circ}$	10 to 350 in 10° increments
Resistance $\pm 20\%$	Ω	14.3 per degree
Hysteresis (repeatability)	$^{\circ}$	< 0.03
Accuracy		< 1 degree (e.g. $\pm 0.3\%$ over 330° , $\pm 1\%$ over 100°)
Power dissipation at 20°C	W	0.003 W per angular degree
Applied voltage maximum	Vdc	0.2 per angular degree
Resolution		Virtually infinite
Output smoothness		To MIL-R-39023 grade C 0.1%
Insulation resistance		Greater than $100\text{M}\Omega$ at 500Vdc
Operating mode		Voltage divider only - see Circuit Recommendation below
Wiper circuit impedance		Minimum of $100 \times$ track resistance or $0.5\text{M}\Omega$ (whichever is greater)

MECHANICAL

Mechanical angle	$^{\circ}$	360, continuous
Mounting		Use 2 x M4 socket head cap screws and M4 washer - maximum tightening torque 2Nm
Operating torque maximum		
unsealed shaft IP50	gm cm	100
sealed shaft IP68	gm cm	120
Shaft velocity maximum	$^{\circ}/\text{sec}$	3000
Weight	g	32 (cable option A), 64 (cable option B)
Phasing		When shaft flat (or shaft ident mark) is facing the cable exit, wiper is at mid travel

ENVIRONMENTAL

Life		
unsealed shaft IP50		Exceeds 20 million operations (10×10^6 cycles) of $\pm 75^{\circ}$
sealed shaft IP68		20 million operations (10×10^6 cycles) of $\pm 75^{\circ}$
Dither life		200 million operations (100×10^6 cycles) of $\pm 3^{\circ}$, 60Hz
Operational temperature	$^{\circ}\text{C}$	-40 to +130 (continuous)
Vibration		RTCA-DO160D, 10Hz to 2000Hz (random), 12.61g rms - all axes
Shock		Survival to 2500g - all axes

CIRCUIT RECOMMENDATION

Hybrid track potentiometers feature a high wiper contact resistance, therefore operational checks should be carried out only in the voltage divider mode. Hybrid track potentiometers should be used only as voltage dividers, with a minimum wiper circuit impedance of $100 \times$ track resistance or $0.5\text{M}\Omega$ (whichever is greater). Operation with wiper circuits of lower impedance will degrade the output smoothness and affect the linearity.

OPTIONS

Electrical angle	Can be supplied from 10° to 350° in 10° increments
Shaft style	D or sprung shaft
Shaft sealing	IP50 or IP68
Cable length	0.5m or 2m

AVAILABILITY

All configurations can be supplied within five days from the factory

ORDERING CODES

SRS280/...../...../...../.....

Electrical angle

Shaft style D = D shaft

S = Sprung shaft

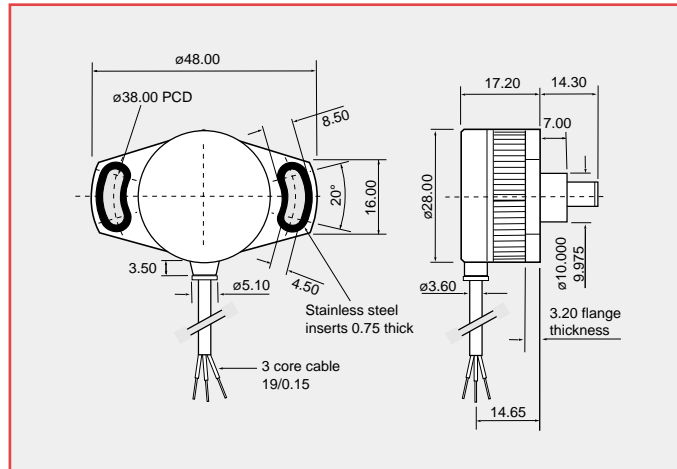
Cable A = 0.5m, B = 2m

Shaft sealing 50 = IP50

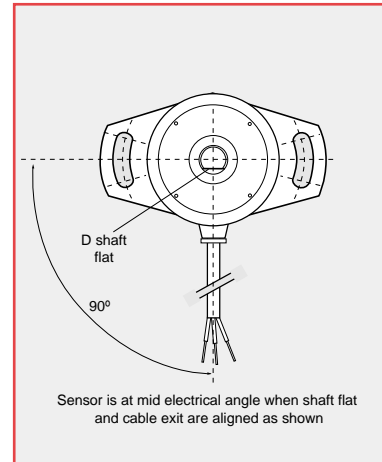
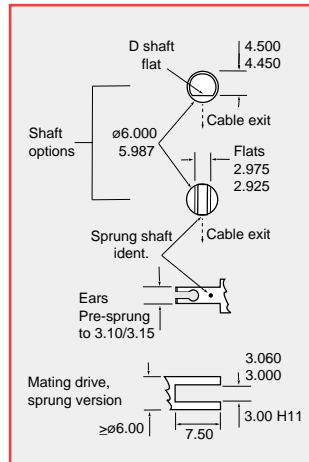
68 = IP68

DIMENSIONS

Note: drawings not to scale



SHAFT OPTIONS



ELECTRICAL CONNECTIONS

3 core cable: PUR sheathed, with PTFE insulated 19/0.15 cores.

