

Hall-Effect Single-Turn Rotary Encoder

Series STHE18



- * Operating temperature of $-40^{\circ} \sim +105^{\circ} \text{C}$
- * Redundant output option (parallel or cross)
- * Low power consumption
- * Bushing or flange mount
- * Infinite resolution
- * $\pm 45^{\circ}$ (90°) measuring angle

The STHE18 sensor features high accuracy measuring and proven durability in applications requiring a wide operating temperature range with low power consumption. Mounting can be accomplished via a threaded bushing or flange ears. Redundant output option for increased safety requirements.

Electrical Data	Single Output	Redundant Output
Effective electrical angle of rotation 1.)	$\pm 45^{\circ}$ ($=90^{\circ}$)	
Independent linearity (best straight line) 1.)	$\pm 1,5 \% @ 90^{\circ}$	
Output signal	VSUP x 0.1..0.9 V (sense of rotation CW $0^{\circ}..90^{\circ}$)	Parallel - VSUP x 0.1..0.9 V (CW) Cross - VSUP x 0.1..0.9 V (CCW)
Resolution	Nearly infinite	
Supply voltage	5 V $\pm 10 \%$	
Power consumption (no load)	$\leq 7 \text{ mA}$	$\leq 14 \text{ mA}$
Output load	$\geq 10 \text{ kOhm}$	
Insulation voltage	$\pm 4 \text{ kV}$ contact discharge, $\pm 4 \text{ kV}$ aerial discharge (IEC 61000-4-2)	
Insulation resistance 1.)	$> 100 \text{ MOhm @ 250 VDC}$	

Mechanical and Environmental Data	
Mechanical angle of rotation 1.)	360° without stop
Lifetime 2.)	$> 50 \text{ mio. shaft revolutions}$
Bearing	Sleeve bearing
Max. operational speed	400 rev./min.
Operational torque @ RT 1.) 2.)	$< 0.2 \text{ Ncm}$
Operating temperature range	$-40..+105^{\circ} \text{C}$
Storage temperature range	$-50..+105^{\circ} \text{C}$
Protection grade (IEC 60529)	IP40
Vibration (IEC 68-2-6, Test Fc)	10 to 2000 Hz 196 m/s^2
Shock (IEC 68-27, Test Ea)	980 m/s^2 6ms

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Mechanical and Environmental Data, Miscellaneous

Housing diameter / length	22 mm
Housing depth	12 mm
Shaft diameter	6 mm
Shaft type	Solid shaft
Max. allowed radial load	1 N
Max. allowed axial load	1 N
Connection type	Solder terminals or single strands AWG26 150 mm
Connection position	Radial
Sensor mounting	Mounting via bushing or flange
Mass	app. 15 g
Fastening parts included in delivery	Hex nut, tooth washer
Fastening torque mounting nut	< 0.15 Nm
Material shaft	Stainless steel
Material housing	Plastic

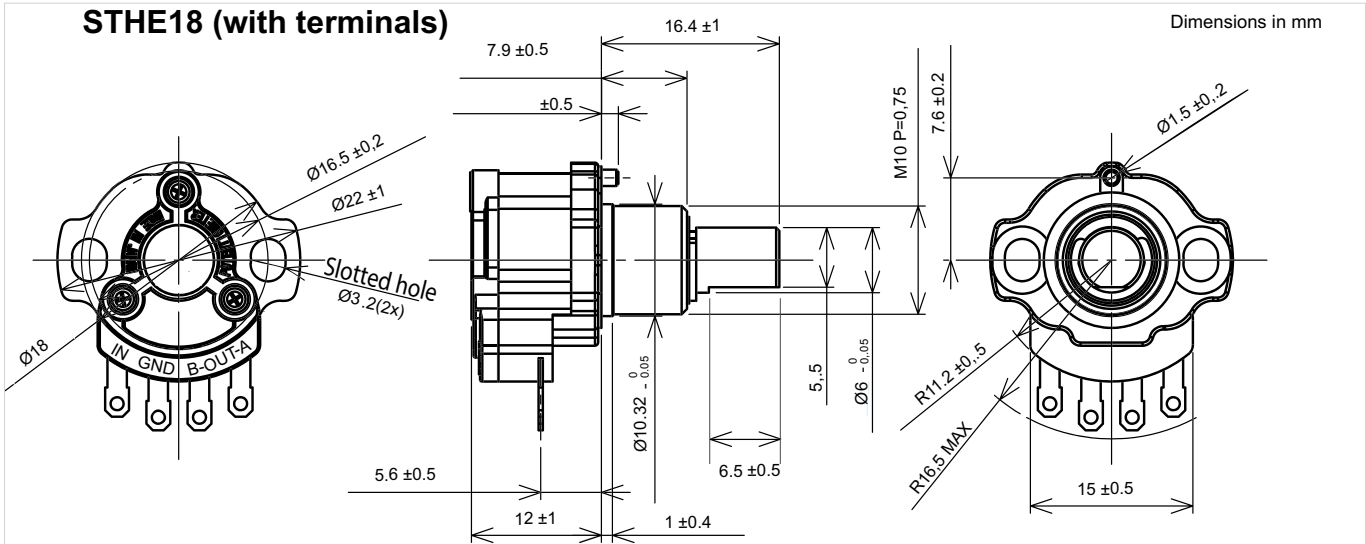
1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

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Drawing



STHE18L (with lead wire)



- 5V (IN) red
- Signal A white
- Signal B blue
- 0V (GND) black

Shaft position 2.5V output
(center position)

