

Data Sheet for Precision Potentiometer

Multiturn Hybrid Potentiometer

Series HH17/19



The HH17/19 potentiometers in 22 mm housing are suitable for applications where a long life and very high-resolution multiturn potentiometer is important.

- Very high-resolution and long-lasting due to hybrid technology
- Very clean signal - no winding jumps thanks to hybrid technology

The high-resolution precision potentiometers of the HH17 / 19 series have a wire-wound resistor element, which is finished with a conductive plastic layer. Thus the so-called winding jumps are omitted and the resolution is almost infinite. Due to the smooth surface of the resistance element, the hybrid potentiometer has a significantly longer life and qualifies it as a position feedback in closed loop control circuits. The shaft diameter is $\varnothing 6,35$ / $\varnothing 6,00$ mm (HH17/HH19) and is equipped with a screwdriver slot. The potentiometer is available in a 3, 5 or 10 turn version. The radial gold-plated connection pins are suitable for flat connectors (2.8 mm according to DIN 46247 part 3).

Electrical Data	3-turn	5-turn	10-turn
Effective electrical angle of rotation 1.)	1080° ±5°	1800° ±5°	3600° ±5°
Total resistance 1.)	1..50 kOhm	1..50 kOhm	2..100 kOhm
Resistance tolerance		±10% (±5%)	
Independent linearity (best straight line) 1.)	±0,35%	±0,35% (±0,2%)	±0,25% (±0,1%)
Theoretical resolution 1.)		Nearly infinite	
Backlash (Hysteresis) 1.)		≤ 2°	
Max. / recommended wiper current 1.)		10 µA / 2 µA	
Power rating @ 70°C (0W @ 105°C)	0,5 W	1 W	2 W
Insulation Voltage 1.)		1000 VAC, 1min	
Insulation Resistance 1.)		100 MOhm @ 1000 VDC	

Mechanical Data, Environmental Conditions, Miscellaneous	3-turn	5-turn	10-turn
Mechanical angle of rotation	1080° +10°	1800° +10°	3600° +10°
Lifetime (90% el. eff. angle half sine) 2.)	1,5 Mio. rotations	2,5 Mio. rotations	5 Mio. rotations
Max. operational speed		40 rev. / min.	
Bearing		Brass bearing	
Operational torque @ ambient temperature 1.) 2.)		5 Nmm	
End stop torque 1.) 2.)		35 Ncm	
Operating temperature range		-20..+105°C	
Storage temperature range		-55..+105°C	
Protection grade (IEC 60529)		IP40	
Protection option D shaft sealing (IEC 60529)		IP65 optional	
Vibration (IEC 68-2-6, Test Fc)		15g 10..2000Hz x 12h	
Shock (IEC 68-2-27, Test Ea)		49g @ 11 ms x 18	
Housing diameter		22 mm	
Housing depth		19 mm	
Shaft diameter (HH17/19)		6,35 mm / 6,00 mm	
Shaft type		Solid shaft	

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Mechanical Data, Environmental Conditions, Miscellaneous	3-turn	5-turn	10-turn
Max. radial load		≤1 N	
Max. axial load		≤1 N	
Connection type		Gold plated soldering lugs	
Connection position		Radial	
Sensor mounting		Bushing	
Mass		22 g	
Fastening parts included in delivery		Nut, toothed washer	
Fastening torque mounting nut		150 Ncm	
Material shaft		Stainless steel	
Material housing		Reinforced fibreglass PA66	

1.) According IEC 60393

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

Please note: Max. permissible supply voltage <75 VDC respectively <50 VAC in addition the max. power rating must be observed

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Order code

Description		Selection: standard=black/bold, possible options=grey/cursive									
Series HH17/19	HH										
Shaft diameter:											
Ø 6,35 mm	17										
Ø 6,00 mm	19										
Revolutions with stop:											
Option 3-turn				03M							
Option 5-turn				05M							
10-turn				10M							
Resistance value / Option Tandem:					Tandem						
Option 1 kOhm (only 3 and 5-turn)				R1k	/1k						
Option 2 kOhm				R2k	/2k						
5 kOhm				R5k	/5K						
10 kOhm				R10k	/10K						
Option 20 kOhm				R20K	/20K						
Option 50 kOhm				R50K	/50k						
Option 100 kOhm (only 10 Turn)				R100K	/100k						
Option rear shaft:											
Standard (HH17/19) Ø6,35 / Ø6,00 x 15 mm					RA						
Shaft length in mm					RAxx,xx						
Shaft diameter in mm (≤6,35 mm)					RADMx,xx						
Resistance tolerance:											
±10%											
Option ±5%											
Independent linearity:											
±0,25% (10 Turn)											
Option ±0,35% (3 and 5 Turn)											
Option ±0,10% (10 Turn)											
Option ±0,20% (5 Turn)											
Front shaft:											
Standard (HH17/19) Ø6,35 / Ø6,00 x 20,6 mm											
Option shaft length in mm											
Option shaft diameter in mm (≤6,35 mm)											
Option center tap:											CT
Screwdriver slot standard:											-
Shaft sealing:											-
Standard is without sealing											D
Option D with shaft sealing											

For higher quantities or on-going demand, additional options are available as described below on request

For Example: Multi ganged potentiometers, sealed housing case, special electrical and mechanical angles of rotation, and special resistance and linearity tolerances. Furthermore we can mount gear wheels or attach cable assemblies with or without connectors and much more.

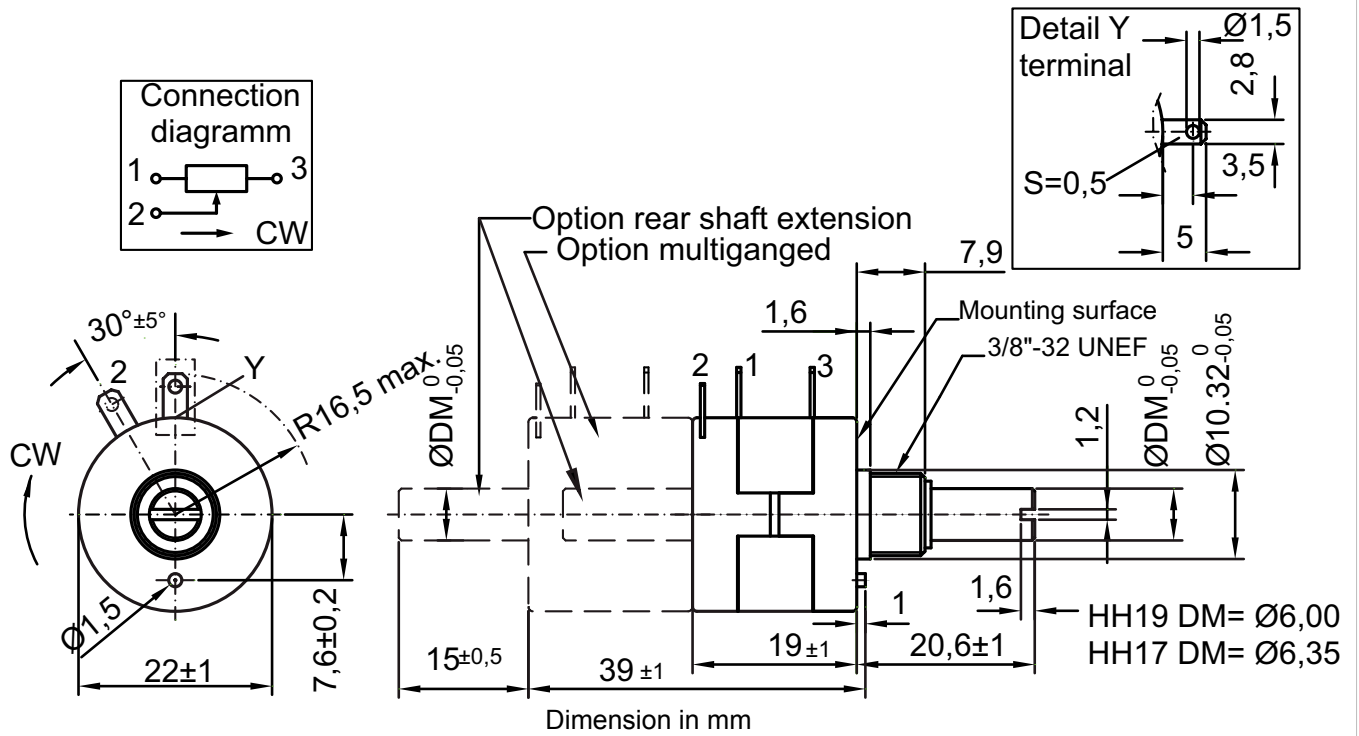
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Drawing



TDS Precision Products GmbH
Industriestrasse 1a
CH-8157 Dielsdorf

T + 41 44 885 30 80
info@tds-pp.com
www.tds-pp.com