

Differential Hall Effect Speed Sensors D12A - D12P

Operating Instruction
385E-64671

Function	The hall effect speed sensors D12 are suitable for use with a pole wheel to generate speed proportional impulse frequencies. It exhibits dynamic function, whereby pulse generation down to 5 Hz is guaranteed. The sensor must be oriented against the pole wheel as described in pictures below.
Supply voltage	8...32 VDC, protected against reverse polarity
Current consumption	Max. 14mA (without load)
Signal output	Square wave signal from Push-Pull stage, DC-coupled to the supply (negative pole = reference voltage) max. load 30 mA, Output voltage HI: > power supply voltage – 3.6V (at I=25mA) - 2.5V (at I=10mA) Output voltage LO: < 2.2V (at I=25mA) 1.4V (at I=10mA) The output is short circuit proof and protected against false polarity
Frequency range	5 Hz...25 kHz
Insulation	Housing, cable shield and electronic galvanically isolated. (500V/50Hz/1Min.)
Operating temperature	- 20 ...+100°C.
Housing	Stainless steel 1.4305 (1018 CRS). Dimensions according dimensional drawing.
Cable / Connector	P variant: With cable PTFE, 3 wires 0.34 mm ² , AMP connector / A Variant: with connector 4 pins/ M12 standard
Protection class	Sensor head IP 68, cable / entrance IP 67 , connector IP68 (mated)
Vibration immunity	30 g in the range 5...2000 Hz.
Shock immunity	50 g during 20 ms, half-sine wave
Weight	D12A ~ 40 g , / D12P ~ 60 g including 0.35m cable.
Air gap	For pole wheel: M 0.5 (DP 50.8) 0.1 ... 0.3 mm M 1.0 (DP 25.4) 0.1 ... 1.5 mm ≧ M 2.0 (DP 12.7) 0.1 ... 2.0 mm
Pole wheel	Ferromagnetic toothed wheel, i.e. B. USt37-2, preferred involute gear form Module ≥1, min. tooth width 6 mm, side offset with min. tooth width: < 0.2 mm, eccentricity <0.2mm

Installation

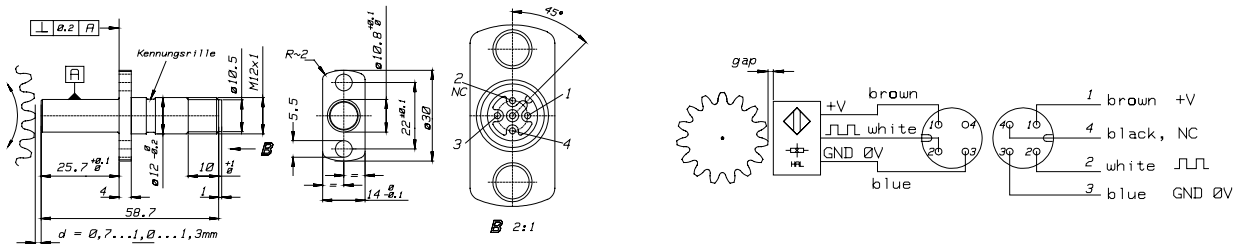


The sensor wires must be laid as far as possible from large electrical machines. They must not be run parallel in the vicinity of power cables. The maximum permissible cable length is 20m (65 feet).

The sensor should be mounted with the middle of the face side over the middle of the pole wheel. Where the pole wheel has teeth or slots and with radial sensor location, the sensor would normally be mounted over the centre. Dependent upon the wheel width a degree of axial movement is permissible.

A solid and vibration free mounting of the sensor is important.

D12A : 385Z-05333



D12P : 385Z-05334

