

TYP DSH 1840.0x SxHV

HF - SPEED SENSOR WITH AMPLIFIER

General

Function The **HF** speed sensors DSH 1840.01 SHV (**Part no. 374Z-04025**), DSH 1840.01 S1HV (**Part no. 374Z-05305**) and DSH 1840.05 SHV (**Part no. 374Z-05494**) are suitable for use with a **pole wheel** to generate speed proportional frequency signals. They exhibit dynamic behaviour, whereby pulse generation down to 0.1 Hz is guaranteed. The sensing element is a HF-Oscillator. A metallic pole wheel influences the damping in the oscillator. This modulation is converted to a square wave output signal by an amplifier with trigger characteristics and a short circuit output stage.

Certification The DSH sensors are approved by Germanischer Lloyd (GL), Certificate no. 17332-00 HH

Technical data

Supply voltage 10....30 VDC, max. superimposed AC-voltage of 25 mVpp
protected against false polarity

Current consumption max. 12mA at 12 Volt (without load)

Signal output Square wave signals from push-pull stage, DC-coupled to the supply (negative pole = reference potential), max. load 25 mA,
Output voltage HI: > supply voltage -2.5 Volt at I = 15 mA
Output voltage LO: < 1.5 Volt at I = 15 mA
short-circuit proof and protected against false polarity

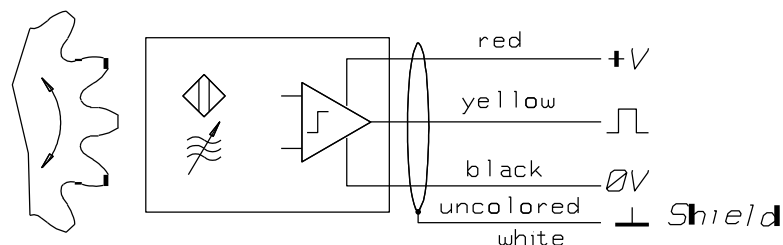
Frequency range 0.1 Hz...20 kHz

Electromagnetic compatibility (EMC) With cable shield connected to the GND pole.
Electrostatic discharge into housing, cable shield and wires :
Up to 4 kV peak according to IEC 61000-4-2, severity level 2
Radiated electromagnetic field :
Up to 30 V/m, 50% AM, 1 KHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3
Electrical fast transients/bursts, coupled to sensor cable with a capacitive coupling clamp : up to 4 kV peak according to IEC 61000-4-4, severity level 4

Insulation Housing, cable shield and electronics galvanically isolated. (500V/50Hz/1Min.)

Operating Temperature	-40°C....+125°C. (Version H)			
Housing	Aluminium alloy, black anodized. Dimensions according to dimensional drawing			
Weight	95 g with 2 m cable, 120 g with 3 m cable.			
Protection class	IP67 (head), IP67 (cable outlet)			
Vibration immunity	5 g in the range 5...2000 Hz			
Shock immunity	50 g during 20 ms, half-sine wave			
Pole wheel	Pole wheel (ST37) Module 4 : 0,2....4,0 mm			
	Pole wheel (aluminium) with blades:			
	Blade thickness	Blade width	Distance between blades	Pole wheel - sensor gap
	4,0 mm 2.1mm	15mm 15mm	6,5 mm 7.5mm	0,2...2,0 mm <u>0,2...1,5 mm</u>
Cable	Teflon cable, Part.-No. 824L-35053, 4-wire, 4 x 0.24 mm ² (AWG 24), strand shielded (metal net, insulated from housing), white, outer-Ø max. 4.5 mm, bending radius min. 60 mm. The brown wire not used in this sensor is cut off. Shield to be connected to the instrument side 0 V.			
Versions	DSH 1840.01 SHV: Cable 2m long DSH 1840.01 S1HV: Cable 3m long DSH 1840.05 SHV: Cable 2m long, different sealing concept than DSH 1840.01 SHV and hence shorter installation length			

Connecting diagram:



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