

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

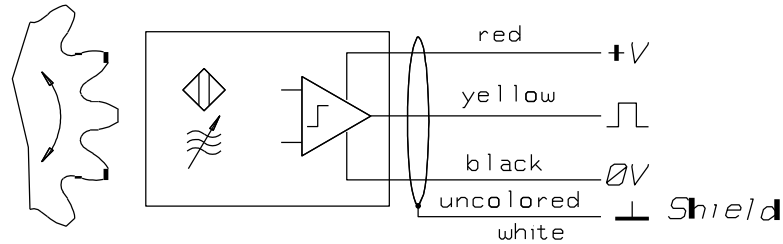
Electromagnetic compatibility (EMC) - With cable shield connected to the GND pole.
Electrostatic discharge into housing, cable shield and wires :
Up to 4 kV peak according to IEC 61000-4-2, severity level 2
Radiated electromagnetic field :
Up to 30 V/m, 50% AM, 1 KHz in the range of 1 MHz to 1000 MHz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

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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	15mm	6,5 mm	0,2...2,0 mm
	2.1mm	15mm	7.5mm	<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:



CONTACT US

Tel +41 61 306 8822
jaquet.info@te.com

te.com/sensorsolutions

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