

Drehzahlsensoren ■ Speed Sensors

1 Kanal Hall M14 Familie ■ 1 Channel Hall M14 Type



Kurzdaten

Versorgung	8 ... 36 V DC
Frequenzbereich	0 ... 15.000 Hz
Betriebstemperatur	-40 ... +125°C
Schutzart (IEC 529)	IP67, IP69K (siehe Typen)

Data summary

Power supply	8 ... 36 V DC
Frequency range	0 ... 15.000 Hz
Operating temperature	-40 ... +260°F
Degree of protection	IP67, IP69K (dep. on type)

Anwendung

- Drehzahlerfassung an Zahnrädern mit kleinem Modul und hoher Auflösung
- Anwendung in Fahrzeugen, mobilen Arbeitsmaschinen und hydraulischen Antrieben
- Einbaumaß M14

Merkmale

- Messungen ab 0 Hz
- Richtungsunabhängiger Einbau

Applications

- Speed detection of gearwheels with small module and high resolution.
- Applications in vehicles, mobile operating machines and in hydraulic drives
- Installation dimension DIN M14

Features

- Detection from 0 Hz
- No alignment required



Typenübersicht ■ Type Overview

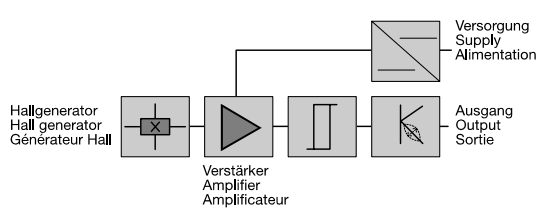
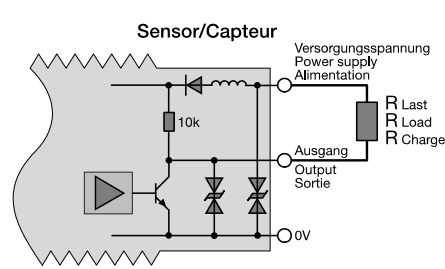
Typ Type	Gehäuse Housing	Anschluss Connection	Ausgang Output
SHN11.GK11.E4	M14x1x60	Kabel 3x0,34mm ² , geschirmt, TPE, 4m <i>Cable 3x0.34mm², shielded, TPE, 4m</i>	NPN
SHN11.GK12.E4	M14x1x80	Kabel 3x0,34mm ² , geschirmt, TPE, 4m <i>Cable 3x0.34mm², shielded, TPE, 4m</i>	NPN
SHN11.GK13.SD	M14x1x120	Stecker Typ SD <i>Plug type SD</i>	NPN
SHN11.GK13.SC	M14x1x120	Stecker Typ SC <i>Plug type SC</i>	NPN

Lieferumfang <i>Scope of supply</i>	Sensor, 2 Kontermuttern <i>Sensor, 2 fixing nuts</i>
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Einbau ■ Mounting

Schalt- / Einbauabstand <i>Air gap</i>	3,5 mm @ 1KHz; M4 Basis: Evolventenverzahnung <i>3.5 mm @ 1KHz; M4 basis: involute gear</i>																									
Einbauart <i>Mounting principle</i>	Einschraubgewinde, richtungsunabhängig <i>DIN type thread, no special alignment required</i>																									
Anzugsmoment <i>Tightening torque</i>	18 Nm <i>18 Nm</i>																									
Biegeradius Anschlusskabel <i>Bending radius of connection cable</i>	50 mm <i>50 mm</i>																									
Gehäusewerkstoff <i>Housing material</i>	Messing <i>Brass</i>																									
Maßzeichnungen <i>Installation drawings</i>	Siehe Seite 5/6 <i>See page 5/6</i>																									
Maximaler Einbauabstand bezogen auf Modul und Arbeitsfrequenz <i>Maximum air gap related to pitch and working frequency</i>	<table border="1"> <caption>Estimated data from the graph</caption> <thead> <tr> <th>f / Hz</th> <th>Abstand Modul4 [mm]</th> <th>Abstand Modul3 [mm]</th> <th>Abstand Modul2 [mm]</th> <th>Abstand Modul1 [mm]</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>3.5</td> <td>2.5</td> <td>2.2</td> <td>0.8</td> </tr> <tr> <td>5000</td> <td>3.4</td> <td>2.4</td> <td>2.1</td> <td>0.7</td> </tr> <tr> <td>10000</td> <td>3.3</td> <td>2.3</td> <td>2.0</td> <td>0.6</td> </tr> <tr> <td>15000</td> <td>3.2</td> <td>2.2</td> <td>1.9</td> <td>0.6</td> </tr> </tbody> </table>	f / Hz	Abstand Modul4 [mm]	Abstand Modul3 [mm]	Abstand Modul2 [mm]	Abstand Modul1 [mm]	0	3.5	2.5	2.2	0.8	5000	3.4	2.4	2.1	0.7	10000	3.3	2.3	2.0	0.6	15000	3.2	2.2	1.9	0.6
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Elektrische Daten ■ <i>Electrical Specification</i>	
Prinzipschaltbild <i>Circuit diagram</i>	
Versorgung <i>Power supply</i>	8 ... 36 V DC 8 ... 36 V DC
Stromaufnahme <i>Current consumption</i>	<20 mA <20 mA
Anschlusschaltbild <i>Electrical connection</i>	
Frequenzbereich <i>Frequency range</i>	0 ... 15.000 Hz 0 ... 15,000 Hz
Max. Ausgangsstrom <i>Maximum output current</i>	500 mA @ 24 V DC, +25°C 50 mA @ 36 V DC, +85°C
Ausgang <i>Output</i>	SHN11.GK13.SC/SD Pull-Up 3k6 SHN11.GK11/12.E4 Pull-Up 10k
Ausgangssignalpegel <i>Output signal level</i>	Low: ≤ 2 V; High: ≥ U _b -2V Low: ≤ 2 V; High: ≥ U _b -2V
Kurzschlussfest <i>Short circuit immunity</i>	Gegen alle Leiter against all terminals
Verpolungsschutz <i>Reverse polarity protection</i>	Gegen alle Leiter against all terminals
Berechnung der maximalen Last <i>Calculation of maximum load</i>	$R_L = U_b \text{ (VDC)} / I_{max} \text{ (mA)}$



Elektrische Daten ■ <i>Electrical Specification</i>		(Fortsetzung ■ <i>Continued</i>)
Anschlussbelegung Kabel (E) <i>Terminal connection cable (E)</i>	braun: = VDC schwarz: = Signal blau: = Masse Schirm: brown: = VDC black: = signal blue: = ground Shield:	
Anschlussbelegung Stecker (SC/SD) <i>Terminal connection plug (SC/SD)</i>	A: = Signal B: = Masse C: = VDC A: = signal B: = ground C: = VDC	

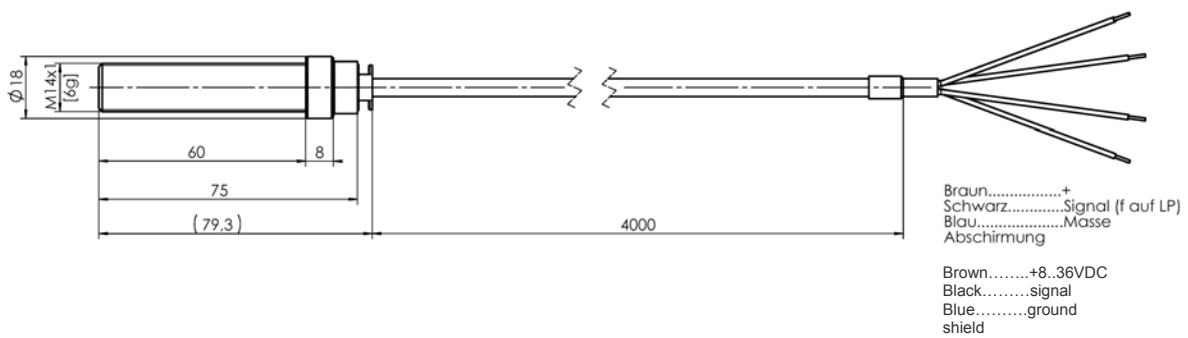
Einsatzbedingungen ■ <i>Environmental conditions</i>		
Betriebstemperaturbereich <i>Operating temperature range</i>	-40° ... +125°C -40° ... +260°F	
Lagertemperatur <i>Storage temperature</i>	-40° ... +125°C -40° ... +260°F	
Druckfestigkeit der Messfläche <i>Max. pressure on sensing surface</i>	5 bar 5 bar	
Schutzart (IEC 529) <i>Degree of protection (IEC 529)</i>	SHN11.GK11/12.E4 SHN11/12.GK11.E4 SHN11.GK13.SC/SD SHN11.GK13.SC/SD	IP67 und IP69k IP67 and IP69k IP67 mit geeignetem Gegenstecker IP67 with suitable connector plugged
Vibration (IEC 68-2-6, IEC 68-2-26) <i>Vibration resistance (IEC 68-2-6, IEC 68-2-26)</i>	15g @ 1...2.000Hz 15g @ 1...2,000Hz	
Schock (IEC 68-2-27) <i>Shock resistance (IEC 68-2-27)</i>	30g @ 11ms 30g @ 11ms	
Stoß (IEC 68-2-29) <i>Bump proof (IEC 68-2-29)</i>	40g @ 6ms 40g @ 6ms	

EMV Normen <i>EMC Standards</i>	EN 50081-2 EN55011 EN55022 EN 50082-2 EN 61000-4-2 (ESD, Level B) EN 61000-4-3 (HF-Field, Level A) EN 61000-4-4 (Burst, Level B) EN 61000-4-6 (HF-Line, Level A)
Zulassungen / Baumusterprüfung <i>Approvals / Classifications</i>	 Konformitätserklärung auf Anforderung verfügbar. <i>Declaration of Conformity available on request.</i>

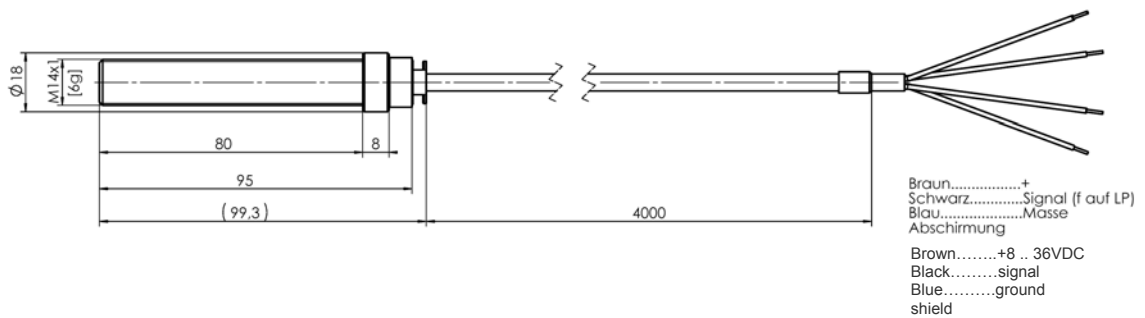
Zeichnungen ■ Drawings

Zeichnung ■ Drawing

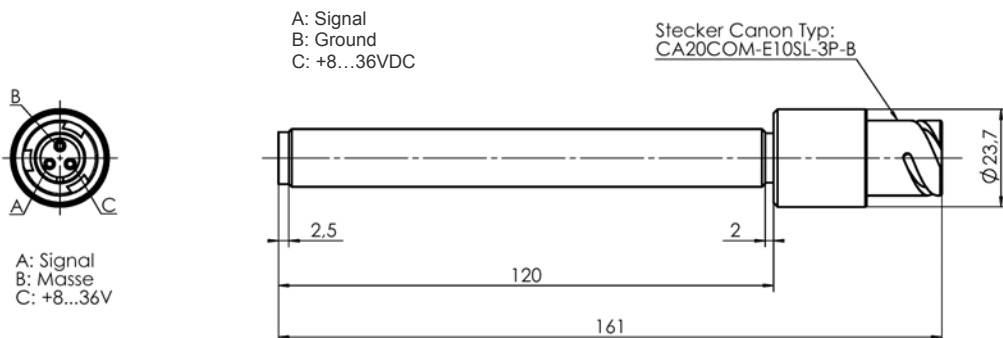
Typ: SHN11.GK11.E4



Typ: SHN11.GK12.E4

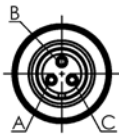


Typ: SHN11.GK13.SC

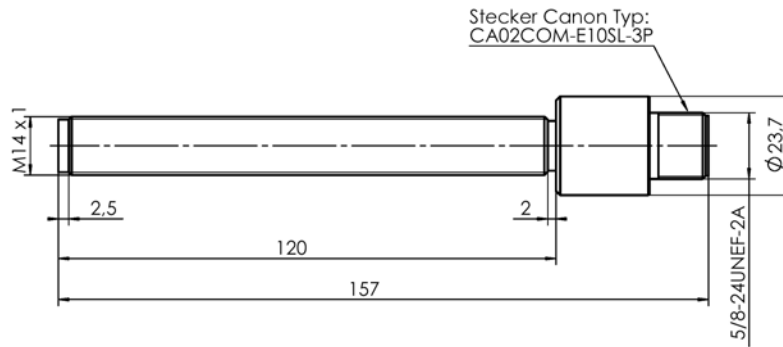




Typ: SHN11.GK13.SD



A: Signal
 B: Masse
 C: +8...36V
 A: Signal
 B: Ground
 C: +8...36VDC



Technische Änderungen, auch ohne vorherige Ankündigung, vorbehalten. Trotz größter Sorgfalt können wir bei Fehlern keine Haftung übernehmen.

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