

Drehzahlsensoren ■ Speed Sensors

1 Kanal Hall M18 Familie ■ 1 Channel Hall M18 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 M18

Applications

- *Speed detection of gearwheels with small module and high resolution.*
- *Applications in vehicles, mobile operating machines and in hydraulic drives*
- *Installation dimension DIN M18*

Merkmale

- Messungen ab 0 Hz
- Richtungsunabhängiger Einbau
- Edelstahl

Features

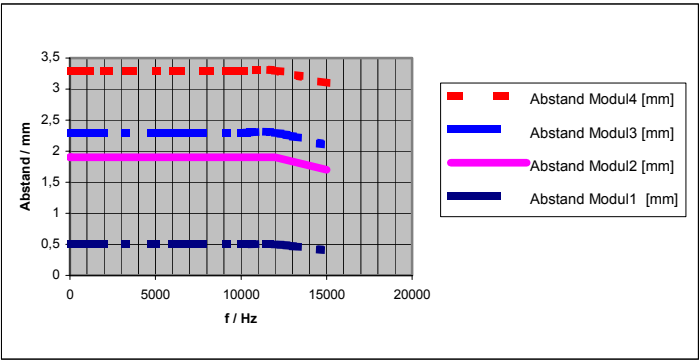
- *Detection from 0 Hz*
- *No alignment required*
- *Stainless steel*

Typenübersicht ■ Type Overview

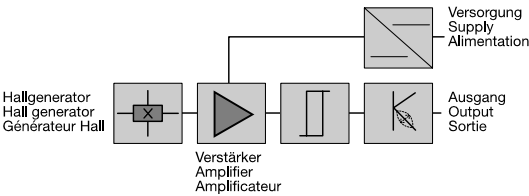
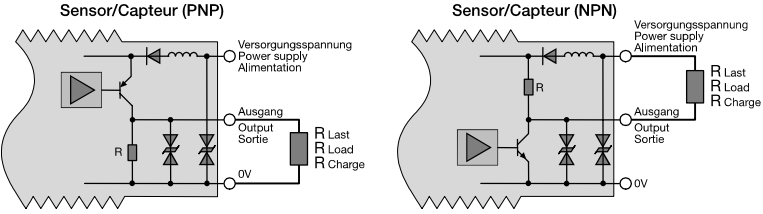
Typ Type	Gehäuse Housing	Anschluss Connection	Ausgang Output
SHN10.GR17.E1	M18x1,5x50mm	Kabel 4x0,5mm ² , PUR, 1000mm <i>Cable, 4x0.5mm², PUR, 1000mm</i>	NPN
SHP10.GR17.E1	M18x1,5x50mm	Kabel 4x0,5mm ² , PUR, 1000mm <i>Cable, 4x0.5mm², PUR, 1000mm</i>	PNP
SHP10.GR17.08	M18x1,5x50mm	Kabel 4x0,5mm ² , PUR, 500mm mit Stecker Sure-Seal, ITT Canon <i>Cable 4x0.5mm², PUR, 500mm with connector Sure-Seal, ITT Canon</i>	PNP
SHP7.GR09.SC	M18x1,5x50	Cannon ITT CA-Com Serie <i>Cannon ITT CA-Com series</i>	PNP
SHN7.GR09.SC	M18x1,5x50	Cannon ITT CA-Com Serie <i>Cannon ITT CA-Com series</i>	NPN
SHP7.GR10.SC	M18x1,5x55	Cannon ITT CA-Com Serie <i>Cannon ITT CA-Com series</i>	PNP

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>	3,2 mm @ 1KHz; M4 Basis: Evolventenverzahnung <i>3.2 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>	20 Nm <i>20 Nm</i>																									
Biegeradius Anschlusskabel <i>Bending radius of connection cable</i>	50 mm <i>50 mm</i>																									
Gehäusewerkstoff <i>Housing material</i>	Edelstahl <i>Stainless Steel</i>																									
Maßzeichnungen <i>Installation drawings</i>	Siehe Seite 5 <i>See page 5</i>																									
Maximaler Einbauabstand bezogen auf Modul und Arbeitsfrequenz <i>Maximum air gap related to pitch and working frequency</i>	 <table border="1"> <caption>Approximate 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>3.2</td> <td>2.3</td> <td>1.9</td> <td>0.5</td> </tr> <tr> <td>5000</td> <td>3.2</td> <td>2.3</td> <td>1.9</td> <td>0.5</td> </tr> <tr> <td>10000</td> <td>3.2</td> <td>2.3</td> <td>1.9</td> <td>0.5</td> </tr> <tr> <td>15000</td> <td>3.1</td> <td>2.2</td> <td>1.8</td> <td>0.4</td> </tr> </tbody> </table>	f / Hz	Abstand Modul4 [mm]	Abstand Modul3 [mm]	Abstand Modul2 [mm]	Abstand Modul1 [mm]	0	3.2	2.3	1.9	0.5	5000	3.2	2.3	1.9	0.5	10000	3.2	2.3	1.9	0.5	15000	3.1	2.2	1.8	0.4
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Elektrische Daten ■ Electrical Specification

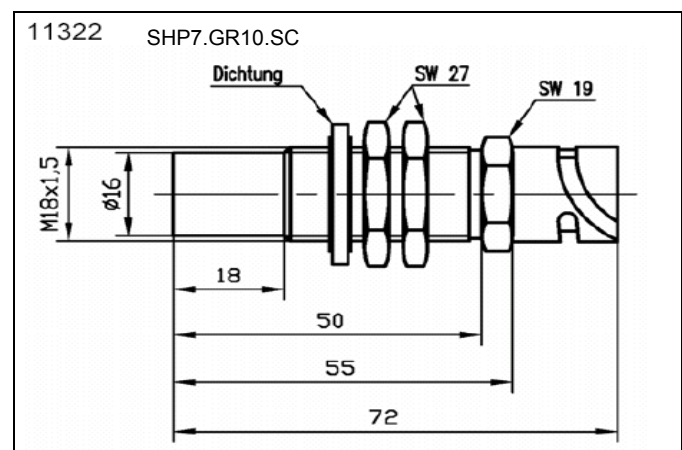
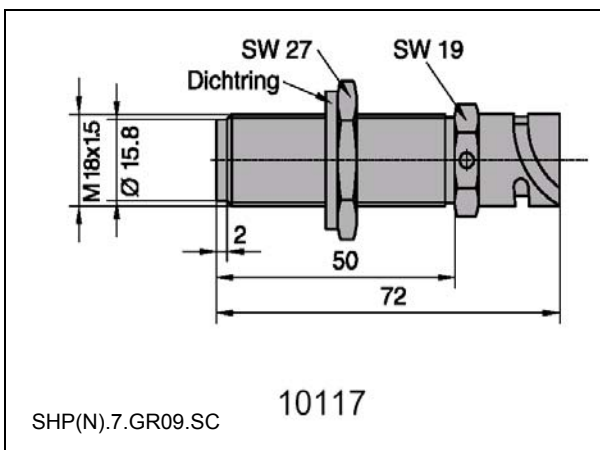
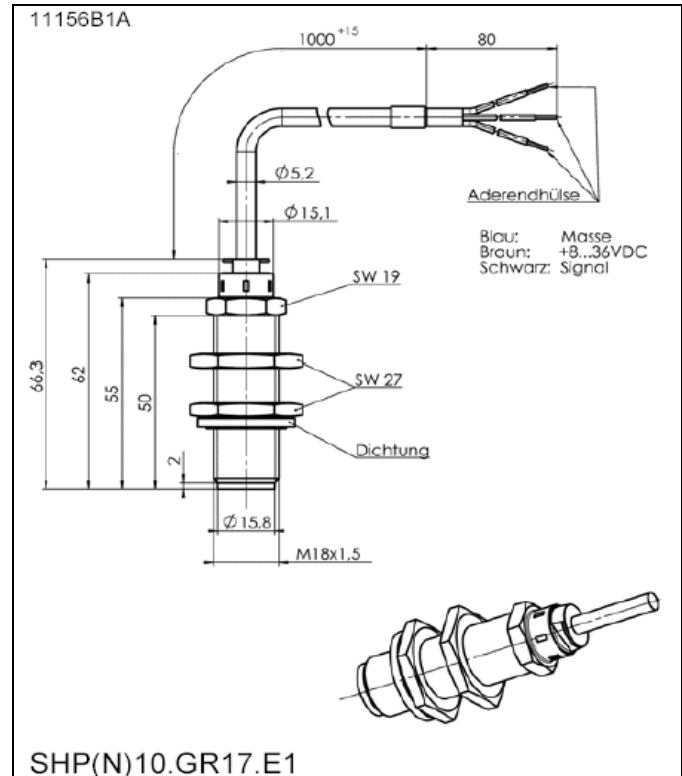
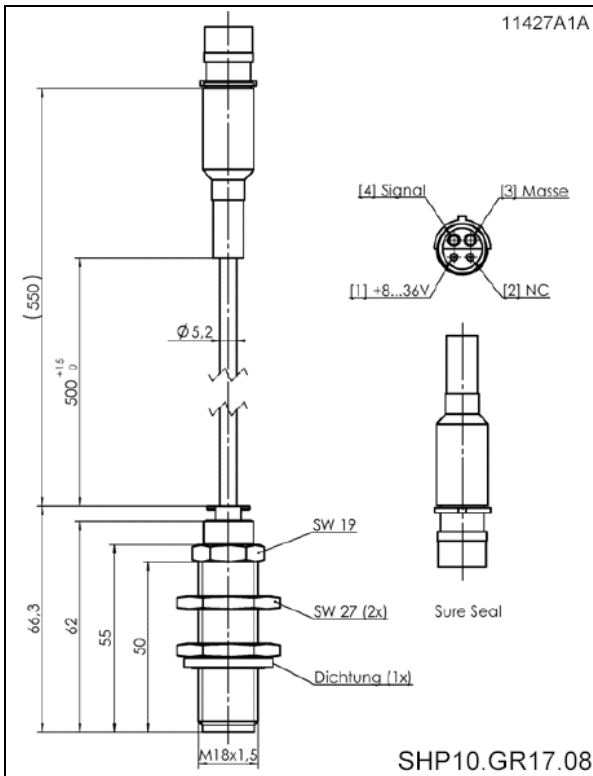
<p>Prinzipschaltbild <i>Circuit diagram</i></p>	
<p>Versorgung <i>Power supply</i></p>	<p>8 ... 36 V DC 8 ... 36 V DC</p>
<p>Stromaufnahme <i>Current consumption</i></p>	<p><20 mA <20 mA</p>
<p>Anschlusschaltbild (NPN) <i>Electrical connection (NPN)</i></p>	
<p>Frequenzbereich <i>Frequency range</i></p>	<p>0 ... 15.000 Hz 0 ... 15,000 Hz</p>
<p>Max. Ausgangsstrom <i>Maximum output current</i></p>	<p>500 mA @ 24 V DC, +25°C 50 mA @ 36 V DC, +85°C</p>
<p>Ausgangssignalpegel <i>Output signal level</i></p>	<p>Low: ≤ 2 V; High: ≥ U_b-2V Low: ≤ 2 V; High: ≥ U_b-2V</p>
<p>Kurzschlussfest <i>Short circuit immunity</i></p>	<p>Gegen alle Leiter <i>against all terminals</i></p>
<p>Verpolungsschutz <i>Reverse polarity protection</i></p>	<p>Gegen alle Leiter <i>against all terminals</i></p>
<p>Berechnung der maximalen Last <i>Calculation of maximum load</i></p>	$R_L = U_b \text{ (VDC)} / I_{\max} \text{ (mA)}$
<p>Anschlussbelegung SHN/P10.GR17.E1 und SHP10.GR17.08 <i>Terminal connection SHN/P10.GR17.E1 and SHP10.GR17.08</i></p>	<p>braun: +8 ... 36 VDC schwarz: Signal blau: Masse weiß: frei</p> <p><i>brown: +8 ... 36 VDC black: signal blue: ground white: not connected</i></p>
<p>Anschlussbelegung SHP/N7.GR09.SC und SHP7.GR10.SC <i>Terminal connection SHP/N7.GR09.SC and SHP7.GR10.SC</i></p>	<p>A: Signal B: Masse C: +8 ... 36 VDC</p> <p><i>A: signal B: ground C: +8 ... 36 VDC</i></p>



Einsatzbedingungen ■ *Environmental conditions*

Betriebstemperaturbereich <i>Operating temperature range</i>	-40°... +125°C -40°... +260°F	
Druckfestigkeit der Messfläche <i>Max. pressure on sensing surface</i>	20 Bar: SHN10.GR17.E1, SHP10.GR17.E1, SHP10.GR17.08 25 Bar: SHP7.GR09.SC, SHN7.GR09.SC, SHP7.GR10.SC	
Schutzart (IEC 529) <i>Degree of protection (IEC 529)</i>	SHN10.GR17.E1 SHP10.GR17.E1 SHP10.GR17.08 SHP7.GR09.SC SHN7.GR09.SC SHP7.GR10.SC SHN10.GR17.E1 SHP10.GR17.E1 SHP10.GR17.08 SHP7.GR09.SC SHN7.GR09.SC SHP7.GR10.SC	IP69k IP69k, Stecker IP67 IP67 mit geeignetem Gegenstecker IP69k IP69k, connector IP67 IP67 with suitable connector
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	
Zulässiges Anzugsdrehmoment <i>Max. torque</i>	20 Nm 20 Nm	
EMV Normen <i>EMC Standards</i>	EN 50081-2 EN 50082-2	EN55011 EN55022 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



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