



# HEIDENHAIN

Montageanleitung  
*Mounting Instructions*  
Instructions de montage  
*Istruzioni di montaggio*  
Instrucciones de montaje



**RCN 729 EnDat**

Ø 60 mm

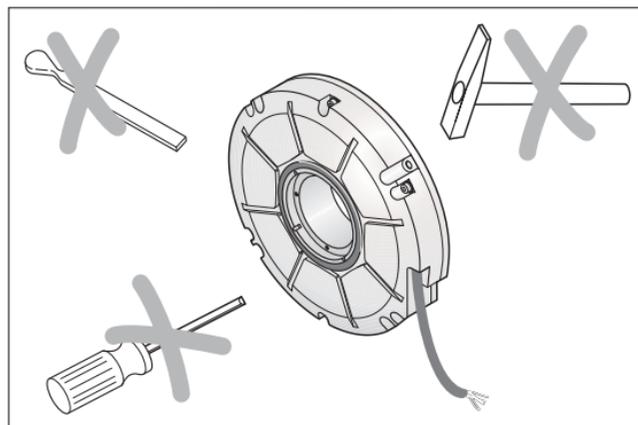
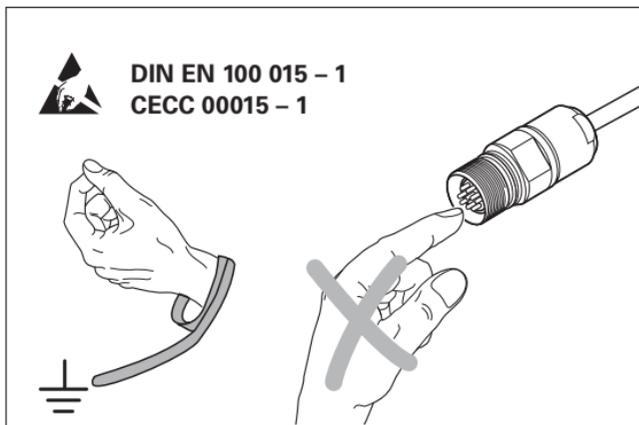
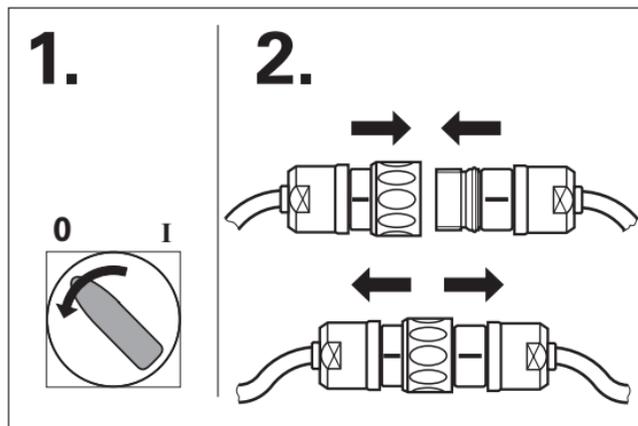
**RCN 829 EnDat**

Ø 60 mm

8/2005



Maße in mm  
Dimensions in mm  
Cotes en mm  
Dimensioni in mm  
Dimensiones en mm





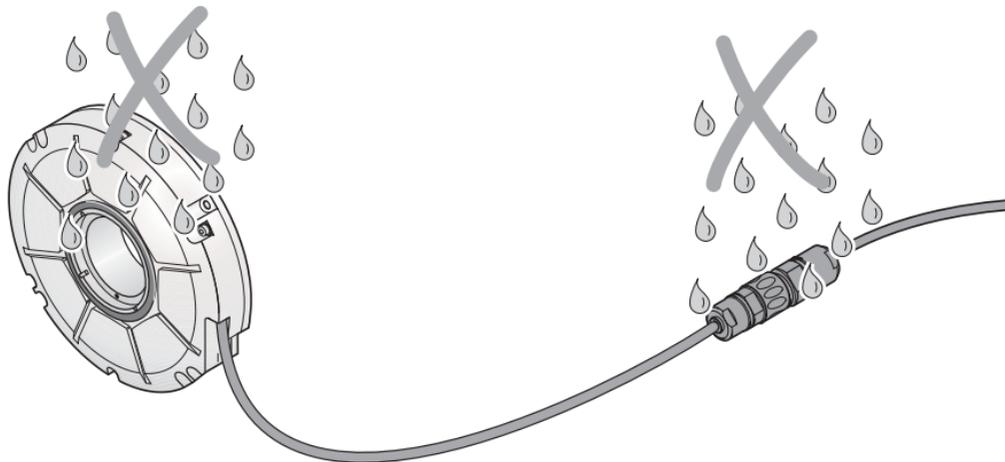
Der direkte Kontakt von Flüssigkeiten mit Messgerät und Steckverbinder ist zu vermeiden!

*Avoid direct contact of fluids with the encoder and connector!*

Eviter le contact direct de liquides sur le système de mesure et le connecteur!

*Evitare che lo strumento di misura e il connettore vengano a contatto con liquidi*

¡Evitar el contacto directo de líquidos con el sistema de medida y el conector!



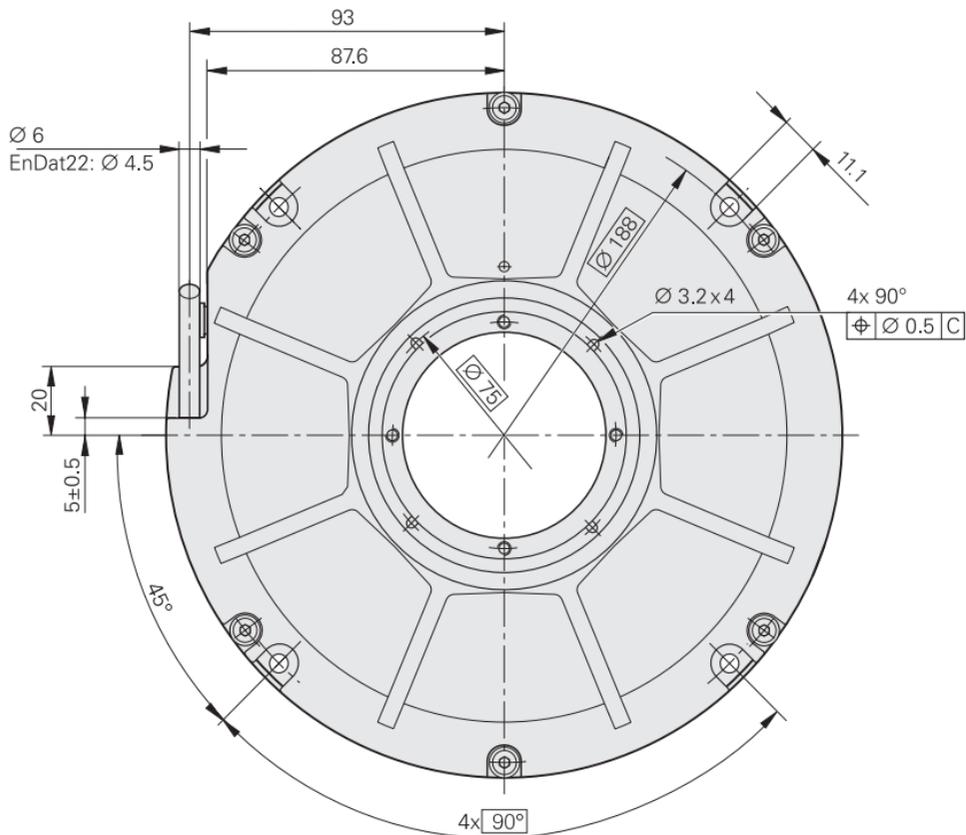
mm



Tolerancing ISO 8015

ISO 2768 - m H

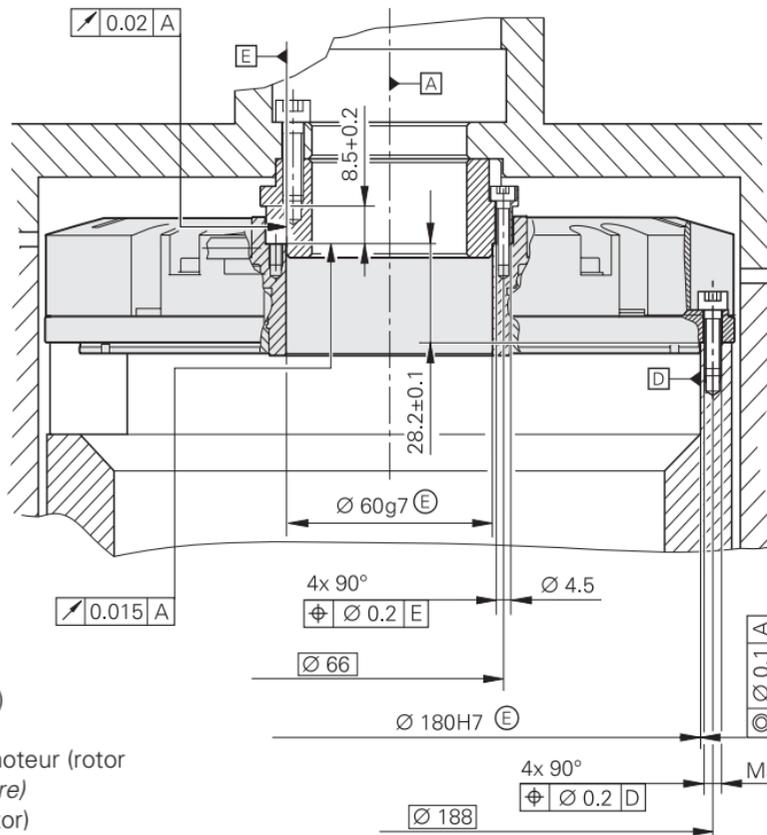
< 6 mm:  $\pm 0.2$  mm





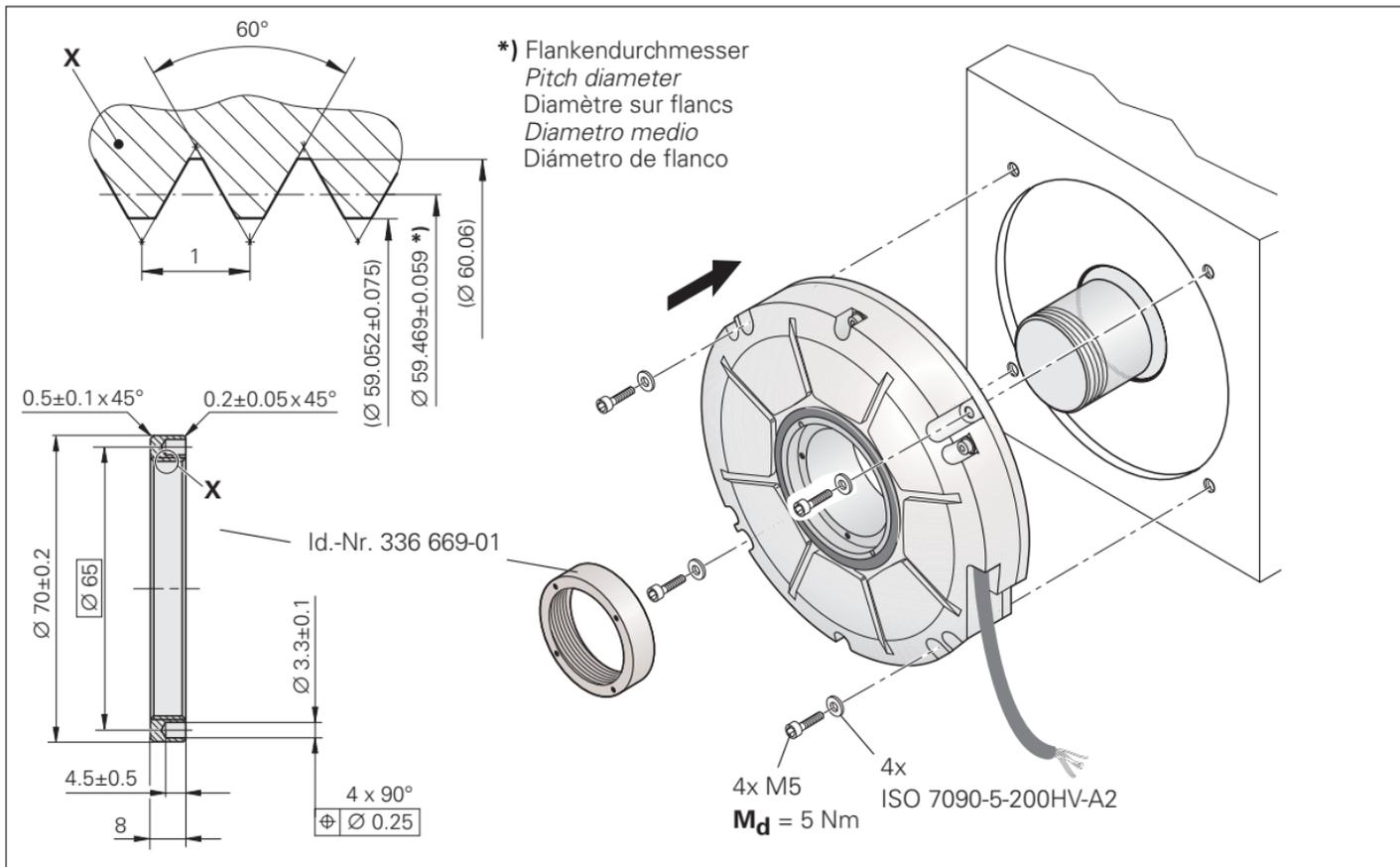


**Stirnseitige Wellenankopplung**  
**Shaft coupling on end face**  
**Accouplement sur l'arbre par la face frontale**  
**Accoppiamento albero frontale**  
**Acoplamiento frontal del eje**



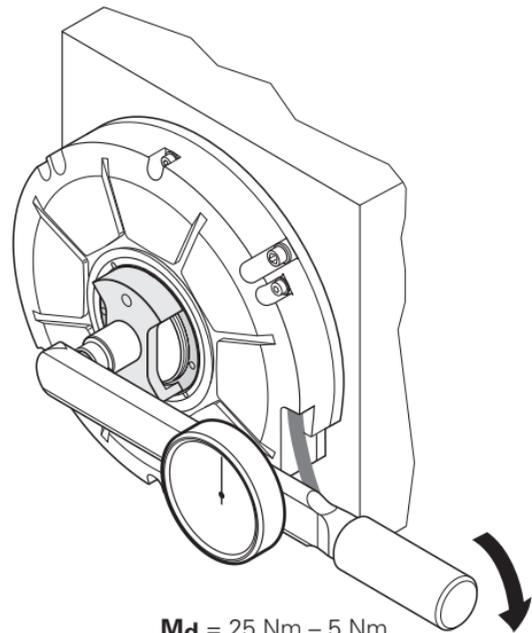
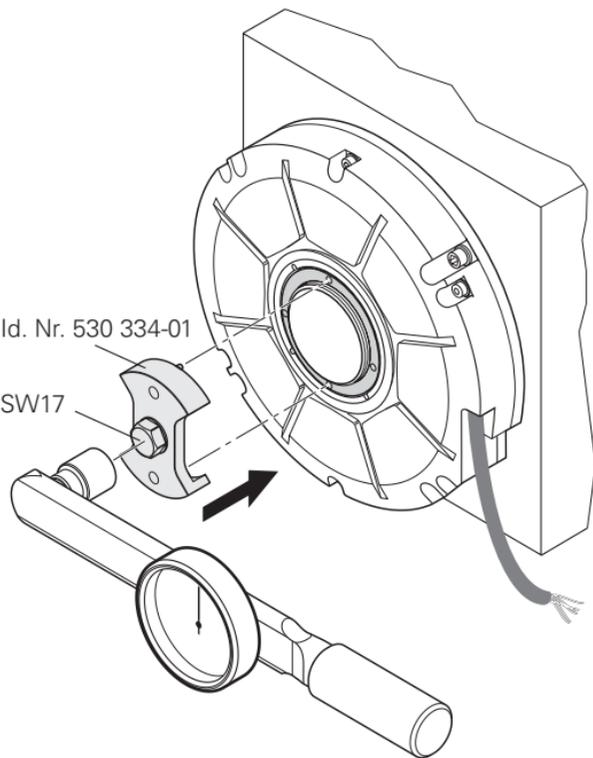
Ⓚ = Kundenseitige Anschlussmaße  
 Required mating dimensions  
 Conditions requises pour le montage  
 Quote per il montaggio  
 Cotas de montaje requeridas

A = Lagerdrehachse der Kundenwelle (Rotor)  
 Bearing axis of customer's shaft  
 Axe de rotation du montage de l'arbre moteur (rotor)  
 Asse cuscinetto dell'albero cliente (Rotore)  
 Eje de rodamiento del eje del cliente (rótor)



Id. Nr. 530 334-01

SW17



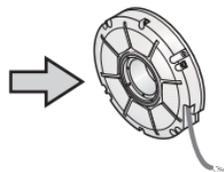
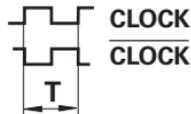
$M_d = 25 \text{ Nm} - 5 \text{ Nm}$



# EnDat02 (mit Inkrementalsignalen) (with incremental signals) (avec signaux incrémentaux) (con segnali incrementali) (con señales incrementales)



**RS-485**



**U<sub>p</sub>** = 3.6 V – 5.25 V  
(max. 350 mA)

am Gerät, *at encoder*, sur l'appareil, *integrato*, en el aparato.



EN 50 178/4.98; 5.2.9.5  
IEC 364-4-41: 1992; 411(PELV/SELV)  
(siehe, *see, voir, vedi, véase*  
HEIDENHAIN D 231 929)



**RS-485**



**DATA**



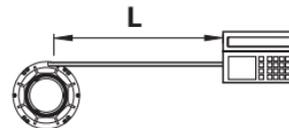
**DATA**



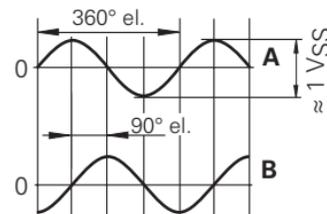
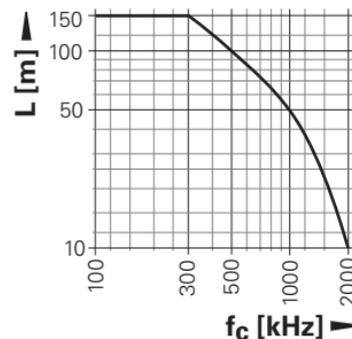
**A · 32 768/360°**



**B · 32 768/360°**



$$f_c = \frac{1}{T}$$

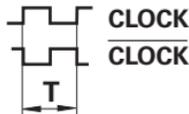




**EnDat22** (ohne Inkrementalsignale)  
*(without incremental signals)*  
 (sans signaux incrémentaux)  
*(senza segnali incrementali)*  
 (sin señales incrementales)

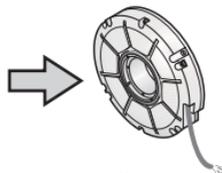


**RS-485**



$U_p = 3.6\text{ V} - 5.25\text{ V}$   
 (max. 350 mA)

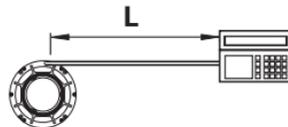
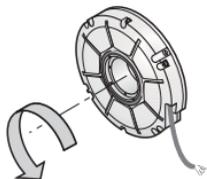
am Gerät, *at encoder*, sur l'appareil, *integrato*, en el aparato.



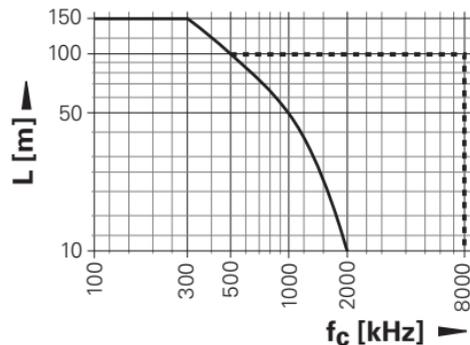
EN 50 178/4.98; 5.2.9.5  
 IEC 364-4-41: 1992; 411(PELV/SELV)  
 (siehe, *see*, voir, *vedi*, véase  
 HEIDENHAIN D 231 929)



**RS-485**



$$f_c = \frac{1}{T}$$

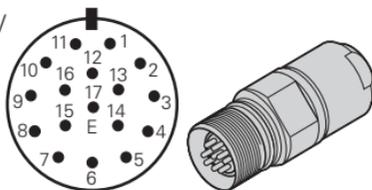


ohne Laufzeitkompensation  
*without delay compensation*  
 sans compensation de la durée du signal  
*senza compensazione del tempo di ciclo*  
 sin compensación del tiempo de propagación

.....  
 mit Laufzeitkompensation  
*with delay compensation*  
 avec compensation de la durée du signal  
*con compensazione del tempo di ciclo*  
 con compensación del tiempo de propagación

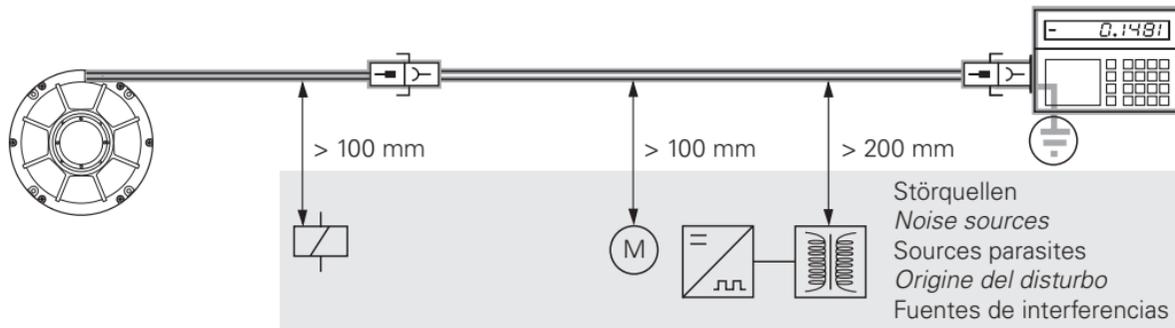


← 03S17-7V



Außenschirm auf Gehäuse  
*External shield on housing*  
 Blindage externe sur boîtier  
*Schermo esterno sulla carcassa*  
 Blindaje externo a carcasa

|                |                |                |                |             |             |              |              |
|----------------|----------------|----------------|----------------|-------------|-------------|--------------|--------------|
| <b>15</b>      | <b>16</b>      | <b>12</b>      | <b>13</b>      | <b>14</b>   | <b>17</b>   | <b>8</b>     | <b>9</b>     |
| <b>A</b>       |                | <b>B</b>       |                | <b>DATA</b> | <b>DATA</b> | <b>CLOCK</b> | <b>CLOCK</b> |
| +              | -              | +              | -              |             |             |              |              |
| gn/sw<br>GN/BK | ge/sw<br>YL/BK | bl/sw<br>BL/BK | rt/sw<br>RD/BK | gr<br>GY    | rs<br>PK    | vio<br>VI    | ge<br>YL     |



**2)** Innenschirm wenn vorhanden  
*Internal shield (if present)*  
 Blindage interne si existant  
*Schermatura interna se disponibile*  
 Blindaje interno si existe

**3)** Wenn vorhanden  
*If present*  
 Si existant  
*Se disponibile*  
 Si existe

|                |                      |                |                      |                 |                 |                 |                 |           |
|----------------|----------------------|----------------|----------------------|-----------------|-----------------|-----------------|-----------------|-----------|
| <b>7</b>       | <b>1</b>             | <b>10</b>      | <b>4</b>             | <b>2</b>        | <b>3</b>        | <b>5</b>        | <b>6</b>        | <b>11</b> |
| <b>Up</b>      | <b>Up<br/>sensor</b> | <b>0V</b>      | <b>0V<br/>sensor</b> | /               | /               | /               | /               | <b>2)</b> |
| br/gn<br>BN/GN | bl<br>BL             | ws/gn<br>WH/GN | ws<br>WH             | sw BK <b>3)</b> | rt RD <b>3)</b> | gn GN <b>3)</b> | br BN <b>3)</b> |           |

Die Sensorleitung ist intern mit der Versorgungsleitung verbunden.

*The sensor line is connected internally with the power supply.*

La ligne de palpeur est reliée de manière interne à la ligne d'alimentation.

*La linea del sensore è collegata internamente con la linea di alimentazione.*

La línea de sensor está unida internamente con la línea de alimentación.

Nichtverwendete Pins oder Litzen dürfen nicht belegt werden!

*Vacant pins or wires must not be used!*

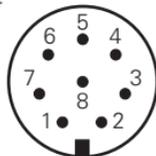
Les plots ou fils non utilisés ne doivent pas être raccordés!

*I pin o i fili inutilizzati non devono essere occupati!*

¡No conectar los pins o hilos no utilizados!



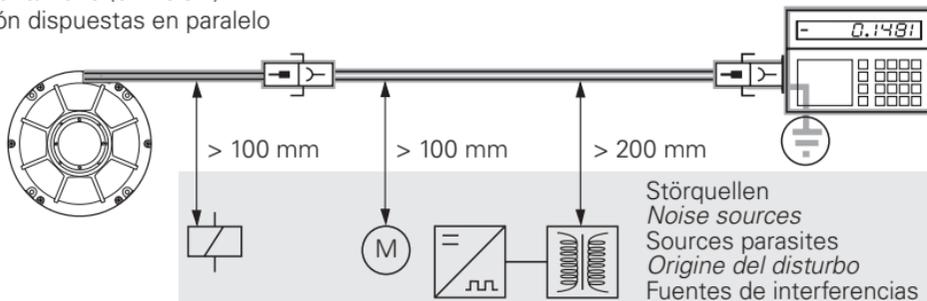
← 1SS08-C4

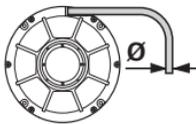
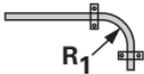
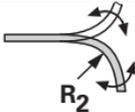


Außenschirm auf Gehäuse  
*External shield on housing*  
 Blindage externe sur boîtier  
*Schermo esterno sulla carcassa*  
 Blindaje externo a carcasa

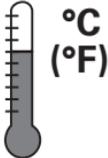
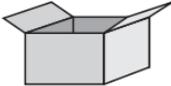
|                      |                                   |                |                        |             |             |              |              |
|----------------------|-----------------------------------|----------------|------------------------|-------------|-------------|--------------|--------------|
| <b>8</b>             | <b>2</b>                          | <b>5</b>       | <b>1</b>               | <b>3</b>    | <b>4</b>    | <b>7</b>     | <b>6</b>     |
| <b>U<sub>p</sub></b> | <b>U<sub>p</sub><sup>1)</sup></b> | <b>0V</b>      | <b>0V<sup>1)</sup></b> | <b>DATA</b> | <b>DATA</b> | <b>CLOCK</b> | <b>CLOCK</b> |
| br/gn<br>BN/GN       | bl<br>BL                          | ws/gn<br>WH/GN | ws<br>WH               | gr<br>GY    | rs<br>PK    | vio<br>VI    | ge<br>YL     |

- 1) für parallel geführte Versorgungsleitungen  
*For parallel supply lines*  
 pour lignes d'alimentations montées en parallèle  
*Parallelo alle linee di alimentazione (SENSOR)*  
 para líneas de alimentación dispuestas en paralelo



|  |  |   |
|--|--|---|
|                        |  <p><math>T \geq -40\text{ °C}</math><br/>(<math>-40\text{ °F}</math>)</p> |  <p><math>T \geq -10\text{ °C}</math><br/>(<math>14\text{ °F}</math>)</p> |
| <p><b>Ø 4.5 mm</b></p>   | <p><math>R_1 \geq 10\text{ mm}</math></p>  | <p><math>R_2 \geq 50\text{ mm}</math></p>   |
| <p><b>Ø 6 mm</b></p>   | <p><math>R_1 \geq 20\text{ mm}</math></p>  | <p><math>R_1 \geq 75\text{ mm}</math></p>   |
| <p><b>Ø 8 mm</b></p>  | <p><math>R_1 \geq 40\text{ mm}</math></p>  | <p><math>R_2 \geq 100\text{ mm}</math></p>  |

|   |   |
|---|---|
|  | <p><b><math>M_d \leq 0.5\text{ Nm}</math></b> (20 °C)<br/> <b><math>I = 1.3 \cdot 10^{-3}\text{ kgm}^2</math></b></p> |
|---|---|

|   |   |
|---|---|
|  |  <p>-30 ... 80 °C<br/>(-22 ... 176 °F)</p> |
|---|---|

# HEIDENHAIN

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**[www.heidenhain.de](http://www.heidenhain.de)**

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