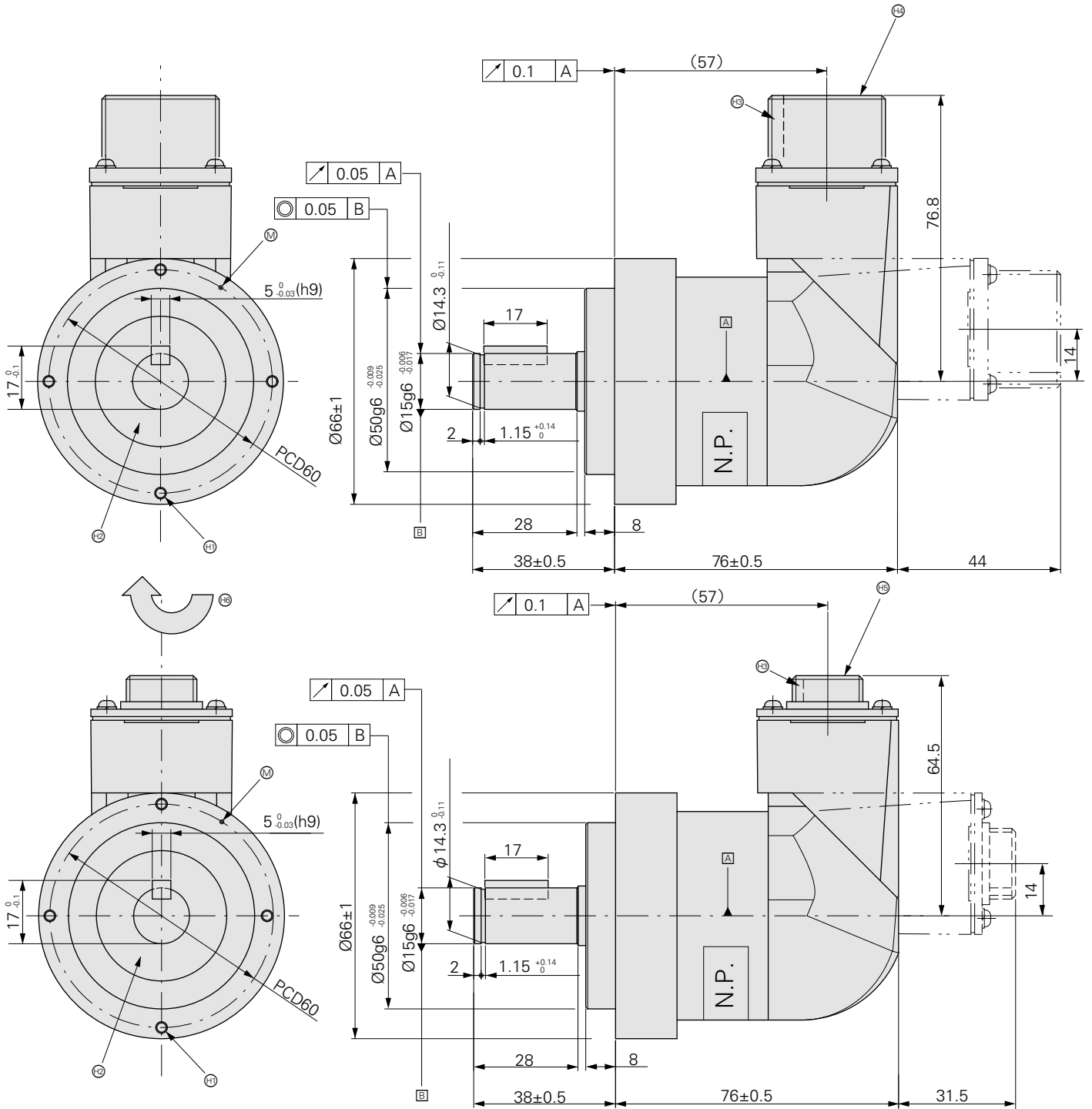
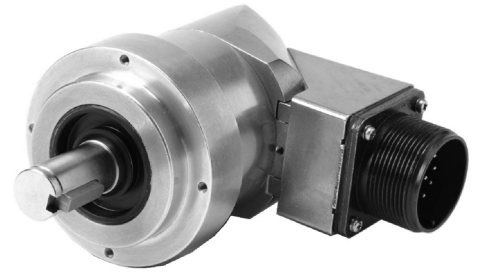


# ROD 600 Series

Incremental Rotary Encoders for separate rotor coupling

- Outer Diameter 66 mm
- Length 76 mm
- Shaft Diameter 15.0 mm




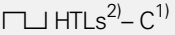
Dimensions in mm



Tolerancing ISO 8015

- Ⓜ = Measuring point for operating temperature
- Ⓜ = 4-M3, Depth 8, Equally Spaced
- Ⓜ = Oil seal
- Ⓜ = Key
- Ⓜ = Flange socket MS3102E20-29P(Equivalent)
- Ⓜ = Flange socket RM15WTRZ-10P(71)
- Ⓜ = Direction of shaft rotation for output signals as per the interface description

Flange socket	Type	Mating connector
10-pin RM15WTRZ-10P(71)	Non-Waterproof	Connector RM15TP-10S(71)
	Waterproof	Connector RM15WTPZ-10S(71)
	Waterproof	Clamp JR13WCC-10(72)
17-pin MS3102E20-29P	Non-Waterproof	Connector MS3106B-20-29S
	Non-Waterproof	Clamp MS3057-12A
	Waterproof	Combined Connector/ Clamp unit MS3106F-20-29S

	ROD 620	ROD 630	ROD 690	
<b>Incremental signals</b>	 TTL-C <sup>1)</sup>	 HTLs <sup>2)</sup> -C <sup>1)</sup>	Open Collectors	
Output pulse *(Accuracy Class)	100 <sup>(I)</sup> 300 <sup>(I)</sup> 500 <sup>(I)</sup> <b>600<sup>(I)</sup></b> 900 <sup>(I)</sup> <b>1000<sup>(I)</sup></b> <b>1024<sup>(I)</sup></b> 1200 <sup>(I)</sup> <b>2000<sup>(I)</sup></b> 2048 <sup>(I)</sup> 3000 <sup>(I)</sup> <b>4096<sup>(II)</sup></b> 5000 <sup>(II)</sup>			
Scanning frequency	≤ 300 kHz	≤ 200 kHz	≤ 200 kHz	≤ 200 kHz
Edge separation <i>a</i>	≥ 0.41 μs	≥ 0.62 μs	≥ 0.62 μs	≥ 0.62 μs
<b>System accuracy</b>	Accuracy Class I : ±1/10 SP , Accuracy Class II: ±1/5 SP			
<b>Power supply</b>	5V ± 10%	10.8V ~ 26.4V	5V ± 10%	10.8V to 26.4V
<b>Current consumption</b> without load	≤ 70 mA	≤ 70 mA	≤ 70 mA	≤ 70 mA
Output current	± 10 mA	≤ 40 mA	≤ 40 mA	≤ 40 mA
Electrical connection	<ul style="list-style-type: none"> <li>• <b>17-pin MS3102E-20-29P flange socket, radial</b></li> <li>• 10-pin RM15WTRZ-10P(71) flange socket, radial</li> </ul>			
<b>Shaft</b>	Solid shaft D = 15 mm with feather key			
<b>Mech. permissible speed n</b>	≤ 6000 min <sup>-1</sup>			
<b>Starting torque</b> (at 20°C)	≤ 0.05 Nm			
<b>Moment of inertia of rotor</b>	9.0 · 10 <sup>-6</sup> kgm <sup>2</sup>			
<b>Shaft load</b>	Axial :50 N Radial: 50 N			
<b>Vibration</b> 25 to 2000 Hz	≤ 100 m/s <sup>2</sup> (JIS C 60 068-2-6, EN 60 068-2-6)			
<b>Shock</b> 6 ms	≤ 1000 m/s <sup>2</sup> (JIS C 60 068-2-27, EN 60 068-2-27)			
<b>Max. operating temp.</b>	70°C			
<b>Min. operating temp.</b>	-20°C			
<b>Protection</b> EN 60 529	IP66			
<b>Mass</b>	Approx. 0.7 kg			

**Bold** : preferred versions

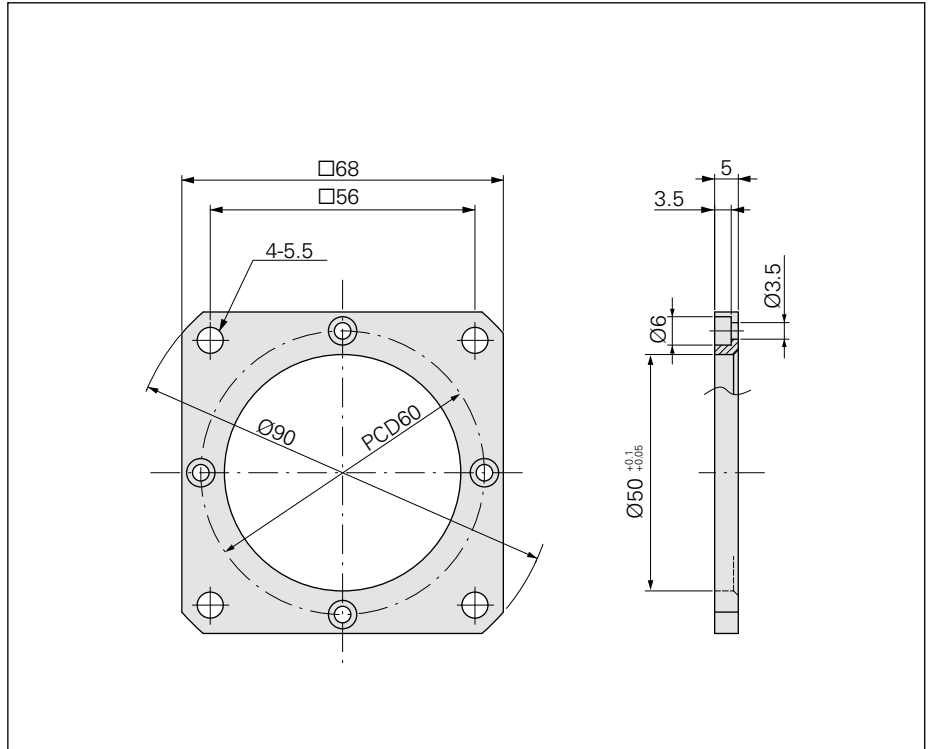
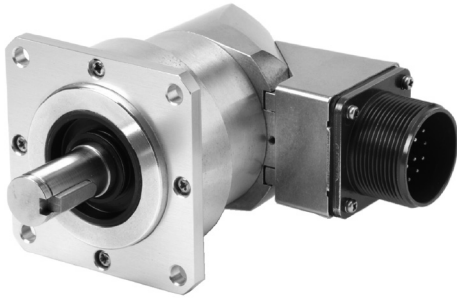
\* Please select when ordering.

<sup>1)</sup> Bypass capacitor is connected to FG.

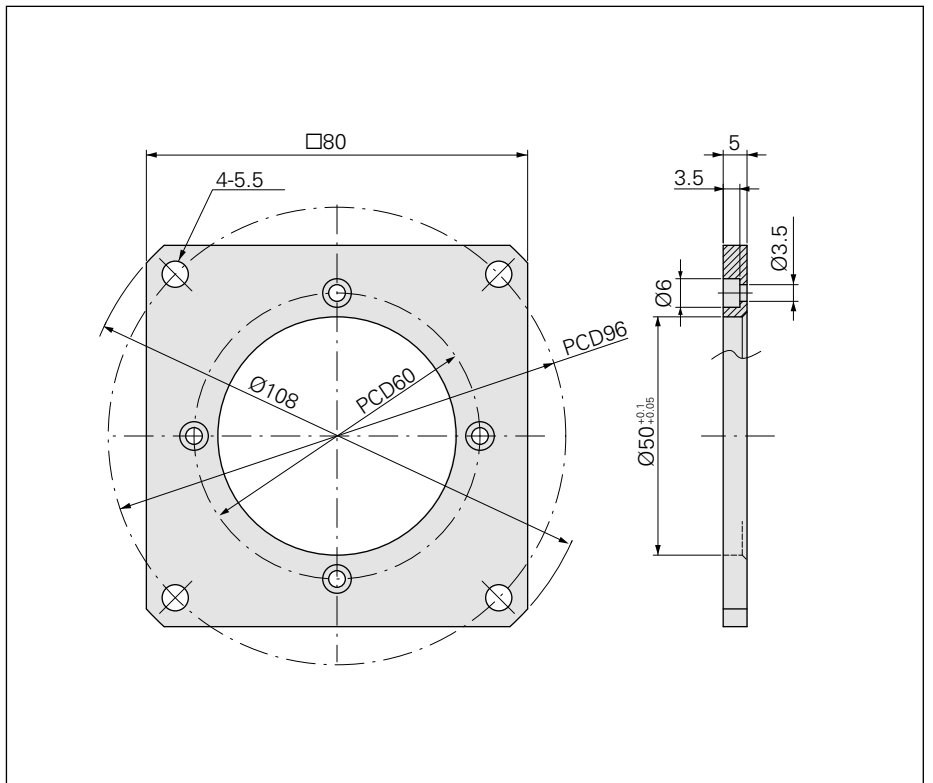
<sup>2)</sup> Without inverse signal

# Mounting Accessories

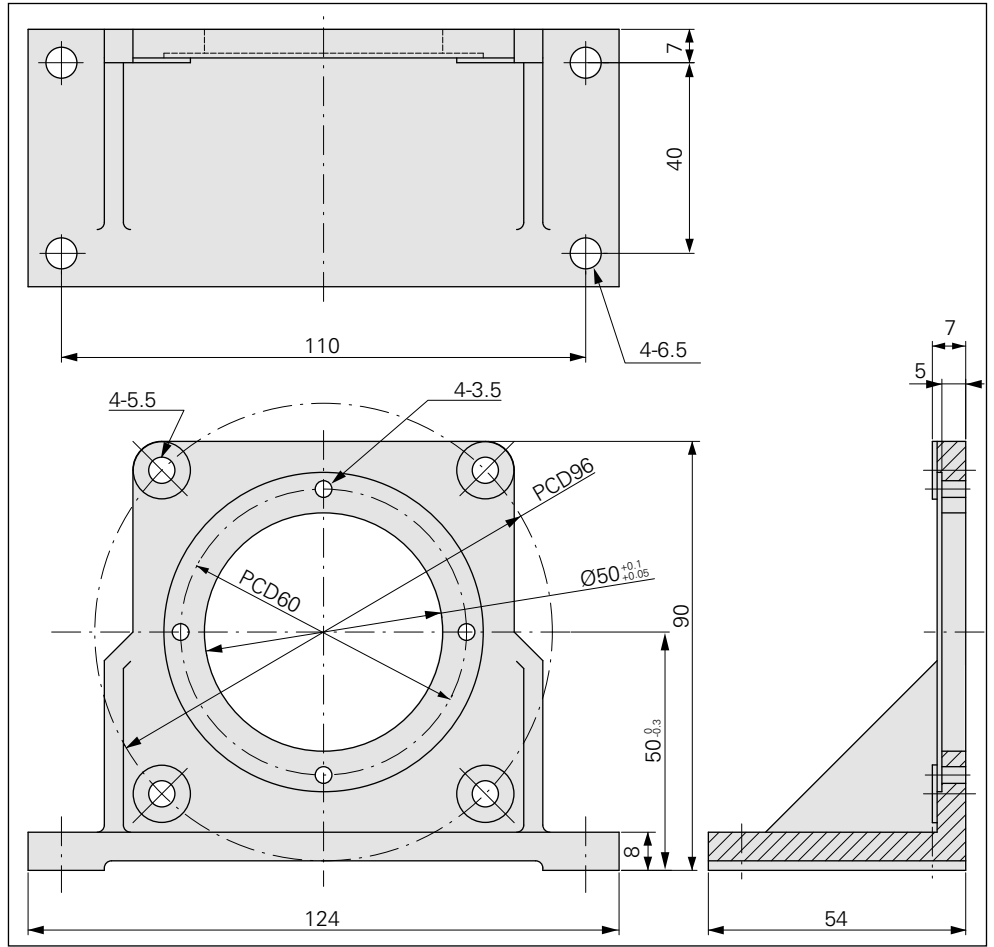
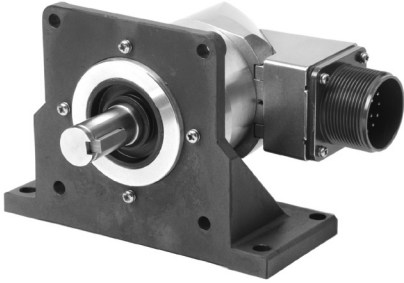
**Mounting flange for ROD 600 series**  
ID 728 587-01



**Mounting flange for ROD 600 series**  
ID 728 587-02

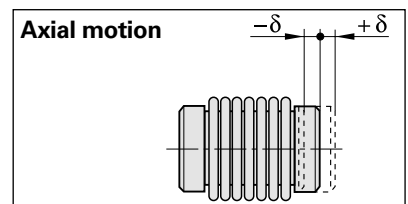
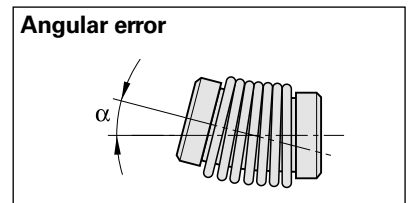
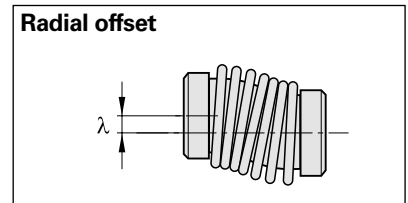


**Mounting bracket for ROD 600 series**  
ID 728 587-03



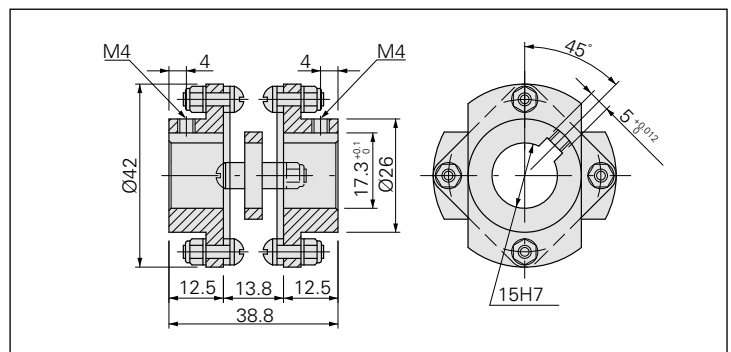
# Rotor Couplings

	for ROD 600 series	
	C 19	C 212
Hub bore	15/15 mm	
Galvanic isolation	–	✓
Kinematic transfer error*	± 13"	
Torsional rigidity	1700 $\frac{\text{Nm}}{\text{rad}}$	
Max. torque	3.9 Nm	5 Nm
Max. radial offset $\lambda$	≤ 0.3 mm	
Max. angular error $\alpha$	≤ 1.5°	
Max. axial motion $\delta$	≤ 1.7 mm	
Moment of inertia (approx.)	1.5 · 10 <sup>-5</sup> kgm <sup>2</sup>	
Permissible speed	20000 min <sup>-1</sup>	6000 min <sup>-1</sup>
Mass	75 g	

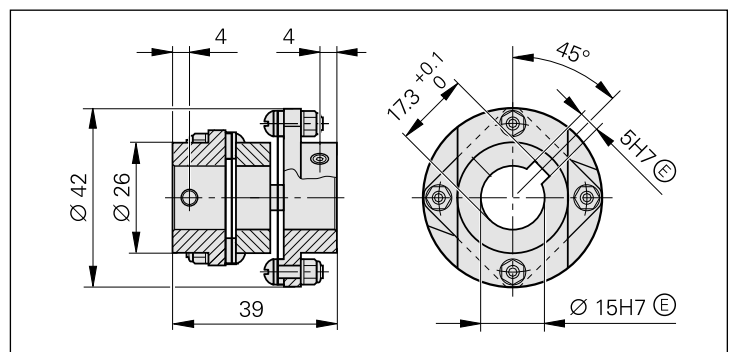


\*With radial misalignment  $\lambda = 0.1$  mm, angular error  $\alpha = 0.15$  mm over 100 mm  $\cong 0.09$ , valid up to 50 °C

**Rotor coupling C 19**  
for ROD 600 series  
ID 731 374-01




**Rotor coupling C 212**  
for ROD 600 series  
ID 731 374-02



# Connecting Elements and Cables

## Connecting Cables

Cable diameter 6.5 mm		
Connector <sup>1)</sup>	Cable Specification	
10-pin RM15TP-10S(71)	4x 2x 0.18 mm <sup>2</sup>	736 060-01 (1m) 736 060-03 (3m) 736 060-05 (5m)
17-pin MS3106B-20-29S MS3057-12A	4x 2x 0.18 mm <sup>2</sup>	736 061-01 (1m) 736 061-03 (3m) 736 061-05 (5m)


<sup>1)</sup>With Water Proofed conecter on request

## Mating Connectors

Mating connector	Type-Name	ID Number
10-pin, Connector, Non-Waterproof	RM15TP-10S(71)	721636-02
10-pin, Connector, Waterproof	RM15WTPZ-10S(71)	1105835-01
10-pin, Clamp, Waterproof	JR13WCC-10(72)	1106395-01
17-pin, Connector, Non-Waterproof	MS3106B-20-29S	721630-01
17-pin, Combined Connector/Clamp unit, Non-Waterproof	MS3057-12A	721627-01
17-pin, Connector, Waterproof	MS3106F-20-29S	1105832-01


# Pin Layout

## TTL - C / HTL - C

10-pin RM15WTRZ-10P(71) flange socket				17-pin MS3102E-20-29P flange socket								
Power supply		Incremental signals							Other signals			
10-pin RM15WTRZ-10P(71) flange socket	1	2	10	3	4	5	6	7	8	/	9	/
17-pin MS3102E-20-29P flange socket	H	K	T	A	N	C	R	B	P	M	/	D/E/F/G/J/L/S
	U <sub>P</sub>	0V	FG	U <sub>a1</sub>	$\overline{U}_{a1}$	U <sub>a2</sub>	$\overline{U}_{a2}$	U <sub>a0</sub>	$\overline{U}_{a0}$	0V	Vacant	Vacant
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange			

Cable shield connected to housing; U<sub>P</sub> = power supply

## HTLs- C / Open Collectors

10-pin RM15WTRZ-10P(71) flange socket				17-pin MS3102E-20-29P flange socket								
Power supply		Incremental signals							Other signals			
10-pin RM15WTRZ-10P(71) flange socket	1	2	10	3	4	5	6	7	8	/	9	/
17-pin MS3102E-20-29P flange socket	H	K	T	A	N	C	R	B	P	M	/	D/E/F/G/J/L/S
	U <sub>P</sub>	0V	FG	U <sub>a1</sub>	0V	U <sub>a2</sub>	0V	U <sub>a0</sub>	0V	0V	Vacant	Vacant
	White	Black		Red	Pink	Olive	Blue	Yellow	Orange			

Cable shield connected to housing; U<sub>P</sub> = power supply

# HEIDENHAIN

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