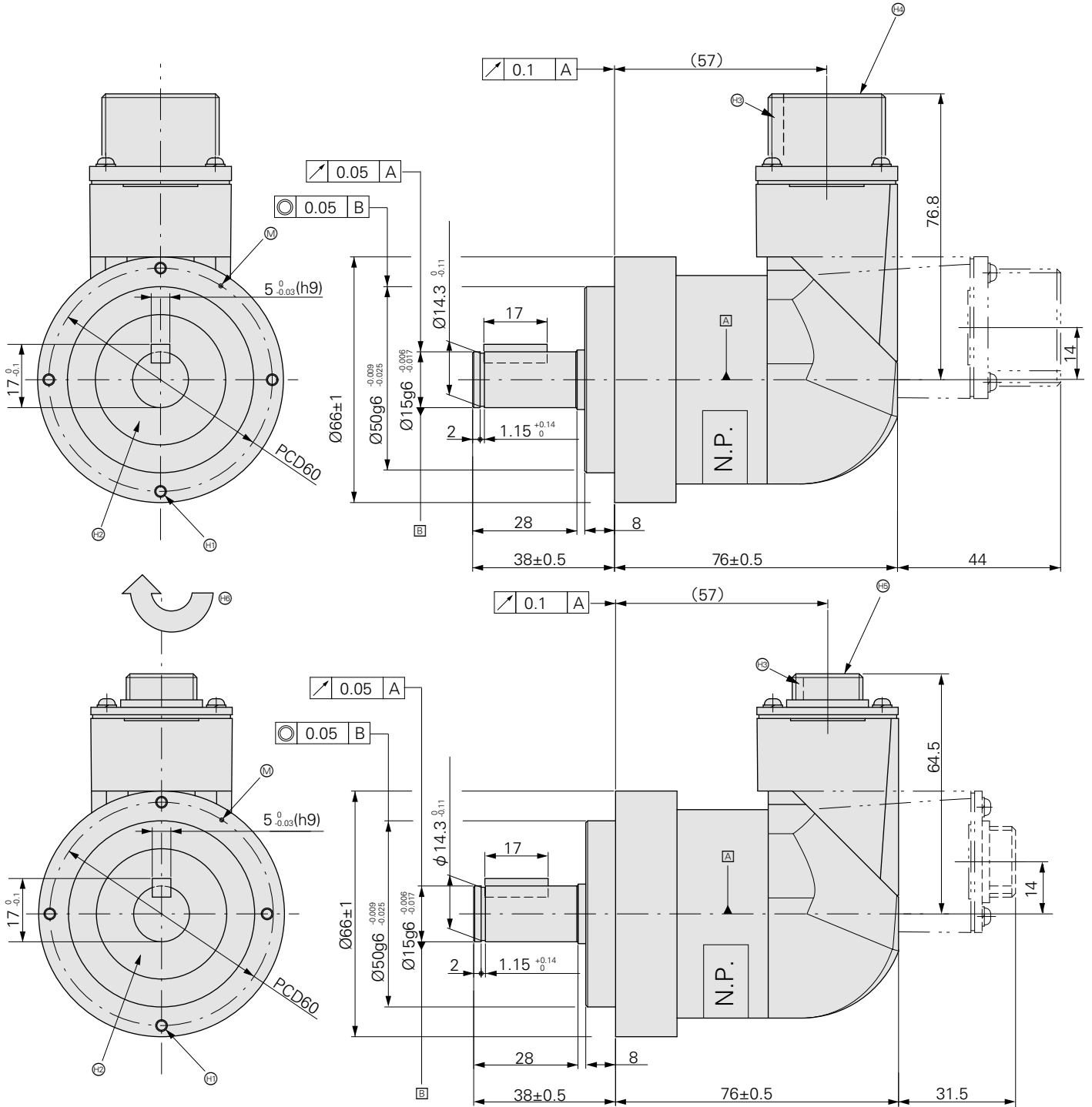
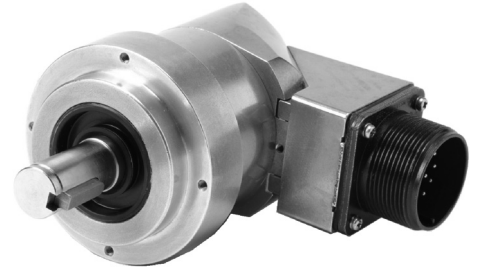


ROD 600 Series

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
- Ⓧ1 = 4-M3, Depth 8, Equally Spaced
- Ⓧ2 = Oil seal
- Ⓧ3 = Key
- Ⓧ4 = Flange socket MS3102E20-29P(Equivalent)
- Ⓧ5 = Flange socket RM15WTRZ-10P
- Ⓧ6 = Direction of shaft rotation for output signals as per the interface description

	ROD 620	ROD 630	ROD 690	
Incremental signals	 TTL-C ¹⁾	 HTLs ²⁾ -C ¹⁾	Open Collectors	
Output pulse ^{*(Accuracy Class)}	100 ^(I) 300 ^(I) 500 ^(I) 600^(I) 900 ^(I) 1000^(I) 1024^(I) 1200 ^(I) 2000^(I) 2048 ^(I) 3000 ^(I) 4096^(III) 5000 ^(III)			
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
System accuracy	Accuracy Class I : ±1/10 SP Accuracy Class II : ±1/5 SP			
Power supply	5V ± 10%	10.8V ~ 26.4V	5V ± 10%	10.8V to 26.4V
Current consumption 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"> • 17-pin MS3102E-20-29P flange socket, radial • 10-pin RM15WTRZ-10P flange socket, radial 			
Shaft	Solid shaft D = 15 mm with feather key			
Mech. permissible speed n	≤ 6000 min ⁻¹			
Starting torque (at 20°C)	≤ 0.05 Nm			
Moment of inertia of rotor	9.0 · 10 ⁻⁶ kgm ²			
Shaft load	Axial : 50 N Radial: 50 N			
Vibration 25 to 2000 Hz	≤ 100 m/s ² (JIS C 60 068-2-6, EN 60 068-2-6)			
Shock 6 ms	≤ 1000 m/s ² (JIS C 60 068-2-27, EN 60 068-2-27)			
Max. operating temp.	70°C			
Min. operating temp.	-20°C			
Protection EN 60 529	IP66			
Mass	Approx. 0.7 kg			

Bold : preferred versions

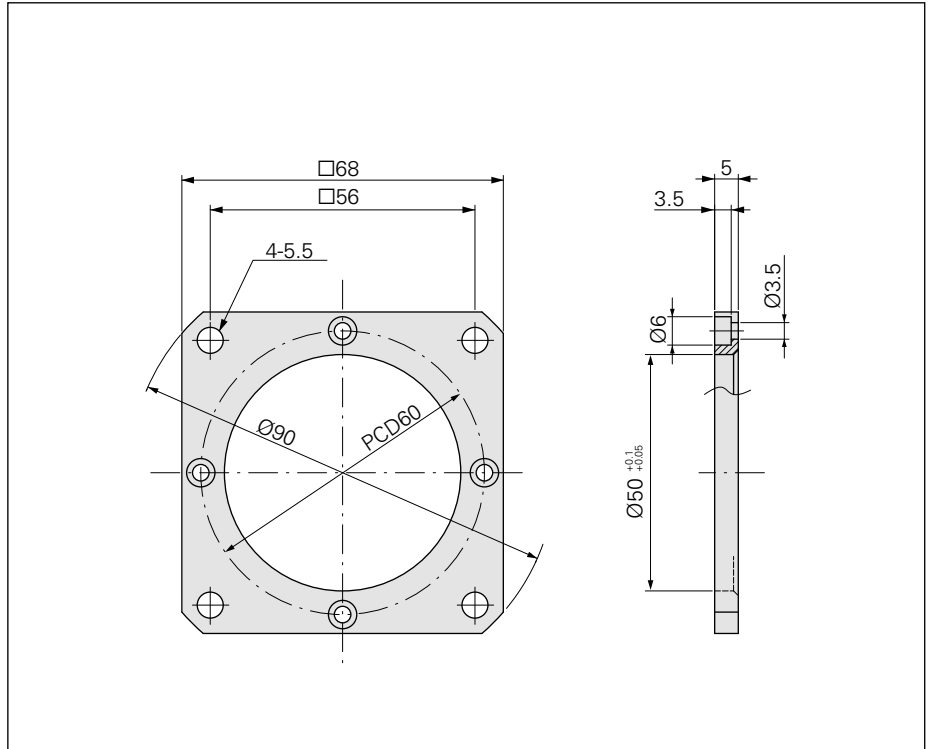
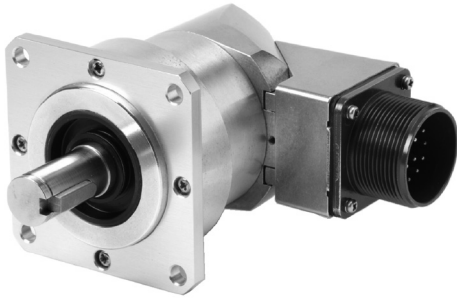
* Please select when ordering.

¹⁾ Bypass capacitor is connected to FG.

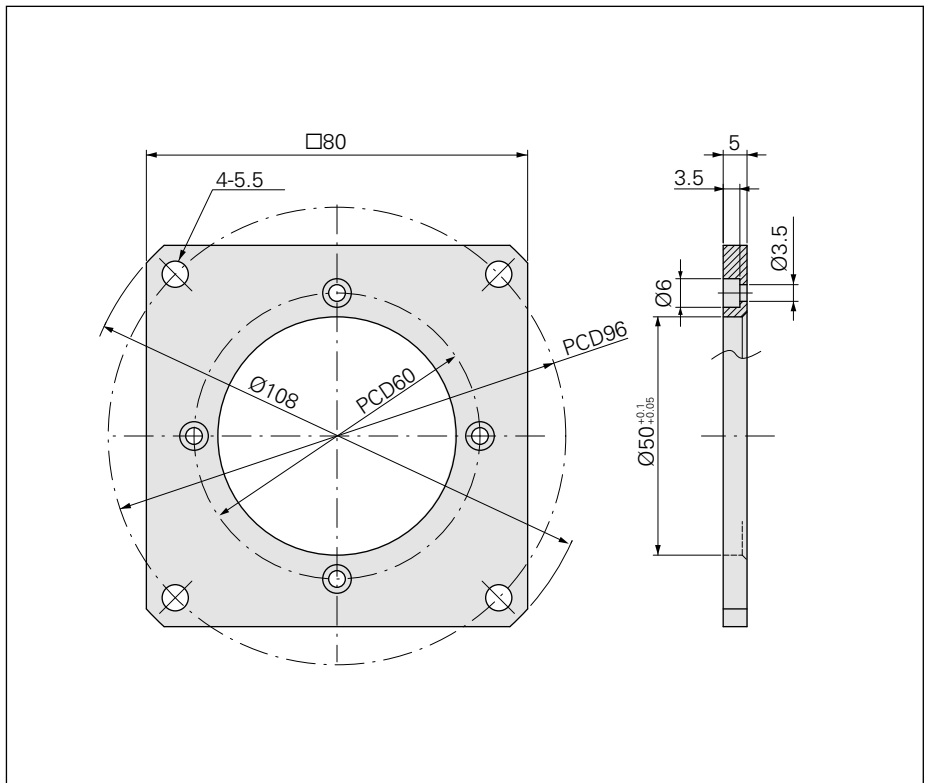
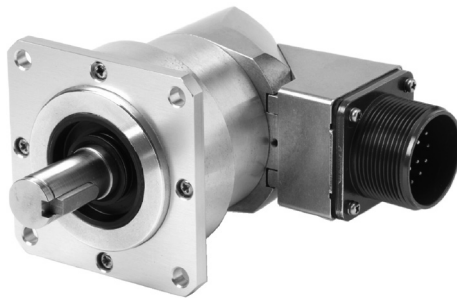
²⁾ Without inverse signal

Mounting Accessories

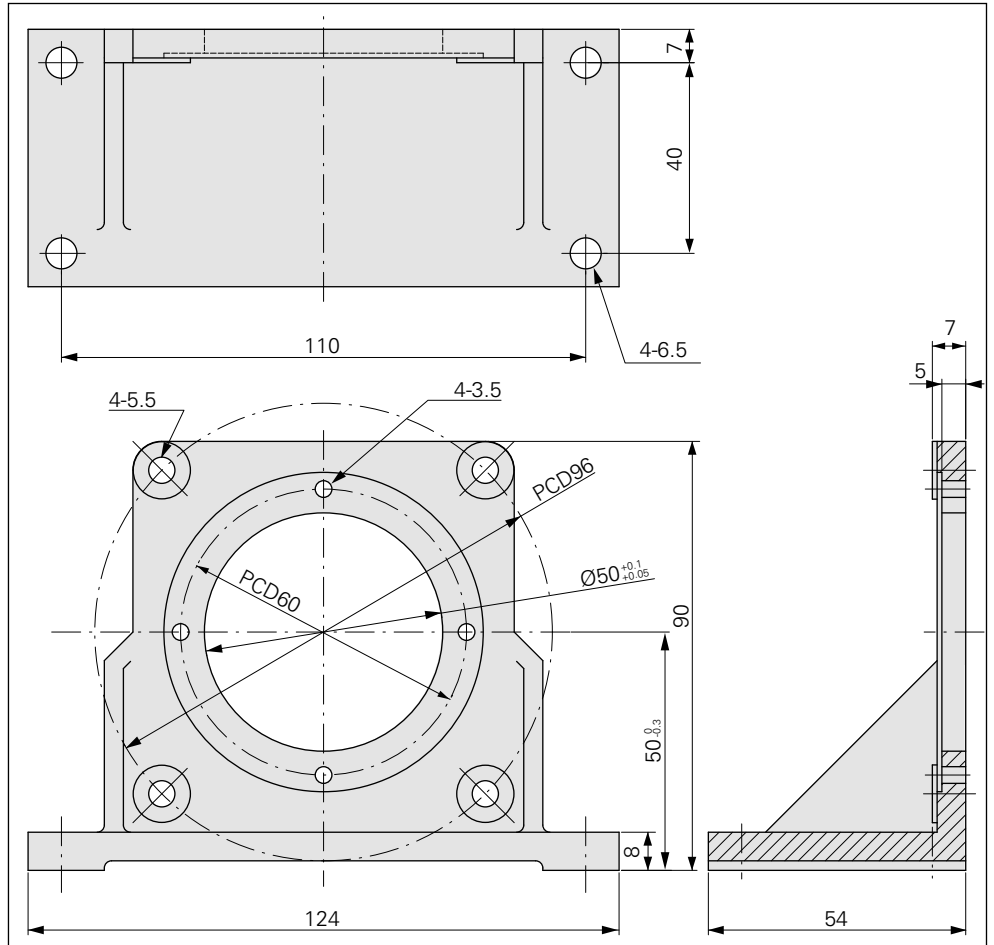
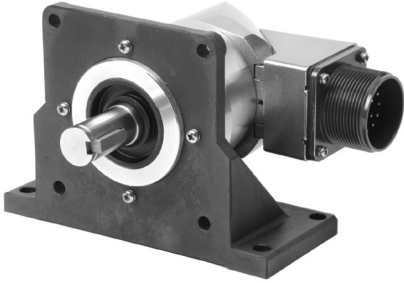
Mounting flange for ROD 600 series
ID 728 587-01



Mounting flange for ROD 600 series
ID 728 587-02

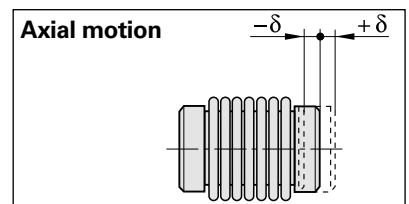
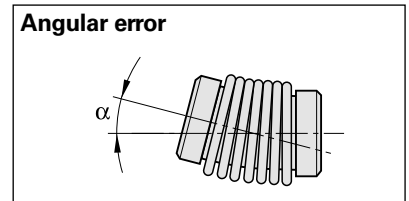
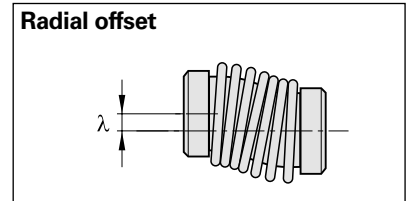


Mounting bracket for ROD 600 series
ID 728 587-03



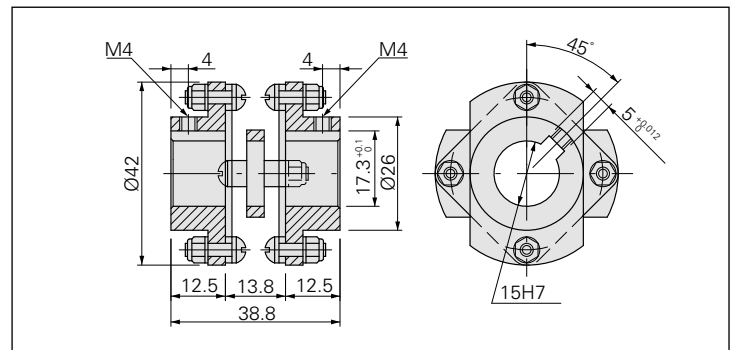
Rotor Couplings

	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 λ	≤ 0.3 mm	
Max. angular error α	≤ 1.5°	
Max. axial motion δ	≤ 1.7 mm	
Moment of inertia (approx.)	1.5 · 10 ⁻⁵ kgm ²	
Permissible speed	20000 min ⁻¹	6000 min ⁻¹
Mass	75 g	

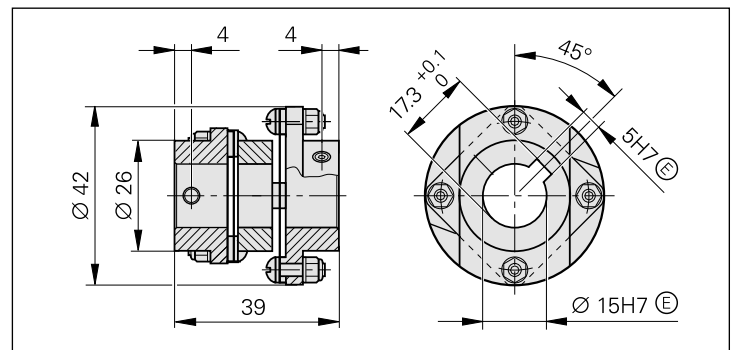


*With radial misalignment $\lambda = 0.1$ mm, angular error $\alpha = 0.15$ mm over 100 mm $\cong 0.09$, valid up to 50 °C

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

Standard

Cable diameter 6.5 mm		
Connector	Cable Specification	
10-pin RM15TP-10S	4x 2x 0.18 mm ²	736060-xx
17-pin MS3106B-20-29S MS3057-12A	4x 2x 0.18 mm ²	736061-xx

Waterproof or environment resistant

Cable diameter 6.5 mm		
Connector	Cable Specification	
10-pin RM15WTPZ-10S JR13WCC-xx	4x 2x 0.18 mm ²	1172308-xx
Cable diameter 9.5 mm		
Connector	Cable Specification	
17-pin MS3106F-20-29S	4x 2x 0.18 mm ²	1279245-xx

Mating Connectors

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

Pin Layout

TTL – C / HTL – C

10-pin RM15WTRZ-10P flange socket				17-pin MS3102E-20-29P flange socket									
		Power supply			Incremental signals						Other signals		
10-pin RM15WTRZ-10P 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_P	0V	FG	U_{a1}	\overline{U}_{a1}	U_{a2}	\overline{U}_{a2}	U_{a0}	\overline{U}_{a0}	0V	Vacant	Vacant
Cable Ø 6.5 mm 4x 2x 0.18 mm ²		White	Black		Red	Pink	Olive	Blue	Yellow	Orange			
Cable Ø 9.5 mm 4x 2x 0.18 mm ²		White	Black (White)		Red	Black (Red)	Green	Black (Green)	Yellow	Black (Yellow)			

Cable shield connected to housing; U_P = power supply; the color of twisted pair cable is shown in brackets

HTLs– C / Open Collectors

10-pin RM15WTRZ-10P flange socket				17-pin MS3102E-20-29P flange socket									
		Power supply			Incremental signals						Other signals		
10-pin RM15WTRZ-10P 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_P	0V	FG	U_{a1}	0V	U_{a2}	0V	U_{a0}	0V	0V	Vacant	Vacant
Cable Ø 6.5 mm 4x 2x 0.18 mm ²		White	Black		Red	Pink	Olive	Blue	Yellow	Orange			
Cable Ø 9.5 mm 4x 2x 0.18 mm ²		White	Black (White)		Red	Black (Red)	Green	Black (Green)	Yellow	Black (Yellow)			

Cable shield connected to housing; U_P = power supply; the color of twisted pair cable is shown in brackets

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