

## Bosch-Rexroth - 'M' Manufacturers Connector, Cable & Wiring Information

Current Exlar Feedback configurations are as follows:

- IN6 = Standard Resolver – MKD motor wiring w/standard M23 connectors for 'M' option
- IN7 = Hyperface Stegmann SKM036 – 512 periods/rev multi-turn absolute encoder – Indradyn S MSK motor
- M1 wiring w/ Bosch Connectors for 'M' option.

### Exlar Actuator Power Wiring

#### 'M' Manufacturers Connector Option with IN6 Feedback:

Motor power connections excerpt from Connection System Section of DOK-MOTOR\*-MKD\*\*\*\*\*-PR05-DE-P Manual:

Exlar IN6 uses wiring and connectors that are used on the MKD resolver motor to provide ease of installation using the Bosch-Rexroth drive cables.

Size 1 - INS0680\*\* straight flange socket is used with the following Exlar Models using the 'M'

Manufacturers Connector Option:

- GSM20, GSM30, GSM40
- GSX20, GSX30, GSX40, GSX50
- SLM060, SLM090, SLM115, SLM142
- SLG060, SLG090, SLG115

Size 1.5 - INS0480 Flange socket is used with the following Exlar Models using the 'M'

Manufacturers Connector Option:

- GSX60
- SLM180

Power connector flange socket

View on the mating side of the flange sockets

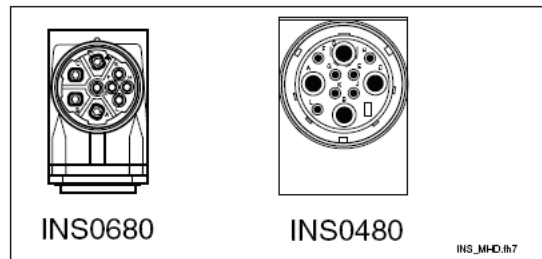


Fig. 12-6: MKD flange sockets

Flange socket	INS0680	INS0480	Description
Power supply contacts	A,B,C	A,B,C	U1, V1, W1
PE contact	D	D	
Temp. sensor contacts	E,H	E,H	T1, T2
Brake contact	F,G	F,G	Br+, Br-
Unused contacts	L	J,K,L	

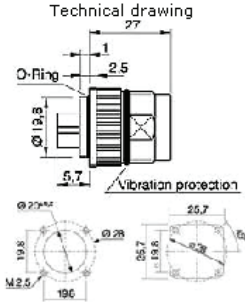
Fig. 12-7: Pin assignment of flange socket for the MKD power connector

\* Exlar Uses a PTC KTY84 Thermistor for temperature sensor as referenced above for the IN6 callout

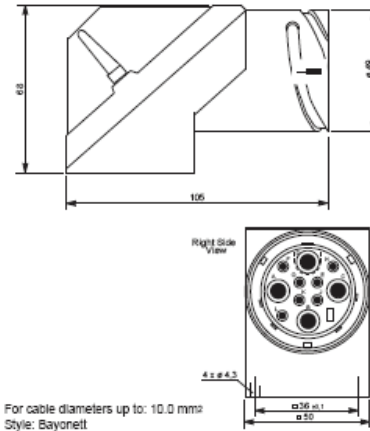
\*\* Exlar substitutes for the INS0680 a straight flange mounted connector as defined below from Intercontec with the same pin configuration.

**Housing design**

Reference picture  
Configurated housing  
surface: Nickel plated



Insulation inserts :  
E-Type , Front view



**Size 1 Connector**

INS0680\*\* connector from Intercontec Part # - BEGA 090  
MR26 00 0011 000

The mating connector part number from Bosch is INS0681.

**Size 1.5 Connector**

INS0480 Flange Connectors are purchased from  
Bosch-Rexroth.

The mating connector part number is INS0481.

**IN6 Bosch-Rexroth Indradrive Power Cable Part Numbers**

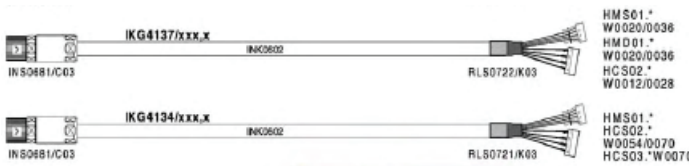
Excerpt from DOK-CONNEX-CABLE\*STAND-AU09-EN-P and DOK-MOTOR\*-MKD\*\*\*\*\*-PR05-DE-P Bosch-Rexroth  
Manuals:



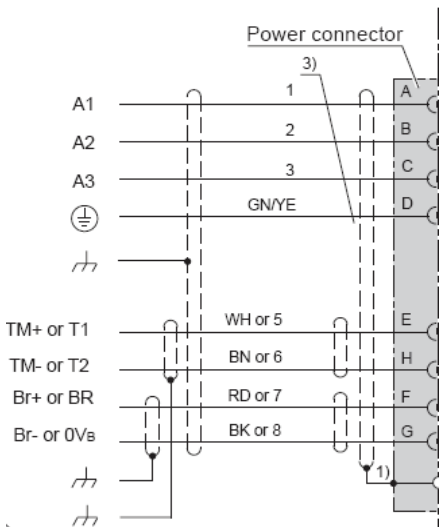
**Size 1 (INS0681) Power Cables 1.5mm²:**



**Size 1.5 (INS0481) Power Cables 6.0mm²:**

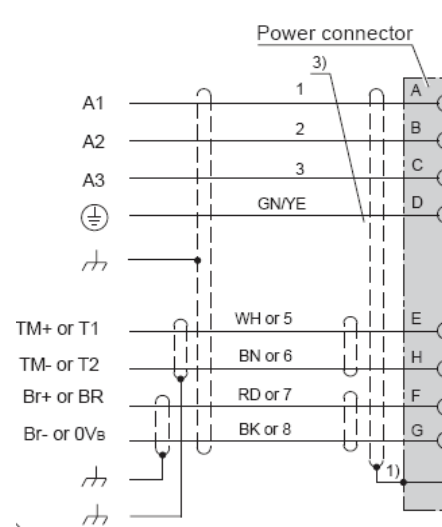


**Size 1 (INS0681) Power Cables 2.5mm²:**



Exlar recommends the following Bosch-Rexroth Power Cables:  
*All Cables include Therm (KTY84) and Brake Leads*

- 1.5mm² cables for use with:  
GSM20, GSM30, GSX20, GSX30, SLM060, SLM090, SLG060, SLG090
- 2.5mm² cables for use with:  
GSM40, GSX40, GSX50, SLM115, SLM142, SLG115
- 6.0mm² cables for use with:  
GSX60, SLM180



\* When selecting part numbers other than Exlar recommends, please forward this document and consult your Bosch-Rexroth Representative, Distributor or Agent and refer to the power connector type(INS680/INS480), drive model and the current rating of the Exlar actuator.

## 'M' Manufacturers Connector Option with IN7 Feedback:

Motor power connections excerpt from Connection System Section of DOK-MOTOR\*-MSK\*EXGIK3-PR02-EN-P Manual:

Exlar IN7 uses wiring and connectors that are used on the MSK motor with M1 feedback to provide ease of installation using the Bosch-Rexroth drive cables.

### Graphical representation

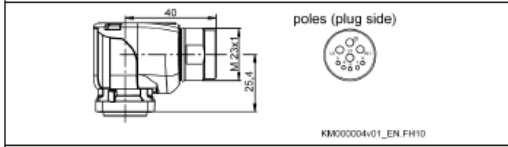


Fig. 9-2: RLS1100 flange socket

### Mechanical data

Protection class	Number of pins	Temperature range	Contact type
IP66 / IP67 connected	3 + PE + 5	-40 °C to +125 °C	Pin

Fig. 9-3 Mechanical data

### Electrical data

Rated voltage	Continuous rated current	Degree of pollution	Overvoltage category
630 V / 125 V	16 A	3	III (according to DIN VDE 0110)

Fig. 9-4: Electrical data

### Contact assignment

Terminal	Assignment	Option
U1	Power	
V1	Power	
W1	Power	
PE	Grounding	
5	Temperature sensor KTY84 (T1 TM+)	
6	Temperature sensor KTY84 (T2 TM-)	
7	Holding brake (Br+ / +24V)	Option
8	Holding brake (Br- / 0V)	
9	n. c.	

Fig. 9-5: RLS1100 contact assignment

RLS1100 flange socket is used with the following Exlar Models using the 'M' Manufacturers Connector Option:  
 GSM20,GSM30,GSM40  
 GSX20,GSX30,GSX40,GSX50  
 SLM060,SLM090,SLM115,SLM142  
 SLG060,SLG090,SLG115

Mating Bosch Connector part number is RLS1101

### Graphical representation

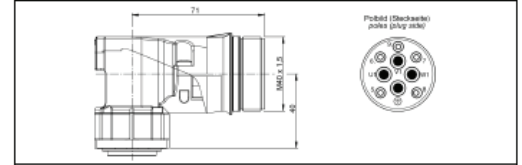


Fig. 9-11: Flange Socket RLS1200

### Mechanical data

Protection class	Number of pins	Temperature range	Contact type
IP66 / IP67 connected	3 + PE + 5	-40 °C to +125 °C	Pin

Fig. 9-12: Mechanical data

### Electrical data

Rated voltage	Continuous rated current	Degree of pollution	Overvoltage category
630 V / 125 V	max. 57.0 A depending from the wire cross-section	3	III (according to DIN VDE 0110)

Fig. 9-13: Electrical data

### Contact assignment

Terminal	Assignment	Option
U1	Power	
V1	Power	
W1	Power	
PE	Grounding	
5	Temperature sensor KTY84 (T1 TM+)	
6	Temperature sensor KTY84 (T2 TM-)	
7	Holding brake (Br+ / +24V)	Option
8	Holding brake (Br- / 0V)	
9	n. c.	

Fig. 9-14: RLS1200 contact assignment

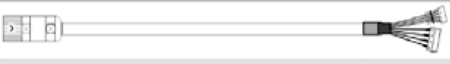
RLS1200 flange socket is used with the following Exlar Models using the 'M' Manufacturers Connector Option:  
 GSX60  
 SLM180

Mating Bosch Connector part number is RLS1201

# IN7 Bosch-Rexroth IndraDrive Power Cable Part Numbers

Excerpt from DOK-CONNEC-CABLE\*INDRV-AU01-DE-P and DOK-MOTOR\*-MSK\*\*\*\*\*-PR05-EN-P Bosch-Rexroth Manuals:

**RLS1101 - 1,5 mm²**




Bestellbezeichnung	Verbindungsplan	Trennbare Verbindung	Anschluss IndraDrive
RKL4301	⇒ Abb. 22-44	⇒ Abb. 6-4	● RLS0721
RKL4300	⇒ Abb. 22-43	⇒ Abb. 6-4	● RLS0722

● RLS0721	● RLS0722	● RLS0723	● RLS0724	● RLS0727
HCS02.1E-W0054	HCS02.1E-W0012	HCS03.1E-W0100	HCS03.1E-W0210	HCS04.1E-W0500
HCS02.1E-W0070	HCS02.1E-W0028	HCS03.1E-W0150		HMS01.1N-W0350
HCS03.1E-W0070	HMD01.1N-W0012	HMS01.1N-W0110		
HMS01.1N-W0054	HMD01.1N-W0020	HMS01.1N-W0150		
HMS01.1N-W0070	HMD01.1N-W0036	HMS01.1N-W0210		
HMS02.1N-W0054	HMS01.1N-W0036			
	HMS02.1N-W0028			

Abb.6-2: RLS1101 - 1,5 mm²

**RLS1201 - 6,0 mm²**




Bestellbezeichnung	Verbindungsplan	Trennbare Verbindung <sup>2)</sup>	Anschluss IndraDrive
RKL4317	⇒ Abb. 22-60	⇒ Abb. 7-5	● RLS0721
RKL4318	⇒ Abb. 22-61	⇒ Abb. 7-5	● RLS0723

● RLS0721	● RLS0722	● RLS0723	● RLS0724	● RLS0727
HCS02.1E-W0054	HCS02.1E-W0012	HCS03.1E-W0100	HCS03.1E-W0210	HCS04.1E-W0500
HCS02.1E-W0070	HCS02.1E-W0028	HCS03.1E-W0150		HMS01.1N-W0350
HCS03.1E-W0070	HMD01.1N-W0012	HMS01.1N-W0110		
HMS01.1N-W0054	HMD01.1N-W0020	HMS01.1N-W0150		
HMS01.1N-W0070	HMD01.1N-W0036	HMS01.1N-W0210		
HMS02.1N-W0054	HMS01.1N-W0036			
	HMS02.1N-W0028			

Abb.7-4: RLS1201 - 6,0 mm²

**RLS1108 - 2,5 mm²**

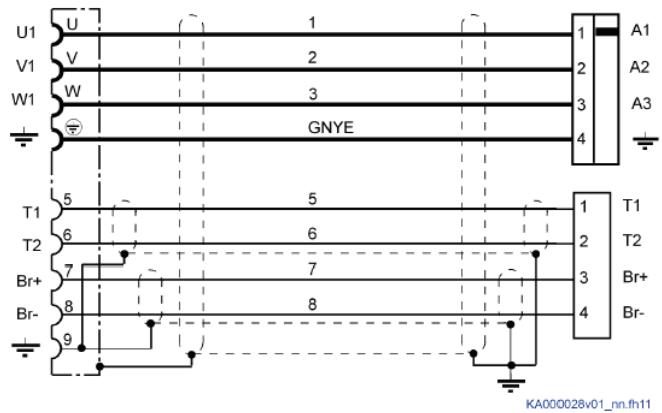


Bestellbezeichnung	Verbindungsplan	Trennbare Verbindung	Anschluss IndraDrive
RKL4346	⇒ Abb. 22-89	⇒ Abb. 6-4	● RLS0721
RKL4345	⇒ Abb. 22-88	⇒ Abb. 6-4	● RLS0722

● RLS0721	● RLS0722	● RLS0723	● RLS0724	● RLS0727
HCS02.1E-W0054	HCS02.1E-W0012	HCS03.1E-W0100	HCS03.1E-W0210	HCS04.1E-W0500
HCS02.1E-W0070	HCS02.1E-W0028	HCS03.1E-W0150		HMS01.1N-W0350
HCS03.1E-W0070	HMD01.1N-W0012	HMS01.1N-W0110		
HMS01.1N-W0054	HMD01.1N-W0020	HMS01.1N-W0150		
HMS01.1N-W0070	HMD01.1N-W0036	HMS01.1N-W0210		
HMS02.1N-W0054	HMS01.1N-W0036			
	HMS02.1N-W0028			

Abb.6-3: RLS1108 - 2,5 mm²



KA000028v01\_n1.fn11

## Size 1.5 (RLS1201) Power Cables

Exlar recommends the following Bosch-Rexroth Power Cables:

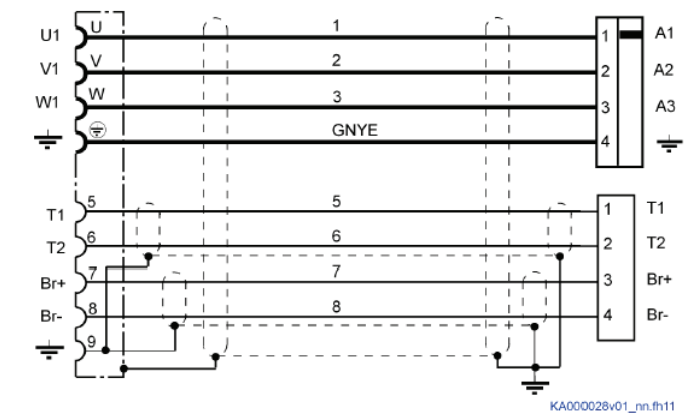
All Cables include Therm (KTY84) and Brake Leads

1.5mm² cables for use with:  
GSM20, GSM30, GSX20, GSX30, SLM060, SLM090, SLG060, SLG090

2.5mm² cables for use with:  
GSM40, GSX40, GSX50, SLM115, SLM142, SLG115

6.0mm² cables for use with:  
GSX60, SLM180

## Size 1 (RLS1101) Power Cables:



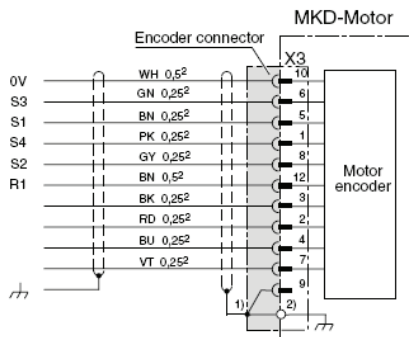
KA000028v01\_n1.fn11

\* When selecting part numbers other than Exlar recommends, please forward this document and consult your Bosch-Rexroth Representative, Distributor or Agent and refer to the power connector type (RLS1100/RLS1200), drive model and the current rating of the Exlar actuator.

## Exlar Actuator Feedback Wiring

### 'M' Manufacturers Connector Option with IN6 Feedback:

Resolver motor connections excerpt from Wiring Section of the DOK-MOTOR\*-MKD\*\*\*\*\*-PR07-EN-P Manual



Encoder connector INS0510, 0511, 0512 bzw. 0513 (view onto the solder or crimp side of the connector)

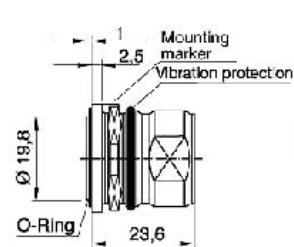


#### Housing design

Reference picture  
Configurated housing  
surface: Nickel plated



#### Technical drawing



Insulation inserts :  
P-Type , Front view



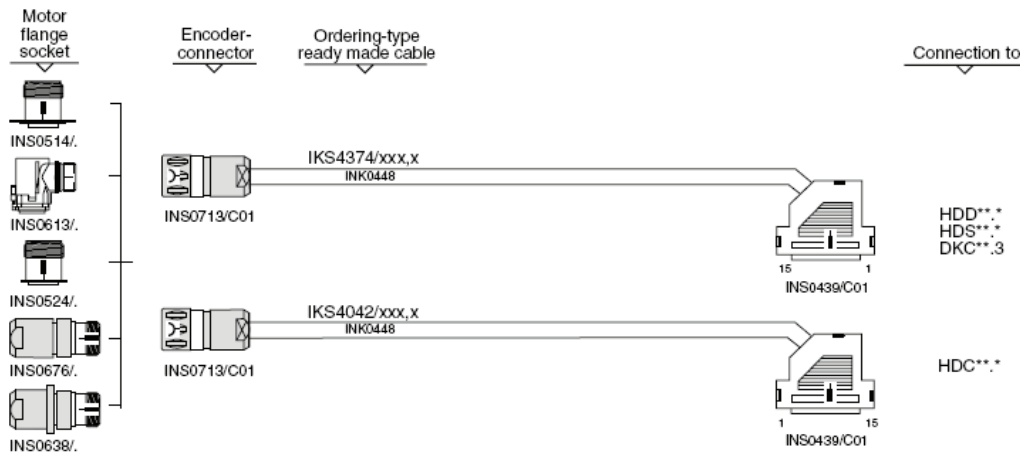
\*\* Exlar substitutes the Bosch referenced INS510/511/512/513/514 for a straight flange mounted connector as defined below from Intercontec with the same pin configuration.

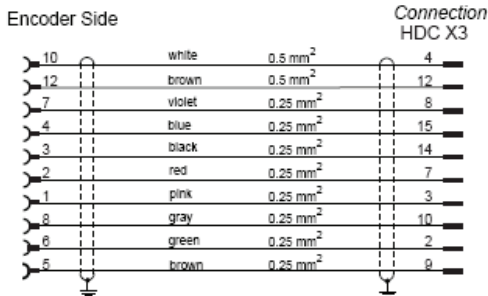
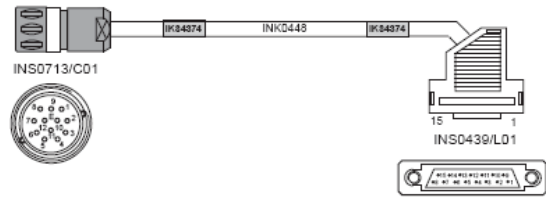
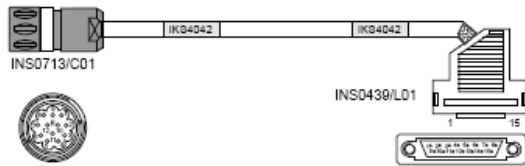
INS051x\*\* equivalent connector from Intercontec  
Part # - BEGA 090 MR26 00 0011 000

The mating connector part number from Bosch is INS0713.

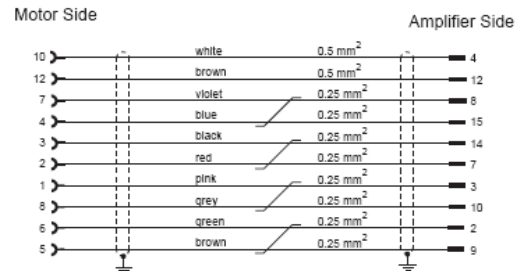
## IN6 Bosch-Rexroth Feedback Cable Part Numbers

Excerpt from DOK-CONNEX-CABLE\*INDRV-AU01-DE-P and DOK-MOTOR\*-MKD\*\*\*\*\*-PR05-DE-P Bosch-Rexroth Manuals:





IKS4042 for use with the Indradrive



IKS4374 for use with DKC and other drives

### 'M' Manufacturers Connector Option with IN7 Feedback:

M1 Hiperface Absolute Encoder motor connections excerpt from Wiring Section of the DOK-MOTOR\*-MKD\*\*\*\*\*-PR07-EN-P Manual

The IN7 feedback option provides plug and play 3rd party motor support with the Indradrive. Exlar motor data is loaded into the encoder which is identified by the drive, saving time set up the Exlar actuator to run with the drive.

Graphical representation  
RGS1000

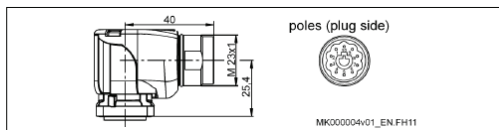


Fig. 9-20: Flange socket RGS1000

Mechanical data

Protection class	Number of pins	Temperature range	Contact type
IP66 / IP67 connected	10	-40 °C to +125 °C	Pins

Fig. 9-21: Mechanical data

Electrical data

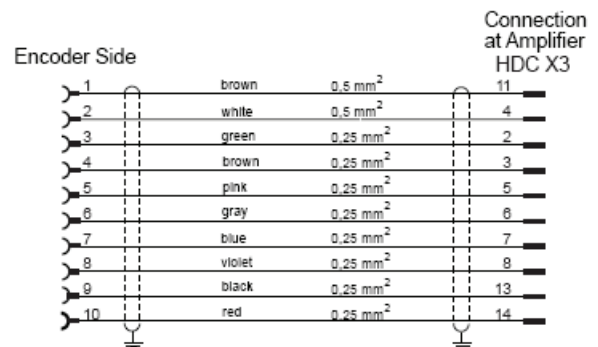
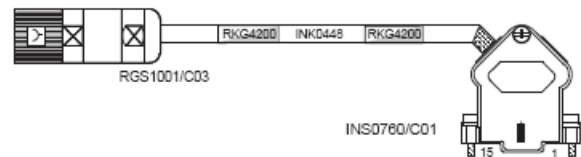
Rated voltage	Continuous rated current	Degree of pollution	Overvoltage category
125 V		3	III (according to DIN VDE 0110)

Fig. 9-22: Electrical data

Contact assignment

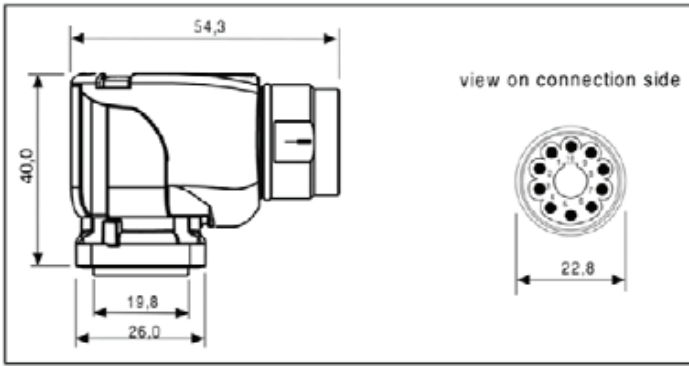
Pin	Encoders S1, M1 (Hyperface)	Encoders S2, M2 (EnDat 2.1)
1	VCC_Encoder	VCC_Encoder
2	GND_Encoder	GND_Encoder
3	A+	A+
4	A-	A-
5	B+	B+
6	B-	B-
7	EncData +	EncData +
8	EncData -	EncData -
9	n. c.	EncCLK +
10	n. c.	EncCLK -

Fig. 9-23: Contact assignment RGS1000, RGS1003



IN7 Bosch-Rexroth Feedback Cable Part Number RKG4200 for use with all IN7 Exlar models mating to an Indradrive.

RGS1000 flange socket is used with all Exlar Models using the 'M' Manufacturers Connector Option with IN7 feedback option.



RGS1000 Flange Connectors are purchased from Bosch-Rexroth.

The mating connector part number is RGS1001.

Please consult Exlar for any questions regarding this document.