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

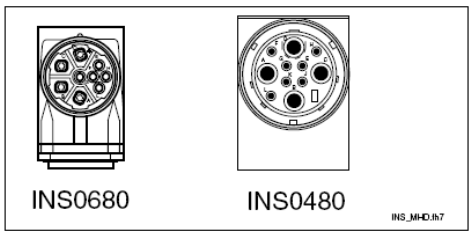


Fig. 12-6: MKD flange sockets

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	

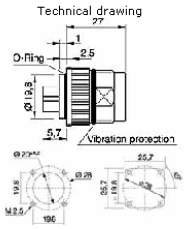
Fig. 12-7: Pin assignment of flange socket for the MKD power connector

**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.*

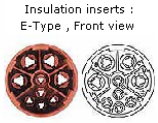
Size 1 Connector
INS0680** connector from Intercontec Part # - BEGA 090 MR26 00 0011 000
The mating connector part number from Bosch is INS0681.

Housing design
Reference picture
Configurated housing surface: Nickel plated

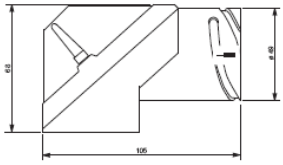
Technical drawing

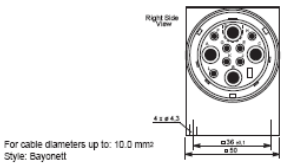


Insulation inserts :
E-Type , Front view



Size 1.5 Connector
INS0480 Flange Connectors are purchased from Bosch-Rexroth.
The mating connector part number is INS0481.





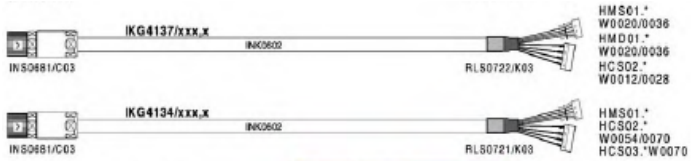
IN6 Bosch-Rexroth Indradrive Power Cable Part Numbers

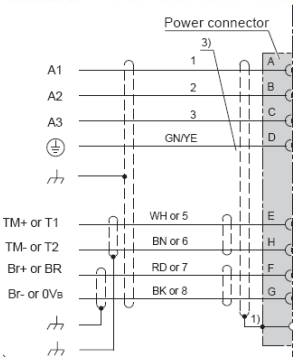
Excerpt from DOK-CONNEC-CABLE*STAND-AU09-EN-P and DOK-MOTOR*-MKD********-PR05-DE-P Bosch-Rexroth Manuals:

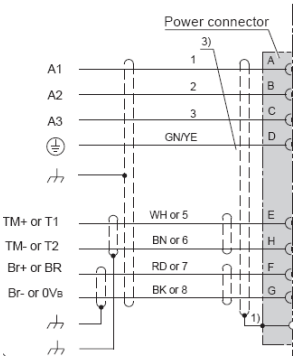
Size 1(INS0681) Power Cables 1.5mm²:

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*EXGIIK3-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.

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

Graphical representation

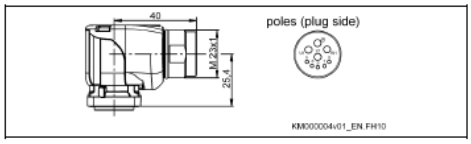


Fig. 9-2: RLS1100 flange socket

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

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

Mating Bosch Connector part number is RLS1101

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

Graphical representation

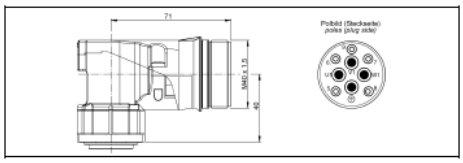


Fig. 9-11: Flange Socket RLS1200

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

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

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:

Size 1(RLS1101) Power Cables:

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-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210	HCS03.1E-W0210	HCS04.1E-W0500 HMS01.1N-W0350

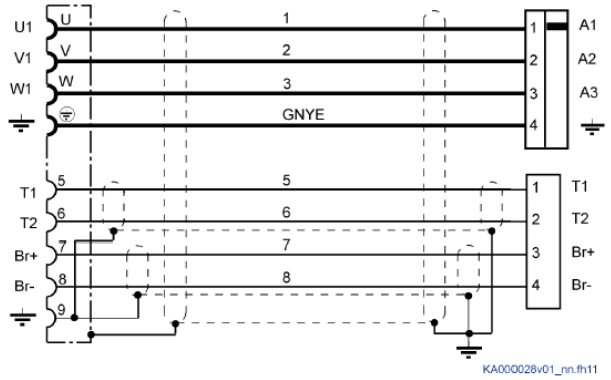
Abb.6-2: RLS1101 - 1,5 mm²

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-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210	HCS03.1E-W0210	HCS04.1E-W0500 HMS01.1N-W0350

Abb.6-3: RLS1108 - 2,5 mm²



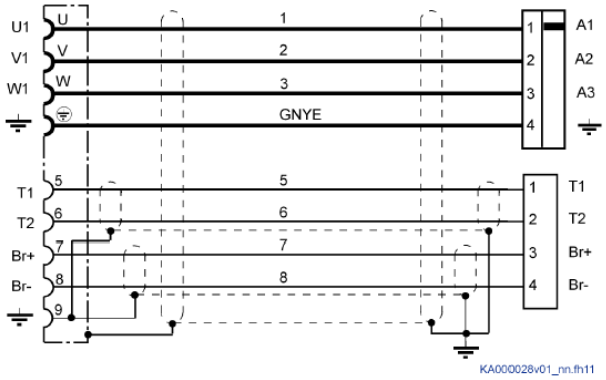
Size 1.5(RLS1201) Power Cables

RLS1201 - 6,0 mm²

Bestellbezeichnung	Verbindungsplan	Trennbare Verbindung[2)]	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-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210	HCS03.1E-W0210	HCS04.1E-W0500 HMS01.1N-W0350

Abb.7-4: RLS1201 - 6,0 mm²



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

1.5mm^2 cables for use with:
GSM20, GSM30
GSX20, GSX30
SLM060, SLM090
SLG060, SLG090

2.5mm^2 cables for use with:
GSM40,
GSX40, GSX50
SLM115, SLM142
SLG115

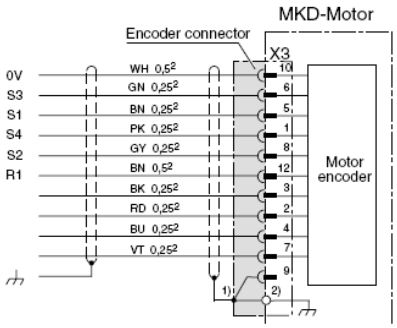
6.0mm^2 cables for use with:
GSX60, SLM180

***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(RLS1100/RLS1200), drive model and the current rating of the Exlar actuator.**

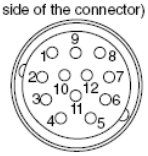
Exlar Actuator Feedback Wiring

‘M’ Manufacturers Connector Option with IN6 Feedback:

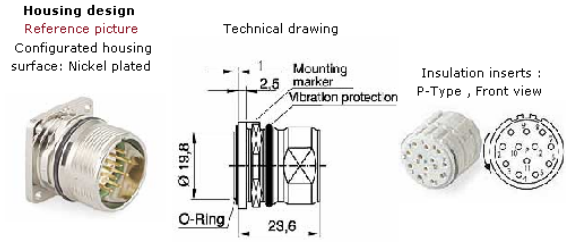
Resolver motor connections excerpt from Wiring Section of the DOK-MOTOR*-MKD*******-PR07-EN-P Manual



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



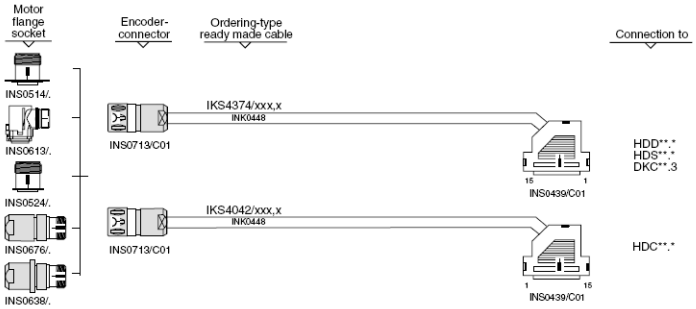
INS051x** equivalent connector from Intercontec
Part # - BEGA 090 MR26 00 0011 000
The mating connector part number from Bosch is INS0713.



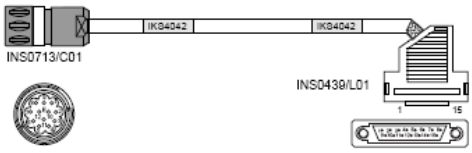
***Exlar substitutes the Bosch referenced INS510/511/512/513/514 for a straight flange mounted connector as defined below from Intercontec with the same pin configuration.*

IN6 Bosch-Rexroth Feedback Cable Part Numbers

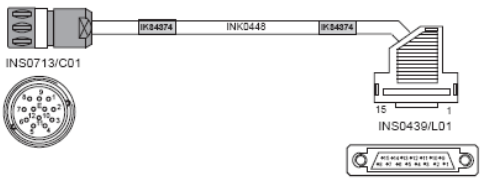
Excerpt from DOK-CONNEC-CABLE*INDRV-AU01-DE-P and DOK-MOTOR*-MKD********-PR05-DE-P Bosch-Rexroth Manuals:

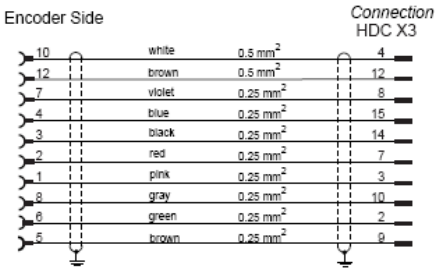


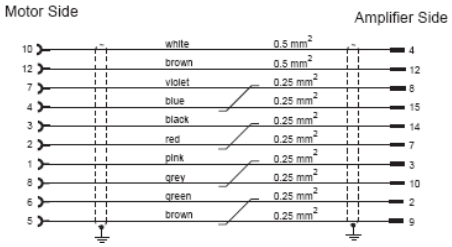
IKS4042 for use with the Indradrive



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.

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

Graphical representation RGS1000

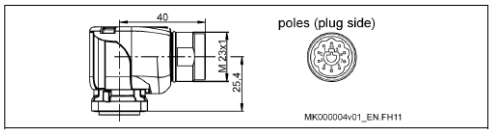


Fig. 9-20: Flange socket RGS1000

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

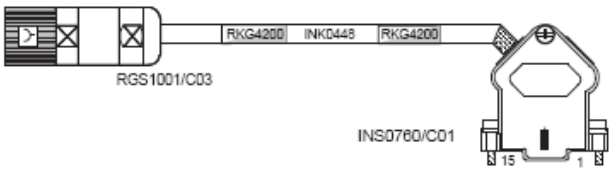
Contact assignment

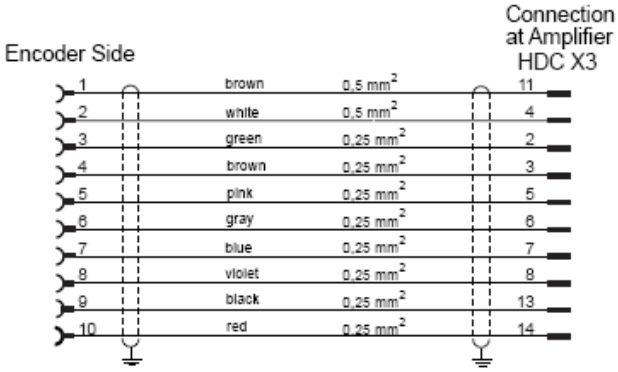
Pin	Encoders S1, M1 (Hyperface)	Encoders S2, M2 (EnDat 2.1)
1	VCC_Encoder	VCC_Encoder
2	GND_Encoder	GND_Encoder
3	A+	A+
4	A -	A -
5	B +	B +
6	B -	B -
7	EncData +	EncData +
8	EncData -	EncData -
9	n. c.	EncCLK +
10	n. c.	EncCLK -

Fig. 9-23: Contact assignment RGS1000, RGS1003

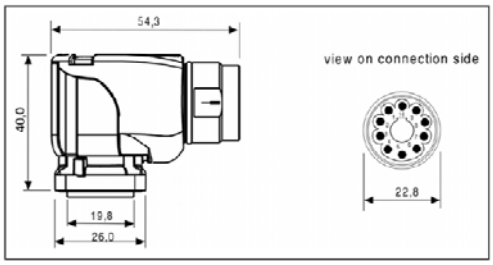
IN7 Bosch-Rexroth Feedback Cable Part Number

RKG4200 for use with all IN7 Exlar models mating to an Indradrive.





RGS1000 Flange Connectors are purchased from Bosch-Rexroth.
The mating connector part number is RGS1001.



Please consult Exlar for any questions regarding this document.