

Rexroth IndraDyn S

Electrical Connection MSK101 Terminal Boxes

Mounting Instructions

R911340001
Edition 01

Electrical Connection MSK101...-F...-NPNN

About this Documentation

This documentation is for fitters and service engineers. This documentation contains important information to safely and properly assemble the product.

Validity of this Documentation

This documentation is valid for the following motors:

MSK101_ - ____ -NN-S3-FG0-NPNN

Electrical connection		Other design
Terminal box A-side	= F	Optimized for pump drive
Shaft		= NPNN
Smooth shaft with shaft sealing ring	= G	
Smooth shaft with internal gear teeth	= B	

MSK01-0005TS

Necessary Documentation

- ▶ Operate this product only, if you have the following documentation available. You must understand and observe this documentation.

Title	Material number (R911...)	Documentation Type (DOK-...)
Rexroth IndraDyn Motors	R911338599	
Safety Notes and Instructions on Use	DOK-MOTOR*-IDYN*SAFETY-SARS-NN-P	
Rexroth IndraDyn S	R911325169	
MSK Synchronous Motors	DOK-MOTOR*-MSK*****-ITRS-EN-P	

Additional valid documentation

General Safety Instructions

- ▶ Observe the valid regulations about accident prevention and environmental protection.
- ▶ Heed the safety regulations and instructions of the country in which the product is used.
- ▶ Use Rexroth products only in proper state.
- ▶ Please observe all notes on the product.
- ▶ Only use accessories and spare parts which are permitted by the manufacturer to prevent from risk of injury due to unsuitable spare parts.

Qualified Personell

The electrical connection of the motors must be done by qualified or skilled personnel. A person is qualified, if knowledge or experiences of respective standards and regulations exists. Assigned work must be evaluated and possible danger be recognized.

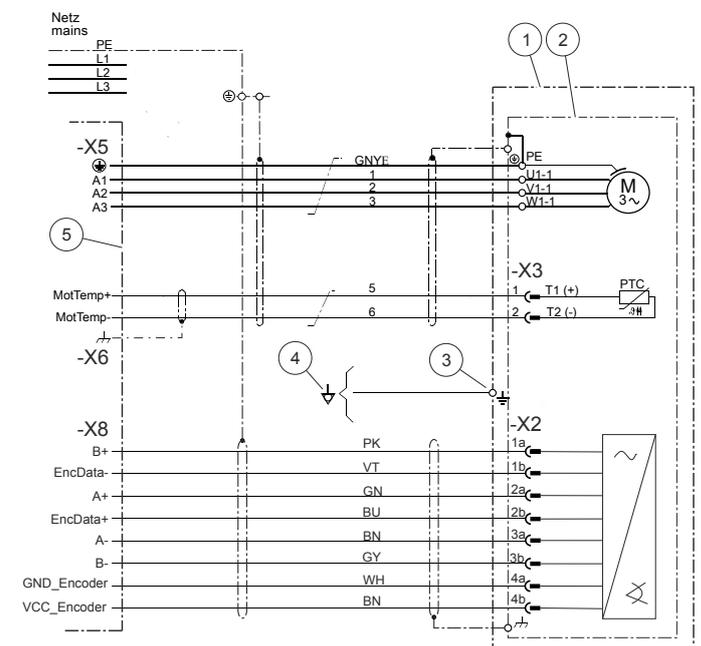
Scope of Delivery

- ▶ 1× Synchronous motor MSK101
- ▶ 1× Mounting instruction

Ready-made Connection Cables

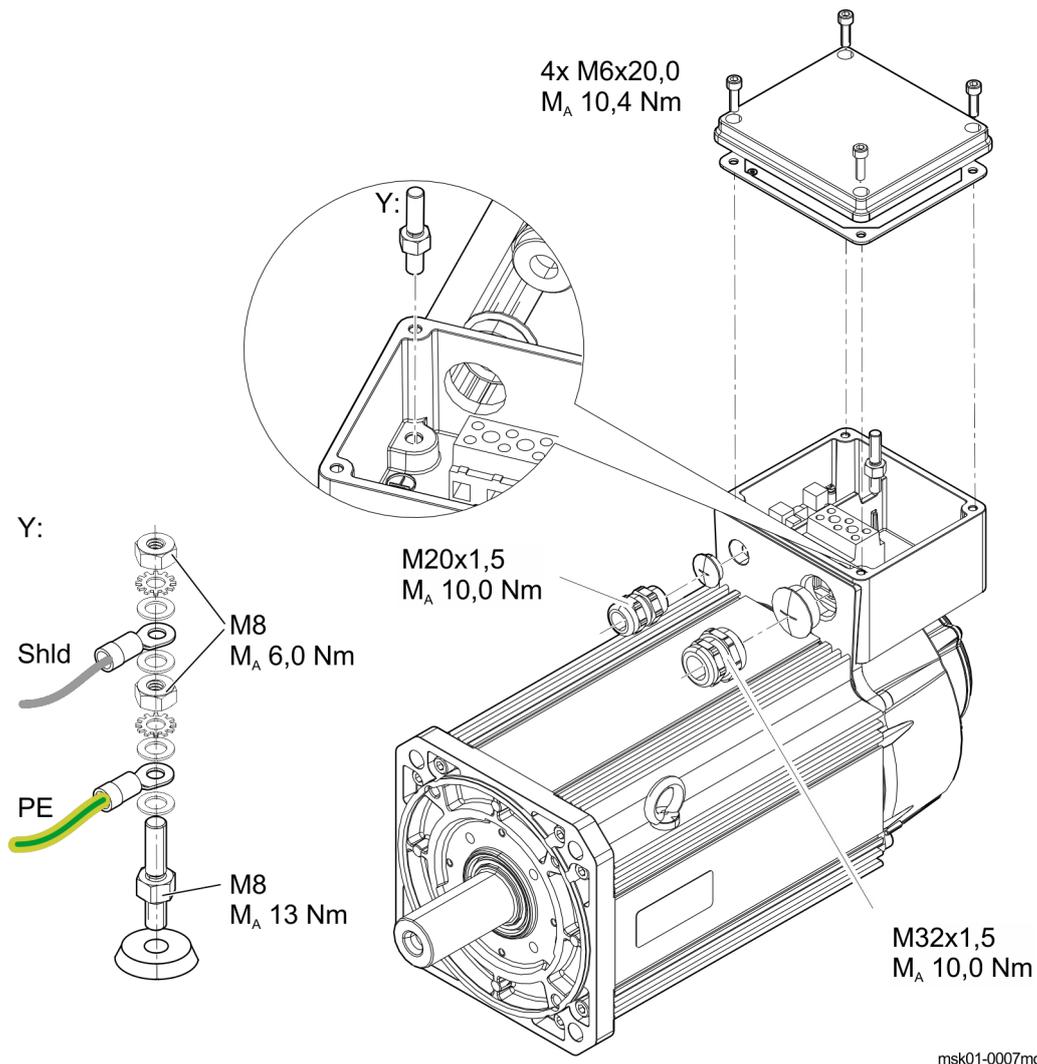
Keep a ready-made power and encoder cable for the electrical connection available.

Electrical Connection



- 1 MSK motor
- 2 Terminal box
- 3 Protective conductor, additional (option ATEX)
- 4 Connection point grounding conductor
- 5 Control device

Interconnection diagram



Mounting instruction (electrical connection)

⚠ WARNING

High electrical voltage! Danger to life, danger of injury due to electric shock.

All work done on a disconnected and secured against re-start locked low voltage machine is to be carried out by skilled personnel. This is also valid for auxiliary currents (like temperature sensors). All work must be carried out at motor standstill. Motors with permanent magnet field strength create at rotating rotor a voltage > 60V on the motor connections.

⚠ DANGER

Danger of life due to electrical power! Handling within the area of live parts is extremely dangerous.

- ▶ Any work required on the electric system must only be carried out by skilled electricians. It is absolutely necessary to use power tools.
- ▶ Before working

1. Disconnect.
 2. Protect the system or plant against restart.
 3. Determine de-energization.
 4. Ground and short-out.
 5. Cover or shield any adjacent live parts.
- ▶ Before starting to work, check with an appropriate measuring device whether parts of the system are still under residual voltage (e.g. caused by capacitors, etc.). If so, wait until these parts have discharged.

An operation of motors is only allowed with respective converters. Direct connection on the three-phase current is not allowed and can lead to damage of the motor.

NOTICE

Never touch the connection points of electrostatic sensitive devices!

 Installed components (e.g., KTY84, encoder) may contain electrostatic sensitive devices (ESD).

- ▶ Observe ESD safety measures.

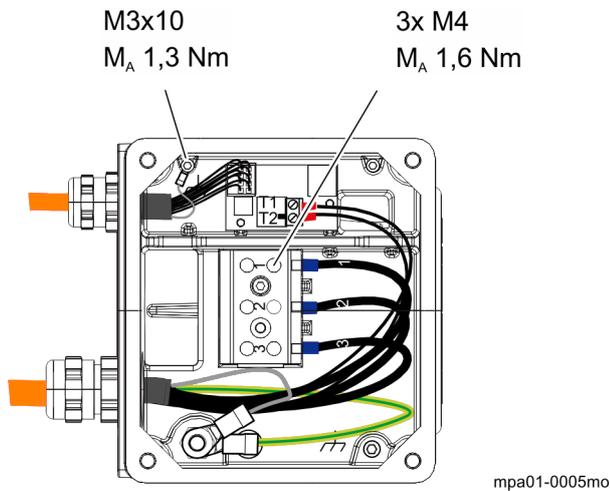
Terminal box

- ▶ The connections must be established such that a permanent safe electrical connection is ensured.
- ▶ Built a safe protective earth connection.
- ▶ Use the related cable ends for terminal boxes (no protruding wire ends).
- ▶ Only use terminal boxes which are free from dirt, foreign bodies and humidity.
- ▶ Lock the not needed cable introductory holes and the box itself waterproof and against dust.
- ▶ Tolerance of specified tightening torque $\pm 10\%$, if no others are specified.

- ▶ Insert the ready-made power cable into the terminal box and tighten the cable gland with the specified torque.
- ▶ Do protective conductor and shield connection and tighten them with the specified torque. Observe correct design of combined grounding connector and shield connector according to the respective figure (detail Y:).
- ▶ Connect power wires and tighten with the specified torque.
- ▶ Plug the cable ties for temperature and engage.

Connect the encoder cable

- ▶ Insert the ready-made encoder cable into the terminal box and tighten the cable gland with the specified torque.
- ▶ Do shield connection and tighten with the specified torque.
- ▶ Plug the encoder and engage.



Connecting the power and encoder cables

Designation	Connection: mm ²	Stripping length mm	Tightening torque Nm
Clamp power U1, V1, W1	0.5 ... 16.0	12	1.5 ... 1.8
Clamp temperature sensor	0.25 ... 2.5	7	0.5 ... 0.6
Stud for PE and shield	M8	-	13.0
PE	M8	6 ... 8 RTE	6.0
Shield power	M8	6 ... 8 RTE	6.0
Shield encoder	M3	6 ... 8 RTE	1.3

Connect the power cable

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