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## Symbols, safety



Do not knock the motor shaft!



Caution - hot surface!



Danger - dangerous electrical voltage!

Open cable ends on the rotating motor may give rise to lethal electrical voltage.

Ensure that there is enough room for the motor to release heat: otherwise there is a risk of heat build-up. To avoid overheating of the drive, ensure there is adequate air circulation.

Make sure that the motor is securely and correctly mounted.

Install appropriate safety devices to avoid the risk of freely rotating shafts.

You must take the protection degree of the motor into account when operating the motor in damp areas.

The motor must not be operated in potentially explosive atmospheres.

Any tampering with the electrical or mechanical components will void the warranty claim!

Safety equipment must not be disabled or otherwise modified against their requirements.

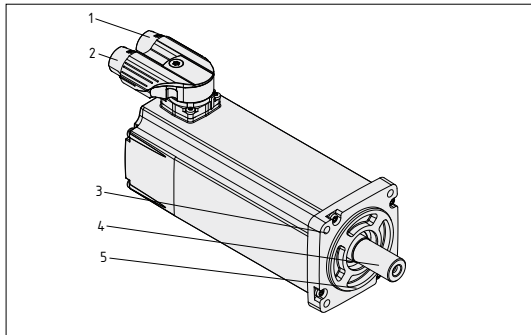
Hot housing components may cause burns since considerable heat is generated. Do not allow people or foreign objects to enter the direct vicinity of the motor.

Regular dust removal from the motor is urgently recommended to avoid the risk of baked dust layers catching fire.

Thank you for buying this servomotor.

Please note:

Carefully unpack the servomotor and check that it is complete and undamaged. Report any damages or irregularities immediately to the supplier. The servomotor must only be installed and commissioned by qualified personnel.



1. Connector for connection cable  
(motor/holding brake)
2. Connector for encoder  
(connection cable / temperature sensor)
3. Through holes for mounting
4. Drive shaft
5. Motor flange

This installation guide describes how to install and commission the item servomotors, which can be used for the three different motorsizes with and without brake:

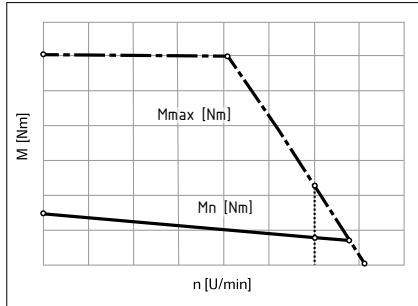
Art.-Nr.	Product
0.0.666.04	Motor SE 40-035-3-90-R-B
0.0.665.99	Motor SE 60-150-3-60-R-B
0.0.666.00	Motor SE 80-350-5-55-R-B
0.0.666.03	Motor SE 40-035-3-90-R
0.0.666.02	Motor SE 60-150-3-60-R
0.0.666.01	Motor SE 80-350-5-55-R

Art.-Nr.	Product
0.0.688.47	Motor SE 40-035-3-90-AK
0.0.688.49	Motor SE 60-150-3-60-AK
0.0.688.51	Motor SE 80-350-5-55-AK
0.0.688.48	Motor SE 40-035-3-90-AK-B
0.0.688.50	Motor SE 60-150-3-60-AK-B
0.0.688.52	Motor SE 80-350-5-55-AK-B

In the following general descriptions, these products are referred to collectively as item servomotors.

## Operation and use

The item servomotor is a permanently excited, electrodynamic, brushless servomotor. It must only be operated within its characteristic curves.



Example, characteristic curve varies depending on the motor version

## Transport and storage

Avoid storing the motor over extended periods. Always store the motor in cool, dry locations, in accordance with the specifications (see point 9).

## Prerequisites for use

Ensure compliance with the operating manual requirements at all times. Improper handling will lead to malfunctions.

The servomotors are designed for the values and loads specified on the type plate, order confirmation and in the catalogue.

For safety reasons, the drives must only be used for the applications for which they were designed. Any unauthorised overloading of the motor may damage or destroy the drive.

The application of a strong force to the rotor shaft (e.g. rotation) reduces the effect of an optionally integrated holding brake. The emergency and holding brake is not a service brake and should therefore only be used in emergencies or when the device is stopped.

Respect the regulations applicable to your installation site, e.g. those specified by professional associations or national institutions.

Do not make unauthorised changes to the item servomotor. The technical data and values are only guaranteed when the original condition of the motor is preserved.

Take account of local environmental conditions.

Always pay attention to warnings and notices on the product and in the related instructions manuals.

## Installation

To start with, keep the motor uncoupled from the axle. Ensure that the controller to be connected is de-energised. Connect up the cables between the item servomotor and the controller in accordance with the motor and controller specifications.

## Commissioning

NOTE: If the motor is fitted with a brake, the motor may start to move unexpectedly when you release the holding brake.

Release the holding brake before energising the motor.

Depending on the type of controller, the controller assumes the function of releasing the brake before energising the winding.

Always follow the controller description when commissioning the motor in connection with a controller.

The motor must be mechanically mounted and electrically connected by qualified personnel only, in accordance with applicable regulations.

See the catalogue or instruction manual for the motor's technical data. When connecting the motor, check that the cables have the correct cross section.

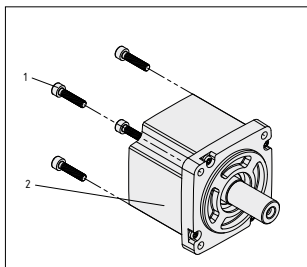
Check that the electrical plug connectors are arranged correctly and that the connections and earthing conductors are securely screwed in place.

## Disposal

Please properly dispose of old or defective device components at a collection centre. Packaging materials must also be disposed of in an environmentally sound manner (separation of materials).

## Installation instructions

1. Clean the motor shaft: the drive coupling can only engage securely with a shaft extension that is dry and grease-free.
2. Position the item servomotor on the flange.
3. Secure the motor at the through holes to your machinery. You must always use the appropriate screws and fastening torques.
4. Tighten all fixing screws as per manufacturer's instructions.



1	2	Tightening torque
Screw DIN EN ISO 4762 M3	Motor SE 40 035 3 90 R	2 Nm
	Motor SE 40 035 3 90 R-B	
	Motor SE 40-035-3-90-AK	
	Motor SE 40-035-3-90-AK-B	
Screw DIN EN ISO 4762 M4	Motor SE 60 150 3 60 R	3 Nm
	Motor SE 60 150 3 60 R-B	
	Motor SE 60-150-3-60-AK	
	Motor SE 60-150-3-60-AK-B	
Screw DIN EN ISO 4762 M5	Motor SE 80 350 5 55 R	6 Nm
	Motor SE 80 350 5 55 R-B	
	Motor SE 80-350-5-55-AK	
	Motor SE 80-350-5-55-AK-B	

## Servicing

If the motors need to be cleaned, you must shut down and disconnect the drive from the supply voltage. Clean the housing and component surfaces using a damp cloth. Do not use chlorine bleaches, chlorine-based detergents, abrasives, ammonia, cleaning cloths or cleaning compounds containing metallic substances. If using solvents, you must ensure that these do not come in contact with the lip seals of the optional shaft sealing rings.

Any necessary repairs must only be carried out by a technician authorised by item.

Modifications and repairs to electrical cables must only be carried out by an authorised electrician.

## Ambient conditions

Permissible ambient temperatures (in operation): -10°C to +40°C

Permissible storage temperatures (not in operation): -20°C to +70°C

Humidity: <90% relative humidity (without condensation)

Maximum site altitude: 4.000m above sea level, specifications must be derated for elevations above 1.000m.

## Standards

For this servomotor series, a conformity assessment was performed in accordance with the EC directive 2006/95/EC ("Low voltage directive").

The declaration of conformity 01-001-026-07-0 confirms compliance with the provisions of the above directive.

In establishing compliance, the following standards were applied:

- DIN EN ISO 12100:2011-03 Safety of machinery
- General principles for design
- Risk evaluation and risk reduction
- DIN EN 60204-1: 2007-06 Safety of machinery
- Electrical equipment of machines, part 1: General requirements
- DIN EN 60034-1: 2011-02 Rotating electrical machines

### Inspections and acceptance tests

(The following inspections were carried out)

- Protection type test according to DIN EN 60529
- Vibration and shock test according to DIN EN IEC 68 part 2 – 29
- Qualification according to work statement AA 7.3-1-2 Authorisations

The servomotors from this series are UL/CSA-certified with report E341694 according to:

- UL 1004-1, Rotating Electrical Machines - General Requirements
- UL 1004-6, Servo and Stepper Motors
- UL 840, Insulation Coordination
- CAN/CSA C22.2 No. 100-04, Motors and Generators
- CAN/CSA C22.2 No. 0., Insulation Coordination

### Limitation of liability

The company item shall not accept liability in the event of operating the device in excess of the specifications or if damage is caused by external influences or improper handling and use. Liability for consequential damages is also excluded.

### Dismounting and repairs

Do not remove the item servomotor from the linear unit until you have verified that the actual load of the actuated linear drive is in a secure position (e.g. when vertically installed in the lower end position).

### Our Services

To ensure compliance with safety standards, all repairs must be carried out by qualified personnel only.

**item**

item Industrietechnik GmbH  
Friedenstrasse 107-109  
42699 Solingen  
Germany  
Phone +49 212 6580 0  
Fax +49 212 6580 310  
info@item24.com  
item24.com

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Made in Germany

item Industrietechnik GmbH

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