

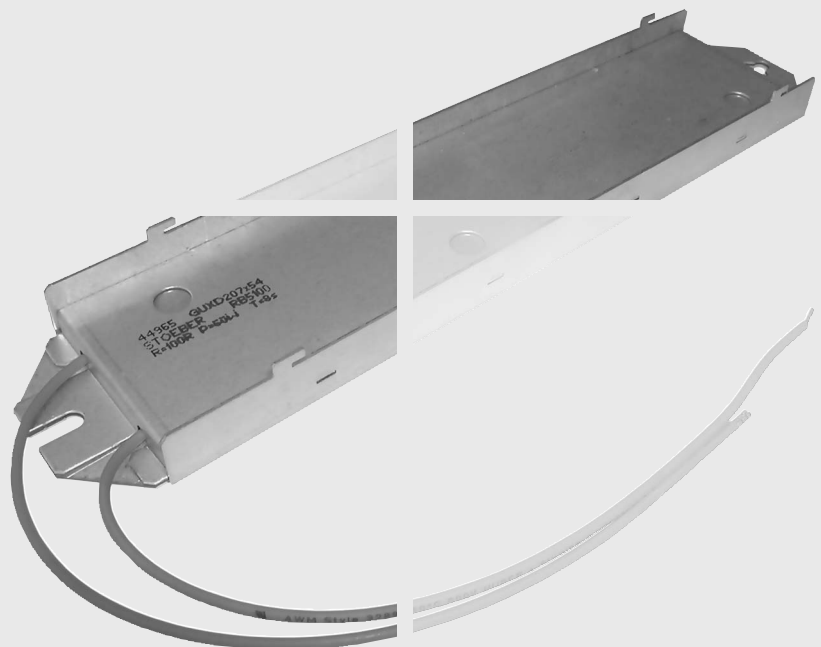
# Bottom Brake Resistor RB 5000

Accessories Mounting Guidelines

**INSTALLATION**

**ALLOCATION**

5th Generation of STÖBER Inverters



**V 5.2**

**07/2006**

**GB**

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### 1 NOTES ON SAFETY

This manual contains information which must be adhered to in order to prevent personal injury and property damage. This information is graduated by degree of damage as shown below.

#### ATTENTION

Means that an undesired result or undesired state may occur if this note is not heeded.

#### CAUTION

Without warning triangle: Means that property damage may occur if appropriate precautions are not taken.



#### CAUTION

With warning triangle: Means that minor personal injury and property damage may occur if appropriate precautions are not taken.



#### WARNING

Means that major danger of death and substantial property damage **may** occur if appropriate precautions are not taken.



#### DANGER

Means that great danger to life and substantial property damage **will** occur if appropriate precautions are not taken.



#### NOTE

Indicates an important piece of information on the product or the drawing of attention to a part of the documentation requiring special attention.



#### ACTION

Means the description of an action which is particularly important for handling the product.

### 1.1 Hardware



#### WARNING

To ensure that avoidable problems do not occur during commissioning and/or operation, be sure to read these installation and commissioning instructions before installation and commissioning.

In the sense of DIN EN 50178 (formerly VDE 0160), the FDS and MDS model series of POSIDRIVE® are electrical components of power electronics for the regulation of energy flow in high-voltage systems. They are exclusively designed to power servo (MDS) and asynchronous (FDS, MDS) machines. Handling, installation, operation and maintenance are only permitted under observation and adherence to valid regulations and/or legal requirements, applicable standards and this technical documentation.

This is a product of the restricted sales class in accordance with IEC 61800-3. In a residential zone, this product may cause high-frequency interference in which case the user may be requested to take suitable measures.

**Strict adherence to all rules and regulations must be ensured by the user.**

The safety notes contained in further sections (items) and specifications must be adhered to by the user.



### WARNING

#### Caution! High touch voltage! Danger of shock! Danger to life!

When network voltage is applied, never under any circumstances open the housing or disconnect the connections. When installing or removing option boards, you may only open the inverter in the dead state (all power plugs disconnected) and only after a waiting period of at least 5 minutes after the network voltage is switched off. Prerequisite for the correct functioning of the inverter is the correct configuration and installation of the inverter drive. Transport, installation, commissioning and handling of the device may only be performed by qualified personnel who have been especially trained for these tasks.

#### Pay particular attention to the following:

- Permissible protection class: Protective ground. Operation is only permitted when the protective conductor is connected in accordance with regulations. Direct operation of the devices on IT networks is not possible.
- Installation work may only be performed in the dead state. For work on the drive, lock enable and disconnect the complete drive from the power. (Observe the 5 safety rules.)
- Discharge time of the DC link capacitors > 5 minutes.
- Do not penetrate the device's interior with any kind of object.
- During installation or any other work in the switching cabinet, protect the device against falling parts (pieces of wire, stranded wire, pieces of metal, and so on). Parts with conductive properties may cause a short circuit within the inverter or device failure.
- Before commissioning, remove extra coverings so that the device cannot overheat.

The inverter must be installed in a switching cabinet in which the maximum ambient temperature (see technical data) is not exceeded. Only copper lines may be used. The line cross sections to be used are contained in table 310-16 of the NEC standard at 60 °C or 75 °C.

**The company STÖBER ANTRIEBSTECHNIK GmbH + Co. KG accepts no liability for damages resulting from non-adherence to the instructions or the particular regulations.**

The motor must be equipped with internal temperature monitoring, or an external motor overload protection must be used.

Only suitable for use on supply current networks which cannot deliver more than a maximum symmetric, nominal, short-circuit current of 5000 A at 480 Volt.

**Subject to technical changes without prior notification which changes serve to improve the devices. This documentation is purely a product description. It does not represent promised properties in the sense of warranty law.**

## 1. Notes on Safety

### 1.2 Software

#### Use of the POSITool software

The **POSITool** software package can be used to select an application, adjust parameters and signal monitoring of the of the 5th generation of STÖBER inverters. The functionality is specified by the selection of an application and the transmission of these data to an inverter.

The program is the property of STÖBER ANTRIEBSTECHNIK GmbH + Co. KG and is protected by copyright. The program is licensed for the user.

The software is provided exclusively in machine-readable format.

The customer receives from STÖBER ANTRIEBSTECHNIK GmbH + Co. KG a non-exclusive right to use the program (license) if the program was obtained legally.

The customer has the right to utilize the program for the above stated activities and functions and to make and install copies of the program, including one backup copy, for support of said utilization.

The conditions of this license apply to all copies. The customer is obligated to place the copyright note and all other ownership notes on every copy of the program.

The customer is not authorized to use, copy, change or pass on/transmit the program for reasons other than those covered by these conditions; the customer is also not authorized to convert the program (reverse assembly, reverse compilation) or compile the program in any other manner, or to sublicense, rent or lease the program.

#### Product maintenance

The obligation to perform maintenance applies to the two last current program versions prepared and released for use by STÖBER ANTRIEBSTECHNIK GmbH + Co. KG. STÖBER ANTRIEBSTECHNIK GmbH + Co. KG can either correct program errors or provide a new program version. The choice is up to STÖBER ANTRIEBSTECHNIK GmbH + Co. KG. If, in individual cases, the error cannot be corrected immediately, STÖBER ANTRIEBSTECHNIK GmbH + Co. KG will provide an intermediate solution which, if necessary, requires adherence by the user to special operating regulations.

The claim to error correction only exists when reported errors are reproducible or can be recorded by machine-made outputs. Errors must be reported in reconstructable form giving useful information for error correction.

The obligation to correct errors is invalidated for such programs which the customer changes or manipulates unless the customer can prove when reporting the error that the manipulation is not the cause of the error.

STÖBER ANTRIEBSTECHNIK GmbH + Co. KG is obligated to keep the currently valid program versions in a specially protected place (fire-resistant data safe, safety deposit box at a bank).

2. Bottom brake resistor RB 5000, IP54 Overview

**2 BOTTOM BRAKE RESISTOR RB 5000, IP54 OVERVIEW**

Type	RB 5022 100 W 22 Ω	RB 5047 60 W 47 Ω	RB 5100 60 W 100 Ω	RB 5200 40 W 200 Ω
ID no.	45618	44966	44965	44964
Thermal time constant $\tau$ [s]	8	8	8	6
Height x width x depth (h x w x d) [mm]	300 x 94 x 18	300 x 62 x 18	300 x 62 x 18	300 x 62 x 18
Drilling jig	MDS 5000 BG 2	MDS 5000 und FDS 5000 BG 0/1	MDS 5000 und FDS 5000 BG 0/1	MDS 5000 und FDS 5000 BG 0/1
Weight [g]	approx. 640	approx. 460	approx. 440	approx. 440
Length of the power leads [mm]	250	250	250	250

**2.1 Allocation of bottom brake resistor RB 5000 to MDS 5000**

Type		RB 5022 100 W 22 Ω	RB 5047 60 W 47 Ω	RB 5100 60 W 100 Ω	RB 5200 40 W 200 Ω
	ID no.	45618	44966	44965	44964
	Thermal time constant $\tau$ [s]	8	8	8	6
MDS 5008	44557	-	-	-	X
MDS 5015	44558	-	-	-	X
MDS 5040	44560	-	-	X	-
MDS 5075	44561	-	X	-	-
MDS 5110	44562	X	-	-	-
MDS 5150	44563	X	-	-	-

**2.2 Allocation of bottom brake resistor RB 5000 to FDS 5000**

Type		RB 5022 100 W 22 Ω	RB 5047 60 W 47 Ω	RB 5100 60 W 100 Ω	RB 5200 40 W 200 Ω
	ID no.	45618	44966	44965	44964
	Thermal time constant $\tau$ [s]	8	8	8	6
FDS 5007	45961	-	-	X	-
FDS 5004	45962	-	-	-	X
FDS 5008	45963	-	-	-	X
FDS 5015	45964	-	-	-	X
FDS 5022	45965	-	-	X	-
FDS 5040	45966	-	-	X	-
FDS 5055	45967	-	X	-	-
FDS 5075	45968	-	X	-	-

## 3. Mechanical Installation

### 3 MECHANICAL INSTALLATION

#### 3.1 Installation of Accessories

Only specialized personnel who are qualified for this task may install accessories (cf. chap. 7). Before installation, the device must be disconnected from the power and, with the MDS 5xxx/L series, the 24 V power must be turned off. Remember the discharge times ( $\geq 5$  min.) for the DC link.

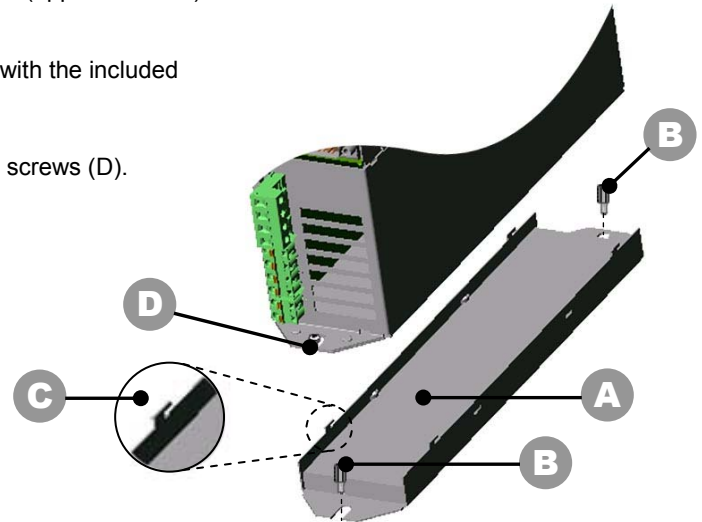
##### 3.1.1 Bottom Brake Resistor RB 5000

With MDS 5000 available for size 0 to size 2. With FDS 5000 available for size 0 and size 1.

The "brake resistor RB 5000" substructure is the ideal solution when space is limited. It is placed between mounting surface and MDS 5000. The mounting depth is increased by the brake resistor (approx. 20 mm).

##### Mounting

- Secure the bottom brake resistor (A) on the mounting surface with the included threaded bolts (same drilling diagram as the inverter) (B).
- Hook the inverter in on the four guides (C).
- Secure the inverter to the threaded bolts with the two included screws (D).









## Address registers

Always up to date on the internet: [www.stoerber.de](http://www.stoerber.de)

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- **Global presence for advice and marketing in about 25 countries**
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	MGS F shaft-mounted helical geared motor
	MGS K helical bevel geared motor
	MGS S helical worm geared motor
<b>Servo drives</b>	<b>SMS geared motor</b>
	SMS P planetary geared motor
	SMS PA planetary geared motor
	SMS PK planetary geared motor
	SMS PH planetary geared motor
	SMS PHA planetary geared motor
	SMS PHK planetary geared motor
	SMS C helical geared motor
	SMS F shaft-mounted helical geared motor
	SMS K helical bevel geared motor
	SMS S helical worm geared motor
<b>Inverters</b>	<b>Power electronics</b>
	POSIDRIVE® MDS 5000 servo inverter
	POSIDYN® SDS 4000 servo inverter
	POSIDRIVE® MDS 5000 frequency inverter
	POSIDRIVE® FDS 5000 frequency inverter
	POSIDRIVE® FAS 4000 frequency inverter
<b>Gear units</b>	<b>Modular gear system</b>
	<b>SMS/MGS modular gear systems</b>
	C helical gear unit
	F shaft-mounted helical gear unit
	K helical bevel gear units
	S helical worm gear unit
	<b>ServoFit® planetary gear units</b>
	ServoFit® Classic Line P
	ServoFit® Advanced Line PA
	ServoFit® Power Line PH
	ServoFit® Advanced Power Line PHA
	ServoFit® Econo Line PE
	<b>ServoFit® planetary gear units combinations</b>
	Classic Line PKX
	Classic Line PK
	Power Line PHKX
	Power Line PHK
<b>Motors</b>	<b>Motors with modular expandability</b>
	MGS system motor
	Servo motor EK
	Servo motor ED

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