

# Maintenance

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## What this chapter contains

This chapter contains preventive maintenance instructions.

## Safety



**WARNING!** Read the [Safety instructions](#) on the first pages of this manual before performing any maintenance on the equipment. Ignoring the safety instructions can cause injury or death.

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## Maintenance intervals

If installed in an appropriate environment, the drive requires very little maintenance. This table lists the routine maintenance intervals recommended by ABB.

Interval	Maintenance	Instruction
Every 6 to 12 months (depends on the dustiness of the environment)	Heatsink temperature check and cleaning	See <a href="#">Heatsink</a> .
Every year when stored	Capacitor reforming	See <a href="#">Reforming</a> .
Every 3 years	Replacement of additional cooling fan in IP55 units and in IP21 units when included	See <a href="#">Additional fan</a> .
Every 6 years	Cooling fan replacement	See <a href="#">Fan</a> .
Every 10 years	Frame size R4 and up: capacitor replacement	See <a href="#">Capacitors</a> .

Consult your local ABB Service representative for more details on the maintenance. On the Internet, go to <http://www.abb.com/drives>.

## Heatsink

The heatsink fins pick up dust from the cooling air. The drive runs into overtemperature warnings and faults if the heatsink is not clean. In a “normal” environment (not dusty, not clean) the heatsink should be checked annually, in a dusty environment more often.

Clean the heatsink as follows (when necessary):

1. Remove the cooling fan (see section [Fan](#)).
2. Blow clean compressed air (not humid) from bottom to top and simultaneously use a vacuum cleaner at the air outlet to trap the dust. **Note:** If there is a risk of the dust entering adjoining equipment, perform the cleaning in another room.
3. Refit the cooling fan.

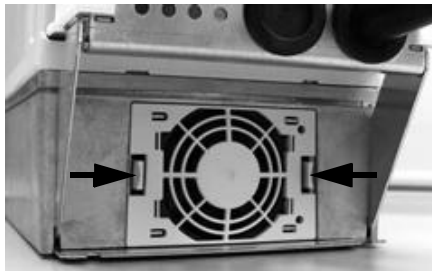
## Fan

The lifespan of the cooling fan depends on the drive usage and ambient temperature. See the appropriate ACS800 firmware manual for an actual signal which indicates the hours of usage of the fan. For resetting the running time signal after a fan replacement, refer to the firmware manual.

Fan failure can be predicted by the increasing noise from fan bearings and the gradual rise in the heatsink temperature in spite of heatsink cleaning. If the drive is operated in a critical part of a process, fan replacement is recommended once these symptoms start appearing. Replacement fans are available from ABB. Do not use other than ABB specified spare parts.

### Fan replacement (R2, R3)

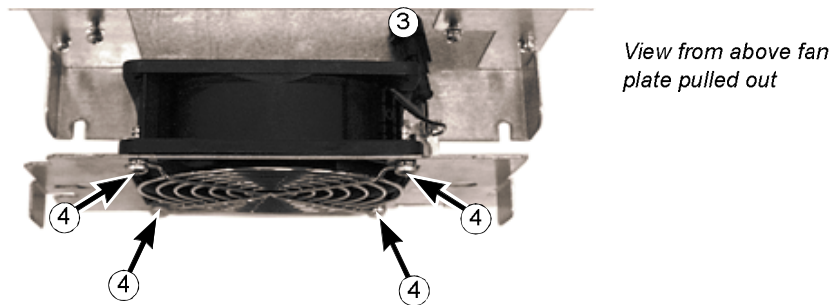
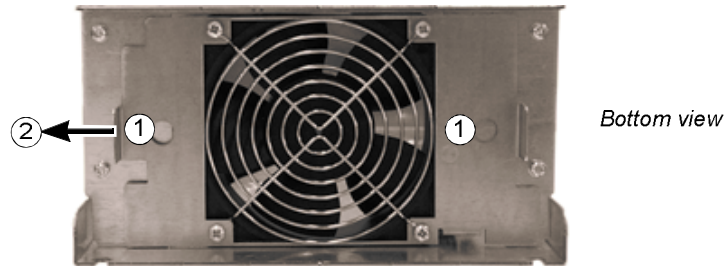
To remove the fan, release the retaining clips. Disconnect the cable. Install the new fan in reverse order.



*Bottom view*

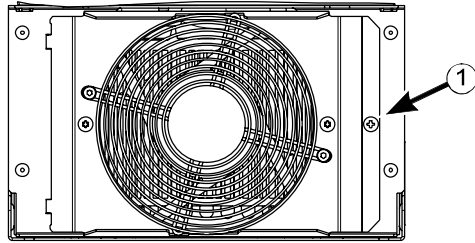
### Fan replacement (R4)

1. Loosen the screws that fasten the fan mounting plate to the frame.
2. Push the fan mounting plate to the left and pull it out.
3. Disconnect the fan power cable.
4. Undo the screws that fasten the fan to the fan mounting plate.
5. Install the new fan in reverse order.

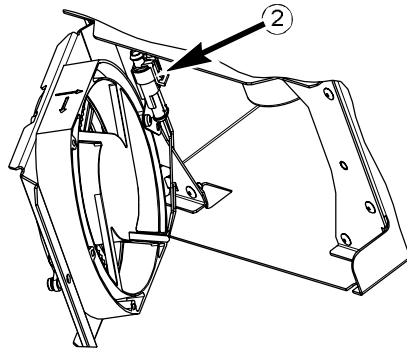


### Fan replacement (R5)

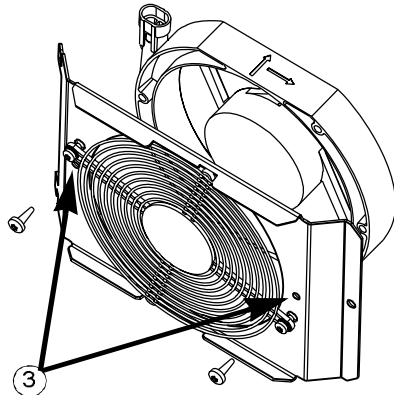
1. Undo the fastening screw.



2. Open the swing-out frame and disconnect the cable.



3. Undo the fastening screws of the fan.

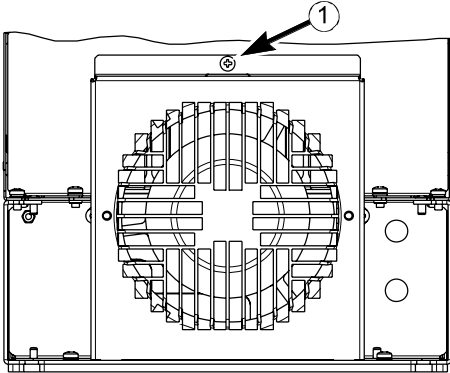


4. Install the new fan in reverse order.

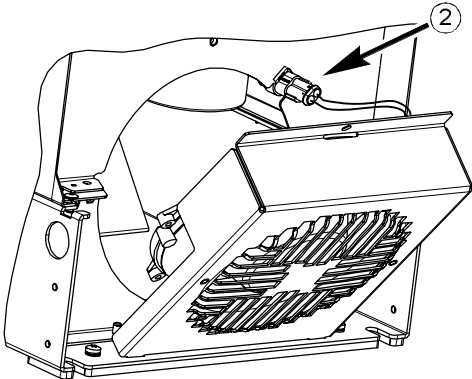
**Fan replacement (R6)**

**Note:** In -0205-3 and 0255-5 units, access the fan through the opening in the support frame of the cable connection box.

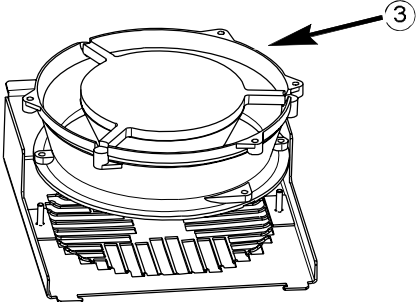
- 1. Remove the screw attaching the fan casing and let the casing lean down against the limiters.



- 2. Slide out the cable connector and disconnect it.



- 3. Take off the casing and replace the fan onto the casing's pins.



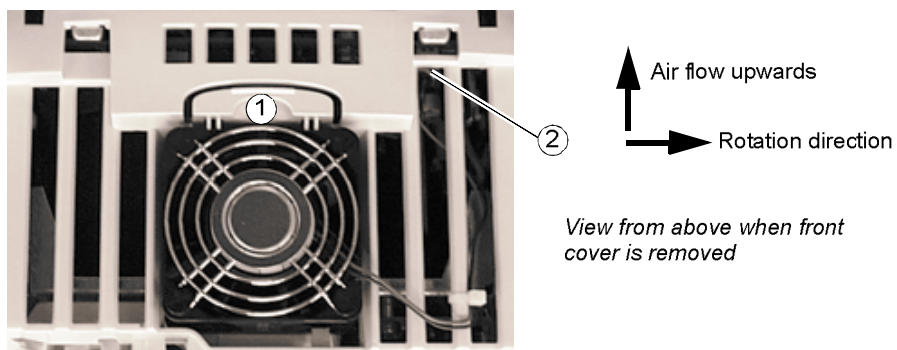
- 4. Reinstall the casing in reverse order.

## Additional fan

There is an additional cooling fan in all IP55 units and most IP21 units. However, there is no additional fan in the following IP21 units: -0003-3, -0004-3, -0005-3, -0004-5, -0005-5 and -0006-5. The following IP55 units have two additional fans: -0205-3 and -0255-5.

### Replacement (R2, R3)

Remove the front cover. To remove the fan, release the retaining clip (1). Disconnect the cable (2, detachable terminal). Install the new fan in reverse order.

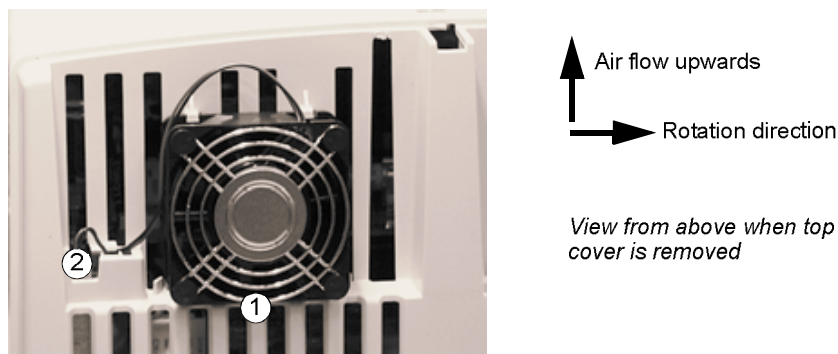


### Replacement (R4, R5)

Remove the front cover. The fan is located on the lower right-hand side of the unit (R4) or on the right-hand side of the control panel (R5). Lift the fan out and disconnect the cable. Install the fan in reverse order.

### Replacement (R6)

Remove the top cover by lifting it by the rear edge. To remove the fan, release the retaining clips by pulling the back edge (1) of the fan upwards. Disconnect the cable (2, detachable terminal). Install the new fan in reverse order.



## Capacitors

The drive intermediate circuit employs several electrolytic capacitors. The lifespan depends on drive loading and ambient temperature. Capacitor life can be prolonged by lowering the ambient temperature.

It is not possible to predict a capacitor failure. Capacitor failure is usually followed by a mains fuse failure or a fault trip. Contact ABB if capacitor failure is suspected. Replacements for frame size R4 and up are available from ABB. Do not use other than ABB specified spare parts.

### Reforming

Reform (re-age) spare part capacitors once a year according to *Converter modules with electrolytic DC capacitors in the DC link, Capacitor reforming instructions* (3BFE64059629 [English]).

## LEDs

This table describes LEDs of the drive.

Where	LED	When the LED is lit
RMIO board *	Red	Drive in fault state
	Green	The power supply on the board is OK.
Control panel mounting platform (with type code selection +0J400 only)	Red	Drive in fault state
	Green	The main +24 V DC power supply for the control panel and the RMIO board is OK.

\* The LEDs are not visible in frame sizes R2 to R6.