

# Assembly Instructions M8159-EN

## Spare part frequency converter (O/ID T28301, T28302, T28389, T28390)

### Purpose

Replacing frequency converter (U 1)

### Precondition



**WARNING!**

**Danger for unauthorized persons!**

Conversion work may only be carried out by specialist staff who have been trained accordingly.

Therefore:

- Keep unauthorized persons away from the work area.



**NOTE!**

*Knowledge of the Instruction Manual is a precondition for carrying out conversion work on the unit.*

### Procedure



**DANGER!**

**Danger of death by electric current!**

Live parts are dangerous. Contact with high voltages causes injury or death.

Therefore:

- For all work on the electrical system, for maintenance, cleaning or repair work, disconnect from the mains or disconnect all phases of the external power supply and secure them against being switched on again. Check unit is isolated from power supply.
- The frequency converter can potentially lead to up to 5 minutes of sustained voltage after disconnection from the mains due to charged capacitors. For this reason, opening or removing the cover of the frequency converter is not permitted until 5 minutes has passed after the system was disconnected from the power supply.



### WARNING!


#### Danger of crushing due to rolling away or tipping

With an uneven floor or when the castors are not locked, there is a danger that the unit tips over or rolls away causing crushing.

Therefore:

- Only install the unit on an even floor.
- Ensure that the castors are locked.

1. Proceed as follows in order to cool down the unit.
  - Display menu page **Functions**.
  - Select the function **Cooling** and activate with the **OK** key.

→ The activated function is indicated with the  symbol.
2. Switch off the main switch, disconnect the mains supply and then wait 5 minutes.



### DANGER!

#### Danger of death by electric current!

Live parts are dangerous. Contact with high voltages causes injury or death.

Therefore:

- The frequency converter can potentially lead to up to 5 minutes of sustained voltage after disconnection from the mains due to charged capacitors. For this reason, opening or removing the cover of the frequency converter is not permitted until 5 minutes has passed after the system was disconnected from the power supply.

3. Loosen the screws in the front panel and hinge it down.
4. Proceed as follows to remove the fan (EV 1) in order to have free access to the frequency converter (U 1):
  - Unplug the cable to the fan at the adapter plug (X 28).
  - Remove 4x fastening screws (Label 1 → Fig. 1).
  - Remove fan (EV 1).

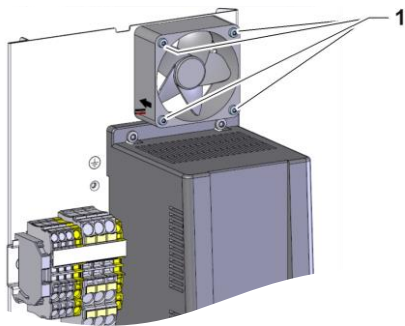


Fig. 1: Fan Electrical part

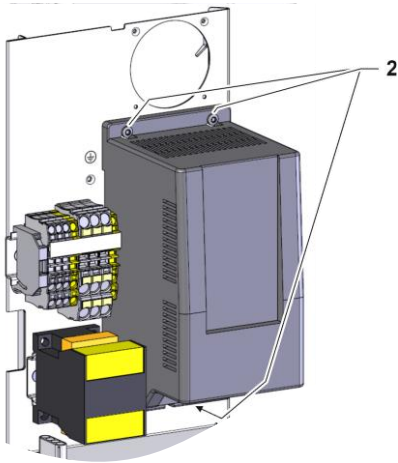


Fig. 2: Remove frequency converter

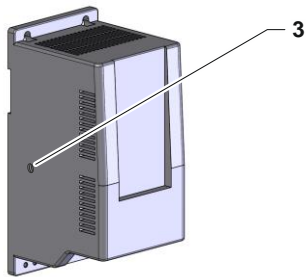


Fig. 3: Device version UL

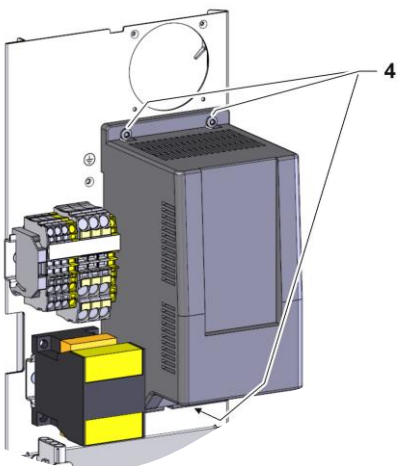


Fig. 4: Installing the frequency converter

5. Proceed as follows to remove the frequency converter (U 1):
  - Open the cover below the control panel and disconnect control cable X 41 at terminals from the frequency converter (U 1).
  - Disconnect the mains (L1, L2, L3, PE) and motor connections (T1, T2, T3, PE) on the underside of the frequency converter (U 1).
  - Loosen 3x fastening screws (Label 2 → Fig. 2) of the frequency converter (U 1) on the rear wall.
  - Pull up the frequency converter (U 1), extend it forward out of the fixing screws and remove it.

### Only with Thermo-5 device with UL version



#### NOTE!

For devices in special design (see nameplate on the device or operating instructions page 2), the corresponding additional documents are enclosed in Appendix A of the operating instructions.

6. Proceed as follows for Thermo-5 units with UL design before installing the replacement frequency converter:
  - Remove the screw (Label 3 → Fig. 3) from the replacement frequency converter (U 1).
  - Screw is no more required.
7. Proceed as follows to install the frequency converter (U 1)
  - Mount the replacement frequency converter (U 1) on the rear wall and drive it down into the fixing screws.
  - Fasten 3x the fixing screws (Label 4 → Fig. 4) of the frequency converter (U 1) on the rear wall.
  - Connect mains (L1, L2, L3, PE) and motor connections (T1, T2, T3, PE) to the underside of the frequency converter (U 1).
  - Open the cover below the control panel and connect control cable X 41 to terminals of the frequency converter (U 1) as follows:

Connection frequency converter (U 1)	Wire identification
A (Signal)	ws
B (Signal)	br
3 (SignGND)	gn
PE (Wire)	shield

- Close the control port cover.

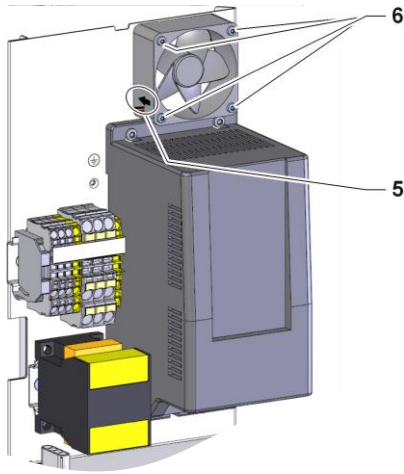


Fig. 5: Fan install electrical part

8. Proceed as follows to install the fan (EV 1):

- Mount the fan (EV 1) with air flow in the direction of the mounting plate (see arrow on the housing, Label 5 → Fig. 5) and fasten it with 4x screws (Label 6 → Fig. 5).
- Plug the cable of the fan (EV 1) into the adapter plug (X 28).



### WARNING!

#### Damage from incorrectly mounted fan!

An incorrectly mounted ventilator can lead to overheating or to a total failure of the electronics.


Therefore:

- Pay attention to air flow direction (Label 5 → Fig. 5).


9. Close and secure the front panel.

10. Reconnect mains plug and switch on main switch.

11. Fan (EV 1) must be in operation at main switch ON.

12. Switch the unit on with the  key.

13. Check unit functions.

14. Switch the unit off by press the  key.

15. Main switch off.

## Parts list

Pos	Description	O/ID	O/ID			
			T28301	T28302	T28389	T28390
			Pcs	Pcs	Pcs	Pcs
01	Frequency converter 1,5 kW, 380–480 V	T27310	1	-	-	-
02	Frequency converter 1,5 kW, 200–240 V	T27312	-	1	-	-
03	Frequency converter 2,2 kW, 380–480 V	T28195	-	-	1	-
04	Frequency converter 2,2 kW, 200–240 V	T28197	-	-	-	1
05	Assembly instructions German	M8159-DE	1	1	1	1
06	Assembly instructions English	M8159-EN	1	1	1	1
07	Assembly instructions French	M8159-FR	1	1	1	1