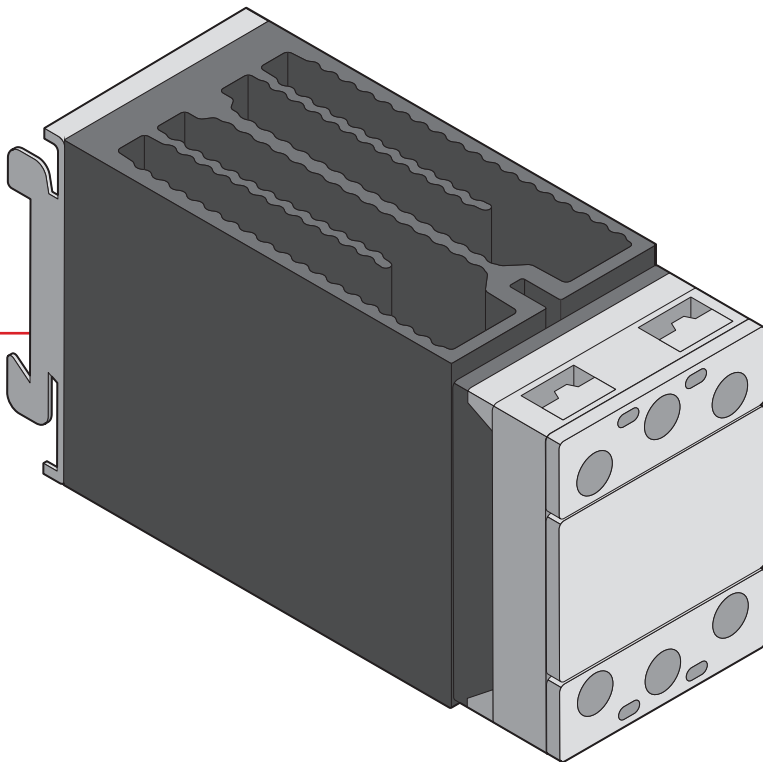


Switching Amplifier

B-075480

Mounting and installation instructions for
qualified professionals



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1 Intended use

The switching amplifier *B-075480* is used to process current greater than 5 ampere. The temperature controllers RESISTRON® and CIRUS® are intended to be used for peak and continuous current up to 5 ampere on the primary side. When the current exceeds 5 ampere, use the switching amplifier (booster) *B-075480*.

2 Safety regulations

Always read the safety regulations carefully before using the device!

Install device Installation, startup and work on the device may be carried out only by qualified professionals. The persons must be familiar with the inherent dangers and warranty conditions.

- ▶ Install the device according to generally accepted engineering standards.

Prevent electric shock There is mains voltage applied to the electrical connections. This can cause electric shock.

- ▶ Before performing any work, switch off the mains voltage and secure to prevent the mains voltage from being switched on again.
- ▶ Protect the system from moisture.

Requirements at installation site The device can malfunction or be damaged if the temperature is too high or too low, or if the humidity is too high.

- ▶ Install the device indoors in a dry room that is always frost-free.
- ▶ Never install the device outdoors.
- ▶ Comply with the ambient temperature indicated on the ID plate and in the applicable documentation.
- ▶ Protect the device from liquids and sustained high humidity. Never allow condensation to form in the device.
- ▶ Never cover the device with any objects.
- ▶ Comply with the specified minimum distance between devices.

Safe operation of the device

- ▶ Operate the device only fully assembled and installed.
- ▶ Make sure that the device is undamaged, complete and correctly assembled.
- ▶ In addition to these device instructions, observe the prohibition, warning and mandatory signs on the device.

2.1 Compliance



We, as the manufacturer, confirm that this product complies with the following EU guidelines:

- 2014/30/EU Electromagnetic compatibility (EMC)
- 2014/35/EU Low-voltage directive
- 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
- 2015/863 Delegated directive regarding the restriction of the use of certain hazardous substances (annex II 2011/65/EU RoHS directive)



We, as the manufacturer, confirm that this product complies with the following EU standards:

- UL 508, 18th ed., issue date: 2018-03-30
- CAN/CSA C22.2. no. 14-10

2.2 Regulations

Observe the following regulations and guidelines:

Legal requirements

- Legal regulations for the prevention of accidents
- Legal regulations for environmental protection
- Regulations for occupational insurance schemes

Standards

- The respective safety regulations of DIN, EN and VDE
- DIN EN IEC 61000-6-2 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments
- DIN EN IEC 61000-6-3 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments

3 Device overview

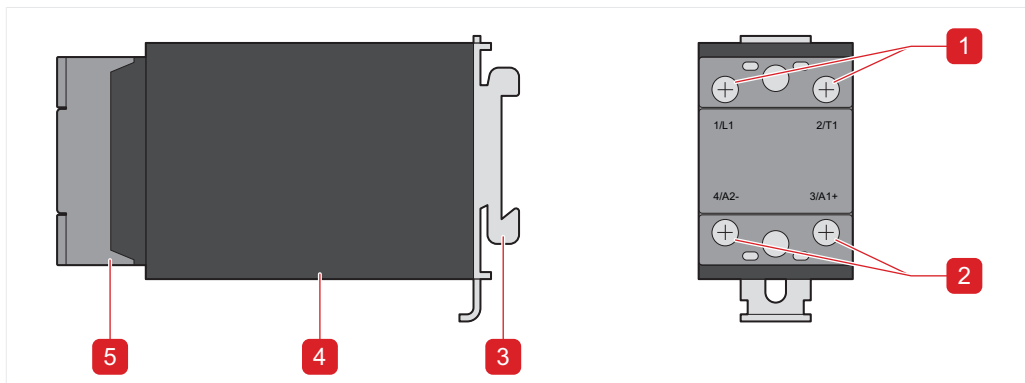


Illustration 1: Device overview switching amplifier B-075480

1	Terminals 1 and 2 (secondary side)	2	Terminal 3 and 4 (primary side)
3	Adapter for top hat rail mounting	4	Heat sink
5	Solid state relay		

3.1 Name plate

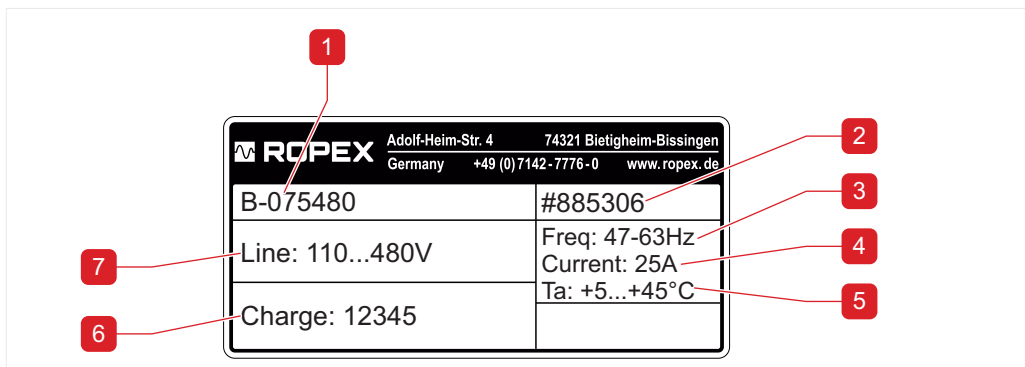


Illustration 2: Name plate, example

1	Product name	2	Article number
3	Frequency	4	Continuous current
5	Ambient temperature	6	Batch number
7	Voltage		

Position The name plate is affixed to the side of the heat sink of the switching amplifier.

3.2 Dimensions

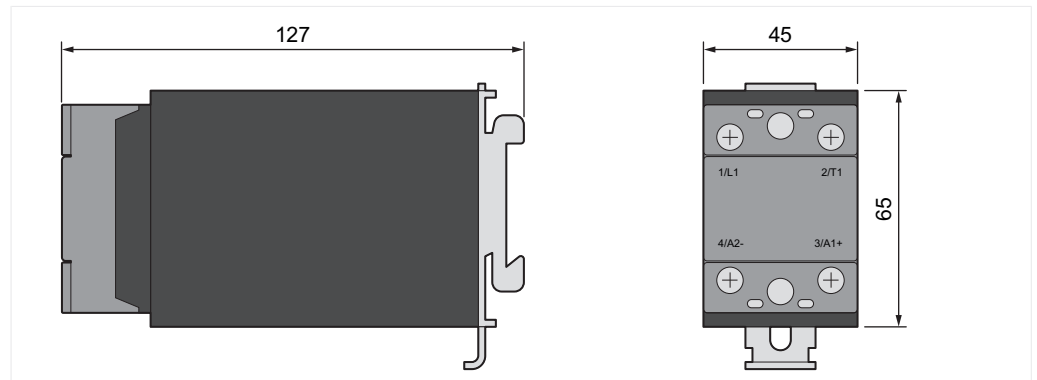


Illustration 3: Dimension of switching amplifier B-075480

4 Mounting and installation



⚠ DANGER

Risk of death due to electric shock

There is mains voltage applied to the electrical connections on the device.

- ▶ Only qualified electricians should perform installation.
- ▶ Stop the power supply.
- ▶ Secure the power supply from being switched back on.

4.1 Mounting switching amplifier



NOTICE

Damage to device due to high humidity

Electrical components can corrode.

- ▶ Install the device only in dry indoor spaces.
- ▶ Ensure that the area is well ventilated.



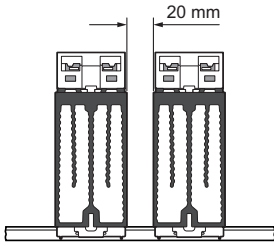
NOTICE

Malfunction caused by overheating

If the device is not installed properly, it can overheat and will no longer function properly.

- ▶ The device should click into the top hat rail horizontally.
- ▶ Align the mounting plate vertically.

When installing the switching amplifier, observe the following:



- Ensure that the device is placed at least 20 mm away from other devices and cables.
- The moving latch required to secure the device should be facing up on the horizontal top hat rail.
- Install the two end pieces that mechanically immobilize the device.

4.2 Connecting switching amplifier



NOTICE

Malfunction caused by using cables that are too long

If cables are used that are too long, interfering signals can impair the behavior of the switching amplifier.

- ▶ The connecting cable between the temperature controller and the switching amplifier (terminals 3 and 4) is no longer than 1 m.

Tool • Phillips screwdriver PZ2

To install the switching amplifier, proceed as follows:

- Requirements**
- ✓ The supply voltage is switched off.
 - ✓ The switching amplifier is attached to the top hat rail.

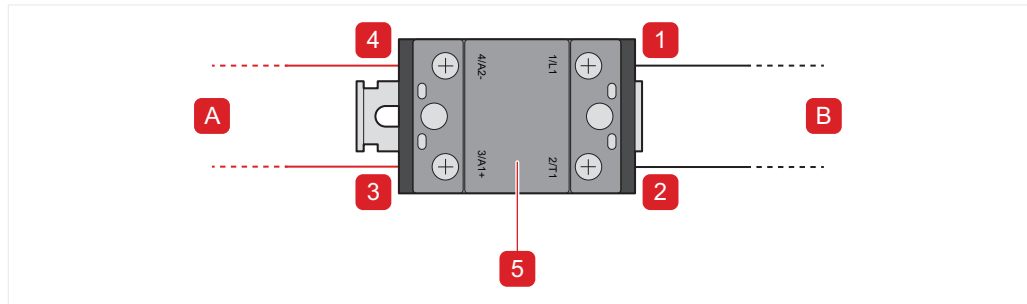


Illustration 4: Wiring diagram

A	Temperature controller (primary side)	B	Voltage supply (secondary side)
4	Terminal 4/A2-	1	Terminal 1/L1
3	Terminal 3/A1+	2	Terminal 2/T1
5	Coupling relay with heat sink		

1. Fold back the plastic covers and release the screws on the primary side as well as the secondary side.
2. Connect the respective wires to terminal 4/A2- (4) and terminal 3/A1+ (3) (Refer to Overview of input and output connections [▶ 7]) and secure with the screw.
3. Connect the respective wires to terminal 1/L1 (1) and terminal 2/T1 (2) (Refer to Overview of input and output connections [▶ 7]) and secure with the screw.
4. Close both covers until they click into place.
⇒ The switching amplifier is now connected.

Tip To prevent malfunction, read the specifications for the switching amplifier in the temperature controller instructions as well as in the ROPEX application report.

4.2.1 Overview of input and output connections


Using ferrules to connect wires



	Unit	Number of connected wires: 1 to 2
Fine-wire (with ferrules)		
Primary side		
Cable cross-section	mm ²	1...2.5
Tightening torque	Nm	1.2...2.0
Secondary side		
Cable cross-section	mm ²	Refer to application report
Tightening torque	Nm	2.0...3.0

Using cable lugs to connect the wires



	Unit					
Cable cross-section	mm ²	16	25	35	50	
	Max. width W	mm	12.6			
	Minimum diameter d	mm	5			
Ring cable lug						

4.2.2 Triggering


Temperature controller	Triggering terminals 3 and 4 (switching amplifier)
Series RES "5xxx"	Standard For further information, refer to the documentation for the temperature controller.
Series UPT "6xxx"	Standard For further information, refer to the documentation for the temperature controller.
Series RES "400"	Standard For further information, refer to the documentation for the temperature controller.
Exceptions:	
RES-401 RES-402	Not available
RES-403 RES-407 RES-408	Via modification 26 (MOD 26)

Temperature controller	Triggering terminals 3 and 4 (switching amplifier)
RES-409	<p>Until January 2007: Via modification 26 (MOD 26)</p> <p>Beginning February 2007: Standard For further information, refer to the documentation for the temperature controller.</p>

5 Technical data

		Unit	Switching amplifier B-075480
Dimensions	Basic surface	mm	45 × 65
	Depth (including cover)	mm	127
Weight		kg	0.4
Load current Terminals 1 and 2 (with heat sink)	Peak current	A	75
	Continuous current	A	25
Load current Terminals 1 and 2		VAC	110 VAC -15 %...480 VAC +5 % (94...504 VAC)
I ² t (< 10 ms)		A ² s	14450
Ambient conditions (altitude up to 2000 m)	Ambient temperature	°C	+5...+45
	Maximum relative humidity	%	80% at temperatures up to +31 °C, decreasing linearly to 50% relative humidity at +45 °C.
Tightening torque	Terminals 1 and 2 (load circuit)	Nm	2.0...3.0
	Terminals 3 and 4 (triggering)	Nm	1.2...2.0
Maximum power loss		W	50
Design			<ul style="list-style-type: none"> • Mounting in electrical cabinet • Can be clicked onto TS35 top hat rail (35 mm) in compliance with DIN EN 50022
Degree of protection			IP20
Certification			UL file E69913

6 How to order

	Switching amplifier		Article number
	B-075480	75 A 480 VAC	885306