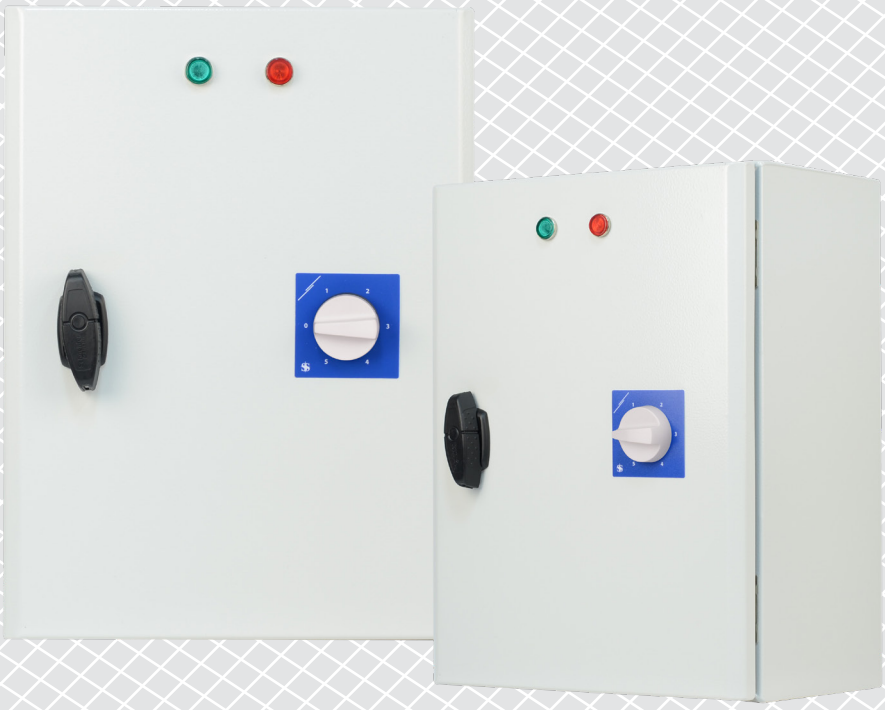
STTA4

3-PHASE 400 VAC TRANSFORMER CONTROLLER WITH THERMOMAGNETIC BREAKER

Mounting and operating instructions



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SAFETY AND PRECAUTIONS

Read all the information, the datasheet, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using or maintaining this product.

For safety and licensing (CE) reasons, unauthorised conversion and / or modifications of the product are inadmissible.

The product should not be exposed to abnormal conditions, such as extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.

All installations shall comply with local health and safety regulations and local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and the safety precautions.

Avoid contact with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.

Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.

Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.

In case there are any questions that are not answered, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

The STTA4 series of transformer fan speed controllers regulate the rotational speed of three-phase voltage controllable motors by varying the output voltage. They are equipped with auto-transformers and control the speed manually in five steps. They feature a thermomagnetic breaker for protection of motors, contacts for remote start / stop as well as a 230 VAC alarm output.

ARTICLE CODE

Article code	Rated max. current [A]	Thermal setting range [A]
STTA4-15L40	1,5	1,6—2,5
STTA4-25L40	2,5	2,5—4
STTA4-40L40	4	4—6,3
STTA4-60L40	6	6,3—10
STTA4-80L40	8	6,3—10
STTA4110L40	11	10—16
STTA4140L50	14	10—16

INTENDED AREA OF USE

- Speed control of voltage controllable 400 V three-phase motors (pumps and fans)
- For indoor use only

TECHNICAL DATA

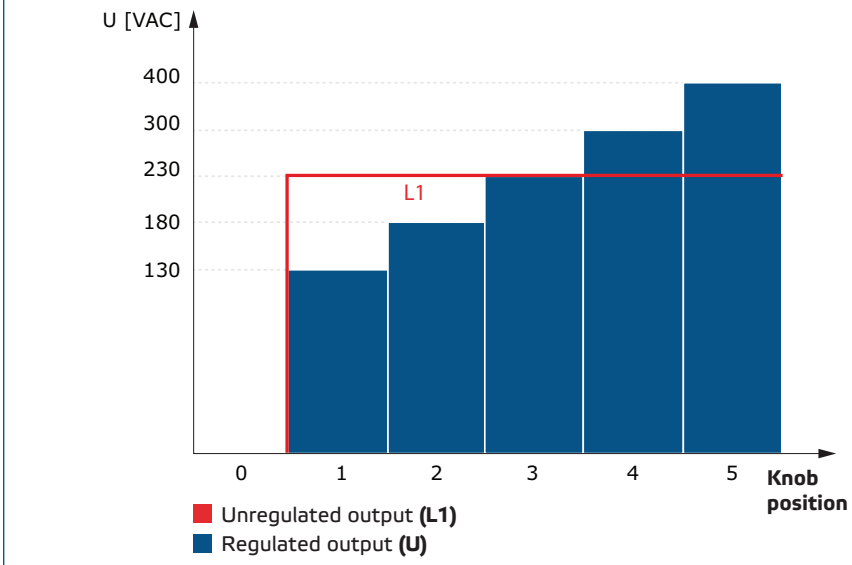
- Wide power range: 1,5 A—14 A
- 5-step rotary switch for manual control plus off-position
- Motor protection by connecting the thermal (overheating) contacts of the motor
- Auto restart after power failure
- 230 VAC alarm output
- LED status indication
- 2 start / stop contacts for remote ON / OFF switching
- Enclosure: sheet steel (RAL 7035, polyester powder coating)
- Protection standard: IP54 (according to EN 60529)
- Operating ambient conditions:
  - Temperature: -20—35 ºC
  - Rel. humidity: 5—95 % rH (non-condensing)

STANDARDS

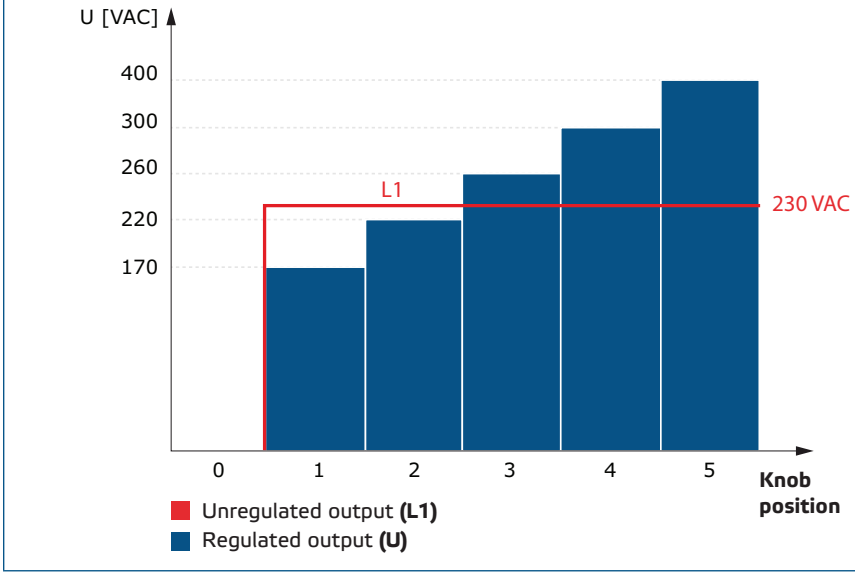
- Low Voltage Directive 2014/35/EC: CE
  - EN 61558-1:2005/A1:2009 - Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests
  - EN 61558-2-13:2009 - Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1,100 V - Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC

OPERATIONAL DIAGRAMS

L40 series



L50 series



WIRING AND CONNECTIONS

	Wiring and connections
Pe	Earth terminals
R	Power supply 3x 400 VAC / 50—60 Hz
S	
T	
N	Neutral
L1	Unregulated output, phase (230 VAC / 50—60 Hz / 2 A)
U	Regulated output to motor
V	
W	
N	Alarm output (230 VAC / 1 A)
AL	
TK	TK contact for protection of thermally protected motors
TK	
NC	Input - normally closed contact for remote ON / OFF switching
NC	
NO	Input - normally open contact for remote ON / OFF switching
NO	

NOTE

Make sure you use cables with an appropriate diameter.

MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the unit, read carefully *"***Safety and Precautions"**. Choose a smooth solid surface for installation (a wall, panel, etc.).

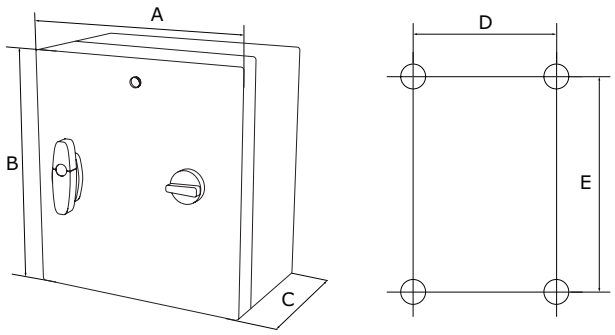
Follow these steps:

1. Open the door of the controller.
2. Mount the enclosure using corrosion resistant screws or bolts. Mind the correct mounting position and unit mounting dimensions (see **Fig. 1** *Mounting dimensions* and **Fig. 2** *Mounting position*). The mounting holes are on the inside back panel of the enclosure and are covered with blanking plugs.
3. Pay attention to following instructions in order to minimize the operating temperature:
   - 3.1 Respect the distances both between the wall /ceiling and the device and between two devices as shown in **Fig. 2.** In order to ensure sufficient ventilation of the controller, clearance on every side has to be maintained.
   - 3.2 When installing the device, please keep in mind that the higher you install it, the warmer the device will get. For example, in a technical room the correct installation height can be of great importance.
   - 3.3 If maximum ambient temperature cannot be adhered to, please provide extra forced ventilation / cooling.

Not respecting the abovelisted rules can reduce service life and relieves the manufacturer of any responsibilities.

4. Once secured in position, the mounting screws or bolts should be sealed to maintain the IP rating of the enclosure.
5. Because the controller enclosure is made of metal, it must be earthed and bonded to other existing metal surfaces.

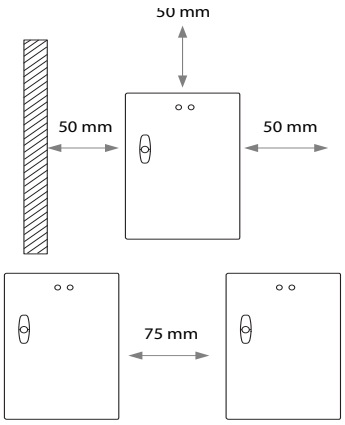
Fig. 1 Mounting dimensions



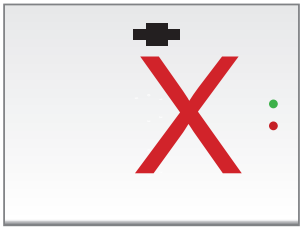
Article code	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
STTA4-15L40	300	325	185	255	255
STTA4-25L40	300	325	185	255	255
STTA4-40L40	300	425	185	255	355
STTA4-60L40	300	425	235	255	355
STTA4-80L40	300	425	235	255	355
STTA4110L40	400	430	235	355	355
STTA4140L50	400	430	235	355	355

Fig. 2 Mounting position

Correct



Incorrect



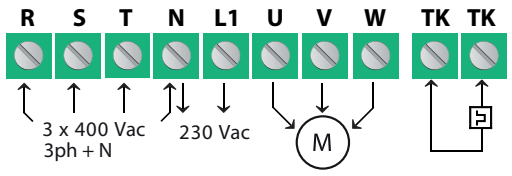
6. Insert the cables through the cable glands and do the wiring according to the wiring diagram (see **Fig. 3**) while adhering to the information from section "**Wiring and connections**" above.
   - 6.1 Connect the power supply lines (terminals R, S, T and PE).
   - 6.2 Connect the motor(s) (terminals U, V, W and PE).
   - 6.3 If applicable, connect the unregulated output (L1 and N). It can be used to supply a 230 VAC valve, lamp, etc. (see **Table 1** below).
   - 6.4 If applicable, connect the TK contacts for monitoring of the thermal motor protection to the motor TK terminals. As standard, there is a bridge between the TK terminals.
   - 6.5 If applicable, connect the alarm output (L1 and N).
   - 6.6 If applicable, connect the normally closed (NC and NC) and normally open (NO and NO) contacts for remote switching.

⚠ ATTENTION

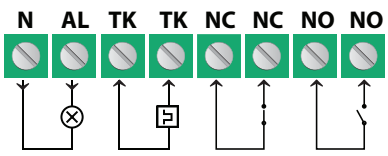
A safety isolator / disconnect switch should be installed on the mains electricity side of all motor drives.

Fig. 3 Wiring diagram

Power terminal block



Control terminal block



⚠ ATTENTION

Make sure the connections are correct before you power the unit.

7. Close the door of the controller.
8. Turn the knob at '0'.
9. Tighten the cable glands.
10. Switch on the mains supply.
11. Make sure the transformer controller can operate normally (consider an isolating switch).
12. Turn the knob into the relevant position to adjust the output voltage.

Optional settings

The standard configuration of the output voltages is as indicated in **Table 1** below. However, if more than 5 output voltages are available (**L50 versions**), it is possible to adjust the 5 steps by changing the internal wiring.

Table 1 Voltage series

Knob position	0	-	1	2	3	4	5
Regulated output [VAC]							
L40 version	0	-	130	180	230	300	400
L50 versions	0	130*	170	220	260	300	400
Unregulated output [VAC]							
L1	0	230	230	230	230	230	230

** Available but not connected.*

VERIFICATION OF INSTALLATION

⚠ ATTENTION

Use only tools and equipment with non-conducting handles when working on electrical devices.

After connecting the unit to the mains supply, the green LED on its cover should light up indicating that the controller is supplied.

Safe operation depends on proper installation. Before start up, ensure the following:
- The mains supply is connected correctly;
- Protection is provided against electrical shock;
- The cables are the appropriate size and fuse-protected;
- There is sufficient air flow around the unit.

The controller is equipped with TK terminals to connect to the thermal contact integrated in the motor. When actuated (in case of an overheated motor), the thermal contact cuts the voltage supply to the motor and switches on the red LED to indicate that it does not work.

⚠ ATTENTION

The unit is supplied with electrical energy at voltages high enough to inflict personal injury or threat to health. Take the relevant safety measures.

⚠ ATTENTION

Disconnect and confirm that there is no live current flowing to the unit before servicing.

⚠ ATTENTION

Avoid exposing the controller to direct sunlight!

TRANSPORT AND STORAGE

Avoid shocks and extreme conditions; stock in original packing.

WARRANTY AND RESTRICTIONS

The warranty against manufacturing flaws is valid for two years starting from the date of delivery. Any alterations or adjustments to the product absolve the manufacturer of all liability. The manufacturer disclaims all liability for typographical or other errors in this document.

MAINTENANCE

In normal conditions this product is maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.