



## THYRISTOR SPEED CONTROLLER



**CDT1 E**

**EN**

**USER'S MANUAL**



**BLAUBERG**  
Ventilatoren

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This user's manual is a main operating document intended for technical, maintenance, and operating staff.

The manual contains information about purpose, technical details, operating principle, design, and installation of the CDT1 E unit and all its modifications.

Technical and maintenance staff must have theoretical and practical training in the field of ventilation systems and should be able to work in accordance with workplace safety rules as well as construction norms and standards applicable in the territory of the country.



**FOLLOW THE USER'S MANUAL REQUIREMENTS TO ENSURE  
DURABLE AND  
TROUBLE-FREE OPERATION OF THE UNIT**

## SAFETY REQUIREMENTS

All user's manual requirements as well as the provisions of all the applicable local and national construction, electrical, and technical norms and standards must be observed when installing and operating the unit.

Disconnect the unit from the power supply prior to any connection, servicing, maintenance, and repair operations.

**Only qualified electricians with a work permit for electrical units up to 1000 V are allowed for installation. The present user's manual should be carefully read before beginning works.**

Check the unit for any visible damage of the impeller, the casing, and the grille before starting installation. The casing internals must be free of any foreign objects that can damage the impeller blades.

While mounting the unit, avoid compression of the casing! Deformation of the casing may result in motor jam and excessive noise.

Misuse of the unit and any unauthorised modifications are not allowed.

Do not expose the unit to adverse atmospheric agents (rain, sun, etc.).

Transported air must not contain any dust or other solid impurities, sticky substances, or fibrous materials.

Do not use the unit in a hazardous or explosive environment containing spirits, gasoline, insecticides, etc.

Do not close or block the intake or extract vents in order to ensure the efficient air flow.

Do not sit on the unit and do not put objects on it.

The information in this user's manual was correct at the time of the document's preparation.

The Company reserves the right to modify the technical characteristics, design, or configuration of its products at any time in order to incorporate the latest technological developments.

Never touch the unit with wet or damp hands.

Never touch the unit when barefoot.

This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the unit.

Connection to the mains must be made through a disconnecting device, which is integrated into the fixed wiring system in accordance with the wiring rules for design of electrical units, and has a contact separation in all poles that allows for full disconnection under overvoltage category III conditions.



**THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END  
OF ITS SERVICE LIFE.  
DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE.**

## BRIEF DESCRIPTION

The unit provides manual speed control of voltage-controlled motors (230 V/50 Hz) by varying the voltage supplied by adjusting the phase angle.

Suitable for wall (IP44) and built-in (IP54) mounting.

The splash-proof casing allows the unit to be used in harsh working environments.

The orange LED indicates the operating status.

The controller allows the control of several motors, as long as the total current consumption does not exceed the current limit of the controller.

All models have an optional (non-adjustable) 230 V output.

### Technical data

- Smooth speed control.
- Adjustment from minimum to maximum speed.
- Adjustment of the minimum speed with the integrated trimmer.
- Fuse 5 x 20 mm, spare fuse included.
- Operating status indication.

## DELIVERY SET

Speed controller – 1 pc.

Fuse holder with a spare fuse – 1 pc.

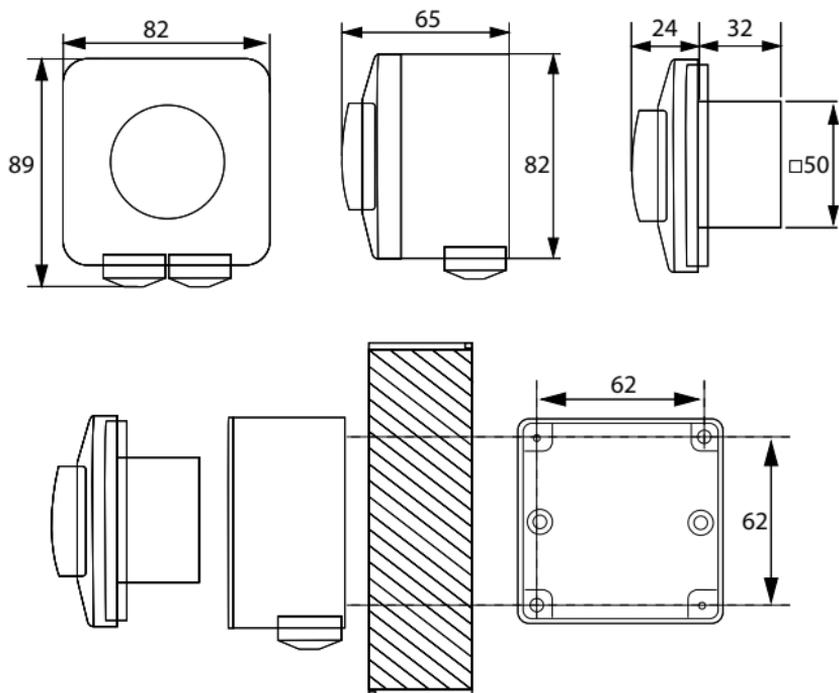
User's manual – 1 pc.

Packing – 1 pc.

Name	CDT1 E0.5	CDT1 E1.5	CDT1 E2.5	CDT1 E4.0
Voltage [V/Hz]	230/50			
Fan motor operating voltage [V/Hz]	230/50			
Min. load current [A]	0.1	0.15	0.25	0.4
Max. load current [A]	0.5	1.5	2.5	4.0
Rated current of the fuse [A]	0.63	1.5	2.5	4.0
Wire cross section [mm <sup>2</sup> ]	max. 2.5			
Maximum ambient air temperature [°C]	+35			
Weight [kg]	0.23	0.24	0.29	0.36
SEC class	IP44 (flush mounting) IP54 (surface mounting)			

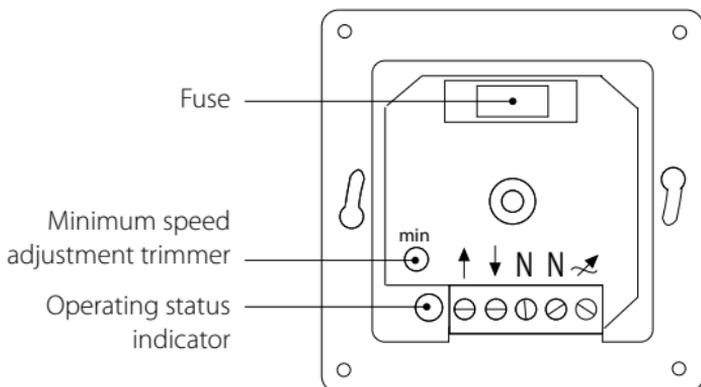


**BEFORE MOUNTING MAKE SURE THE CASING DOES NOT CONTAIN ANY FOREIGN OBJECTS (E.G. FOIL, PAPER).**

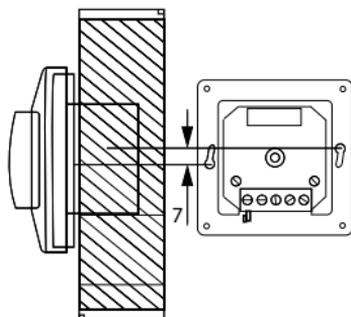


**WHILE INSTALLING THE UNIT ENSURE CONVENIENT ACCESS FOR SUBSEQUENT MAINTENANCE AND REPAIR.**

## DESIGN AND OPERATING PRINCIPLE



## MOUNTING AND SET-UP



The controller should be installed on a vertical wall indoors in a hidden mounting box. Inspect the unit visually and check the casing for integrity.

### **Flush mounting (IP44)**

To connect the controller to power mains, follow the steps below:

- Cut off power supply.
- Remove the control knob of the controller.
- Detach the fasteners and remove the decorative cover.
- Disconnect the controller fasteners from the mounting box and remove the controller.
- Lead the connecting wires into the mounting box.
- Connect the controller as shown in the wiring diagram.
- The conductors are connected to the unit using screw terminals.
- Install the controller in the mounting box with the terminal block at the bottom.
- Install the mounting box in the wall with the connection terminals facing downwards.
- Apply the mains voltage and switch on the controller.
- Adjust the minimum fan speed at the end position of the control knob.
- Turn of the controller.
- Wait for the fan to stop.
- Turn on the controller to the minimum speed, the fan should rotate steadily at the minimum speed.
- Put on the decorative cover.
- Put on the control knob.
- Unscrew the knob to the off position.
- The system is ready for operation.

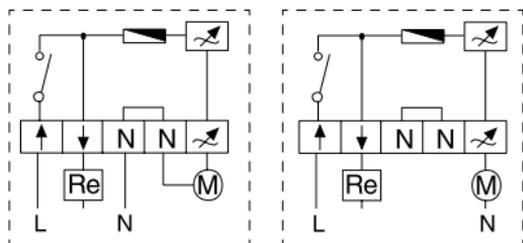
### **Surface mounting (IP54)**

To connect the controller to power mains, follow the steps below:

- Cut off power supply.
- Fasten the casing to the wall, including cable routing.
- Remove the control knob of the controller.
- Detach the fasteners and remove the decorative cover.
- Lead the connecting wires into the mounting box.
- Connect the controller as shown in the wiring diagram.
- The conductors are connected to the unit using screw terminals.

- Install the inner part of the controller into the mounting box with the screws.
- Apply the mains voltage and switch on the controller.
- Adjust the minimum fan speed at the end position of the control knob.
- Turn of the controller.
- Wait for the fan to stop.
- Turn on the controller to the minimum speed, the fan should rotate steadily at the minimum speed.
- Install the decorative cover.
- Put on the control knob.
- Unscrew the knob to the off position.
- If necessary, drill a 5 mm hole for condensation water outlet at the base in case of wall mounting.
- The system is ready for operation.

## CONNECTION TO POWER MAINS



↑	Power supply 230 V/50 Hz
↓	Non-regulated 230 V/2 A output
N	Neutral
	Regulated motor output

## TECHNICAL MAINTENANCE

The unit is maintenance-free under normal operating conditions.

In case of light soiling, it is cleaned with a dry or slightly damp cloth.

In case of heavy soiling, clean with non-aggressive detergents.

In this case, the unit must be disconnected from the power supply.

Note that no liquids must be allowed to enter the unit.

The unit may only be reconnected to power mains after it has dried completely!

Periodically clean the unit of dust, lint, etc.

Make sure that the external electrical leads are securely attached to the screwed terminals of the unit.

### Replacing the fuse

Return the fuse knob to its original position by turning it to the end position and then pull it towards you.

Remove the cover.

Remove the fuse holder with a screwdriver.

Replace the fuse holder.

Assemble the unit in the reverse order.

Use only recommended fuses (industrial, high breaking capacity).

The unit warranty does not apply if unsuitable fuses are used.



**DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY  
MAINTENANCE OPERATIONS!  
MAKE SURE THE UNIT IS DISCONNECTED FROM POWER MAINS  
BEFORE REMOVING THE PROTECTION**

## TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
The controller does not work.	Limited or no connection.	Check the correctness of connection to power mains.
	The fuse is broken.	Replace the fuse.
The fan does not rotate when the controller is on.	The minimum fan speed is not set correctly.	Adjust the minimum fan speed.



**FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.**

## STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range +5 °C...+40 °C and relative humidity up to 70 %.
- Storage environment must not contain aggressive vapors and chemical mixtures provoking corrosion, insulation, and sealing deformation.
- Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.
- Follow the handling requirements applicable for the particular type of cargo.
- The unit can be carried in the original packaging by any mode of transport provided proper protection against precipitation and mechanical damage. The unit must be transported only in the working position.
- Avoid sharp blows, scratches, or rough handling during loading and unloading.
- Prior to the initial power-up after transportation at low temperatures, allow the unit to warm up at operating temperature for at least 3-4 hours.



**USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW  
ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT  
DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE  
DATE STAMP.**

## MANUFACTURER'S WARRANTY

The product is in compliance with EU norms and standards on low voltage guidelines and electromagnetic compatibility. We hereby declare that the product complies with the provisions of Electromagnetic Compatibility (EMC) Directive 2014/30/EU of the European Parliament and of the Council, Low Voltage Directive (LVD) 2014/35/EU of the European Parliament and of the Council and CE-marking Council Directive 93/68/EEC. This certificate is issued following test carried out on samples of the product referred to above.

The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, installation, and operation regulations. Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation, the user is entitled to get all the faults eliminated by the manufacturer by means of warranty repair at the factory free of charge. The warranty repair includes work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

### **The warranty repair does not include:**

- routine technical maintenance
- unit installation/dismantling
- unit setup

To benefit from warranty repair, the user must provide the unit, the user's manual with the purchase date stamp, and the payment paperwork certifying the purchase. The unit model must comply with the one stated in the user's manual. Contact the Seller for warranty service.

### **The manufacturer's warranty does not apply to the following cases:**

- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismantled by the user.
- Mismatch of the unit model and the brand name with the information stated

on the unit packaging and in the user's manual.

- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- Violation of the unit installation regulations by the user.
- Violation of the unit control regulations by the user.
- Unit connection to power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- Violation of the unit transportation regulations by the user.
- Violation of the unit storage regulations by the user.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment paperwork certifying the unit purchase.

Quality Inspector's  
Stamp

Sold by  
(name and stamp of the  
seller)

Manufacture Date

Purchase Date



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