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1. User manual

This instruction manual contains information and instructions to enable the user to work safely, correctly and economically on the unit. Understanding and adhering to the manual can help one:

- Avoid any dangers.
- Reduce repair costs and stoppages.
- Extend and improve the reliability and working life of the unit.

PLEASE ENSURE TO USE THE RIGHT VERSION OF THE INSTRUCTION MANUAL SUITABLE FOR YOUR UNIT.

Intended use

The unit is to be used exclusively for the dissipation of heat from control cabinets and enclosures (stationary, not moving) in order to protect temperature sensitive components in an industrial environment. To meet the conditions of use, all the information and instructions in the instruction manual must be adhered to.



General danger

Indicates compulsory safety regulations which are not covered by a specific pictogram such as one of the following.



High electric voltage

Indicates electric shock danger.



Important safety instruction

Indicates instructions for safe maintenance and operation of the unit.



Attention

Indicates possible burns from hot components.



Attention

Indicates possible damage to the unit.



Instruction

Indicates possible danger to the environment.

2. Legal regulations

Liability

The information, data and instructions contained in this instruction manual are current at the time of going to press. We reserve the right to make technical changes to the unit in the course of its development. Therefore, no claims can be accepted for previously delivered units based on the information, diagrams or descriptions contained in this manual. No liability can be accepted for damage and production caused by:

- Disregarding the instruction manual
- Operating error
- Inappropriate work on or with the unit
- The use of non-specified spare parts and accessories
- Unauthorised modifications or changes to the unit by the user or his personnel

The supplier is only liable for errors and omissions as outlined in the guarantee conditions contained in the main contractual agreement. Claims for damages on any grounds are excluded.

3. Safety instructions

Upon delivery the unit is already meeting current technical standards and can therefore be safely taken into operation. Only authorised personnel is allowed to work on the unit. Unauthorised personnel must be prohibited from working on the unit. Operating personnel must inform their superiors immediately of any malfunction of the unit.

Please note that before starting to work on or with the unit, a procedure must be carried out inside the cabinet on which the unit is to be mounted.

Before commencing work inside the cabinet, the control cabinet manufacturer's instruction must be read with regards to:

- Safety instructions.
- Instructions on taking the cabinet out of operation.
- Instructions on the prevention of unauthorised cabinet reconnection.

The electric equipment meets the valid safety regulations. One can find dangerous voltages (above 50 V AC or above 100 V DC)

- Behind the control cabinet doors.
- On the power supply in the unit housing.

The unit has to be operated according to the type plate and the wiring diagram, and must be protected externally from overloading and electrical faults via suitable protective devices.



Danger through incorrect work on the unit

The unit can only be installed and maintained by technical competent and qualified personnel, using only supplied material according to the supplied instructions.



Danger from electrical voltage

Only specialised personnel are allowed to maintain and clean the unit. The personnel must ensure that for the duration of the maintenance and cleaning, the unit is disconnected from the electrical supply.



Attention

Damage to the unit through the use of inappropriate cleaning materials. Please do not use aggressive cleaning material.



Instruction

Damage to the environment through unauthorised disposal. All spare parts and associated material must be disposed according to the environmental laws.

4. Technical data

Order Number	4855011
Cooling capacity L35L35 (EN14511-3)	5.5 kW (DT=15K) net
Air flow volume (system / unimpeded)	1190 m ³ /hr.
Operating Temperature Range	1°C - 50°C
Dimensions A x B x C (D+E)	1550 x 550 x 280 mm
Weight	43 kg
Voltage / Frequency	230 V ~ 50/60 Hz
Rated current	1.9 A
Current L35L35	1.9 A
Starting current	6 A
Max. current	1.9 A
Max. power	450 W
Fuse	6 A (T)
IP protection class to EN 60 529	IP 42
Approvals	CE, cURus

5. Mounting

Mounting preparations

Several points must be checked before the unit can be mounted. These checks must be made to ensure safety and the trouble-free operation of the unit. These checks must be carried out with absolute thoroughness to ensure that the unit works perfectly.

Check unit for transport damages

On delivery the carton box containing the unit must be examined for signs of transport damage. Any transport damage to the carton box could indicate that the unit itself has been damaged in transit which in the worst case could mean that the unit will not function.

Location and space requirements

The location of the cabinet must allow for sufficient air circulation to and from the unit.

Attention

Damage to the unit through incorrect mounting. The unit must be mounted according to the mounting template. It is therefore also important to check, with the help of a spirit-level, that the cabinet is in a horizontal position.

Air apertures

To provide adequate air circulation and avoid temperature layers from forming, ensure that air inlet and air outlet are not partially or completely blocked by obstructions in the cabinet.

Sealing

To guarantee that the unit works perfectly ensure that:

- the control cabinet is completely sealed to min. IP54 according to EN 60529
- a good seal exists between the control cabinet and the fan unit



Danger through high voltage

Ensure that for the duration of the mounting operation the cabinet is disconnected from the electrical supply. Therefore take the cabinet out of operation, following the relevant instructions, before mounting work begins and take all precautions to prevent premature reconnection of the cabinet. When all mounting preparations are complete the actual mounting operation can commence.

Use of mounting template (not applicable for 19" rack mount units)

The supplied mounting template helps to mount the cabinet air conditioner quickly. Please proceed as follows:

- Take the cabinet out of operation in the prescribed manner and secure it against unauthorized reactivation
- Fix the mounting template in the required position on the outer surface of the cabinet
- Drill the holes and cut the apertures in the required positions in the surface of the cabinet and remove the mounting template
- Stick the self-adhesive unit seals on the outer surface of the cabinet for externally mounting and on the inner surface of the cabinet for half in/half out mounting of the unit

The self-adhesive seals ensure a durable seal between the unit and the cabinet.

Mounting the unit

Only use the supplied material to mount the unit on the cabinet. Proceed as follows to secure the unit on the cabinet:

- Set the unit up on the cabinet
- Screw the M6 hex.head screws (if supplied) together with the washers and locking washers into the M6 threaded rivets in the unit

The resistance of the earth connection between cabinet and fan unit must be $< 0.1 \Omega$.

6. Cut Out Dimension



7. Wiring Diagram

C1 - 3	Capicitor for fan
F1 - 3	Fuse for fan 1.6A (T)
LED G1 - 3	Fuse OK: GREEN
LED D1 - 3	Fan OK: GREEN
	Fan FAIL: RED
LED J	Operation/ Alarm LED
H	Fan switch 1 - 4, ON/ OFF
HEH	Heat exchanger chasis
B1	Blower 1
B2	Blower 2
B3	Blower 3
SC	Shielded cable
SE	Sheath earthing
TB	Test/ Resume button

CONNECTIONS

A- Type connectors	Molex mini-fit jr. 4- pole, fans 1: BK (#1) - LIVE 2: BK (#2) - N 3: NOT USED 4: NOT USED
B- Type connectors	JST, fans 3- pole, hall 1: BK (#3) - 5V DC 2: BK - HALL 3: BK (#4) - 0V DC
C- Type connectors	Molex mini-fit jr. 6- pole, fans 1: BK (#1) - LIVE 2: BK (#2) - N 3: GNYE - PE 4: BK (#3) - 5V DC 5: BK (#4) - 0V DC 6: BK - HALL
D- Type connectors	Molex mini-fit jr. 6- pole, fans 1: BK - LIVE 2: BU - N 3: GNYE - PE 4: RD - 5V DC 5: BK - 0V DC 6: WH - HALL
E- Type connector	Connector block 2- pole, caps
F- Type connector	KK 2- pole, controller - BK: PE +BK (#4): +
G- Type connector	Molex mini-fit jr. 4- pole, alarm 1: BK (#1) - NO 2: BK (#2) - COMMON 3: BK (#3) - NC 4: NOT USED

8. Maintenance & Cleaning



Always switch power supply off before starting any maintenance on the unit.

Any repairs that may need doing must only be done by specialist qualified personnel.

Disposal

Replacement, repairs and final disposal must be done according to the regulations of each country for these substances.

9. Maintenance

Attention! Only use original replacement parts when repairing the unit. This ensures that the unit functions perfectly and remains safe. For further information and spare part ordering please contact us by email under *on one of the addresses stated on the last page.*

Radial fan replacement: The normal working life of the fan is app. 40,000 working hours under normal conditions. Should you still need to change the fan, please take note of the following:



Danger from electrical voltage

Maintenance work on the unit must be carried out by specialists (qualified electricians). The personnel must ensure that for the duration of the work the unit and the cabinet are disconnected from the electrical supply and protected against unauthorized reconnection.

- Disconnect the unit from the mains
- Remove the unit cover
- Remove the fixing screws from the relevant fan
- To replace the cold side fan the PC-board must also be removed
- Disconnect the fan cable from the PC-board
- Mount a new radial fan



Danger to the unit through incorrect work.

Make sure that the cabinet fan or the ambient fan are not misplaced in the unit as they are different. Ensure that the correct polarity is maintained. The fans should have clockwise rotation.

- Replace the 4 fan fixing screws
- Connect the fan cable to the PC-board and replace the board if necessary



Dispose the old fan according to the environmental laws and regulations.

10. Transport & Storage

During transport and storage the cooling unit must be kept in the position marked on the box and at a temperature between -40°C and +70°C and a relative humidity of max. 95% (at 25°C). Check the packaging has not been damaged during transport.

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