



ELMEKO MSE 20 Dehumidifier User Manual

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APPLICATION

Moisture in switchgear cabinets is a serious problem – and one that is often underestimated. Fluctuations in temperature lead to condensation, which in turn causes corrosion, electrical faults and control unit failure. Just one water droplet in the wrong place can have far-reaching consequences. Therefore, Dehumidifiers are installed wherever moisture or fluctuations in temperature cause condensation. This is generally the case in almost all outdoor applications – particularly in tropical climates – and in various specific industries e.g. the food and beverage industry.

TECHNICAL DATA

Type	MSE 20 – 24 V DC	MSE 20 – 12 V DC
Part number	40 ME2 52L	40 ME2 82L
Operating voltage	24 V DC	12 V DC
Input voltage range	20 – 26 V DC	10 – 14 V DC
Amperage	1,0 A	1,7 A
Starting current	1,2 A	2,0 A
Nominal power	30 W	24 W
Fuse	2 A (T)	3 A (T)
capacity	250 ml / 24 h (35 °C, 85 % RH)	200 ml / 24 h (35 °C, 85 % RH)
Humidity detection range	1% r.F ... 99 % RH	
Measurement accuracy	±3 % RH	
Stoppwert Automatic stop value	55 % RH/ 35 % RH	
Air volume flow	19,2 m³/h	
Sound pressure	37 dB(A) @1m	
Degree of protection	IP20	
Service life	50.000 h	
Weight	320 gr.	
Operating temperature	-10 °C ... +55 °C	
Storage temperature	-30 °C ... +70 °C	
Approval	CE / UKCA	

DESCRIPTION

Type	Description
MSE 20 – 24 V	24 V DC Enclosure dehumidifier with integrated humidity controller for DIN rail mounting, 24 V DC
MSE 20 – 12 V	12 V DC Enclosure dehumidifier with integrated humidity controller for DIN rail mounting, 12 V DC

FEATURES

- Integrated humidity controller
- Quick and easy setup
- Low power consumption
- Easy mounting on DIN rail

- High dehumidifying performance
- Compact, small dimensions
- Light wight
- Overtemperature protection
- Automatic defrosting at low temperature

CALCULATION SOFTWARE DELTA T

With our calculation tool DELTA T you have the possibility to determine the required cooling capacity for your project.

For a precise result, all relevant influences such as cabinet size and material, temperatures, heat dissipation and installation type are considered in the software.

With the QR code or by clicking on the link below you have direct access to the web version of the calculation software Delta T.



DELIVERY CONTENTS

- Dehumidifier
- Quick reference guide
- Pluggable terminal block
- 1m silicon rubber hose

ACCESSORIES

Type	Description	Part number
Emparro 5	5 Power supply Emparro 5	 42 05A 500
OF-M20-BA	Entwässerung aus der OUT-FIT Serie The all-in-one solution for pressure equalization and drainage from the OUT-FIT series	 74 OF20 BA

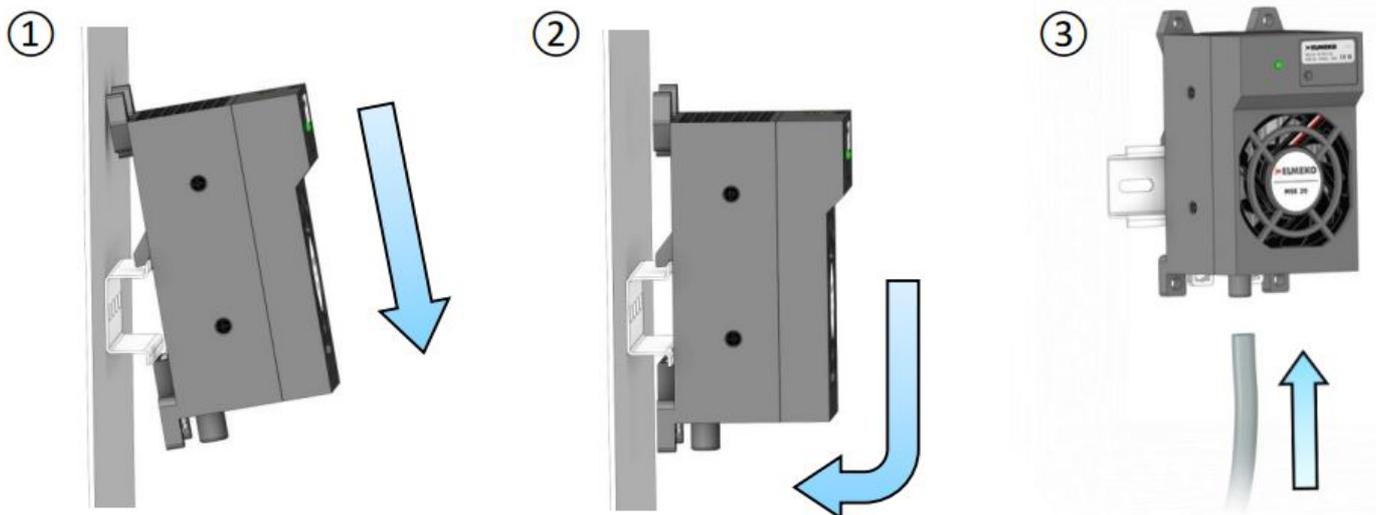
Further solutions for condensate drainage and pressure equalization can be found in the section Accessories on our website.

INSTALLATION

The unit can be installed on a TS 35 × 15 mm mounting rail or, alternatively, with M4 screws through the holes provided in the unit. The horizontal installation position with the hose connection pointing downwards must be observed. Push the condensate hose onto the hose connection on the underside of the device and led it into a container underneath the device or through the enclosure wall. Ideally, an OUT-FIT element from the accessories is used for this.

A distance of at least 80 mm to the top and front of neighboring devices must be maintained so that the air inlet (top of the dehumidifier) and air outlet (front) are not impaired.

ASSEMBLY PROCEDURE



Alternative fastening with screws

Fastening with 4 screws M4 × 12 mm and washers.

Max. Tightening torque: 2 Nm.

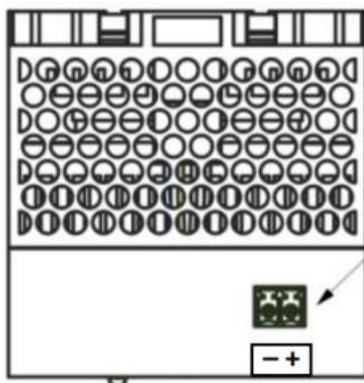
The screws are not included in the scope of delivery.



ELECTRIC INSTALLATION

For the electrical connection, the control cabinet must first be disconnected. Depending on the device version, a power supply of 24 V DC (part no. 40 ME2 52L) or 12 V DC (part no. 40 ME2 82L) is required.

ATTENTION: AC current will destroy the cooler. Connect the supply voltage via the enclosed plug-in terminal to the device. Make sure that the polarity is correct according to the symbols embossed on the top of the unit (+/-).

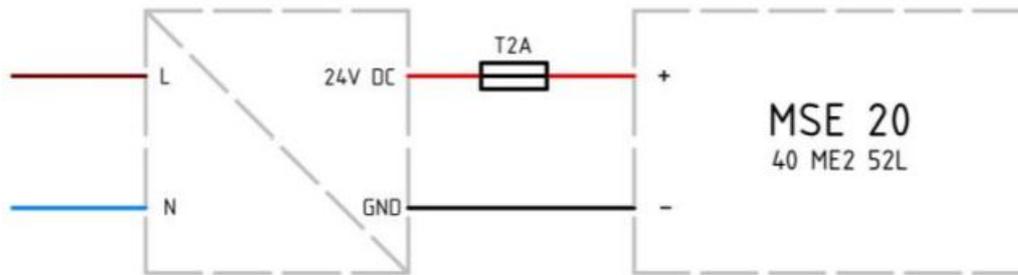


Anschluss der Spannungsversorgung
Connection of the power supply

Ansicht von oben Top view

WIRING DIAGRAMS

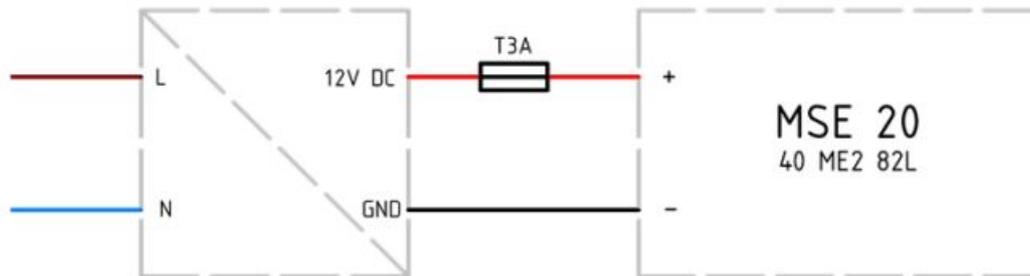
Wiring diagram MSE 20 – 24V



Netzteil separat erhältlich
Power supply optionally available

Bezeichnung Term	Belegung Connection
+	24 V DC (40 ME2 52L)
-	0V DC

Wiring diagram MSE 20 – 12V



Netzteil separat erhältlich
Power supply optionally available

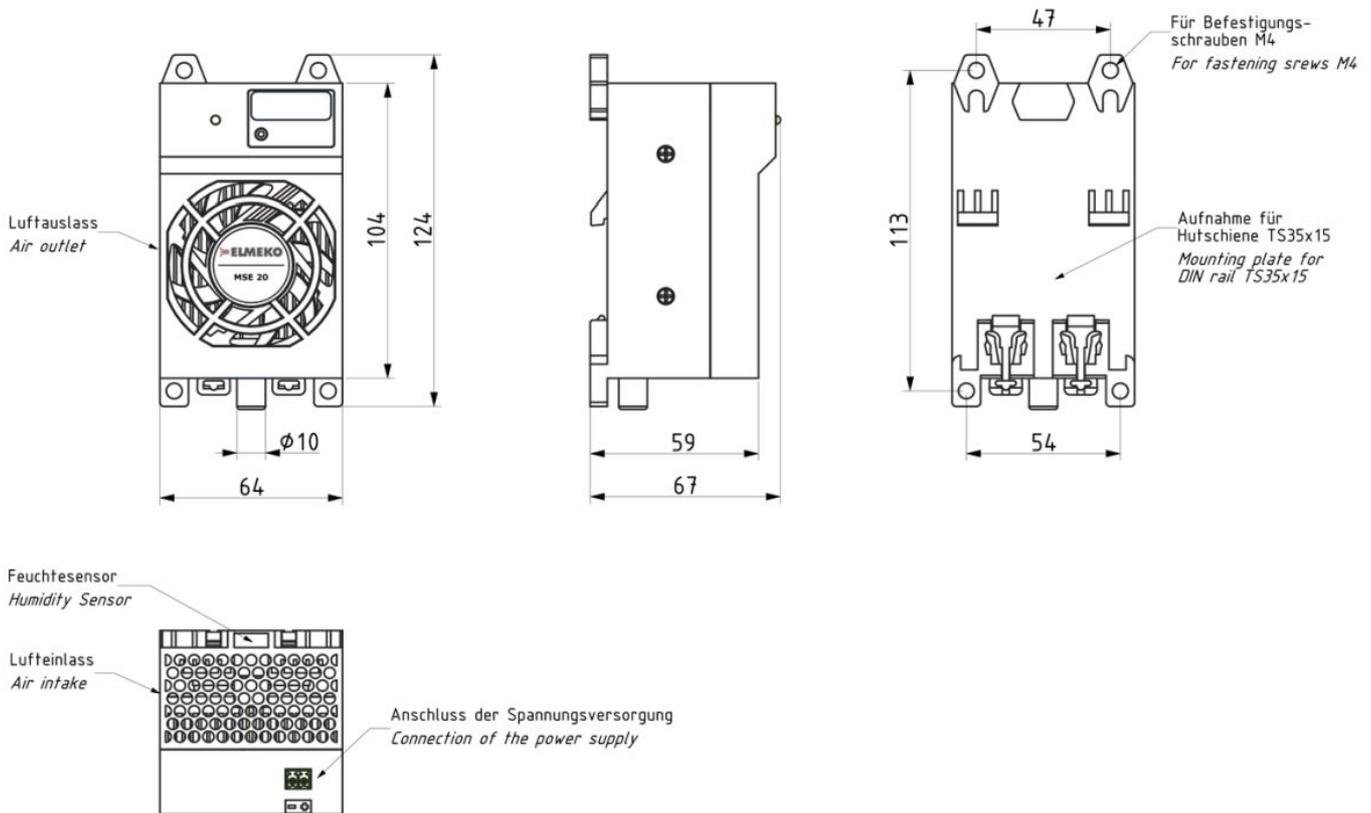
Bezeichnung Term	Belegung Connection
+	12 V DC (40 ME2 82L)
-	0V DC

FUNCTIONAL DESCRIPTION

If the dehumidifier is mounted in the control cabinet and connected to the power supply, the device operates fully automatically. When the green LED on the device lights up, a sensor permanently measures the current humidity

in the housing and starts the dehumidification if the humidity is higher than 55 % RH. Dehumidification stops as soon as the humidity reaches a value below 35 % RH and the device goes into standby mode. If the control cabinet temperature drops below 9 °C, the frost protection mode is activated. The dehumidifier goes into interval operation with alternating 180 seconds of dehumidification followed by a 150 second pause. If the temperature rises above 11 °C again, the frost protection mode is stopped. To protect against overheating, the dehumidifier stops operating above 55 °C.

DIMENSIONS



All dimensions in mm

SAFETY INSTRUCTIONS

- Installation must only be carried out by qualified electrical technicians in observation of the respective national power supply guidelines (IEC 60364)
- The technical specifications on the identification plate and in this manual, must be observed
- Supply voltage is 24 V DC or 12 V DC, depending on the device variant
- Connection cables only as copper conductors only
- Taking into account the maximum surrounding air temperature rating of 55 °C
- The environment of the device may be maximum with pollution degree 2
- If the housing, or wire is damaged, switch off the voltage supply and disconnect all plugs
- **Attention!** Opening the case will void guarantee
- The safety measures according to VDE 0100 have to be ensured
- Wear protective gear when cutting
- the mounting cut out and drilling the fastening holes
- The air inlet and outlet openings to the unit must not be covered
- Before mounting, make sure that the enclosure is hermetically sealed, otherwise increased condensation will occur later during operation

CARE AND MAINTENANCE

- The dehumidifier is low-maintenance
- Regularly perform a visual inspection at the fan

The disposal is to occur according to the respective national regulations.

GUARANTEE BOND

We grant a warranty period of 24 months. This applies:

- From the moment of delivery of the device.
- When used as intended, considering the information in the respective operating instructions.
- Use in control cabinets or housings for industrial applications.
- Observance of the connection voltage and connection power specified on the rating plate.

This warranty does not apply to damage caused to the device by:

- Commissioning in an unsuitable environment, e.g., in an acidic or corrosive atmosphere.
- Connection to a different voltage as indicated on the rating plate.
- Overvoltage, e.g., lightning strike.
- External use of force.

The warranty does not apply if the instructions in the operating manual are not observed

- The correct grounding, installation and power supply of the device in accordance with the applicable regulations are the responsibility of the customer, who bears sole liability for this.

In the case of damage within the warranty period, the manufacturer assumes a material warranty

- The customer reports the damage to the device and receive a device in exchange or replacement for the defective part.
- The manufacturer does not assume any costs for installation and removal of the defective parts, the device or the consequential damages.
- The repaired or replaced parts do not change the beginning or end of the warranty period.

Attention:

- Any tampering with the device will void the warranty and exclude liability!

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Documents / Resources

	<p>ELMEKO MSE 20 Dehumidifier [pdf] User Manual MSE 20 Dehumidifier, MSE 20, Dehumidifier</p>
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References

- [Elmeko - elmeko.de](#)
- [Elmeko - elmeko.de](#)
- [ELMEKO DELTA T](#)
- [OUT-FIT OF-M20-BA](#)
- [Schaltschrank Zubehör - Produkte](#)
- [Elmeko - Berechnungssoftware](#)
- [Elmeko - elmeko.de](#)
- [ELMEKO DELTA T](#)
- [Elmeko - Calculation software](#)

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