



Netzteil
EN SL / EN SL LC / EN SL RLC



Bedienungsanleitung

Static Line

DE	Bedienungsanleitung
GB	Operating instructions
FR	Mode d'emploi
IT	Istruzioni per l'uso
ES	Instrucciones de uso
PT	Manual de instruções



V05

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Keep in a safe place for future reference!

Types:	EN SL	01.7780.200, 01.7780.208, 01.7781.200, 01.7781.208, 01.7780.220, 01.7781.220, 01.7830.000, 01.7831.000
	EN SL LC	01.7833.000, 01.7833.050, 01.7834.000, 01.7834.050
	EN SL RLC	01.7835.100, 01.7835.150, 01.7836.100, 01.7836.150

1 Notes on operating instructions

In these operating instructions, the power pack EN SL / EN SL LC / EN SL RLC is also referred to as "unit".

1.1 Pictorial markings used

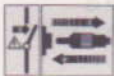
- In these operating instructions



NOT FOR USE by persons with pacemaker!



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



WARNING!
Only plug in/unplug coaxial connector when the unit is switched off!



CAUTION!
Important instructions!

- On the unit



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



WARNING!
Only plug in/unplug coaxial connector when the unit is switched off!

2

Safety**NOT FOR USE!**

Persons wearing heart pacemakers must maintain a safety distance of more than 50 cm from the ionizing unit!

Make sure that you read and observe the operating instructions of the connected ionizing units!

The unit is operationally safe, provided that it is operated in accordance with its intended use.

In case of misuse, dangers may result:

- for life and limb of the operator,
- for the unit and other assets.

Also note Chapter 4.1 (Important installation notes, page 29).

2.1

Intended use**CAUTION!**

Do not install or use the unit in areas subject to explosion hazards!

The unit is intended exclusively for the high-voltage supply of HAUG ionizing units. It generates an alternating high tension of approx. 7 – 8 kV. It is intended, in connection with an ionizing unit, for the removal of electrostatic charges from, for example, glass, paper, plastics etc.

For reasons of safety, unauthorized conversions and modifications of the unit are not permitted.

The installation and operating conditions indicated in these Operating Instructions must be adhered to.

2.2 Danger sources



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



WARNING!
Only plug in/unplug coaxial connector when the unit is switched off!

Defective high-voltage terminals and cables may lead to danger of electric shocks. Shut down the unit immediately in case of visible damage and suspected electrical defects.

2.3 Installer qualifications

The unit may be installed by trained electricians only. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.

2.4 Operator qualifications

The unit may be maintained and put into operation by trained electricians only or by authorized persons informed about the potential dangers. The above mentioned persons must have read the operating instructions and must follow the instructions, notes and safety advice.

3

Description of unit

Figure 1

1. Mains switch: Switch lights up green when the unit is switched on.
2. Signalling terminal (only applies to EN SL RLC)
3. Ground connection
4. Signalling lamp (does not apply to EN SL)

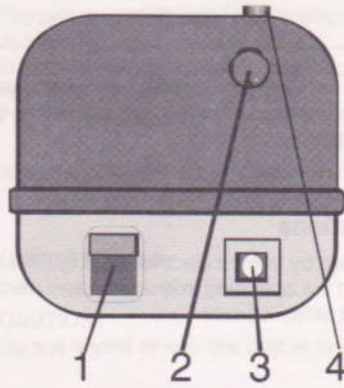
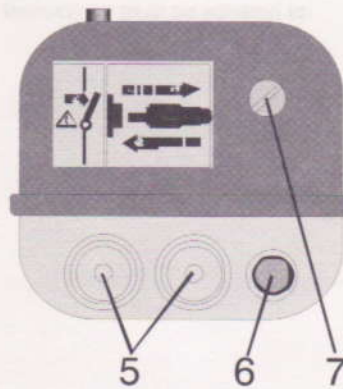


Figure 2

5. High-voltage terminals
6. Mains supply
7. Check fuse (for replacement, refer to Chapter 7.1, page 36)



4 Installation

The unit may be installed by trained electricians only. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.

4.1 Important installation instructions



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



WARNING!
Only plug in/unplug coaxial connector when the unit is switched off!



CAUTION!
Make sure that the permitted connected length on the power pack is not exceeded!

If the connected length is exceeded, the power pack will overheat during operation and may get damaged as a result. In addition, proper operation of the connected ionizing units is no longer ensured. You will find the maximum connected length in Section "Technical Data".

The operation of the unit is not affected by the position in which it is installed. However, we recommend installing the unit so that the high-voltage terminals points downwards (to protect it from humidity, oil and dirt).

Do not place the unit on a surface generating or radiating heat. Avoid installation positions exposed to direct sunlight.

4.2 Setting up, connecting



WARNING!
 High voltage!
 Danger of fatal accidents!
 Do not open unit!



WARNING!
 Only plug in/unplug coaxial connector when the unit is switched off!



CAUTION!
 Make sure that the permitted connected length on the power pack is not exceeded!

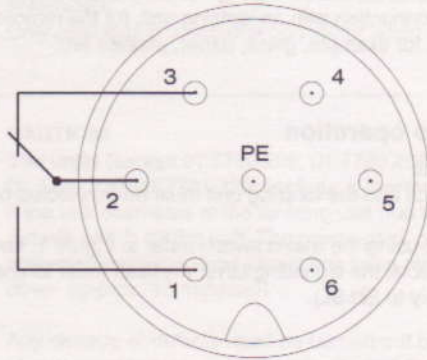
If the connected length is exceeded, the power pack will overheat during operation and may get damaged as a result. In addition, proper operation of the connected ionizing units is no longer ensured. You will find the maximum connected length in Section "Technical Data".

1. Before connecting always check that the unit is suitable for the local mains voltage (the voltage is indicated on the name plate). Incorrect mains voltage may result in damage to the unit.
2. Attach unit at the desired location using the enclosed retaining plates.
3. Ensure that the unit is switched off (for mains switch, refer to Figure 1, item 2, page 28).
4. Connect ionizing units to high-voltage terminals. Make sure that the permissible connected length on the power pack is not exceeded.
5. Connect the PE conductor (green-yellow) with the protective earth of the mains. Connecting the PE conductor via parts of a machine body is insufficient.
6. Connect signalling line K6 (EN SL RLC only; refer to Figure 1, item 2, page 28).
7. Connect the unit to the mains.
8. Put unit into operation.

4.3 Signalling terminal EN SL RLC

Figure 3

Pin assignment signalling terminal



Output states:

	Operating conditions		Contacts closed
	Mains voltage present	High voltage present	
Normal operation	Mains voltage present	High voltage present	1 and 2
Malfunction	Mains voltage present	High voltage failure	2 and 3
Malfunction	Mains failure	Not defined	2 and 3

Contact rating: max. 24 VAC / 35 VDC, max. 50 mA

6

Remedy of defects



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



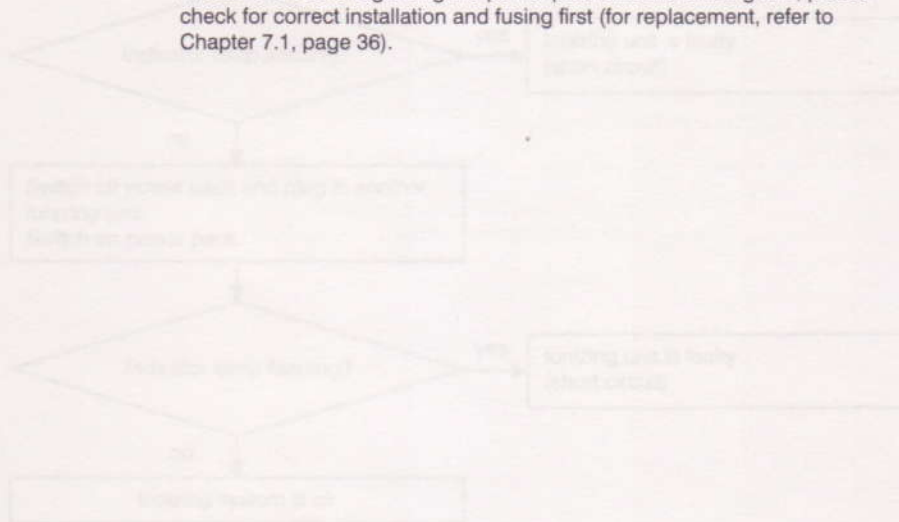
WARNING!
Only plug in/unplug coaxial connector when the unit is switched off!



CAUTION!
The units (except 01.7780.200, 01.7780.208, 01.7781.200, 01.7781.208, 01.7780.220, 01.7781.220) **include a thermal cut out.**
If the unit overheats at the ionizing unit due to short circuiting, the thermal cut out will switch off the unit. The power pack can only be put back into operation once the short-circuit has been removed and the unit has cooled down (approx. 15 minutes)!

Any remedy of defects must be carried out by trained electricians only. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.

In case of defects regarding the power pack and the ionizing unit, please check for correct installation and fusing first (for replacement, refer to Chapter 7.1, page 36).

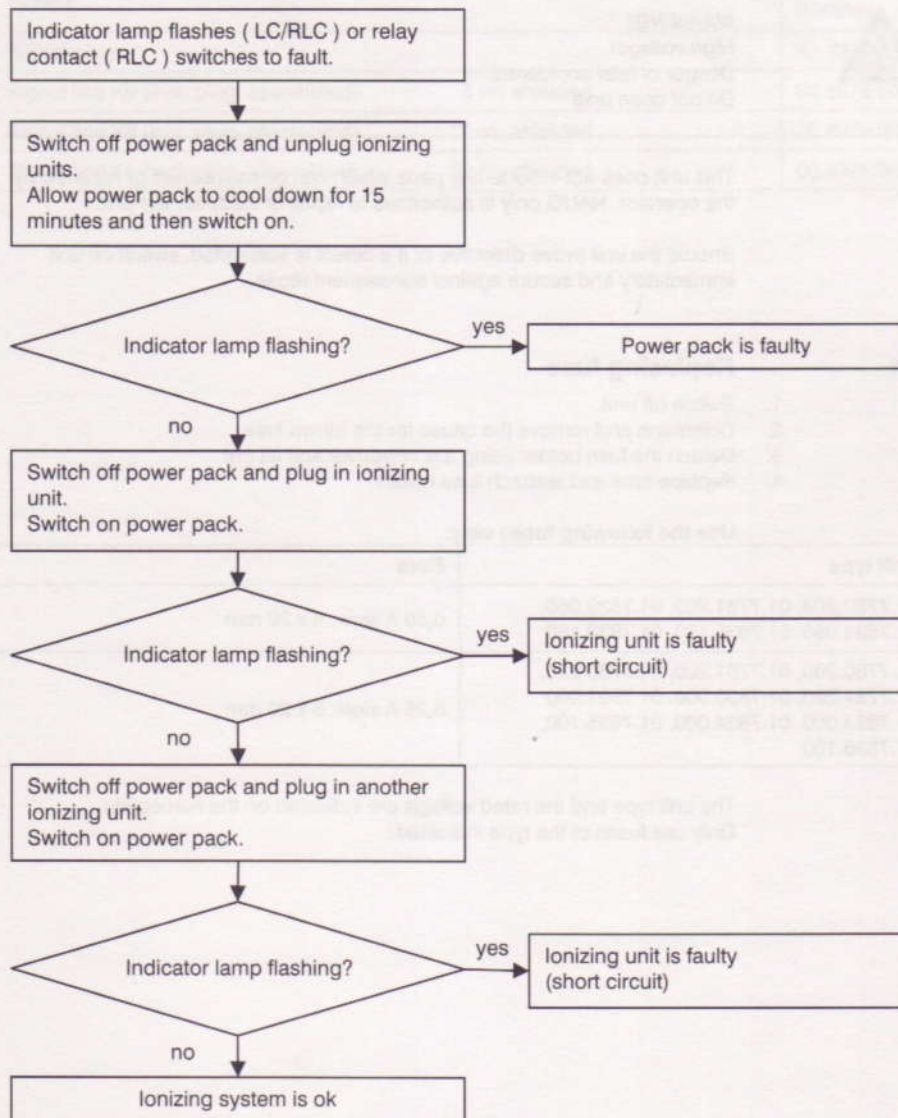


6.1 Troubleshooting

Faults	Measures
No ionization	Check mains voltage
	Check fuse (for replacement, refer to Chapter 7.1, page 36)
	Check connection
	Indicator lamp flashes (LC/RLC) or relay contact (RLC) switches to fault. Follow the sequence according to the flow chart below.
	Clean ionizing unit
	Check ionizing unit for damage. If damaged, immediately shut down and secure against restarting.

If this does not remedy the fault, please return the unit with the ionizing unit to HAUG for checking (see reverse).

6.2 Flow chart



7 Maintenance and repairs



WARNING!
 High voltage!
 Danger of fatal accidents!
 Do not open unit!

This unit does not include any parts which can be maintained or repaired by the operator. HAUG only is authorized to repair or calibrate the unit.

Should the unit prove defective or if a defect is suspected, switch off unit immediately and secure against subsequent reuse.

7.1 Replacing fuse

1. Switch off unit.
2. Determine and remove the cause for the blown fuse.
3. Detach the fuse holder using a screwdriver and lift out.
4. Replace fuse and reattach fuse holder.

Use the following fuses only:

Unit type	Fuse
01.7780.208, 01.7781.208, 01.7833.050, 01.7834.050, 01.7835.150, 01.7836.150	0,50 A slow, 5 x 20 mm
01.7780.200, 01.7781.200, 01.7780.220, 01.7781.220, 01.7830.000, 01.7831.000, 01.7833.000, 01.7834.000, 01.7835.100, 01.7836.100	0,25 A slow, 5 x 20 mm

The unit type and the rated voltage are indicated on the nameplate.
 Only use fuses of the type indicated.

7.2 Accessories EN SL RLC

Article	Order number
Signal plug	X - 7807
Signal line K6 (incl. plug, assembled) 5 m shielded	06.8976.000
Signal line K6 (incl. plug, assembled) 10 m shielded	06.8976.001
Signal line K6 (incl. plug, assembled) 20 m shielded	06.8976.002

8 Technical data

8.1 Characteristics and specification

Reference temperature 23 °C

High-voltage terminals	2 HAUG High-voltage terminals
High voltage	U = approx. 7 - 8 kV
Signalling terminal EN SL RLC	Contact load max. 24 W; 35 VDC, max. 50 mA
Cannot be used in pulsed mode	
Short-circuit current:	
01.7780.220, 01.7781.220	Ik ≤ 3 mA
01.7780.200, 01.7780.208, 01.7781.200, 01.7781.208, 01.7830.000, 01.7831.000, 01.7833.000, 01.7833.050, 01.7834.000, 01.7834.050, 01.7835.100, 01.7835.150, 01.7836.100, 01.7836.150	Ik ≤ 5 mA

8.2 Supply voltage



CAUTION!

Always connect the PE conductor (green/yellow conductor) to the protective earth of the mains!

Unit type	Nominal value	Operating range	Frequency range	Power input
01.7781.208	100 VAC	±10 %	50 - 60 Hz	$P_{max} = 20 \text{ VA}$
01.7834.050, 01.7836.150	100 VAC	±10 %	50 - 60 Hz	$P_{max} = 40 \text{ VA}$
01.7781.200, 01.7781.220, 01.7831.000	115 VAC	±10 %	50 - 60 Hz	$P_{max} = 20 \text{ VA}$
01.7834.000, 01.7836.100	115 VAC	±10 %	50 - 60 Hz	$P_{max} = 40 \text{ VA}$
01.7780.208	200 VAC	±10 %	50 - 60 Hz	$P_{max} = 20 \text{ VA}$
01.7833.050, 01.7835.150	200 VAC	±10 %	50 - 60 Hz	$P_{max} = 40 \text{ VA}$
01.7780.200, 01.7780.220, 01.7830.000	230 VAC	±10 %	50 - 60 Hz	$P_{max} = 20 \text{ VA}$
01.7833.000, 01.7835.100	230 VAC	±10 %	50 - 60 Hz	$P_{max} = 40 \text{ VA}$

8.3 Connected length

**CAUTION!**

Make sure that the permitted connected length on the power pack does not exceed!

Power Pack	Permissible connected length	Maximum ionizing bar length Type A	Maximum ionizing bar length Type B
01.7780.220, 01.7781.220	5 m	-	-
01.7780.200, 01.7780.208, 01.7781.200, 01.7781.208, 01.7830.000, 01.7831.000, 01.7833.000, 01.7833.050, 01.7834.000, 01.7834.050, 01.7835.100, 01.7835.150, 01.7836.100, 01.7836.150	10 m	6 m	3 m

	ionizing bar
Type A	RN, RNE, RA, RAE, RNF, RAF, HRN, HRA, HRE, HRAE, PS, PRX, PRX, EIW
Type B	VS, VSE, VSA, VSAE

Ionizing bar Type A:

The maximum cable length (KL) is the permissible connected length (AL) minus the maximum ionizing bar length (SL).

$$KL = AL - SL$$

Ionizing bar Type B:

The maximum cable length (KL) is the permissible connected length (AL) minus 3 x the maximum ionizing bar length (SL).

$$KL = AL - (3 \cdot SL)$$

8.4 Ambient conditions

Ambient temperature:	
Rated application range	+5 °C to +45 °C
Extreme range for storage and transport	-15 °C to +60 °C
Humidity:	
Rated application range	20 % to 65 % RF
Extreme range for storage and transport	0 % to 85 % RF
Air pressure:	
Rated application range	800 mbar to 1060 mbar
Vibrations:	
Extreme range for storage and transport	max. 1.5 g (10 to 55 Hz), 1 h
Shock	max. 15 g in each direction
Recommended service position:	
	vertical, supply cable downwards

8.5 Housing

Degree of protection	IP 54
Protection class	I
Mains supply	approx. 2,6 m fixed on unit
Dimensions:	
Height	approx. 170 mm
Width	approx. 110 mm
Depth	approx. 100 mm
Weight:	
	approx. 3,5 kg

