Technical Information

The high voltage generator KNH35 / KNH65 is a robust, all-round supply unit for the Eltex DC charging electrodes and other high voltage applications in industry and in laboratories.

The generator delivers a maximum of 30 kV / 60 kV and is available both with negative and positive polarity.

Versatile use

- Voltage or current constant operation selectable
- High output power with high efficiency
- Remote control and remote monitoring via analog and digital interfaces (**CAN** bus, **CANopen** or **Profibus**)
- Easy installation
- Minimum space required

Safe operation

- Self-monitoring and alarm function
- Password security
- Programmable voltage/ current limits
- Optional chopped operation
- Fail-safe operating data backup
- Sturdy steel enclosure
- Protection class IP54

Precise work

- Minimum output value deviations
- Good output value reproducibility

Easy operation

- Menu-assisted operation
- Two-line backlight display, messages in plain text
- Large operating keys
- Easy connection concept

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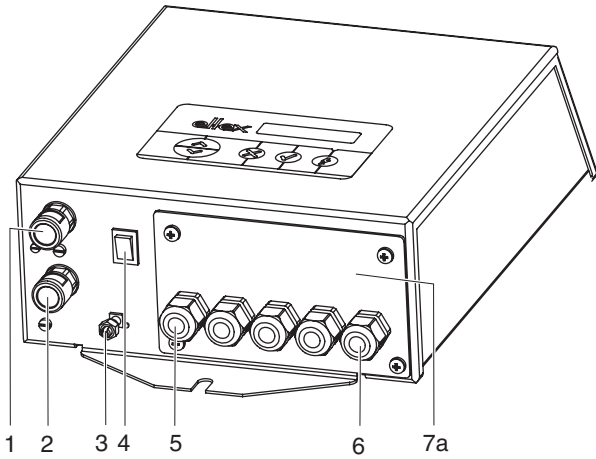# High-Voltage Generator KNH35 / KNH65

TI-en-3031-0712

electrostatic innovations

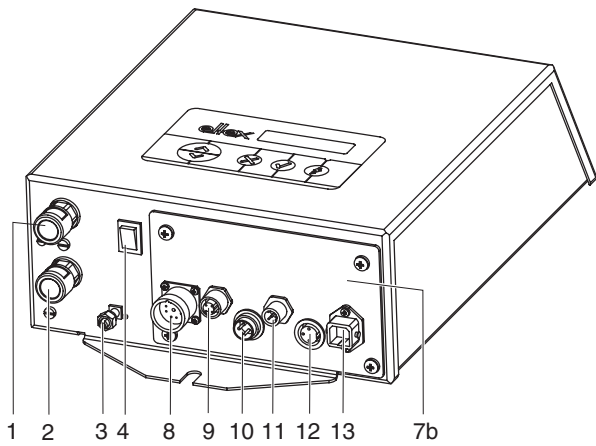**static control**

Electrical connection

1 High voltage output 1
2 High voltage output 2
3 Ground terminal
4 Operating switch ON/OFF
5 Cable gland (4x): digital (bus) and
  analog interface connection
6 Cable gland:
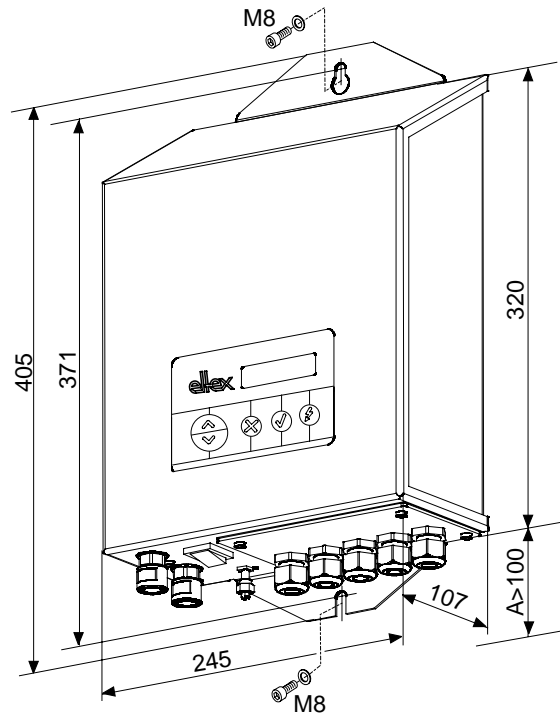 mains voltage connection
7a Front plate with screw-type
  terminals

Plug-type design variant

7b Front plate with sockets
8 Analog interface
9 Profibus (male) / CANopen
10 CAN bus (male)
11 Profibus (female) / CANopen
12 CAN Bus (female)
13 Mains voltage input

1 2   3 4   5   6   7a

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1 2   3 4   8 9 10 11 12 13   7b

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Dimensions

with mounting bracket,
fixed with M8 screws

A = Space for cable connections

M8

405 371 320

A>100
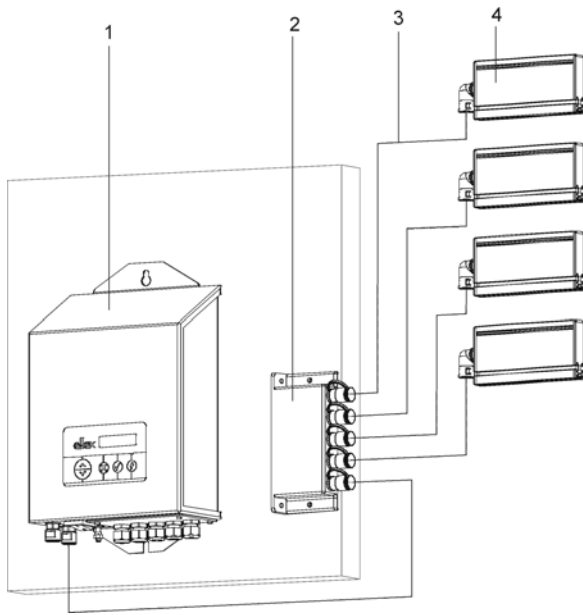
107

245

M8

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TI-en-3031-0712_KNH35-KNH65

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Connecting several electrodes via the distributor box KNHV

The distributor box KNHV (available separately) allows the number of connected electrodes to be increased.
Note: The sum total of the electrode currents must not exceed the maximum output current of the generator.

Example:
Current per meter of active bar length: 1 mA
Sum total of active bar lengths: 3 meters
=> maximum total current: 3 mA

1 Generator
2 Distributor box KNHV3 / KNHV6
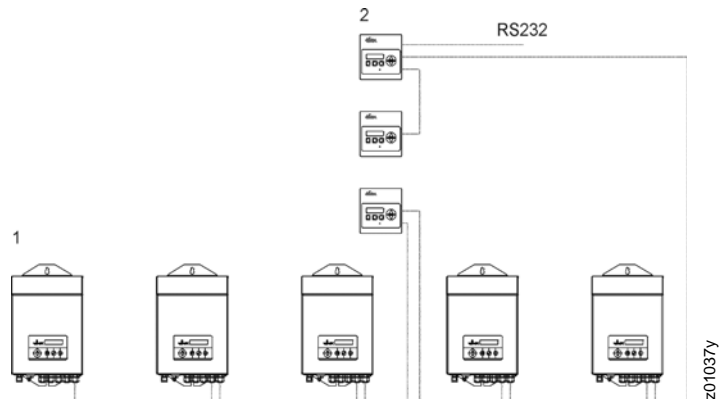3 High voltage cable
4 Charging bars

Industrial interfaces

1. Eltex CAN bus (compatible with KNH34, KNH64 and KNHFB)

The Eltex CAN bus allows as many as 20 generator and remote control units to be networked and operated from a central point with minimum installation effort.

An **RS232** control desk link can also be made via the KNHFB remote control.

1   KNH35 / KNH65 generator units
2   KNHFB remote control units

2. Profibus (optional)

The Profibus DP/V0 with automatic bit rate identification is supported; the functions Modi Sync and Freeze are optional. The KNH35 / KNH65 operates as slave.

3. CANopen (optional)

According to CiA standard 401 - device profile for generic I/O modules.

4. Analog interfaces

0...10 V / 0...20 mA interfaces are available for analog operation and monitoring.

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Technical specifications

Power ratings	
Output voltage	3…30 kV ±2% v.E. (KNH35), 6…60 kV ±2% v.E. (KNH65) Display resolution 100 V, adjustable in increments of 100 V
Output current	0,2…5 mA ±2% v.E. (KNH35), 0,1…2.5 mA ±2% v.E. (KNH65) Display resolution 10 µA, adjustable in increments of 10 µA
AC component	<3% at U_{max} and I_{max}
Feedback control	Voltage constant or current constant control selectable
Supply voltage	see name plate
External fusing	6 A
Power input	255 VA max.
Enclosure	Sheet metal steel, 1.5 mm, enamelled
Protection class	IP 54
Ambient operating temperature	+5…+40°C (+41…+104°F) for hanging installation and free convection +5...+35°C (+41...+95°F) for horizontal mounting
Storage temperature	-20…+70°C (-4…+158°F)
Ambient humidity	max. 80% r.h., non-condensing
Dimensions with wall bracket	405 x 245 x 107 mm (H x W x D)
Weight	KNH35: 5.2 kg; KNH65: 6.2 kg
Connections, interfaces	Mains voltage and interfaces are designed as screw-type terminals; alternative plug-type connections are available
High voltage output	2 high voltage connections for the direct connection of two consumers; number of consumers can be enlarged via distributor box KNHV
CAN-Bus	Double connection (Eltex CAN protocol); parallel networking of max. 20 units; max. cable length of bus 400 meters
CANopen	Double connection; supported bit rates: 10, 20, 50, 125, 250, 500, 800 and 1.000 kbit/s
Profibus	Double connection; supported bit rates: 9.6 kbit/s, 19.2 kbit/s, 93.75 kbit/s, 187.5 kbit/s, 500 kbit/s, 1.5 Mbit/s, 3 Mbit/s, 6 Mbit/s, 12 Mbit/s; supported protocol: DP/VO optional functions: Modi Sync and Freeze
Analog interface	Floating input for external high voltage release (24 VCD); input setpoint: 0...10 V or 0...20 mA Output voltage actual value and output current actual value: 0...20 mA; Floating fault signal contact (max. 24 V / 2 A DC/AC)

Order information	**30 kV**	**60 kV**
Generator	KNH35/A [1] [2] [3] [1] : N = negative, P = positive, [3] : A = Profibus, B = CANopen	KNH65/A [1] [2] [3] [2] : K = terminals, S = plugs
Distributor	KNHV3	KNHV6
Generator-distributor cable	KA/Rr (specify length)	KA/Uu (specify length)