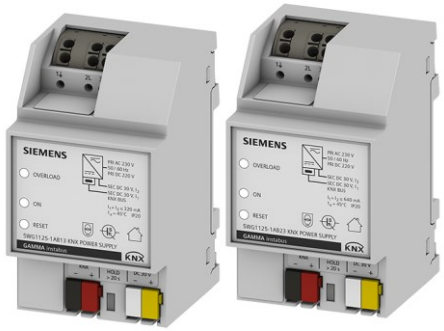
SIEMENS

KNX

KNX Power Supplies

N 125/13, N 125/23



KNX power Supplies N 125/13 and N 125/23

- Basis for reliable and energy-efficient KNX communication
- Compact design in two performance classes
- Additional power supply
- Doubling of performance through parallel connection
- Plug terminals for easy installation

Characteristics

The power supply generates the system voltage required for KNX. The connection to the bus line is established via the bus terminal block on the front. The integrated throttle prevents short circuits of the data telegrams caused by the power supply. Pressing the built-in reset push-button resets the bus participants to their default state (press and hold > 20 s). Each bus line requires at least one power supply, which is mounted in a distributor. No more than two power supplies are permitted in one bus line. A second power supply is required if the overload LED lights up, if the operating voltage on one participant drops below 21 V, or if indicated by the check in the ETS. The working load of the power supply is checked during configuration in the ETS.

The power supply has voltage and current control and is therefore short-circuit-proof. Brief power failures are bridged with a buffer period of 200 ms.

To ensure a security of supply, it is recommended to use a separate circuit with separate fuse protection to connect to the mains.

The unchoked output voltage of DC 30 V can be tapped at an additional pair of terminals on the front of the power supplies. This output voltage can be used, for example, to supply KNX products with additionally required voltage via the second pair of wires.

The power supplies can be fed from AC 230 V or DC 220 V.

NOTICE	
!	If two power supplies are operated in parallel on one bus line and the overload indicator on one or both bus voltage supplies light(s) up, it is necessary to modify the bus configuration until no overload indicator lights up. Two devices of the same type can be connected immediately in parallel in order to double the required current for one line. There is no minimum length for the bus line between the two KNX power supplies. If, for example, more than 30 bus participants are installed in a distributor with short line distances (e.g. 10 m), the power supply must be arrayed near these bus participants. The distance between the power supply and a bus device must not exceed 350 m.

Functions

Indicator and fault LEDs

LEDs on the front of the device indicate the operating state and whether a fault has occurred in the device.

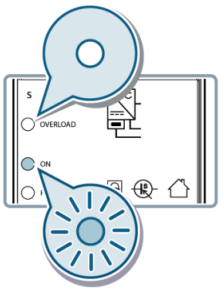


Fig. 1: Normal mode

Description
• If only the green “ON-LED” is lit, the device is in normal mode.

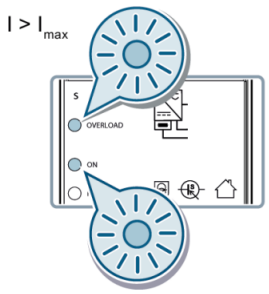


Fig. 2: Capacity limit reached

Description
● If the green “ON-LED” and the red “OVERLOAD-LED” light up at the same time, the capacity limit of this device has been reached. – In this case an additional device is required. ● No further participants may be connected to the bus line.

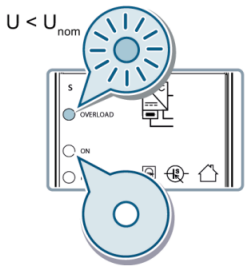


Fig. 3: Overload

Description
● If only the red “OVERLOAD-LED” lights up, the participant load is too high or the bus line has suffered a short circuit. ● It is necessary to either remove participants from the bus line or repair the short circuit in the bus line.

NOTICE	
!	**Possible measures in case of overload** ● Reduce number of participants ● Connect second power supply in parallel if this has not already been done. Modify the feed or load distribution if necessary. ● Repair short circuit

Reset

The Reset push-button is used to reset the bus participants connected to the line.

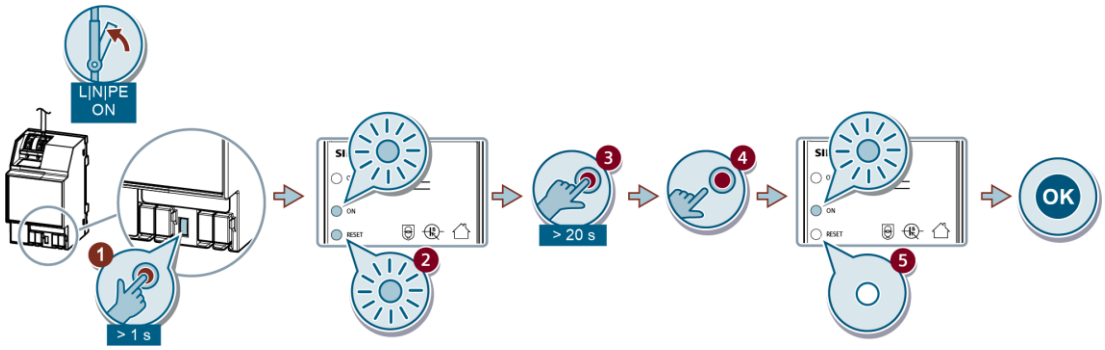


Fig. 4: Reset

Process

- Press and hold down the Reset push-button [1] with the help of a tool.
- After approx. 1 s, the On LEDs and Reset [2] light up.
- Hold down the Reset push-button for at least 20 s [3].
- When you release the push-button [4] the KNX reset is completed and the Reset LED [5] goes out.

The same functionality can be achieved by interrupting the AC supply for 20 s.

Position and function of the operating and display elements and connections

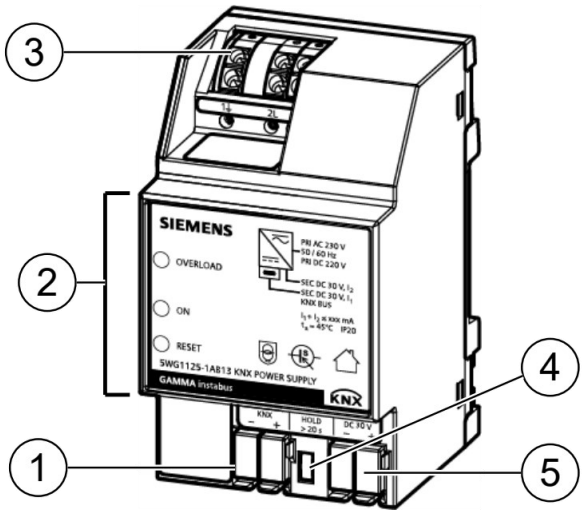


Fig. 5: Operating and display elements and connections

Item	Connection, operating or display element	Function
1	Bus terminal block, red-black	Make KNX bus voltage available
2	Type plate with LEDs	RESET (red LED): The power supply is in the process of a reset. ON (green LED): The voltage supply is operating correctly OVERLOAD (red LED): The participant load is too high or the bus line has suffered a short circuit
3	Connection terminals	Connect supply voltage
4	Reset push-button	Restart all connected bus participants
5	Additional voltage terminal (white/yellow)	Provide additional voltage of DC 30 V

Type overview

Type	Designation	Item number
N 125/13 	KNX power supply 320 mA	5WG1125-1AB13
N 125/23 	KNX power supply 640 mA	5WG1125-1AB23

Product documentation and support

Product documentation

Documents related the product, such as operating and installation instructions, application program description, product database, additional software and CE declarations can be downloaded from the following website:

http://www.siemens.com/gamma-td

Frequently asked questions

For frequently asked questions about the product and their solutions, see:

https://support.industry.siemens.com/cs/products?dtp=Faq&mfn=ps&lc=en-WW

Support

Contact details for additional questions relating to the product:

Tel.: +49 89 9221-8000

http://www.siemens.com/supportrequest

Notes

Safety

⚠ CAUTION	
	**National safety regulations** Failure to comply with national safety regulations may result in personal injury and property damage. ● Observe national regulations and comply with the appropriate safety regulations.

⚠ WARNING	
	**Dangerous voltage possible after supply is shut off** ● Do not touch the electronics of the device. ● A defective device can still pose the risk of an electric shock up to 4 hours after it has been disconnected from the power supply.

⚠ WARNING	
	**Risk of death due to electric voltage and electric current!** Electrical expertise is required for the installation. Incorrect installation can deactivate electrical safety features without this being apparent to a lay person. ● Do not open the casing of the device. ● The device should only be installed and put into operation by a certified electrician. ● Overload/short-circuit faults may only be rectified by qualified electricians and with the AC voltage switched off. ● Secure the phase with a B16 line protection switch. ● When the L-conductors are looped through, it must be ensured that the maximum permitted terminal current of 16A is not exceeded.

NOTICE	
	The device can be used for fixed installations in dry interior spaces or for installation in high-voltage distribution boards or small casings on DIN rails EN 60715-TH35.

Connecting the supply voltage

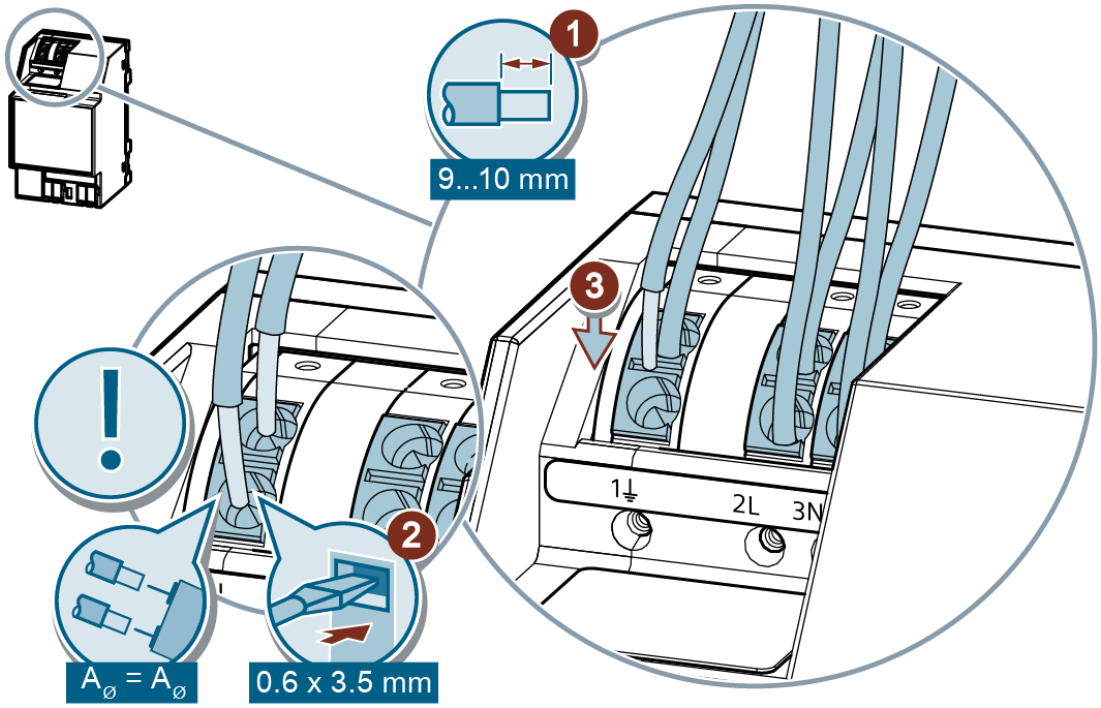
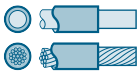
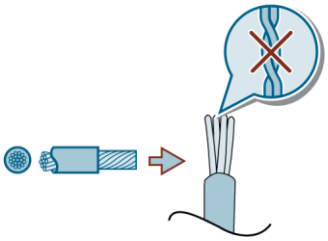


Fig. 6: Connecting the supply voltage

Cu	
	0.5...2.5 mm²
	2.5 mm²



Connecting the KNX bus voltage

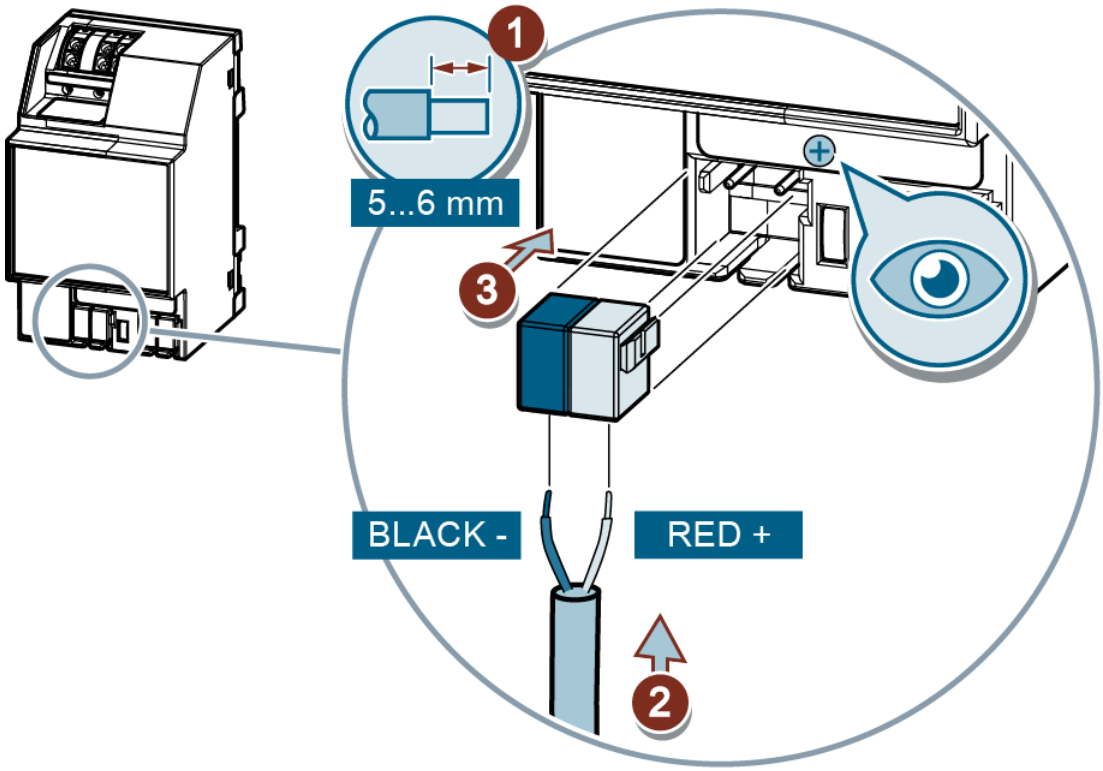


Fig. 7: Connecting the bus voltage terminal

Cu	
	0.6…0.8 mm

Connecting the additional output voltage:

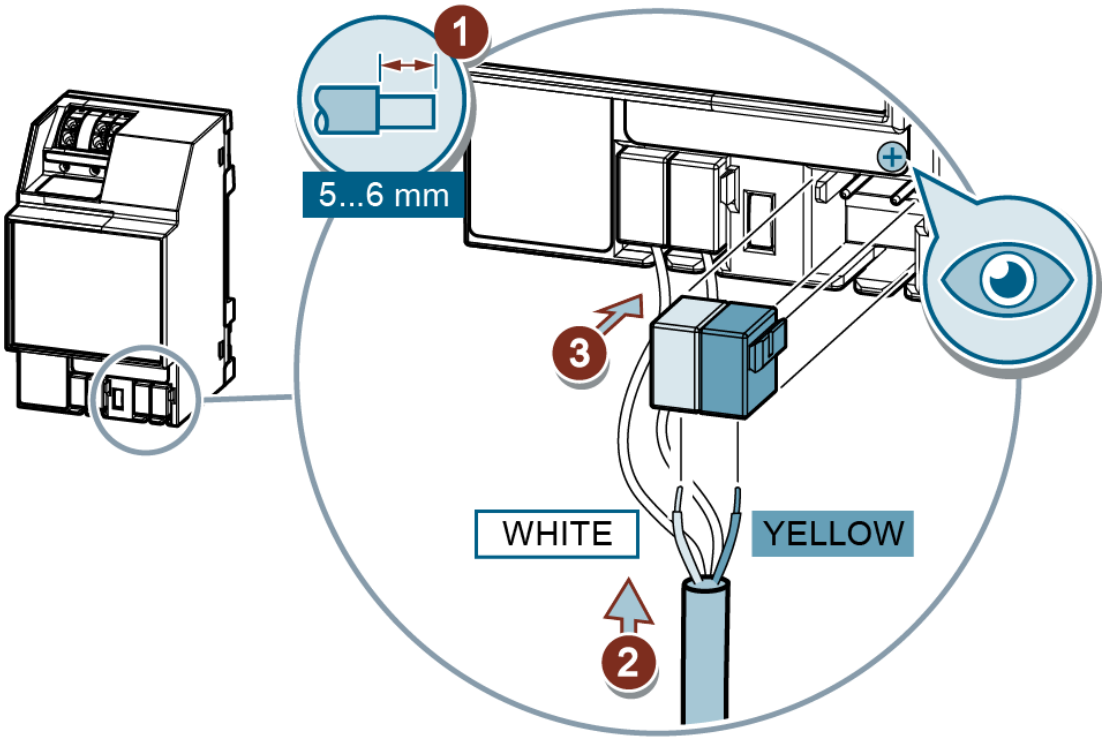


Fig. 8: Connecting the additional output voltage:

Cu	
	0.6…0.8 mm

Function test of the installation

This test can be used to check whether the supply voltage has been connected correctly.

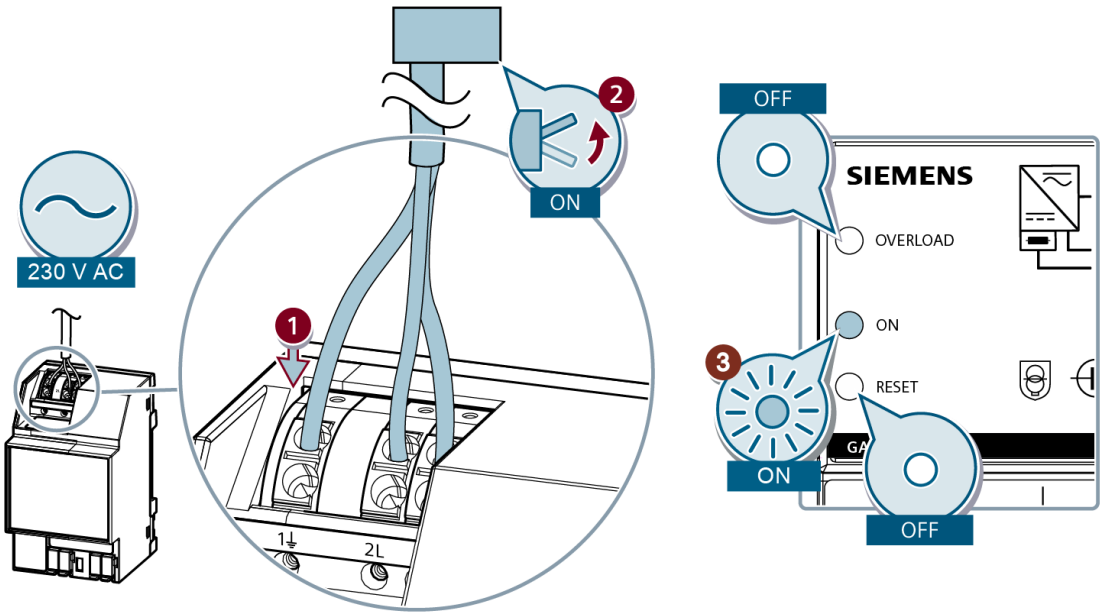
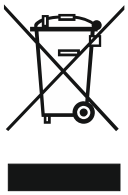


Fig. 9: Function test of the installation

Disposal



The device is considered an electronic device for disposal in accordance with European Directive and may not be disposed of as domestic waste.

- Use only designated channels for disposing the devices.
- Comply with all local and currently applicable laws and regulations.

If a device is defective, contact the local sales office.

Technical data

Electrical data	N 125/13	N 125/23
Input voltage		
Rated voltages	AC 230 V, 50...60 Hz, DC 220 V	
Rated power consumption		
Power loss during no-load operation	0.7 W	
Power loss at nominal load	2.0 W	3.6 W
Output voltage		
KNX bus voltage	DC 24 V (DC 21...30 V)	
Output current		
Output current, max.	320 mA	640 mA
Short circuit current	0.7 A	1.3 A
Buffer period for supply voltage	200 ms	

Mechanical data	N 125/13	N 125/23
Housing material	Plastic	
Dimensions	See Dimensional drawing [▶ 14]	
Product weight	205 g	
Fire load	4 MJ	

Environmental conditions	N 125/13	N 125/23
Ambient temperature in operation	-5 °C...+45 °C (23 °F...113 °F)	
Storage temperature	-20 °C...+70 °C (-4 °F...158 °F)	
Transport temperature	-25 °C...+70 °C (-13 °F...158 °F)	
Relative humidity (non-condensing)	5%...95%	
Environmental rating	EN 60721-3-3 class 3k5	

Protection classification	N 125/13	N 125/23
Degree of pollution (according to IEC 60664-1)	2	
Over-voltage category (according to IEC 60664-1)	III	
Housing protection class (according to EN 60529)	IP20	
Electrical safety, bus (SELV)	yes	
Electrical safety, device complies with	EN 50491-3:2010	
EMC requirements, device complies with	IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3	
Certification marks	KNX, EAC, RCM, WEEE, China-RoHS, UKCA	
CE mark	yes	

Reliability	N 125/13	N 125/23
Failure rate (at 40°C)	526 fit	

Connection example

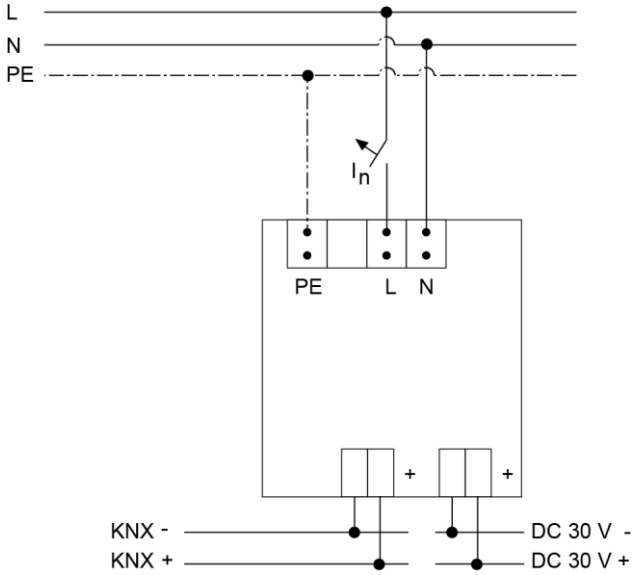


Fig. 10: Connection example

NOTICE	
!	**Polarity of the connection** The electrical polarity of the connections is not relevant. The connection can be established regardless of polarity.

NOTICE	
!	**Protective conductor terminal (PE)** It is nevertheless necessary to connect the protective conductor terminal (PE) in order to ensure safety measures in line with the applicable safety regulations.

Dimensional drawing

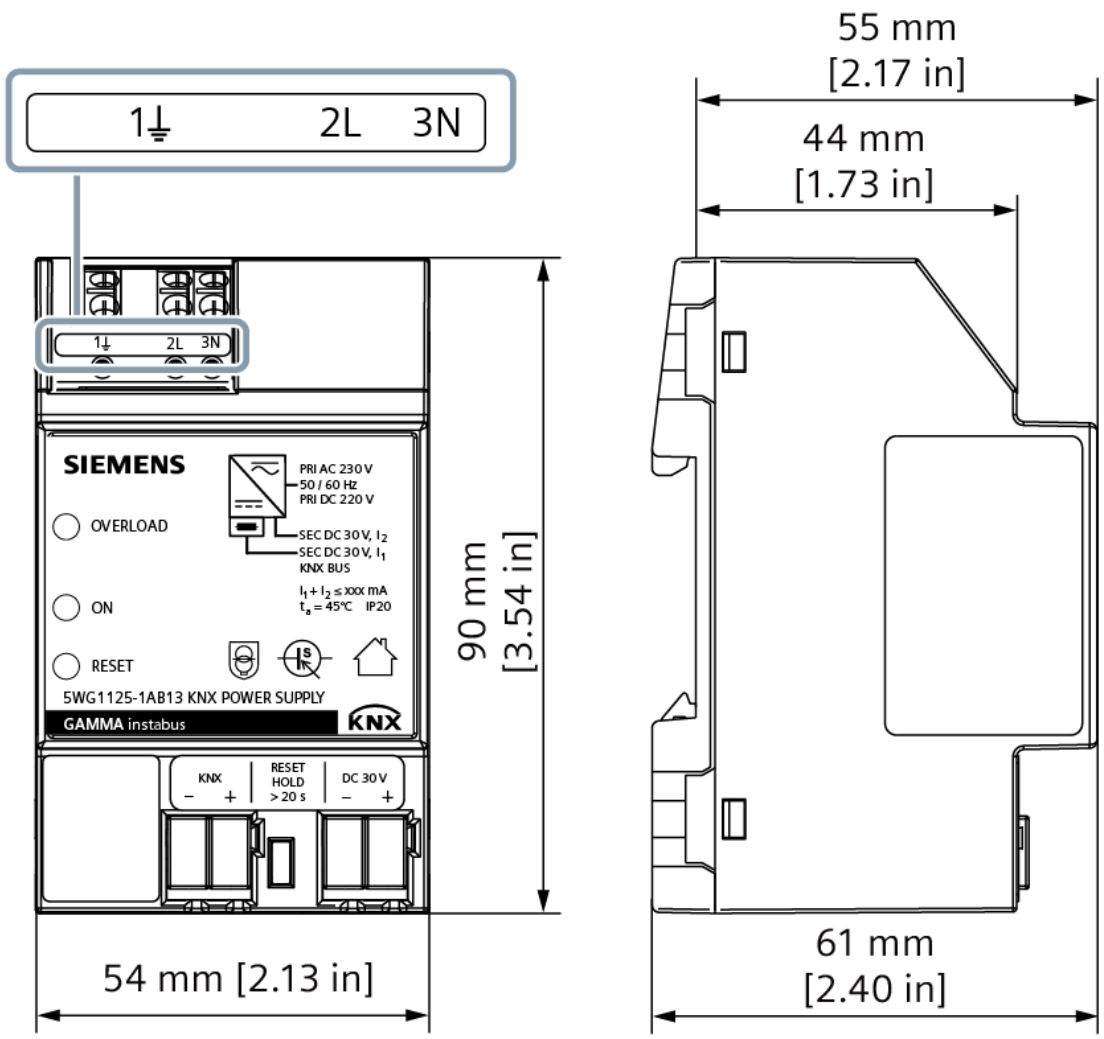


Fig. 11: Dimensional drawing

Compliance information

European Union conformity

Contact for regulatory topics: (EU) Siemens AG, Berliner Ring 23, DE-76437 Rastatt

UK Conformity

Contact for regulatory topics (GB): Siemens plc, Sir William Siemens House, Princess Road, Manchester, M20 2UR

Issued by
Siemens Switzerland Ltd
Smart Infrastructure
Global Headquarters
Theilerstrasse 1a
CH-6300 Zug
+41 58 724 2424
www.siemens.com/buildingtechnologies

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