

RL 125/23 Decentralized power supply, 80 mA



5WG1125-4AB23

The decentralized power supply unit RL 125/23 provides 80 mA bus current for a KNX line.

- Rated primary voltage: AC 120-230 V, DC 220 V
- Rated secondary voltage: DC 29 V (SELV)
- Rated secondary current: 80 mA
- Choke is integrated.
- Up to eight RL 125/23 can be operated in parallel on one line.
- RL 125/23 can be operated in parallel to power supply N 125/x2.






Type Overview

Order number	Type	Applications
5WG1125-4AB23	RL 125/23	<ul style="list-style-type: none">Decentralized power supply, 80 mAInstallation in an AP 118 Control Module Box, AP 641 Room Control Box or M 590 DIN rail housing

Purchased parts package

Module for installation in AP 118 Control module box, AP 641 Room control box or M 590 DIN rail housing

Accessories

Type	Order number	Description
	5WG1118-4AB01	Control Module Box AP 118
	5WG1641-3AB01	Room Control Box AP 641
	5WG1590-8AB01	DIN rail housing M 590

Features

The decentralized power supply unit RL 125/23 provides the system power necessary for KNX. The device is installed in an AP 118 Control Module Box, AP 641 Room Control Box or in a M 590 DIN rail housing. The bus is connected via a bus terminal block.

The integrated choke prevents the data telegrams from short-circuiting on the bus line.

For each bus line, at least one decentralized power supply unit RL 125/23 is needed. A second unit is not required unless the supply voltage at a bus device is less than 21 V. Up to eight decentralized power supply units RL 125/23 may be attached in parallel to a single bus line.

Note: If two or more power supply units are operated in parallel on one bus line and if the overload LED is lit on one or several power supplies, then the bus configuration has to be changed until the overload display disappears on all units.

A minimum cable length is not required between the decentralized power supplies RL 125/23. Operation of a power supply unit N 125/x2 in parallel to the decentralized power supplies is permitted on the same bus line as long as the sum of all short circuit currents of all power supplies does not exceed 3 A.

When several bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, or in a room control box AP 641, the power supply units shall be arranged near these bus devices. The distance along the bus wire between any bus device and the closest power supply unit must not exceed 350 m. If only the decentralized power supply RL 125/23 is used, then the maximum KNX cable length in a bus line is 350 m for one, 700 m for two, and 1000 m for 3 or more decentralized power supplies RL 125/23.

The decentralized power supply unit RL 125/23 has a voltage and current regulation and is therefore short-circuit proof. Short power failures can be bridged with a backup interval of at least 100 ms.

To ensure an uninterrupted power supply a separate circuit with safety separation should be used for the mains power supply circuit of all power supply units.

Usage

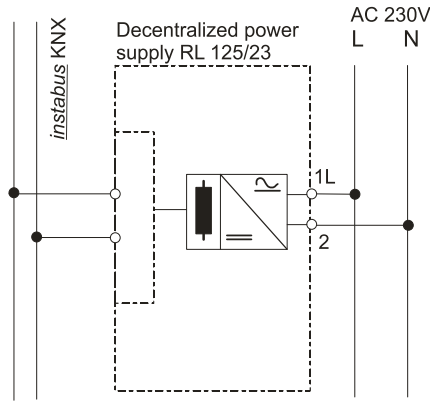
The device generates the necessary KNX system voltage.

Functions (configuration with ETS)

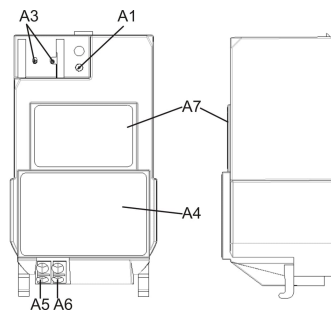
Application Program

No application program is required for the Decentralized Power Supply RL 125/23.

Example of Operation



Location and Function of the Display and Operating Elements, Interfaces



- A1 LED for indicating
 - normal operating mode (LED off),
 - a shorted-out bus line or device over-load (LED on)
- A3 Bus connection pins of the module for connection of the bus terminal block for single core conductors with 0.6 ... 0.8 mm Ø
- A4 Type label
- A5 Terminal L
- A6 Terminal N
- A7 Warning label

Product Documentation



Additional information like operating and mounting instruction, product database, additional software, product image, CE declaration etc. is available here:

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

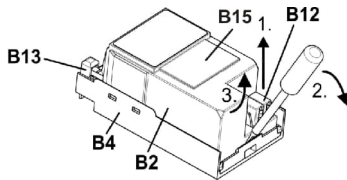
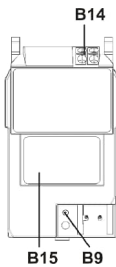
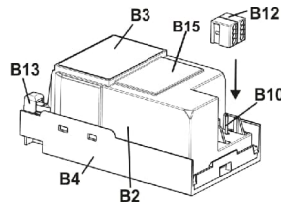
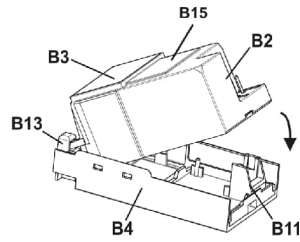
Installation Notes

Safety

- The device is intended for installation in an AP 118 Control Module Box, AP 641 Room Control Box or M 590 DIN rail housing.

	<p>DANGER</p> <ul style="list-style-type: none"> • The device must be mounted and commissioned by an authorized electrician. • A safety disconnection of the device must be possible. • HAZARDOUS VOLTAGE POSSIBLE AFTER DISCONNECTING MAINS! Do not touch electronics of the device! <p>If the device is defective, then even after safety disconnection of the device a RISK OF ELECTRIC SHOCK can exist for up to 4 hours after disconnection!</p> <ul style="list-style-type: none"> • The device must not be opened. • For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered. • When looping through the L-conductor, take care that the maximum permissible terminal load current of 16A is not exceeded!
	

Mounting



RL module

- B2 RL module
- B3 Type label
- B4 Mounting location for RS / RL module in AP 118 Control Module Box or AP 641 Room Control Box
- B10 Bus connection pins of the module for connection of the associated bus terminal block of the internal bus wire
- B11 Insertion point for bus terminal block
- B12 Bus terminal block for single core conductors with 0,6 ... 0,8 mm Ø
- B13 Hinge joint for mounting hinge of the RL module
- B14 Terminals
- B15 Warning label

Mounting of an RL module

- Remove the lid of the AP 118 Control Module Box respectively of the AP 641 Room Control Box.
- AP 641: Remove the SELV (Class 2) cover
- Insert the RL module (B2) into the hinge (B13) of the mounting location (B4). The terminals (B14) point away from the insertion point for the bus terminal (B11). The type label (B3) is on top.
- Swivel the RL module (B2) down until it audibly snaps into the mounting location (B4).
- Insert the bus terminal (B12) of the mounting location (B4) onto the bus connection pins (B10) of the RL module (B2).
- AP 641: Mount the SELV (class 2) cover again.
- Mount the lid again.

Dismounting an RL module

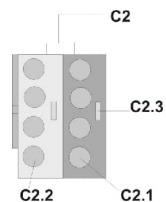
- Remove the lid of the AP 118 Control Module Box respectively of the AP 641 room control box.
- AP 641: Remove the SELV (Class 2) cover.
- Remove the wiring from the terminals (B14).
- Remove the bus terminal (B12).
- To remove the RL module (B2), insert a screw driver between the module and the mounting location on the bus terminal side and push it up to release it from the snap-in hooks.



WARNING

HAZARDOUS VOLTAGE POSSIBLE AFTER DISCONNECTING MAINS! Do not touch electronics of the device! If the device is defective, then even after safety disconnection of the device a RISK OF ELECTRIC SHOCK can exist for up to 4 hours after disconnection!

- Swivel the RL module (B2) up, pull it down out of the hinge (B13) and remove it from the mounting location (B4).
- AP 641: Mount the SELV (class 2) cover again.
- Mount the lid again.



Slipping off/on bus connection blocks

The bus terminal block (C2) consists of two components (C2.1 and C2.2) with four terminal contacts each. Take care not to damage the two test sockets (C2.3) by accidentally connecting them to the bus cable or with the screw driver (e.g. when attempting to unplug the bus terminal block).

Slipping off bus connection blocks

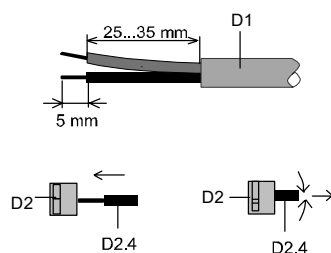
- Carefully put the screw driver to the wire insertion slit of the bus terminal block's grey component (C2.2) and
- pull the bus terminal block (C2) from the module.

Note:

Don't try to remove the bus connection block from the bottom side. There is a risk of shorting-out the device!

Slipping on bus connection blocks

- Slip the bus terminal block (C2) onto the guide slot of the module and
- press the bus terminal block (C2) down to the stop.



Connecting bus cables

- The bus terminal block (D2) can be used with single core conductors \varnothing 0.6 ... 0.8 mm.
- Remove approx. 5 mm of insulation from the conductor (D1) and plug it into the bus terminal block (D2) (red = +, grey = -)

Disconnecting bus cables

- Unplug the bus terminal block (D2) and remove the bus cable conductor (D2.4) while simultaneously wiggling it.

Connecting/disconnecting mains and load circuit

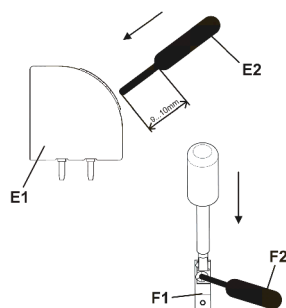
Connect wires

- The load circuits are connected via screwless plug-in terminals (E1).
- Remove approx. 9...10 mm of insulation from the wire (E 1.1) and plug it into the terminal (E1).
- The terminals are designed for connection of two wires allowing to loop through the terminal block.

Note: The maximum permissible terminal load current is 16A.

Remove wires

Press the terminal interlocking of the terminal (F1) with a screwdriver and remove the wire (F2) from the terminal (F1).



Technical Data

Input voltage	
Rated voltage	AC 120...230 V, 50...60 Hz, DC 220 V
Permissible range	AC 102...253 V, DC 176...270 V

Rated power intake	
approx. 10 VA	
Thermal dissipation loss	
Device	1 W (= min. total thermal dissipation loss)
min. total thermal dissipation loss	1 W (Load: 0 A)
max. total thermal dissipation loss	2 W (Load: 80 mA)

Output voltage	
Rated voltage	DC 29 V
Safety extra low voltage (SELV)	
permissible range	DC 28 ... 30 V

Output current	
Rated current	80 mA
Short-circuit current	limited to 0,2 A
Backup interval (on input voltage failure)	≥ 100 ms at rated current

Display elements	
1 red LED	LED for indicating - normal operating mode (LED off), - a shorted-out bus line or device over-load (LED on)

Control elements	
none	

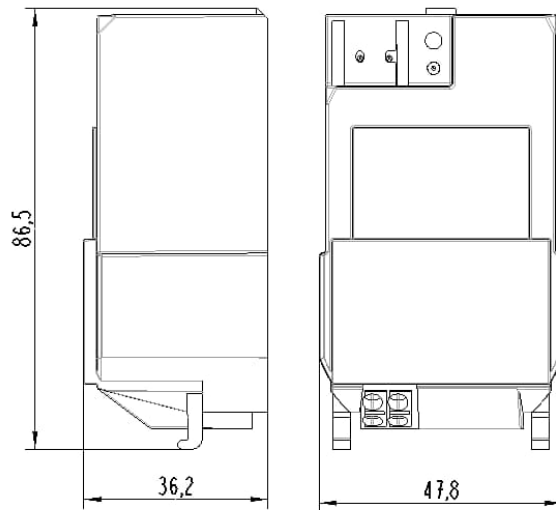
Connections	
Bus line	Bus connection pins for connection of the screwless bus terminal block (red-black) 0,6 ... 0,8 mm Ø single core, strip insulation 5 mm
Mains circuit	screwless terminals 0,5 ... 2,5 mm ² single-core, stranded or multi-core, untreated, strip insulation 9 ... 10 mm

Physical specifications	
Housing	plastic
Dimensions (L x W x D)	86,5 x 47,8 x 36,2 mm
Weight	approx. 78 g
Fire load	approx. 2 MJ
Installation	Mounting location for RS / RL module in AP 118 Control Module Box (5WG1118-4AB01) or AP 641 Room Control Box (5WG1641-3AB01) Mounting location for RL module in M 590 DIN rail housing (5WG1590-8AB01)

Environment and safety regulations	
Degree of pollution (according to IEC 60664-1)	2
Overvoltage category (according to IEC 60664-1)	III
Protection type (in accordance with EN 60529)	IP 20
Electrical safety Bus Device complies with Electromagnetic compatibility	Safety extra low voltage SELV DC 24 V EN 50428 complies with EN 50428
Environmental specifications Climatic conditions Ambient operating temperature Storage temperature Relative humidity (not condensing)	EN 50090-2-2 -5 °C...+45 °C -20 °C...+70 °C 5 % bis 93 %
Reliability Failure rate	109 fit bei 40°C
Markings	KNX <i>EIB</i>
CE mark	Complies with the EMC regulations (residential and functional buildings), low voltage regulations, and RoHS Directive

Dimension drawing

Dimensions in mm



Support

General Notes

- The operating instructions must be handed over to the client.
- A faulty device shall be returned with a Return Good Note for Service provided by the appropriate Siemens sales office.
- If you have further questions concerning the product please contact our technical support.

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www.siemens.com/supportrequest

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