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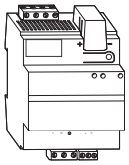
Schneider Electric

SpaceLogic KNX Emergency power supply REG

Operating instructions



Art. no. MTN683901

Accessories

- Lead gel battery (Art. no. MTN668990)
- Lead gel battery (Art. no. MTN668991)
- KNX power supply REG-K/160 mA with emergency power input (Art. no. MTN683816)
- KNX power supply REG-K/320 mA with emergency power input (Art. no. MTN683832)
- KNX power supply REG-K/640 mA with emergency power input (Art. no. MTN683890)
- Binary input REG-K/4x10 (Art. no. MTN644492)
- Binary input REG-K/4x24 (Art. no. MTN644892)
- Power supply REG, 24 V DC / 0.4 A (Art. no. MTN693003)

For your safety

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Connecting and establishing KNX networks
- Safety standards, local wiring rules and regulations

Failure to follow these instructions will result in death or serious injury.

⚠ CAUTION

The device may be damaged!
Only approved devices may be connected to and operated using the emergency power supply (see accessories).
All devices that are mounted next to the power supply unit must at least be equipped with basic insulation!

Failure to follow these instruction can result in equipment damage.

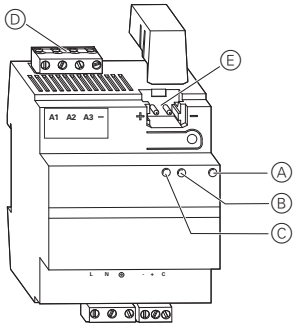
Getting to know the emergency power supply

The emergency power supply backs up the power supply with emergency input in the event of a mains voltage failure. The bus voltage is then provided by a battery connected to the emergency power supply.

All display statuses (Battery, Error, Power) are also available at outputs A1, A2, A3 and can, for example, be recorded by a binary input.

The emergency power supply is intended for installation on the DIN rail in accordance with DIN EN 60715.

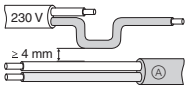
Connections, displays and operating elements



Ⓐ Green LED: Mains voltage display (Power)
Ⓑ Red LED: Error display (Error)
Ⓒ Yellow LED: Battery display (Battery)
Ⓓ A1, A2, A3: Outputs for operational status logging via binary output
Ⓔ Battery connection (with cover)

Installing and connecting the emergency power supply

WARNING
Risk of fatal injury from electric shock. The device can become damaged.
Safety clearance must be guaranteed in accordance with IEC 60664--1. There must be at least 4 mm between the individual cores of the 230 V supply cable and the SELV line Ⓐ.



⚠ CAUTION

The device may be damaged!
Power supply cable may be a maximum of 1 m long, the battery cable may be maximum 5 m long. Both must be laid as SELV cables.

Protect the battery cable using a fine-wire fuse (4 A, slow-blowing).

Failure to follow these instruction can result in equipment damage.

⚠⚠ DANGER

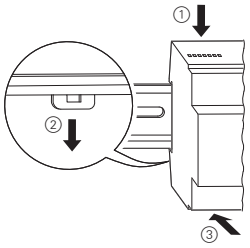
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Make sure that live lines do not come into contact with unused terminals (e.g. by using cable separating raceways).

Failure to follow these instructions will result in death or serious injury.

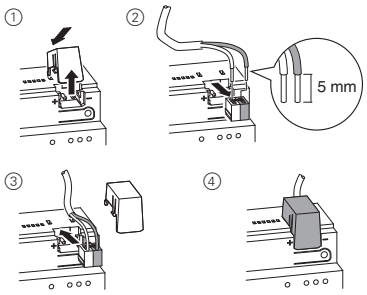
WARNING
Risk of injury from incorrect battery use
Observe the corresponding safety rules and regulations (i.e. VDE 0510 Part 2 and Part 7).

① Place the device onto the DIN rail.



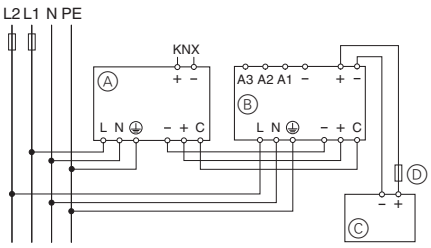
② Connect the battery (yellow/white battery terminal)

Due to the possibility of a voltage drop, two cores each of 0.8 mm diameter should be used in parallel (cable cross-section > 0.5 mm^2).



③ Connect according to the application.

- **Basic circuit**



Ⓐ Power supply with emergency power input
Ⓑ Emergency power supply
Ⓒ Lead gel battery
Ⓓ Fine-wire fuse 4 A, T

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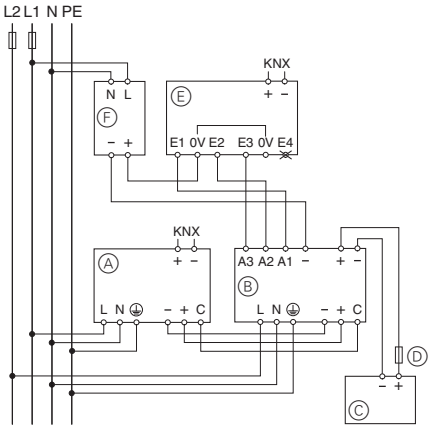
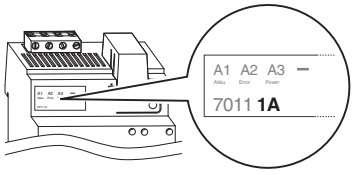
- **Operational status logging with 24 V binary input and additional power supply**

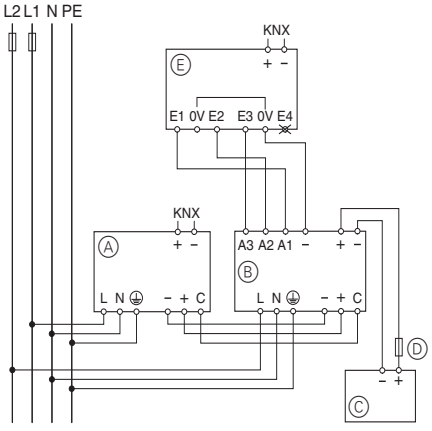


Ⓐ Power supply with emergency power input
Ⓑ Emergency power supply
Ⓒ Lead gel battery
Ⓓ Fine-wire fuse 4 A, T
Ⓔ 24 V binary input, Input E4 must remain free
Ⓕ Supply voltage DC 24 V/0,4 A

- **Operational status logging with 10 V binary input**

This circuit arrangement is only possible with a power supply from version "1A".





Ⓐ Power supply with emergency power input
Ⓑ Power supply (only from version "1A"))
Ⓒ Lead gel battery
Ⓓ Fine-wire fuse 4 A, T
Ⓔ 10 V binary input, Input E4 must remain free

Meaning of the LEDs

The mains voltage display (Power) does not light up.
The error display (Error) does not light up.
The battery display (Battery) does not light up.

- No bus voltage in the connected line.
- The mains voltage for both the power supply unit and the emergency power supply unit has failed, and the battery is discharged. The connected battery must be charged to a high enough level to ensure reliable emergency power supply. Information regarding the charging time and the battery life: see the technical data of the battery.

Overview

Power (green)	**Error** (red)	**Battery** (yellow)	
on	-	-	Mains voltage present, battery charging
on	on	-	Mains voltage present, battery voltage < 11 V
on	-	on	Mains voltage present, power supply provided by battery or mains voltage
on	on	on	Mains voltage present, power supply provided by the battery and output current too high or battery voltage < 11V
-	-	on	No mains voltage, power supply provided by the battery (battery not charging)
-	on	on	No mains voltage, power supply provided by the battery and output current too high or battery voltage < 11V
-	-	-	No mains voltage, no battery voltage

Technical data

Nominal voltage:	AC 110 - 230 V ±10%
Operation voltage:	AC min. 92 V - max. 253 V
Mains frequency:	50 - 60 Hz ±10%
Power consumption:	< 25 W
Output to power supply (-,+,C)	
Nominal current:	Without battery approx. 300 mA With battery approx. 640 mA
Short-circuit current:	< 1.5 A
Battery buffer time 7.2 Ah:	Approx. 0.5 h at 640 mA Approx. 1 h at 320 mA Approx. 2 h at 160 mA
Battery buffer time 18 Ah:	Approx. 1.25 h at 640 mA Approx. 2.5 h at 320 mA Approx. 5 h at 160 mA
Output/input to battery (+,-):	
Charging current:	Max. 1 A
Power consumption:	< 50 W
Battery charging time 7.2 Ah:	Approx. 10 h
Battery charging time 18 Ah:	Approx. 25 h
Operational status logging outputs	
A1:	Mains voltage display
A2:	Error display
A3:	Battery display
- :	joint potential
Connectable battery:	Lead gel battery in accordance with DIN
Number:	1
Nominal voltage:	12 V
Nominal capacity:	6-18 Ah
Fine-wire fuse:	4 A, slow-blowing
Environment	
Operating temperature:	-5 °C to +45 °C
Installation height:	Up to 2000 m above sea level
Humidity:	Max. 93 % relative humidity, no dew formation
Connections	Screw terminals for 0.5 mm^2 to 2.5 mm^2
Single-core:	1.5 mm^2 to 2.5 mm^2
Finely stranded (with core end sleeve):	1.5 mm^2 to 2.5 mm^2
Battery connection:	Battery terminal (yellow/white). Optimum: Connection with four cores each with a 0.8 mm diameter (pairs of two parallel), to achieve a cable cross-section of at least 0.5 mm^2 per cable.
Dimensions:	90 x 72 x 65 mm (H x W x D)
Device width:	4 modules = approx. 72 mm
EC guidelines:	2004/108/EC, 2006/95/EC

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