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Product and Applications Description

The power supply unit N 122 provides and monitors the system power necessary for the *instabus EIB*. For each bus line, at least one power supply unit N 122 is needed. The integrated choke prevents the data telegrams from short-circuiting on the bus line. When the built-in reset switch is operated (operation > 10s), the bus devices are returned to their initial state. For supplying power to an additional line via a separate choke N 120, the output voltage can be tapped, without being choked, at an additional pair of terminals. The low-voltage connection block for this has to be ordered separately.

No more than two power supply units may be attached to a single bus line. A second unit is not required unless the supply voltage at a bus device is less than 21 V. The cable length between the two power supply units must be at least 200 m.

When more than 30 bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, the power supply unit N 122 should be arranged near these bus devices. The distance between power supply unit N 122 and any of its bus devices must not exceed 350 m.

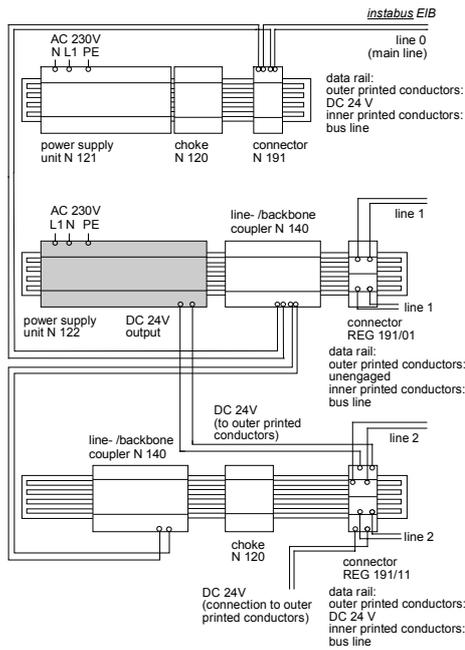
The power supply unit N 122 has a voltage and current regulation and is therefore short-circuit proof. Short power failures can be bridged with a backup interval of at least 200 ms.

For safeguard an uninterrupted power supply a separate circuit with safety separation should be used for the power supply unit N 122's power supply line.

Application Programs

Requires no application programs

Example of Operation



Technical Specifications

Input voltage

- rated voltage: AC 230 V, 50...60Hz
- permissible range: AC 195,5 ... 253 V

Rated power intake

approx. 24 VA

Output voltage

- rated voltage: DC 29 V
- safety extra low voltage (SELV)
- permissible range: DC 28 ... 30 V

Output current

- rated current: 640 mA
- short-circuit current: limited to 1,5 A

Backup interval

on input voltage failure:
min. 200 ms at rated current

Operator elements

slide switch:
for resetting the bus devices connected to the line
(operation > 10 s)

Display elements

- 1 red LED: for indicating a shorted-out bus line or device over-load
- 1 green LED: for indicating faultless operativity
- 1 red LED: for indicating a voltage interruption on operating the slide switch in RESET-position

Connections

- mains connection, screwless plug-in terminals: strip insulation for 9 ... 10 mm permissible conductor types/cross sections:
 - 0,5 ... 2,5 mm² single core
 - 0,5 ... 2,5 mm² flexible conductor with terminal pin, crimped on gas tight
 - 0,5 ... 1,5 mm² flexible conductor with connector sleeve
 - 1,0 and 1,5 mm² plain flexible conductor
- bus line, pressure contacts on data rail
- output voltage (no choke): screwless extra low voltage terminal \varnothing 0,6 ... 0,8 mm (order separately)

Physical specifications

- housing: plastic
- dimensions: N-system DIN-rail mounted device, width: 7 Sus (1 SU = 18 mm)
- weight: approx. 460 g
- installation: rapid mounting on DIN EN 50022-35 x 7,5 rail

Electrical safety

- fouling class (according to IEC 664-1): 2
- protection (according to EN 60529): IP 20
- overvoltage class (according to IEC 664-1): III
- bus: safety extra low voltage SELV DC 24 V
- device complies with EN 50 090-2:2 and IEC 664-1: 1992

Reliability

rate of failure: 1143 fit at 40 °C

Electromagnetic compatibility

complies with EN 50081-1 and EN 50082-2 and EN 50090-2:2

Environmental specifications

- climatic conditions: EN 50090-2:2
- ambient temperature operating: - 5 ... + 45 °C
- storage temperature: - 25 ... + 70 °C
- relative humidity (non-condensing): 5 % to 93 %

Certification

EIB certificate

CE norm

complies with the EMC regulations (residential and functional buildings), and low voltage regulations

Location and Function of the Display and Operator Elements

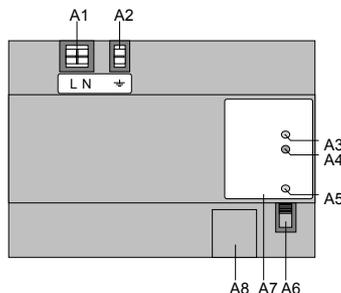


Figure 1: Location of the display and operator elements

- A1 screwless plug-in terminals for connecting the mains (mains terminals)
- A2 ground terminal
- A3 red LED for indicating a shorted-out bus line or a device over-load
- A4 green LED for indicating normal operation of the power supply unit N 122
- A5 red LED for indicating that the power supply unit N 122 is in reset position
- A6 reset switch
- A7 type plate
- A8 cover of extra low-voltage terminals

Installation Instructions

- The device may be used for permanent interior installations in dry locations within distribution boards.

WARNING

- The device may be built into distribution boards (230/400V) together only with appropriate VDE-devices and must be mounted and commissioned by an authorised electrician.
- Free DIN rail areas with sticked-in data rails must be covered with covers, order no. 5WG1 192-8AA01.
- A safety disconnection of the device must be possible.
- The prevailing safety rules must be heeded.
- The device must not be opened. A device suspected faulty should be returned to the local Siemens office.

Mounting and Wiring

General description

The N-system DIN-rail device can be installed to N-system distribution boards, surface or flush mounted, or to any DIN-rail EN 50022-35 x 7,5 available that has a data rail installed. The connection to the bus line is established by clicking the device onto the DIN-rail (with a data rail installed). Take care that the type plates of all devices on a DIN-rail can be read in the same direction, guaranteeing the devices are polarised correctly.

Mounting DIN-rail devices (figure 2)

- Slide the device (B1) onto the DIN-rail (B2) and
- swivel back the device until the slide clicks into place audibly.

Note: Examine if the power supply unit is placed fitting exactly. In case of difficulties due to a twisted DIN-rail pull out the slide (C3) in figure 2 until it clicks into place, stick in the power supply unit and press it slightly against the rail and push in the slide (C3) manually down to the stop.

Dismounting DIN-rail devices (figure 2)

- Remove all connected mains wires,
- press down the slide (C3) with a screw-driver and
- swivel the device (C1) from the DIN-rail (C2).

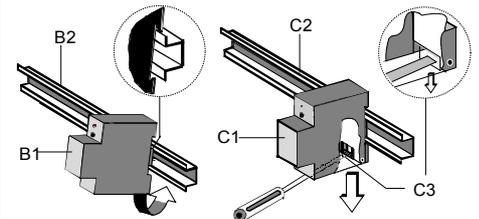


Figure 2: Mounting and dismounting a DIN-rail device

Connecting mains (figure 3)

- The mains are connected via screwless plug-in terminals (D1).
- Remove approx. 9 to 10 mm of insulation from the wire (D1.1) and plug it into the terminal (D1).

Conductor cross sections: see technical specifications

Disconnecting the mains (figure 3)

- Press the terminal lock (D3) of the terminal (D1) with a screw-driver and
- remove the wire (D2) from the terminal (D1).

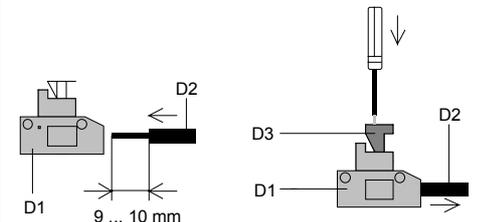


Figure 3: Connecting and disconnecting wires

Slipping on of the safety extra low voltage block

- slip the connection block onto the guide slot and
- press the connection block down to the stop

Connecting the safety extra low voltage block (figure 4)

- The connection block (E1) can be used with single core conductors \varnothing 0,6 ... 0,8 mm.
- Remove approx. 5 mm of insulation from the conductor (E2) and plug it into the connection block (E1) (red = +, black = -).

Disconnecting the safety extra low voltage block (figure 4)

- Unplug the connection block (E1) and remove the bus cable conductor (E2) while simultaneously wiggling it.

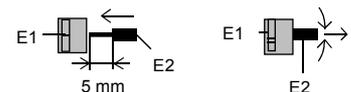


Figure 4: Connecting and disconnecting safety extra low voltage block