

Choke N 120/02
640 mA

5WG1 120-1AB02

Product and Applications Description



The operating voltage for the bus devices supplied through the bus is transmitted via the same twisted pair cable as the data telegrams.

The choke N 120/02 prevents the DC 29V power-supply from short-circuiting the data telegram on the bus line. The choke receives the power via the low-voltage connector (yellow-white) on the front side. This power is directly connected to the two outer printed conductors of the data rail. It is fed via inductors to the two inner printed conductors of the data rail and to the bus connector terminal (black-red) on the front side of the device.

The DC 29V supply voltage fed to the low-voltage connector (yellow-white) may be sourced from a power supply unit N 125/21. It may also be sourced from a power supply N123 via the data rail.

Via the built-in reset-switch (operation > 10 s) the bus devices are set to their default setting, i.e. the bus devices return to their default setting with the recurring supply voltage. This is done by short-circuiting the bus line and switching off the supply voltage.

To the DC 29V supply voltage the choke resistance is low. To the data signal transmitted on *instabus EIB*, which is an alternating current, the resistance of the choke N 120/02 is high and therefore the operating voltage supply does not significantly affect the information signal.

Application Programs

Requires no application programs

Example of Operation

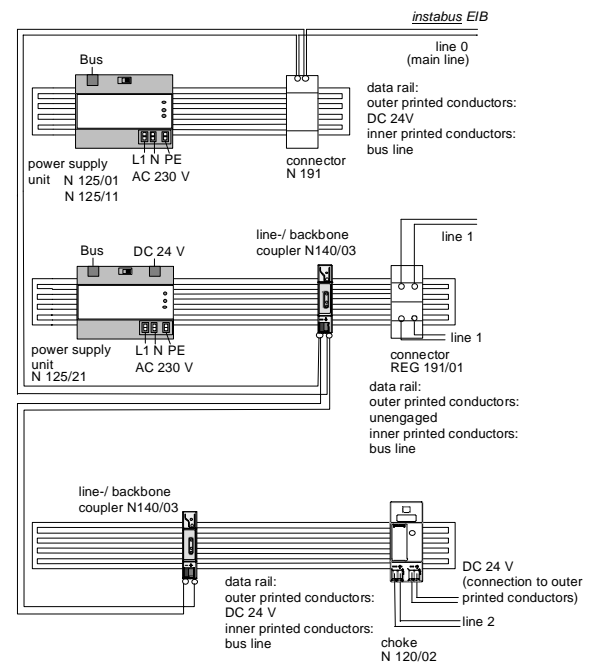


Figure 1: Example of operation

Installation Instructions

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

WARNING

- The device must be mounted and commissioned by an authorised electrician.
- Unassigned sections of DIN rail with inserted data rail must be covered using 5WG1 192-8AA01.
- The prevailing safety rules must be heeded.
- 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.

Technical Specifications

Input voltage

- rated voltage: DC 29 V (DC 28...30V)
- rated current: 640 mA

Operator elements

1 slide switch:
for re-setting the bus devices connected to the line
(operation > 10 s)

Display elements

1 red LED:
for indicating when the slide switch is set to reset-
position

Connections

- power supply:
 - pressure contacts on data rail (outer printed conductors)
 - screwless extra low voltage terminal (yellow-white)
Ø 0,6 ... 0,8 mm, solid single-core copper wire
- bus line:
 - pressure contacts on data rail (inner printed conductors),
 - screwless extra low voltage terminal (red-black)
Ø 0,6 ... 0,8 mm, solid single-core copper wire

Physical specifications

- housing: plastic
- N-system DIN-rail mounted device,
width: 2 SUs (1 SU = 18 mm)
- installation: rapid mounting on
DIN EN 50022-35 x 7,5 rail
- weight: approx. 105 g
- fire load: approx. 1470 KJ ± 10 %

Electrical safety

- degree of pollution (according to IEC 60664-1): 2
- protection (according to EN 60529): IP 20
- protection class (according to IEC 61140): III
- overvoltage class (according to IEC 60664-1): III
- bus: safety extra low voltage SELV DC 24 V
- the device complies with EN 50 090-2-2

Electromagnetic compatibility

complies with
EN 61000-6-2, EN 61000-6-3 and EN 50090-2-2

Reliability

Failure rate: 82 fit at 45 °C

Environmental specifications

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

Markings

EIB, KNX, CE

CE mark

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

Location and Function of the Display and Operator Elements

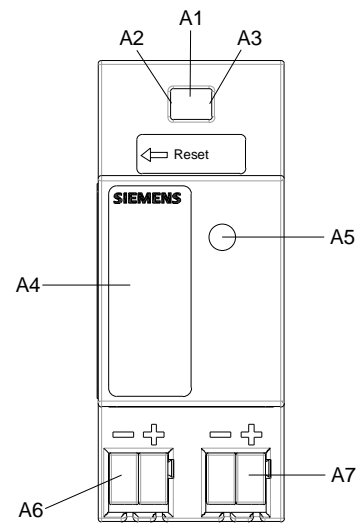


Figure 2: Location of the display and operator elements

- A1 Reset switch
slide switch for re-setting the bus devices connected to the line (operation > 10 s)
- A2 Reset position
- A3 Operating position
- A4 Type label
- A5 LED indicating reset position (LED on)
- A6 Bus connector (black-red) for bus line
- A7 Low-voltage connector (yellow-white) for DC 24V power supply

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Mounting and Wiring

General description

The N-system DIN-rail device can be installed in N-system distribution boards, surface or flush mounted, or on any DIN rail complying with EN 60715-TH35-7,5. The connection to the bus line is established via the bus connector terminal (red-black) on the top side or 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 on the data rail.

Mounting DIN-rail devices (Figure 3)

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

Dismounting DIN-rail devices (Figure 3)

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

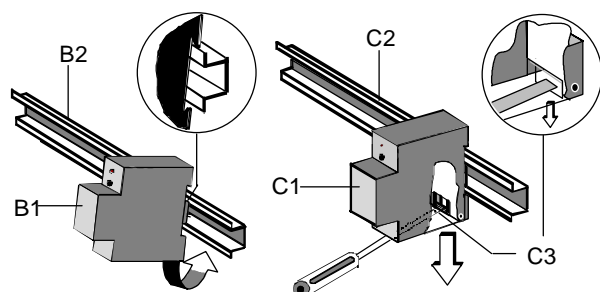


Figure 3: Mounting and dismounting a DIN-rail device

Slipping off bus connection blocks (Figure 4)

- The bus connection block (D2) is situated on the top of the device (D1).
- The bus connection block (D2) consists of two components (D2.1 and D2.2) with four terminal contacts each. Take care not to damage the two test sockets (D2.3) by accidentally connecting them to the bus cable or with the screw-driver (e.g. when attempting to unplug the bus connection block).
- Carefully put the screw-driver to the wire-inserting slit of the bus connection block's grey component and pull the bus connection block (D2) from the device (D1).

Slipping on bus connection blocks (Figure 4)

- Slip the bus connection block onto the guide slot and
- press the bus connection block (D2) down to the stop.

Connecting bus cables (Figure 4)

- The bus connection block (D2) can be used with single core conductors $\varnothing 0,6 \dots 0,8$ mm.
- Remove approx. 5 mm of insulation from the conductor (D2.4) and plug it into the bus connection block (D2) (red = +, black = -).

Disconnecting bus cables (Figure 4)

- Unplug the bus connection block (E1) and remove the bus cable conductor (E1.4) while simultaneously wiggling it.

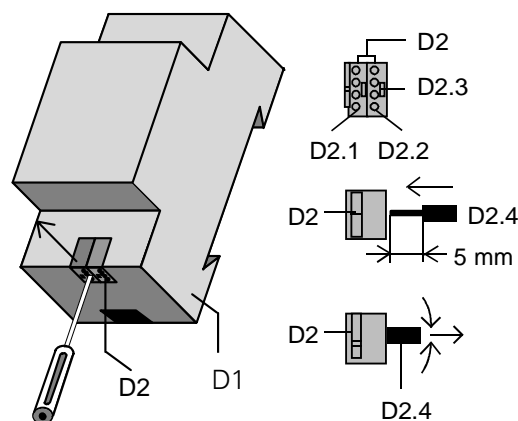


Figure 4: Connecting and disconnecting bus wires

Slipping off / on auxiliary power connection block

- Follow the instructions for the bus connection block when slipping off/on the auxiliary power connection block.

Connection to the bus without data rail

If the connection is established via bus connection block only (data rail not installed) the data rail connection system has to be covered with the enclosed insulation hood after removing the guiding hood e.g. with a screw driver to guarantee a sufficient insulation from the DIN rail.

Removing the guiding top (Figure 5)

- The guiding top (D3) surrounds the contact system (D2) on the back side of the device (D1).
- Insert the screw driver between the DIN-rail device (D1) and the guiding hood (D3) and remove the guiding hood.

Inserting the insulation top (Figure 5)

- Put the insulation top (D4) onto the contact system and click it into place by a slight pressure.

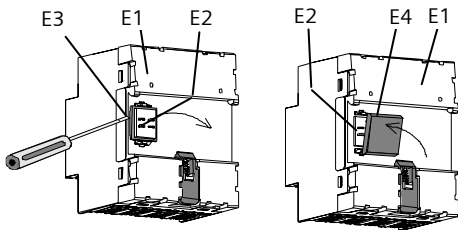
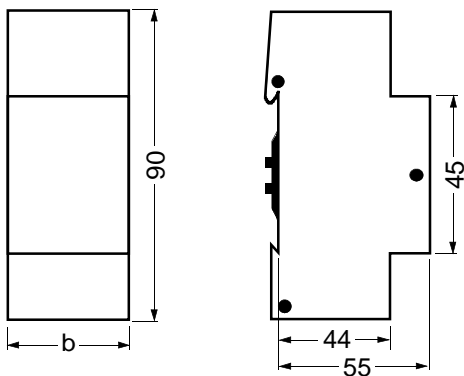


Figure 5: Covering the contact system with insulation top

Dimension Diagram

Dimensions in mm



b = 2 SU

1 Space unit (SU) = 18 mm

General Notes

- The operating instructions must be handed over to the client.
- Any faulty device should be returned to the local Siemens office.
- If you have further questions concerning the product please contact our technical support.
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📄 www.siemens.com/automation/support-request