

Product and Applications Description



The IP Controller N350E is a DIN rail mounted device.

It provides these functions:

- Weekly scheduler
 - with up to 100 schedule entries for up to 80 channels,
 - with up to 8 periods for weekly schedules,
 - with astronomical schedule function (+/- 2 hours from sun rise / sun set)
- Annual schedule
 - with up to 50 schedule entries for up to 80 channels
- 30 Logic gates
- Event programs with a total of up to 200 event command actions
- Event program trigger via schedules, logic functions or up to 30 threshold values
- Configuration of scheduler functions, event programs, and logic functions via IP network (protocol used: KNXnet/IP Device Configuration)
- Battery buffered real-time clock
- Display of date and time on LC-display
- Real-time clock setting manually with three push buttons or automatically by a network (Internet) time service
- Time zone selection for automatic time synchronization
- Automatic Daylight Savings Time change-over selectable
- DHCP for automatic IP address assignment
- Communication via IP network with
 - a visualization software
 - ETS3 acting as a configuration interface

Via ETS up to 80 objects can be defined for the device with free data type assignment from this list of data types

- 1 bit (EIS1)
- 1 Byte, unsigned (EIS 14)
- 1 Byte, signed (EIS 14)
- 2 Byte, unsigned (EIS 10)
- 2 Byte, signed (EIS 10)
- 2 Byte, float (EIS 5)
- 4 Byte, unsigned (EIS 11)
- 4 Byte, signed (EIS 11)
- 4 Byte, float (EIS 9)

All defined objects can be used freely by all software modules. Hence, up to 80 objects can be selected from for schedule functions, as input for logic gates, as event triggers, or as output of event programs (scenes).

With the ETS (Engineering Tool Software) the application program is selected, its parameters and addresses are assigned appropriately, and downloaded to the IP Controller N350E.

Application program

21 CO IP Controller 908701

- 80 objects
- 100 schedules
- 50 annual schedules
- 100 event programs (scenes)
- 10 logic gates
- sends date and time
- IP communication for remote configuration and visualization

Supported Software

Here is a list of software supporting the IP Controller N 350E.

ComBridge Studio Evolution

IPAS GmbH
Hölscher Str. 27
47167 Duisburg
[<http://www.ipas-products.com>]

ETS

KNX Association
De Kleetlaan 5, Bus 11
B-1831 Brussels-Diegem
[<http://www.knx.org>]

Installation Instructions

- The device may be used for permanent interior installations in dry locations within distribution boards or small casings with DIN rail EN 60715-TH35-7,5.



WARNING

- The device must be mounted and commissioned by an authorised electrician.
- The device may be mounted to switch and socket combination box mounts if VDE-certified devices are used exclusively.
- The prevailing safety rules must be heeded.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.

Technical Specifications

Network communication

- Ethernet: 10BaseT (10 Mbit/s)
- Supported Internet Protocols: ARP, ICMP, IGMP, UDP/IP, DHCP
- KNXnet/IP according to KNX System Specification: Core, Device Management

Rated voltage

- Bus: DC 24V (DC 21...30V)
- Auxiliary power supply: AC/DC 24V (AC/DC 12...30V)

Power supply

- Bus voltage: via KNX bus line
- Operating voltage: from external SELV power supply AC/DC 24V nominal, permissible input voltage range: AC/DC 12 ... 30 V
- Recommended power supplies: – DC 24V (before choke) from KNX power supplies N125/x2

Control elements

- 1 learning button: for switching between normal operating mode and addressing mode
- 3 push buttons (Move, Prg/Set, ESC): on the front side to locally set date and time and to

display IP address, MAC address and firmware version of the device

Display elements

- 1 yellow LED: Ethernet Link Signal available (LK)
- 1 yellow LED: Data transmission on Ethernet (LA)
- 1 red LED: for monitoring bus voltage and displaying mode, selected with the learning button
- LC-Display, 2 rows with 12 characters each to display date and time

Connections

- bus line: screwless bus connection block (red-black) 0,6...0,8 mm Ø single core
- Ethernet / IP network: RJ45 socket
- auxiliary power: screwless extra low voltage terminal (yellow-white) Ø 0,6 ... 0,8 mm Ø single core

Physical specifications

- housing: plastic
- DIN-rail mounted device, width: 2 SUs (1SU = 18mm), height: 55 mm
- installation: rapid mounting on EN 60715-TH35-7,5 rail
- weight: approx. 150g

Electrical safety

- degree of pollution (according to IEC 60664-1): 2
- protection (according to EN 60529): IP 20
- 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 50090-2-2

Environmental specifications

- climatic conditions: EN 50090-2-2
- ambient temperature operating: 0 ... + 45 °C
- storage temperature: - 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

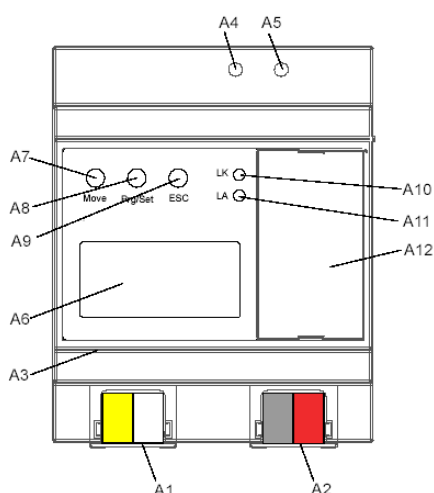


Figure 1: Location of the display and operator elements

- A1 AC/DC 24 V bus connector terminal (yellow-white)
- A2 KNX bus connector terminal (black-red)
- A3 Ethernet RJ45 socket
- A4 KNX programming LED
- A5 KNX learning button
- A6 Display 2x12 characters
- A7 MOVE push button
- A8 Set/Prg push button
- A9 ESC push button
- A10 Ethernet Link LED
- A11 Ethernet Activity LED
- A12 Battery case

Setting time and date

In the display mode the LC-display shows time, day of week, and date. Switch to the setup mode by depressing the Set/Prg-push button (A8). Hour – Minute – Day – Month – Year can be set in this order. Move from one to the next with the Set/Prg-push button (A8). The selected time/date value can be set by depressing the Move push button (A7). Scroll through until the correct value is displayed and then press the Set/Prg-push button (A8) to move to the next time/date value.

After you entered the value for the year press the Set/Prg-push button (A8). The device automatically leaves the setup mode after approximately five seconds. The setup mode can be left by pressing the ESC push button (A9).

Mounting and Wiring

General description

The N-system DIN-rail device can be installed in 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.

The RJ45 socket on the device front side provides the connection to the Ethernet-IP data network.

Mounting DIN-rail devices (Figure 2)

- Slide the device (Figure 2, B1) onto the DIN-rail (Figure 2, B2) and
- swivel back the device until the slide clicks into place audibly.
- Connect the auxiliary power AC/DC 24V with the yellow-white bus connector terminal (A1).
- Connect the bus line with the black-red bus connector terminal (A2).
- Plug an Ethernet patch cable with an RJ45 plug into the RJ45 socket (A3) to connect the device with the LAN / Intranet.

A connection is established to the network when the yellow LED marked LK (A10) is continuously lit. When the LED LA (A11) flashes data is sent to or from the device.

Dismounting DIN-rail devices

- Unplug the Ethernet patch cable from the RJ45 socket (Figure 1, A3).
- Remove the yellow-white bus connector terminal (Figure 1, A1) from its socket.
- Remove the black-red bus connector terminal (Figure 1, A2) from its socket.
- press down the slide (Figure 2, C3) with a screw-driver and
- swivel the device (Figure 2, C1) from the DIN-rail (Figure 2, C2).

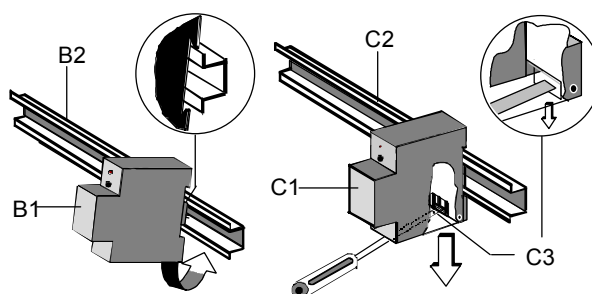


Figure 2: Mounting and dismounting a DIN-rail device

Slipping off bus connection blocks (Figure 3)

- 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 3)

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

Connecting bus cables (Figure 3)

- The bus connection block (D2) can be used with single core conductors $\varnothing 0,6 \dots 0,8 \text{ mm}$.
- 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 3)

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

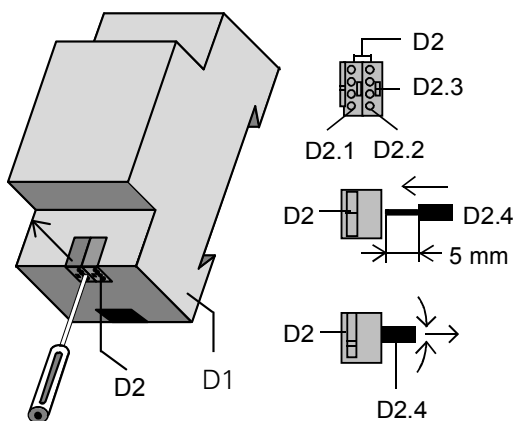


Figure 3: Connecting and disconnecting bus wires

Slipping off / on auxiliary power connection block

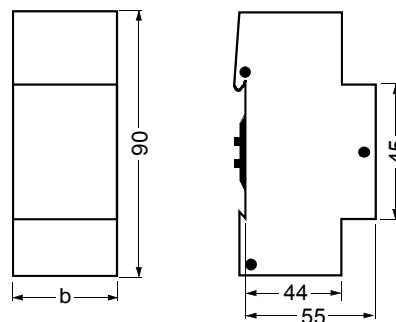
- Follow the instructions for the bus connection block when slipping off/on the auxiliary power connection block.

Battery change

- Lift the battery case cover (A12) with a screw driver.
- Remove the battery with the battery holder.
- Separate the old battery carefully from the battery holder to which it is glued.
- Insert the new battery in the battery holder and insert both into the battery case. Ensure correct polarity (+ symbol) to achieve correct function of the real-time clock.
- Close the battery case with the battery case cover (A12).
- Battery type: Lithium CR 1/2 AA

Dimension Diagram

Dimensions in mm



b = 4 SU

1 Standard unit (SU) = 18 mm

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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