

**IP Viewer N151**
**5WG1 151-1AB01**

## Product and Function Descriptions



The N151 IP Viewer is a DIN rail mounted device.

The N151 IP Viewer provides the following functions:

- This device incorporates a web server for operating and monitoring KNX systems.
- It can display up to 5 operating pages via a standard browser. On this are provided to 40 functions.
- A web configuration page allows you to edit the display in a number of languages.
- It provides an interface to KNX installations via data networks using the Internet protocol (IP). At the same time, this device provides communication from KNX devices with PCs or other data processing devices (EIBnet/IP Tunnelling). Client software products, such as ETS 3, which are based on the EIBnet/IP tunnel protocol can set up connections to the N151 IP Viewer.
- Communication with a visualization software over an IP network (object server connection) is possible (see supported applications).

The settings for the device will be programmed by ETS into the default settings. The data types of the 40 functions provided will be defined and basic information for the device supplied. The following function types are available:

- No function
- Switching with feedback
- Switching without feedback
- Feedback
- Presence
- Dimming
- Shutter/Slat
- 1 byte relative (0...100%)

- 1 byte value (0...255)
- 2 bytes floating point (EIS 5 / DPT 9.xxx)
- 4 bytes floating point (EIS 9 / 14.xxx)
- 2 bytes counter (EIS 10 / 7.001)
- 4 bytes counter (EIS 11 / 12.001)
- Call call/program scene 1 bit
- Call call/program scene 8 bit

The 40 functions provided supply up to 80 communication objects for connecting to group addresses.

The following default settings for the device can be used:

- The device's IP address is allocated by ETS configuration or automatically by a DHCP service in the IP network. Allocating the IP address through a DHCP service allows IP address changes without configuration of the device with ETS.
- When setting the device with a fixed IP address and subnet mask, you can also define a standard gateway or router. This provides an option to contact subscribers in the Internet or in another network.

In queries related to setting the device's IP address and sub-network mask parameters, not only DHCP but also the local system administrator should be added.

- A user name and a password can also be allocated for access protection.
- A parameter can be set to determine whether the user-defined settings, which can be made directly via the web configuration page, are to be initialised or retained in the ETS download.
- You use a further parameter to set a read criterion. This is used to send an update to the object values after a restart.

You use the ETS (*EIB* tool software) to select the application program, to allocate specific parameters and to transfer these into the N151 IP Viewer.

As delivered ex works, the following physical address is set: 15.15.255.

All other layout and design settings are set conveniently and in a number of languages directly at the device. The header on the WEB configuration page includes the current firmware release information and two command keys for loading (Reload) and writing (Send) the set configuration to or from the device.

You can define the following global settings:

- automatic "refresh interval"
- a "key delay", which defines the time to detect a key being held down
- a "program delay", which defines the time to detect a saving process (scene saving).

The descriptive texts of the tabs can be defined. This will label the 5 operating pages.

In the control section, all functions will be indicated as a basic data type, as they were selected with the ETS and linked with a group address.

The following information is available for editing:

<i>No.</i>	<i>Communication object number</i>
<i>Address</i>	<i>Linked group addresses</i>
<i>Type</i>	<i>Data type configured with the ETS</i>
<i>Label</i>	<i>Label text for this function</i>
<i>View</i>	<i>Depiction of this function as a display or operating element</i>
<i>Page</i>	<i>Allocation to page (tab), on which this function will be displayed (all 40 functions can be displayed on a side - as of the 10th function a scrollbar is displayed).</i>
<i>Parameter</i>	<i>Additional parameters for the relevant function</i>

A number of design variations are available for depicting several basic data types.

## Application Program

You will need the application program 21 CO IP Viewer 909501.

## Supported Applications

Below is a selection of applications supported by the N151 IP Viewer.

### Web browser

For the display of the web configuration page and the display- and operating pages, a javascript enabled web browser (optimized for x86 based PC, Internet Explorer ver. 6.0 [Win2000]/ 7.0 [WinXP]/ 8.0 or Firefox release 3.0.14 [Win2000]/3.5.2[WinXP]) is necessary.

The following additional browsers were tested successfully:

Safari 4.0.2 (x86),  
Nokia 5800 (Mobile Browser);  
Google G1 (Mobile Browser),  
Iphone (Mobile Browser)

### Notice:

When using other web browsers or other releases (Safari, Opera, Internet Explorer mobile, Firefox light, Netscape) operation and display of the web pages may not work properly respectively the function is not ensured.

### ComBridge Studio

IPAS GmbH  
Grabenstr 149 a  
47057 Duisburg  
[ <http://www.ipas-products.com> ]

ComBridge Studio is a visualization software, which the N151 IP Viewer, the N148/21 IP Interface, the N146 IP Router and the N350E IP Controller can use as an interface to the EIB.

Detailed information is in the GAMMA catalogue on the web page listed.

### ETS3

KNX-Association  
Bessenveldstraat 5  
B-1831 Diegem  
[<http://www.knx.org>]

An EIBnet/IP driver is available for the ETS3 from Version ETS3.0d (PatchA). When this driver is installed, the ETS3 can use the IP Viewer N151, the IP Controller N350E, the IP Router N146 and the IP interface N148/21 like a conventional serial RS232 or USB interface for communication with the Bus. This includes the download of devices via Bus and the group monitor function.

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## Installation Instructions

The device can 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 may only be installed and commissioned by a licensed electrician.
- Exposed sections of rail with integrated data rails are to be covered with the cover 5WG1 192-8AA01.
- The relevant safety and accident prevention rules are to be obeyed.
- The device must not be opened.
- When planning and installing electrical systems, the relevant national directives, rules and regulations of the country in question are to be obeyed.

## Technical Specifications

### Network communication

- Ethernet: 10BaseT (10 Mbit/s)
- Supported Internet protocols: ARP, ICMP, IGMP, UDP/IP, DHCP
- EIBnet/IP to Konnex System Specification: Core, Tunnelling, Device Management

### Rated voltage

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

### Power supply

- Bus voltage: via EIB bus line
- Operating voltage: from an external SELV power supply AC/DC 24V nominal, permissible input voltage range: AC/DC 12 ... 30 V
- Recommended power supplies:
  - before choke voltage from N123 (120V AC operating voltage) and N125/21 EIB power supplies
  - door bell transformer 4AC3 108, 230V AC/AC 2x12 V (primary/ secondary), 2x0, 33A, width 2SU
  - door bell transformer 4AC3 116, 230V AC/AC 2x12 V (primary/ secondary), 2x0, 67A, width 2SU
  - door bell transformer 4AC3 140, 230V AC/AC 2x12 V (primary/secondary), 2x1,67A, width 3SU

### Control elements

- 1 learning button: to change between normal and addressing modes

### Display elements

- 1 yellow LED: Ethernet link signal present (LK)
- 1 yellow LED: data traffic on Ethernet (LA)
- 1 red LED: for checking bus voltage and to indicate normal mode (LED = Off)/addressing mode (LED = On)

### Connections

- Bus Line: screwless bus connection block (black-red), 0.6...0.8mm Ø, single core
- Ethernet/IP network: RJ45 socket
- Power supply: screwless extra low voltage terminal (yellow-white), 0.6...0.8mm Ø, single core

### Mechanical specifications

- Casing Plastic, LEXAN UL-94-V0
- Dimensions: DIN-rail mounted device, Width 4SU (1 SU = 18 mm), height 55 mm
- Mounting: Quickfix on rails to EN 60715-TH35-7.5
- fire load: approx. 3.300 kJ kJ ± 10 %
- Weight: approx. 150g

### Electrical safety

- Degree of pollution (to IEC 60664-1): 2
- Protection class (to EN 60529): IP 20
- Overvoltage category class (to EN 60664-1): III
- Bus: safety extra low voltage SELV DC 24V
- Device complies with EN 50090-2-2

### Elektromagnetic compatibility

Complies with EN 50081-1 and EN 50082-2, EN 50090-2-2

### Environmental specifications

- Climatic conditions: EN 50090-2-2
- Ambient temperature in operation: 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 Operating Elements

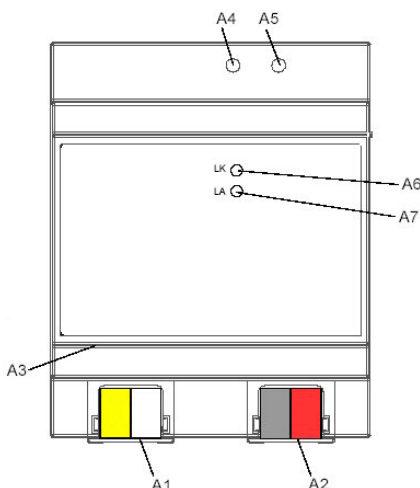


Figure 1: Location of the display and operating elements

- A1 AC/DC 24V bus connector terminal (yellow-white)
- A2 EIB bus connector terminal (black-red)
- A3 Ethernet RJ45 socket
- A4 EIB programming LED
- A5 EIB learning button
- A6 Ethernet link LED
- A7 Ethernet activity LED

## 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 (Figure 1, A1).
- Connect the bus line with the black-red bus connector terminal (Figure 1, A2).

- Plug an Ethernet patch cable with an RJ45 plug into the RJ45 socket (Figure 1, A3) to connect the device with the LAN / Intranet.

A connection is established to the network when the yellow LED marked LK (Figure 1, A6) is continuously lit. When the LED LA (Figure 1, A7) 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).

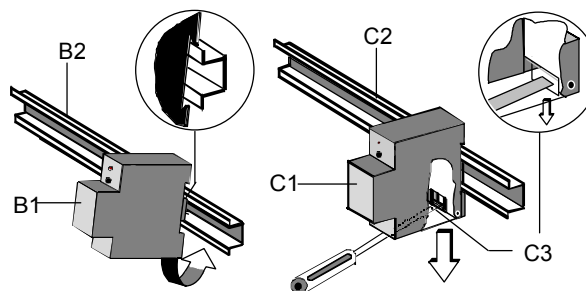


Figure 2: Mounting and dismounting a DIN-rail device

### Slipping off bus connection blocks (Figure 3)

- The bus connection block (Figure 3, D2) is situated on the top of the device (Figure 3, D1).
- The bus connection block (Figure 3, D2) consists of two components (Figure 3, D2.1 and D2.2) with four terminal contacts each. Take care not to damage the two test sockets (Figure 3, 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 (Figure 3, D2) from the device (Figure 3, D1).

### Slipping on bus connection blocks (Figure 3)

- Slip the bus connection block onto the guide slot and press the bus connection block (Figure 3, D2) down to the stop.

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Connecting bus cables (Figure 3)

- The bus connection block (Figure 3, D2) can be used with single core conductors  $\varnothing$  0,6 ... 0,8 mm.
- Remove approx. 5 mm of insulation from the conductor (Figure 3, D2.4) and plug it into the bus connection block (Figure 3, D2) (red = +, black = -).

Disconnecting bus cables (Figure 3)

- Unplug the bus connection block (Figure 3, D2) and remove the bus cable conductor (Figure 3, D2.4) while simultaneously wiggling it.

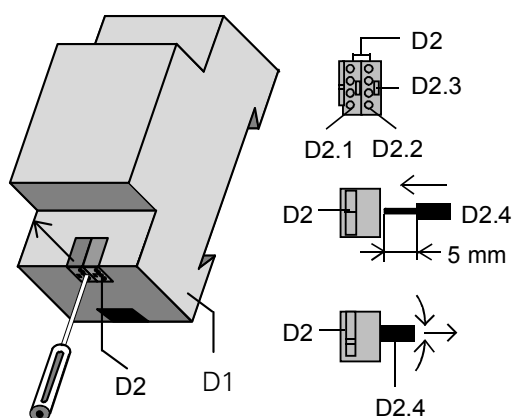


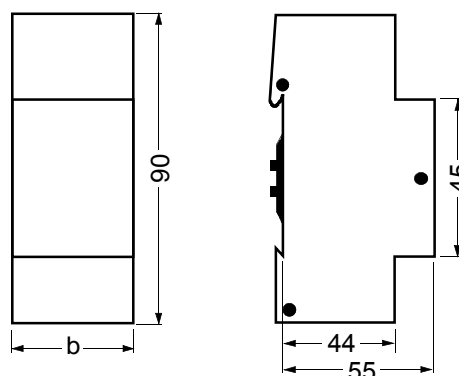
Figure 3: Connecting and disconnecting the bus wires

Slipping off / on auxiliary power connection block

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

**Dimension Diagram**

Dimensions in mm



b = 45U

1 Standard unit (SU) = 18 mm

**General Notes**

- The operating instructions must be handed over to the client.
- A faulty device shall be sent with a Return Good Note for Service provided by the appropriate Siemens sales office to the following address:  
SIEMENS AG, Siemensstr. 10, D-93055 Regensburg
- If you have further questions concerning the product please contact our technical support:  
☎ +49 (0) 180 50 50-222  
(0,14 €/min. from the German landline network, deviating mobile communications prices are possible)  
☎ +49 (0) 180 50 50-223  
E-Mail: support.automation@siemens.com  
✉ www.siemens.com/automation/support-request