

EYZ 292: novaNet292, Ethernet interface

The **novaNet292** is a novaNet Ethernet interface for connecting the CASE Suite/CASE Engine programming tools and the various novaPro software on the management level to the EY3600 system with Ethernet in a local area network (LAN).

It is possible to create a link from the PC Ethernet interface via novaNet292 to the EY3600 novaNet system bus. Up to five possible **CASE Engine** Clients can access the novaNet at the same time. One application for the exchange of data (e.g. **novaPro32**, **novaPro Open**, **novaPro** or **novaNet OPC Server**) with the EY3600 is supported by a Windows driver (novaVPort). It is easy to configure the interface using the **novaNet292 Configurator**.



Type	Description	Power	Weight kg (lb)
novaNet Ethernet interface			
EYZ 292 F001	Panel-mounted	230 V~/115 V~	0,650 (1,4)
EYZ 292 F002	Desktop model	230 V~/115 V~	0,700 (1,5)
Technical data			
Power supply	230 V~/+10% to -15%, 115 V~/+10% to -15%, 50/60 Hz	Storage and transport temp. -25...70 °C (-13...158°F) Ambient conditions:-	
Power consumption	6 VA/< 7 W	Ambient temperature 0...45 °C (32...113°F) Humidity 10...80 %rh without condensation	
Ports / Communication		Degree of protection IP 20	
novaNet F001	1× a/b terminals	Protection class I	
F002	1× RJ-11 socket		
Ethernet 10Base-T	1× RJ-45 socket 10 MBit/s	Wiring diagram F001 A10400 F002 A10401	
Serial Port RS-232	1× DB-9 (male) acc. DTE (57k6, 8n1)	Dimension drawing F001 M10445 F002 M10448	
Standard settings		Fitting instructions MV 505997	
TCP/IP Address	192.168.10.20	Declaration on materials MD 96.692	
Subnet Mask	255.255.255.0	Product documentation SH 7013505	
TCP Port (App 1)	51806 (nova292-Server)	CE-Conformity	
TCP Port (App 2)	51807 (nova291-Emulation)	Directive 2006/95/EC EN 60950-1	
Dimensions W×H×T		EMC directive 2004/108/EC EN 61000-6-1 EN 61000-6-2 EN 61000-6-4 EN 55024	
F001	193 × 131 × 41 mm		
F002	228 × 131 × 41 mm		

Accessories

YYD 292 F010	novaNet292 driver software, current version on CD ¹⁾
0367862 001	Connection lead: novaNet292 – AS 1,5 m (4,9 ft)
0367862 002	Connection lead: novaNet292 – AS 2,9 m (9,5 ft)
0367862 003	Connection lead: novaNet292 – AS 6 m (19,7 ft)
0367842 002	Ethernet cable 1,5 m
0367842 003	Ethernet cable 2,9 m
0367842 004	Ethernet cable 6 m
0374509 001	Plug-in piece, 3-pin, (supplied with F001)
0374677 001	Kit for fitting to 2-DIN rail
0386301 001	Serial cable for firmware update and software reset (DB 9)
0386507 001	Ethernet crossover cable, 3 m

¹⁾ CD should be ordered separately or downloaded from intranet.

Operation

The novaNet292 can be used for various tasks and applications, such as:-

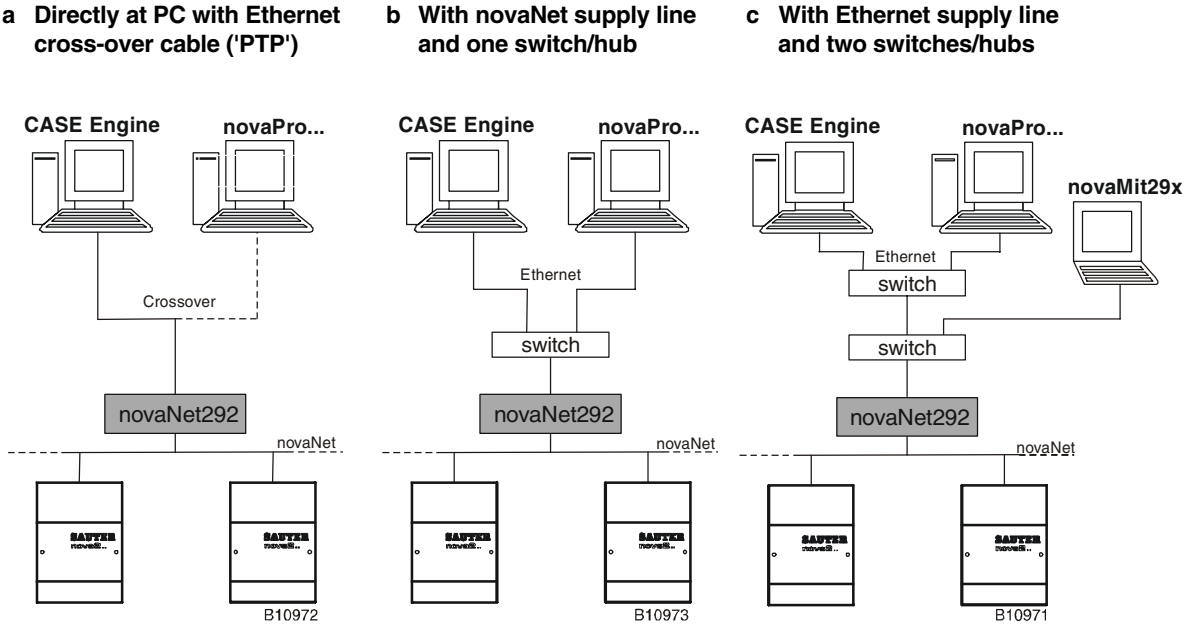
1. **Access unit for CASE Engine including CASE Monitor** (for time programmes)
The novaNet292 is an access unit for CASE Engine for parameterising and programming EY3600 automation stations (nova), compact controllers (novaFlex) and room controllers (ecos). The novaNet292 runs as a nova292 server. Up to five CASE Engines can use a novaNet292 at the same time.
2. **Interface for novaPro32, novaPro Open, novaPro and novaNet OPC Server**
The novaNet292 can be used together with the additional Windows novaVPort driver as a novaNet291 router. For novaPro... visualisation, the EY3600 driver is configured for the novaVPort virtual COM-port driver. The novaNet292 runs as a nova291 emulation. Up to six novaVPort drivers can be set up on one computer. However, only one EY3600 driver can communicate from novaPro... via novaVPort with a novaNet292.
3. **Interface for novaMit29x** for monitoring and inspecting the EY3600 novaNet system bus

Notes to operation:-

- The nova291 emulation of the novaNet292 cannot emulate a novaNet291 router in dial-up mode (no remote operation [router] and no remote monitoring [route] via analogue/ISDN modem).
- The novaNet292 is ideal for laptops and PCs that do not have a serial interface or an ISA slot. An Ethernet interface is needed on the computer.
- The applications can also be run in parallel (from Version 1.1). A switch located in the motor control centre enables the technician to connect into the system with CASE and, for example, make FBD modifications or check novaNet bus loads without having to disconnect the higher-level management system (such as novaPro...). (Topology c)

Applications

The following Ethernet network topologies are supported by the novaNet292:-



Notes to applications:-

- The more switches or hubs there are fitted in the Ethernet network, the longer are the times needed to transmit the telegrams on the Ethernet network. Experience shows that the PC-novaNet292 network still works well with 'ping times' of about 30 ms. There should be no telegram time-outs on the network.
- For the novaNet292, which is always used together with an application on the PC, it is advisable to structure the network in such a way that the integration of process data, i.e. the communication between PC and novaNet292, is carried out in 'isolation'.
- When the EYZ 292 F001 is fitted in a panel, it is advisable to fit a small switch so that a service technician has access on site.
- More information on these notes and the supported topologies can be found in the help file that is installed with the novaNet292 software.

Wiring**a) novaNet**

With the novaNet link from the novaNet292 to an automation station, the maximum novaNet network time constant should not exceed 120 μ s. This means that a segment of a novaNet cable can have a maximum time constant of 30 μ s (max. 300 Ohm/200 nF).

N.B.: When using a novaNet292 a resistor of 1000 Ω (¼ Watt, 10 %) is required in the novaNet. If it does not exist, it should be fitted at the position between a and b in the novaNet in order to reduce the interference from incorrectly-fitted novaNet communication subscribers (e.g. due to inadequate earthing) or from wiring that is susceptible to interference.

b) Ethernet

The Ethernet connection of the novaNet292 is a 10Base-T connection and can be used with standard Ethernet cables, preferably CAT-5.

10Base-T (IEEE 802.3i) runs via four cores (two twisted pairs) of a CAT-3 or CAT-5 cable. A hub or switch is in the middle and has one port for each subscriber. The transmission speed is 10 Mbit/s and the maximum length of any segment is 100 metres.

c) Serial interface

The serial interface on the novaNet292, as an item of data terminal equipment (DTE), is laid out as follows:-

Pin 2:	RD (receive data)
Pin 3:	TD (transmit data)
Pin 5:	GND (ground: reference potential to 0 V)
Pin 7:	RTS (request to send)
Pin 8:	CTS (clear to send)
Pins 1, 4, 6, 9:	NC (not connected)

The connection with a PC COM interface can be made using a serial null-modem cable (accessory no.: 0386301 001).

Further details can be found in the Fitting Instructions (MV 505997).

Hardware

The novaNet292 novaNet Ethernet interface is available in two different versions. Type EYZ 292 F001 is designed for fitting to a top-hat rail (EN 50022) in a panel. Type EYZ 292 F002 is a desktop variant of the novaNet292. Possible usage in training centres, by commissioning engineers or service technicians etc.

The unit has an Ethernet interface (RJ-45, 10Base-T) and a **novaNet** interface (a/b plug as screw-type terminals on the EYZ 292 F001, RJ-11 plug on the EYZ 292 F002). There is a serial interface (DB-9, male) available for firmware updates, support purposes and for carrying out an IP reset of the novaNet292 configuration.

The unit can run on either 230 Volt~ (50 Hz) or 110 Volt~ (60 Hz). On the EYZ 292 F001, the power supply is via a screw-on plug, while the EYZ 292 F002 has a socket for an IEC-320 AC power cable and an ON/OFF switch. In operation, the unit has a power consumption of max. 7 Watt.

The novaNet292 is an embedded Linux platform based on a Samsung ARM7 processor (S3C44B0; 66MHz) and has 16 Mbyte flash PROM and 16 Mbyte DRAM.

Various LEDs indicate the status of the unit.

LED display and diagnostics

Inscription	Colour	Status (speed)	Denotes
Error	Red	Inactive	In the correct enterprise
		Flashing	In the starting phase Ready for use after approximately 30 seconds
		Flashing: every 1 sec. every ¼ sec.	Indicate a failure:- Missing one novaVPort communication (Flashes after approximately 30 s Ethernet interruption) None novaNet telegrams (novaNet Receive - Rx)
novaNet	Yellow	Active	Sending a novaNet telegram (novaNet Send - Tx)
Power	Green	Flashing	Device switched on (power supply present)
Activity	Green	Active	Receiving (Rx-Receive) and sending (Tx-Transmit) an Ethernet telegram
Link	Yellow	Active	Ethernet connection established (physically) and connection to network or network card of the PC.

novaNet292 software

The novaNet292 software is supplied with CASE Suite or novaPro32 for CASE Suite. However, the latest novaNet292 software can be downloaded as a single installation from the Sauter intranet. Furthermore, a driver CD containing the novaNet292 software is available to order (accessory no.: YYD 292 F010).

Minimum PC requirements:-

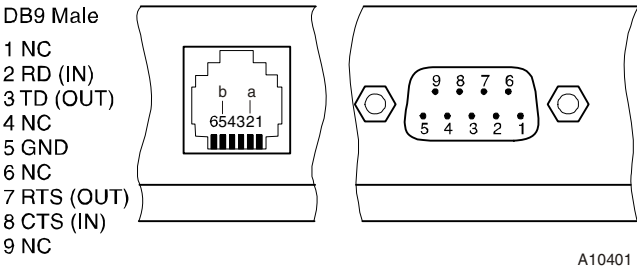
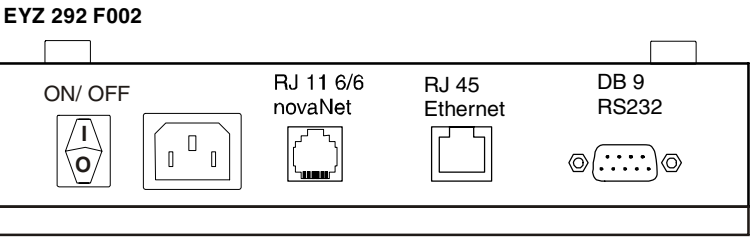
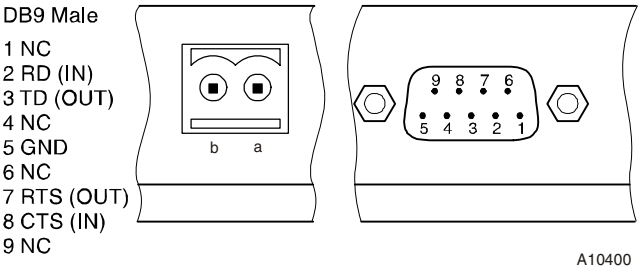
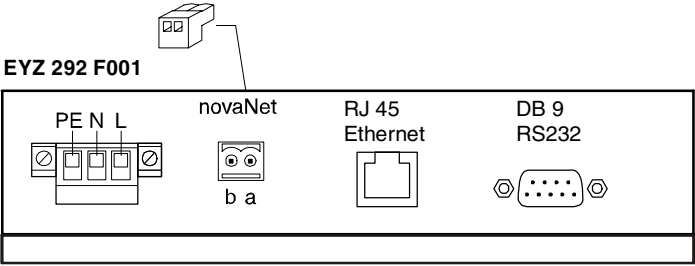
- CPU clock speed: 800 MHz (more recommended)
- RAM: 256 MB (more recommended)
- Hard disk: 1 GB (more recommended)
- Installation of novaNet292 software requires approx. 9,5 MB
- Ethernet interface with Ethernet cross-over cable
- Serial interface (or standard USB-COM converter) for firmware updates

Operating system requirements:-

- Windows 2000, XP, Server 2000, Server 2003 (recommended with Service Packs)
- .NET-Framework 1.1

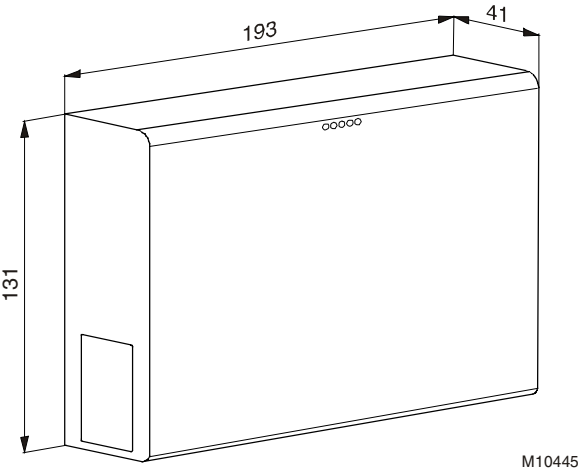
Further details on the installation of the novaNet292 software, on the **novaNet292 Configurator** and on the **novaVPort** virtual COM-Port driver can be found in the help file (eGuide: novaNet292.chm). The latest help files (in German, French and English) are also installed and can also be downloaded from the intranet.

Wiring diagram



Dimension drawings

EYZ 292 F001



EYZ 292 F002

