

YZP 410, 416...423: EY3600 novaPro Open

novaPro Open: the management level for complex installations and system integration. More than 100 drivers for linking up to non-Sauter systems and for linking to databases via ODBC, DDE, SQL, OPC enable horizontal integration of various different sub-processes in a building. **novaPro Open** provides an excellent window to the technical processes and makes information available – locally or worldwide – using the web technology that is included in the basic package. Thanks to its scalability and modularity, **novaPro Open** can be adapted to the particular requirements of the plant.

The extended alarm management facility permits reporting of events via SMS, e-mail, fax or voice-mail. Using the integrated time planner, it is possible to organise the duty personnel who are called out when an alarm occurs.



Type	Description
novaPro Open basic package ¹⁾	
YZP 410 F001	Basic package including 500 addresses
YZP 410 F101	Basic package including 2,000 addresses
YZP 410 F201	Basic package including 5,000 addresses
YZP 410 F301	Basic package including 65,000 addresses
Options	
YZP 416 F101	EY2400 driver
YZP 416 F201	EY3600 driver for Wizcon included in YZP 410 F . . .
YZP 416 F302	Driver, Johnson Controls System 91, N2 protocol
YZP 416 F303	Driver, Landis & Gyr PRV1 controller
YZP 416 F304	Driver, Landis & Gyr PRV2 controller
YZP 416 F306	Driver, Siemens Instabus EIB system
YZP 416 F307	OPC server, Lonworks through LNS database
YZP 416 F308	OPC server, Lonworks native LNS/LCA
YZP 416 F310	novaPro Open Driver for M-Bus
YZP 416 F311	Driver native BACnet (vpiwnbcn.dll)
YZP 416 F312	Driver Siemens SIMATIC S5 / S7, TCP/IP (vpiwnstp)
YZP 417 F101	Access for 10 web clients
YZP 417 F201	Access for 20 web clients
YZP 417 F301	Access for 100 web clients
YZP 418 F001	AAM (advanced alarm module) ²⁾
YZP 418 F101	TTS (text to speech; voice-mail supplement to YZP 418 F001)
YZP 419 F101	Upgrade from 500 to 2,000 addresses
YZP 419 F201	Upgrade from 2,000 to 5,000 addresses
YZP 419 F301	Upgrade from 5,000 to 65,000 addresses
YZP 420 F003	Version update from V2.0to V2.1
YZP 420 F004	Version update from V1.1 to V2.1
YZP 420 F999	novaPro Open Suite: latest CD
YZP 421 F001	novaScheduler Enterprise Edition
YZP 421 F002	novaPLC Upgrade from 500 to 65000 addresses
YZP 422 F001	Exchange parallel dongle by USB
YZP 423 F001	XL Report

Accessories

- EYZ 291 novaNet 291 novaNet-Router; see PDS 96.691
- EYZ 485 V.24/EY2400 DL converter; see PDS 96.210

1) With visualisation, scheduler and driver for EY3600 novaNet; 5 web clients; report generator; PLC functionality; OPC server and OPC client; hot-backup.

2) Alarms can be sent as SMS, e-mail or fax. Time planner for organising duty personnel.

novaPro Open Suite

novaPro Open ideally unites SCADA (supervision control and data acquisition) and the internet. With CASE Project and CASE FBD, **novaPro Open Suite** has all the programs that are needed to create a complete building automation solution.

Under Microsoft Windows NT/2000 / XP, **novaPro Open** provides the user with full SCADA/HMI functionality. In addition, all information can be viewed and edited using a standard web browser on either an intranet or the internet.

novaPro Open

Data acquisition

For communicating with devices of the automation level, there are drivers for Sauter's EY3600 and EY2400 building management systems, plus more than 100 drivers for incorporating non-Sauter systems. OPC DA 2.0 server and client functionality enable data to be exchanged with many other systems. ODBC database access and DDE functionality permit the exchange of data with superior systems or simply the saving of process data in standard databases. For each **novaPro Open** workstation, up to 32 communication drivers can be incorporated at the same time.

Depending on the bus protocol, **novaPro Open**'s communication drivers support either the event-orientated refreshing or the polling of process data. With Sauter's EY3600 and EY2400 building management systems, both polling and event controlled refreshing of process data are supported. **novaPro Open** enables polling of data points up to a resolution of 30 ms. The actual resolution depends on the type and capacity of the connected automation network.

Up to 65,000 data points can be edited using **novaPro Open**. A differentiation is made between hardware data points and soft data points. All data points captured via a communication driver (e.g. EY2400, EY3600, OPC, BACnet etc.) are hardware data points. Local data points (dummy tags) and data points that are captured by another **novaPro Open** station via the local network are soft data points. When choosing the required program licence, only the hardware data points have to be taken into account. Soft data points are included in every licence.

Example: Choosing the right licence

In a project with one EY3600 and one EY2400 automation network, e.g. two PDMs (process data managers, i.e. **novaPro Open** stations for capturing data) are used. The first station captures 2000 EY3600 data points, the second station 500 EY2400 data points. In this case, one **novaPro Open** licence for 2000 addresses is needed for station 1 (YZP 410 F101 basic package including 2000 addresses). Station 2 requires one **novaPro Open** licence for 500 addresses (YZP 410 F001 basic package including 500 addresses). Each station can access the data points of the other station via the network, without these network data points being counted when working out the required licence.

Historical data archiving

All process data captured with **novaPro Open** can be recorded and historically saved, making them available for future analysis. Process data and alarms can be recorded with a maximum time-stamp resolution of 1 ms. The data are saved in *Foxpro/dBase* format on the hard disk and can be read and edited using any standard office program, such as *Microsoft Access*. Thanks to ODBC, the current process data can also be recorded direct in an existing ODBC-capable database.

All **novaPro Open** components, trends, reports etc. access these files. The separate historical recording of alarms and process data in separate files enables the data to be more easily analysed and statistically evaluated.

If the process data are historically recorded direct on the automation level, the time stamp of the automation stations can be adopted when the data are read in. Thanks to the **RePlay** function, process values recorded in the historical database can be shown in pictures. As with a video-recorder, you turn back the time and see the status of the plant at the chosen time.

Open architecture

novaPro Open has extensive tools for exchanging data with other programs. **novaPro Open** supports the standard DDE (dynamic data exchange) functions and block DDE functions as both client and server. The SQL module is a highly flexible means of linking with the most common standard databases via the Microsoft ODBC interface. This simplifies the configuration of data exchange with other applications and databases, such as Microsoft SQL server, Sybase, Oracle, etc. By means of event-led SQL or ODBC interrogation, data can be read from existing databases, and real-time data or historical data can be written into databases (e.g. transfer of current counter readings to ERP systems).

HMI (human-machine interface)

novaPro Open has all the tools that you need to create an effective user interface and a monitoring application. The productivity in engineering is reinforced by the integrated development environment. Configuration changes can be made online, and their effects can be seen immediately.

From the **novaPro Open** Studio, you can call up all tools for generating schematics, database inquiries, diagrams, analyses, recipes, protocols etc.

Schematics

novaPro Open has a powerful drawing tool for making schematics, which allow the user an insight into the process. A schematic comprises dynamic objects, alarm objects or text. Up to 10,000 dynamic objects can be positioned in a single schematic.

Properties of dynamic objects:

- two-dimensional movement
- scaling (object changes size as a function of a process value)
- fill with pattern or colour
- rotate
- flash
- show/hide

For any object, you can choose to display the tag name used by the object, the tags'discription, ect. At runtime, simply hover the mouse over the object to see the required information.

Properties of alarm objects: Object changes status as a function of the alarm status: flash, change colour, show, hide etc.

Using the **TagMapper** function, data points from several AS groups can be visualised in a single schematic; i.e. if you wish to view several similar rooms, only one schematic has to be made. The process values of the room of your choice can be portrayed by choosing an index.

With trigger objects, you can initiate any pre-defined actions: assign a certain value to a data point, change the schematic, call up another zone of a schematic etc.

A genuine zoom function of up to 2048 steps enables the portrayal of details from an overview. Use the various levels (up to 64) of a schematic to show/hide objects in a schematic, depending on the zoom level and the user rights.

The cluster library provides numerous pre-defined graphic elements. A cluster comprises the graphic and the stored properties (dynamic transformation, alarm definition, trigger properties, assigned data points).

Event window & alarm list

novaPro Open shows alarms in a special window – the event window. Alarms can be shown in a pop-up window as they occur, before all other applications that are currently running on the computer. This keeps the user fully informed of any new event or new alarm. You can configure several event windows which differ in the chosen alarm class, family, weighting etc. Less important messages can be suppressed for certain users.

In an event window, alarms can be viewed in both online mode (only active alarms are carried out) and historical mode (historical presentation of past alarms, messages).Indication occurs throughout the network, i.e. an alarm generated on one station can be shown at the same time on all stations in the network. All event windows are saved automatically in a web-capable format and can, therefore, also be visualised and operated using a standard web browser.

Charts & trends

Up to 16 data points can be presented graphically at the same time in a chart window. You can choose between: (a) online mode, in which the current process values are presented graphically; and (b) historical mode, in which previously recorded data points are shown. The axis scale can be set individually for every data point: you can choose between a linear or a logarithmic scale. The time resolution is up to 10 milliseconds. Mutual dependency of data points can be visualised with the X/Y presentation, which allows you to view a **novaPro Open** data point as a function of another data point. All charts are saved automatically in a web-capable format and can, therefore, also be visualised and operated using a standard web browser. The trends displayed in a web browser can be exported locally as a CSV file for further analysis.

Multi-language capability

The multi-language capability of **novaPro Open** lets the data-point text, alarm text and text fields of a schematic be exported into an ASCII file. This easy-to-use file can be translated into another language and then re-imported into **novaPro Open**. A user can now choose his language during run-time.

Recipe management

Recipes are pre-defined process data which describe a status, a starting condition or, for instance, a set of setpoints. With **novaPro Open**'s recipe management, you can define recipe models and manage a collection of recipes for each model. You can use this function to (e.g.) define setpoint profiles. A setpoint profile can be made up of any parameters or setpoints. Recipe management allows the user to prepare and save any amount of parameter sets. You can load (as and when required) one of these prepared recipes and set all parameters defined therein to the chosen values.

Protocols & reports

With the integrated protocol function, the user can call up and print out reports (freely configured to his needs) either as and when required or periodically. With the aid of reports, you can display and statistically analyse historical data.

So called HTML – Templates allow the generation of powerful reports that can be either in a web browser or be stored as a file on the disc.

With the **novaReport** supporting program, which is included in the basic package of **novaPro Open**, the user can freely define reports, plan them and execute them in a large variety of formats. **novaReport** uses templates created with the aid of the *Crystal Reports™* program by *Seagate*. Using the WYSIWYG editor in *Crystal Report*, you define customised reports which can contain graphics, calculated fields, diagrams and OLE objects. *Crystal Reports* is not included with **novaPro Open**. **novaReport** brings together both historical and online data in one report. Reports can be issued in numerous formats, including Windows printers, screen, Microsoft Word® file format, Microsoft Excel file format, HTML for viewing in a standard web browser, or as an e-mail. The time-planning program of **novaReport** enables the user to start and stop the recording of data or to execute (time-controlled) a protocol at a particular time of day or at intervals.

Generate professional Excel-based reports with help of option XL-Reports. The reports can be event triggered or executed timecontrolled. The reports generated can be printed or viewed and saved as PDF or HTML-File.

Network capability

The scalability of **novaPro Open** enables the continuous expansion of a stand-alone operator station (OS) into a system-wide network. The network capability automatically detects all outlying **novaPro Open** stations in a network with TCP/IP or NetBios. Thanks to the concept of distributed databases, each **novaPro Open** station works both as a data server and as a client to other **novaPro Open** stations in the network. Authorised users can access all data points and alarms from an outlying network operating station. For example: an alarm generated on an **novaPro Open** station can be confirmed by any other station without any extra effort.

Data exchange between the various **novaPro Open** modules (local or throughout a network) is event-orientated. In so doing, the server sends only new or amended data to the clients that need these data. Event-controlled communication permits high system performance when the loading of the processor and the bandwidth is low.

Occupied ports in a TCP/IP network:-

3025 UDP	broadcast receiver
3024 TCP	listen port for station connection
3026 TCP	listen port for broadcasting to/from another subnet
3028 TCP	internet server
3029	Network Application update

Web technology

novaPro Open can be linked with any standard web server in order to publish the plant information in an intranet or on the internet. This makes it easy for **novaPro Open** to be integrated into an existing intranet infrastructure, or for it to use the standard Windows web server for stand-alone applications. This is achieved by the use of Java Applets, which are responsible for the presentation of the database created by **novaPro Open** and the editing of the online data. Schematics, diagrams (trends), event windows (alarm lists) are automatically saved in Java while the system is being configured, and can be edited with the aid of a standard web browser (e.g. Microsoft Internet Explorer 5.5).

The basic packages of **novaPro Open** support up to 5 simultaneous web clients, i.e. outlying operating stations with standard web browser.

Occupied ports:-

80	http: browser inquiry; transmission of HTML page
3028	data link from the web server to the Java Applet on the client machine (configurable)

In extensive networks and in connection with the internet, the installation of a firewall is recommended. Components (hardware and software) needed for this are not supplied with **novaPro Open**. Because it is possible to enter operating and input commands via 'soft' keyboard (virtual keyboard), **novaPro Open** is particularly suitable for use on PCs with touch-screen but no keyboard.

Reporting system

The reporting system of **novaPro Open** enables the user to differentiate between up to 16 alarm classes and alarm priorities between 1 and 50,000. Alarms can be received and processed by all **novaPro Open** stations in the network. Apart from self-defined alarms, there are system-specific alarms, such as 'Hard disk full', 'Communication error', 'False gate values', 'Printer not ready' etc. Alarms are reported and saved with a time-stamp resolution of up to 1 ms.

As standard, **novaPro Open** permits the following media for issuing alarms: event window, pop-up, alarm object, network-wide message, historical file, ASCII file and alarm printer.

Any number of printers installed under Windows can be used as alarm and/or report printers. Alarms can – on the basis of their properties – be automatically forwarded to associated printers. In so doing, it is possible to colour them differently with regard to priority and weighting.

Using the Advanced Alarm Module (YZP 418 F001), which is available as an option, alarms can be sent as a fax, an e-mail, an SMS or a pager signal. The integrated time planner enables the user to organise duty personnel groups who are called out when an alarm occurs.

The 'TTS' (text to speech) option (YZP 418 F101) enables voice mail to be sent to any telephone.

User management & system security

The security and access control of **novaPro Open** is effected by issuing rights to users and groups. Authentication is on the basis of user name and password. **novaPro Open** manages an unlimited number of users and groups. By assigning users to groups, you are issuing rights (authorisation) concerning the configuration and operation of the systems. All menu items in **novaPro Open** can be enabled or disabled, depending on the user or group. By installing the system security, you can enable or disable access to system functions – such as Alt-Tab, Ctrl-Alt-Delete, Alt-Esc etc. – for the **novaPro Open** users/groups. In summary, a **novaPro Open** workstation can be matched exactly to the requirements of its users.

Requirements according to FDA21 CFR11 can be fulfilled thanks to the functionalities such as "strong password Management" and password aging and the shift management that can be configured through a graphical interface.

Hot back-up

In order to provide the best possible system availability, **novaPro Open** has hot-back-up functionality as standard. Two PCs with **novaPro Open** and the same data access the same automation nets. One **novaPro Open** works in master mode and the other stays in stand-by mode. If the master fails, the **novaPro Open** station that was on stand-by assumes all functionality automatically, including network communication. As soon as the master becomes available again, its data are automatically updated and it again assumes the server function in the network. **novaPro Open** enables the integration of a local user database based on Microsoft Access, and also provides access to a Microsoft SQL-based central database for managing the users and their rights.

Native BACnet Driver (option YZP 416 F311)

The integrated BACnet connectivity comes with a powerful configuration console that gives the following options:

- Browse all connected devices, the data objects within and their properties.
- Time synchronisation. Align date and time on all devices and the local PC.
- Convert BACnet alarms into **novaPro Open** alarms.
- Define mapping rules that determine how **novaPro Open** will handle alarms coming from BACnet devices.
- Convert historical data from BACnet „Trend log“objects into novaProOpen historical data
- Configure BACnet networks. Define witch network will be monitored. Do this manually or through the use of a **novaPro Open** digital tag.
- The VPIWNBCN driver and all its BACnet functionalities are based on BACstack 4 protocols. It al lows to communicate with distributed control systems across BACnet networks.
- Thanks to the number based addressing mode, the user gets access to any abstract BACnet object.
- The name based addressing mode allows an easy understandable access to the BACnet objects.

Audit Trail

User interactions, such as tag assignment, execution of macros, Login, Logout, tag lock, timesynchronisation are logged in a database with full user name. Thanks to web enable reports the Audit Trail can be viewed systemwide.

novaPLC – CoDeSys V 2.3

novaPLC is an open, standardised soft-PLC solution for Windows. **novaPLC** meets the IEC 61131-3 standard and supports the following six programming languages: Instruction List, Structured Text, Function Block Diagram, Ladder Diagram, Sequential Function Chart, Continuous Flow Chart. **novaPro Open** and **novaPLC** access the same databases so, using **novaPLC**, you have the possibility of effecting calculations, logical functions, control algorithms etc. with **novaPro Open** data points. **novaPLC** provides you with all the tools that you need for creating a powerful, PC-based control system. These tools include Trace, Debug, Simulation etc. The debugging functions facilitate troubleshooting. You can set break points in your program and analyse the status of all variables, data points at the time of the interruption. In simulation mode, you can run the program without reading process-data inputs and writing process-data outputs. All online functions can be used to the full in this mode. This enables you to carry out almost a complete test of the programmed application without the associated hardware. Thanks to **novaPLC**, the serviceable life of the existing investments (e.g. Sauter EY2400) can be increased and, together with upgrades, be integrated with the EY3600 system and BACnet into the management level. All applications created with **novaPLC** are networkable and can be operated by other **novaPro Open** stations throughout the network. The integrated function library includes mathematical, string, counter and timer functions, plus numerous control and system functions.

novaScheduler

novaScheduler is a **novaPro Open** module that enables you to plan and carry out operations in accordance with a time programme. The calendar-like user interface provides an intuitive and fast method of planning on-off or recurring operations over the course of a year. **novaScheduler** has full web capability, i.e. the program can be both configured and operated using a standard web browser.

Operations supported by **novaScheduler**:-

- Value assignment to data points; execution of switching operations
- Running **novaPro Open** macros
- Hard-disk operations (creating and deleting folders and files; moving and copying files etc.)
- System operations (starting a non-Sauter program, e.g. back-up programs etc.)

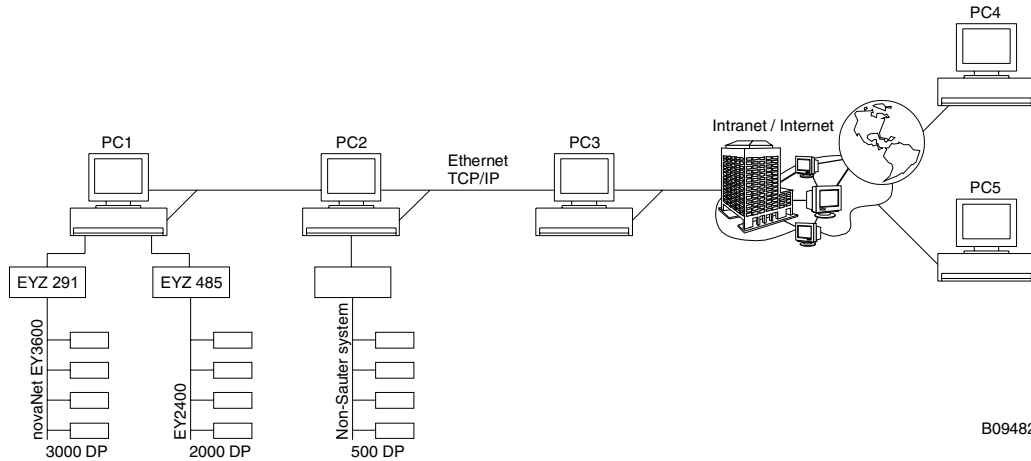
novaScheduler for BACnet

As a complement to the novaScheduler functionalities, such as configuration and execution of PC based time programs, novaScheduler for BACnet lets you create, delete and configure BACnet Schedule and Calendar objects on connected BACnet devices. BACnet and PC based time programs can be configured through a uniform control interface with help of a standard Web-browser.

PC requirements

Processor:	Intel Pentium III 800 MHz (recommended 1 GHz and up)
Note:	novaPro Open 2.x supports multi-processor or architectures and chip-sets using „hyper-threading“ technology
Working memory:	512 MB RAM
Hard disk:	at least 1.8 GB (9 GB recommended, depending on size of system)
CD reader:	for the installation
Ports:	1 mouse 2 serial RS-232 1 network connection 1 USB port for dongle
Operating system:	Microsoft Windows NT 4 SR 6a, Microsoft Windows 2000 SP 4, Microsoft Windows XP Professional SP 1; SP 2, Windows 2003 Server
Web browser:	Microsoft Internet Explorer 6.0 and Virtual Machine (Java)
Java enabled browser:	SUN JAVA plug-in version 1.4 (or higher)
Web server:	Microsoft IIS (Internet Information Server)
Graphics card:	at least 32 MB RAM

Ordering



B09482

PC 1: Process Data Manager (PDM) with link to a **novaNet** EY3600 and an EY2400 data line

PC 2: Process Data Manager (PDM) with link to a non-Sauter system (e.g. LON)

PC 3: Operating station (OS), alarm centre

PC 4 & PC 5: Web operating stations

Licences required

	Function	YZP 410 F001 Basic package: 500 addresses	YZP 410 F101 Basic package: 2000 addresses	YZP 410 F201 Basic package: 5000 addresses	YZP 410 F301 Basic package: 65000 addresses	YZP 416 F101 EY2400 driver	YZP 418 F001 Advanced alarm module	Remarks
PC 1	PDM			x		x		
PC 2	PDM	x						Driver for non-Sauter system on request
PC 3	OS	x					x	Network operating station with central alarm management
PC 4	Web							Only a Java-capable browser (e.g. Internet Explorer 6.0). A web server, e.g. IIS 5.0, must be installed on one of the network stations (PC1 to PC3). Devices and software needed for connecting to the internet, such as a fire-wall or a proxy server etc., are not included here.
PC 5	Web							