

The EY3600 from Sauter.

**Intelligence for building management
that will cope with the future.**



Integral planning with assistance from Sauter will help you to complete buildings more quickly, keeping costs down and ensuring that the building will be more economical to run. In the interests of energy efficiency and comfort in the building, it is important to integrate the building management technology specialists into the project team right from the first phases of planning. This approach will produce intelligent solutions that can cope with the future too.

From the very outset, Sauter and the EY3600 building management system will guarantee you unrestricted vertical and horizontal integra-

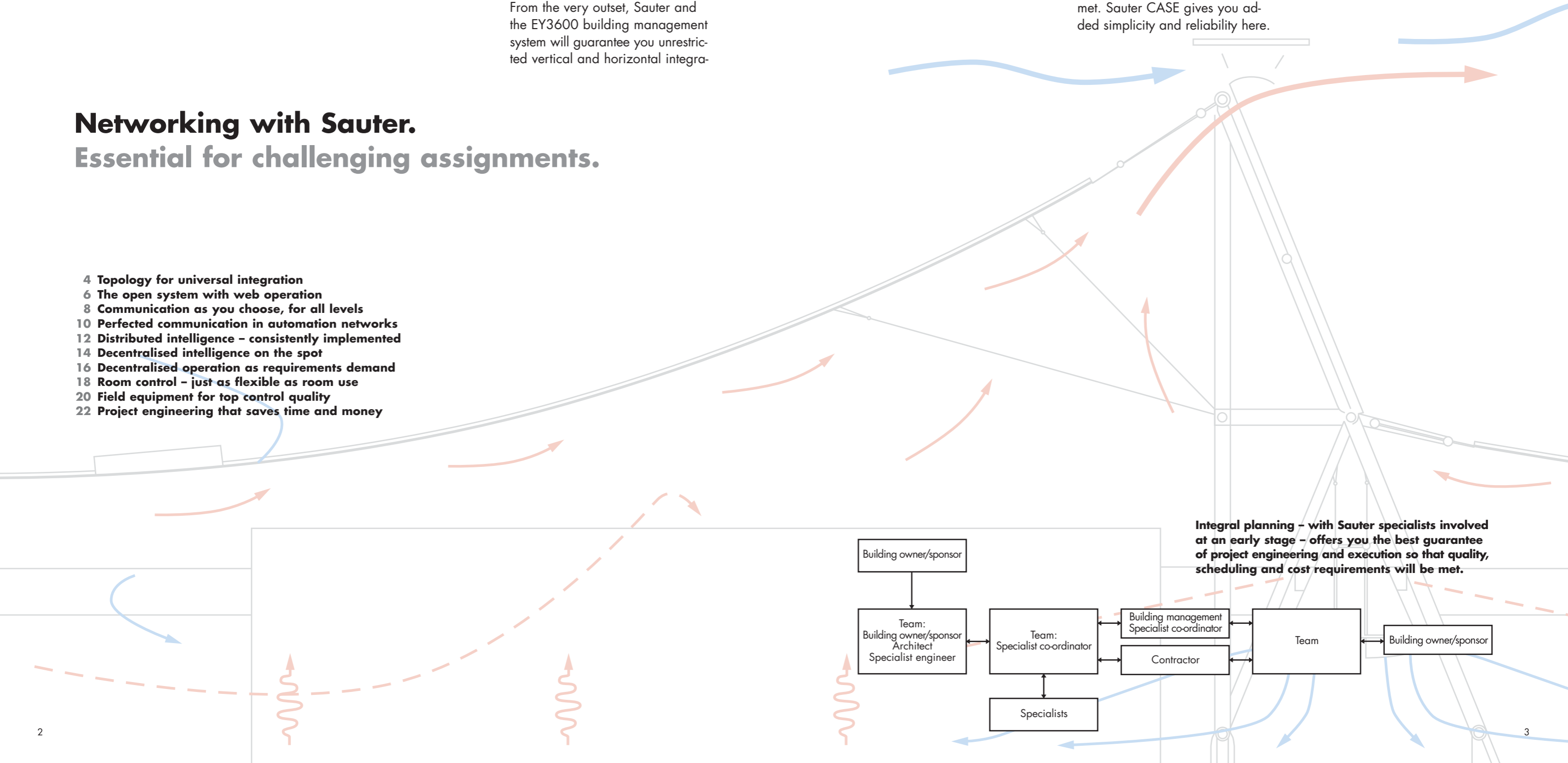
tion. You are free to choose the network communication so that complex tasks become easily manageable. Local intelligence and decentralised operation ensure maximum flexibility for adaptation to the operator's individual requirements. Another benefit that should not be underestimated: the quality-critical components (including the field equipment) originate from our own production, so the devices are perfectly co-ordinated with each other.

What is more, we support planners with our CASE project engineering software (CASE = Computer-Aided Sauter Engineering). The result: a building management system can be implemented and documented in the shortest possible time, with no errors.

Integral planning – with Sauter specialists involved at an early stage – offers you the best guarantee of project engineering and execution so that quality, scheduling and cost requirements will be met. Sauter CASE gives you added simplicity and reliability here.

Networking with Sauter. Essential for challenging assignments.

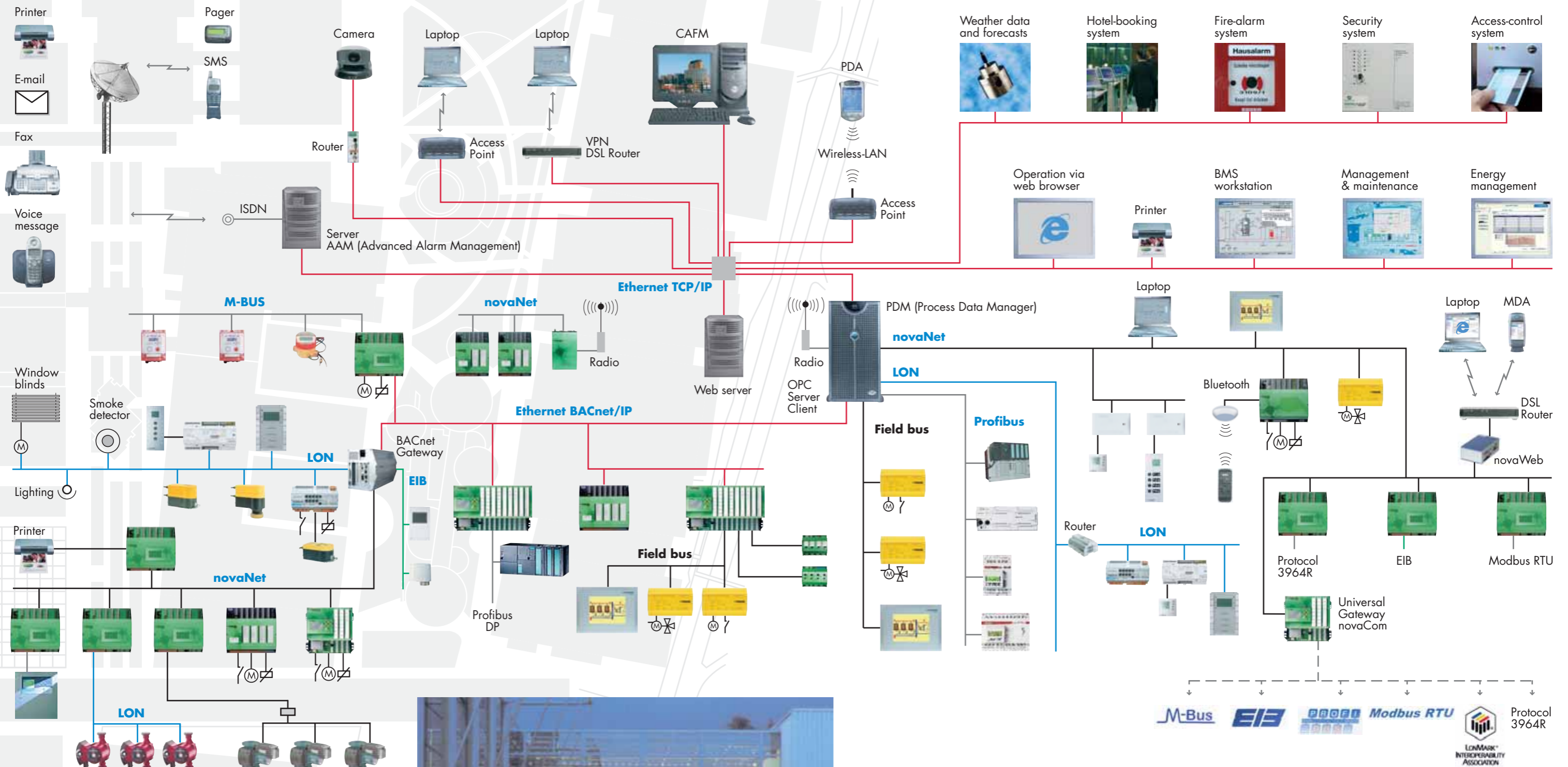
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- 22 **Project engineering that saves time and money**



Integral planning – with Sauter specialists involved at an early stage – offers you the best guarantee of project engineering and execution so that quality, scheduling and cost requirements will be met.

The world of EY3600.

Topology for universal integration.



The EY3600 building management system is fully scalable, making it an intelligent basis for integrated networks. When equipped with the novaPro Open software, the EY3600 links the vertical integra-

tion of the field, automation and management levels with the horizontal integration of various systems. This approach opens up limitless possibilities for expanding systems and connecting to

the web. Scalability means that you can start out small with EY3600 novaPro Open, and then expand the system to any size you want.

EY3600 novaPro Open is a universal SCADA software package (Supervision Control and Data Acquisition). It allows different types of equipment and systems to be integrated in one interface, offering the key functionality for building automation that will cope with the future:-

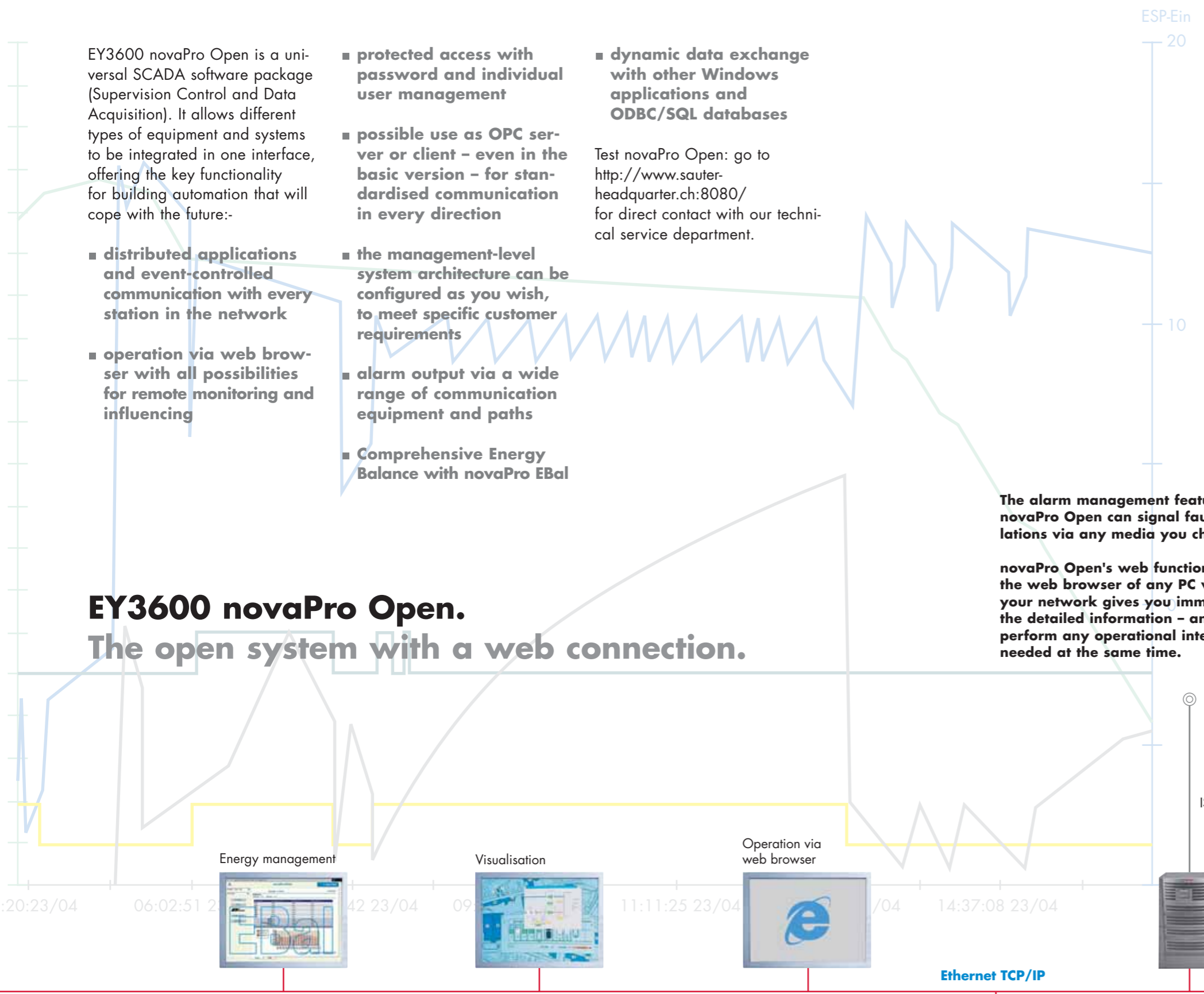
- distributed applications and event-controlled communication with every station in the network
- operation via web browser with all possibilities for remote monitoring and influencing

- protected access with password and individual user management
- possible use as OPC server or client - even in the basic version - for standardised communication in every direction
- the management-level system architecture can be configured as you wish, to meet specific customer requirements
- alarm output via a wide range of communication equipment and paths
- Comprehensive Energy Balance with novaPro EBal

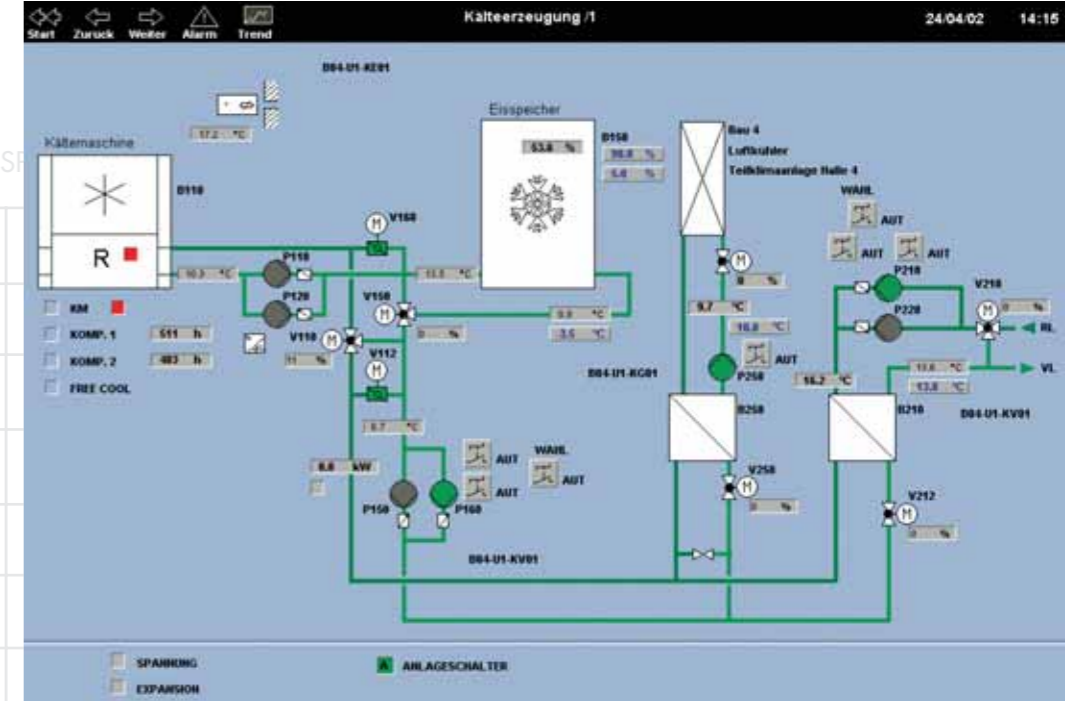
- dynamic data exchange with other Windows applications and ODBC/SQL databases

Test novaPro Open: go to <http://www.sauter-headquarter.ch:8080/> for direct contact with our technical service department.

EY3600 novaPro Open. The open system with a web connection.

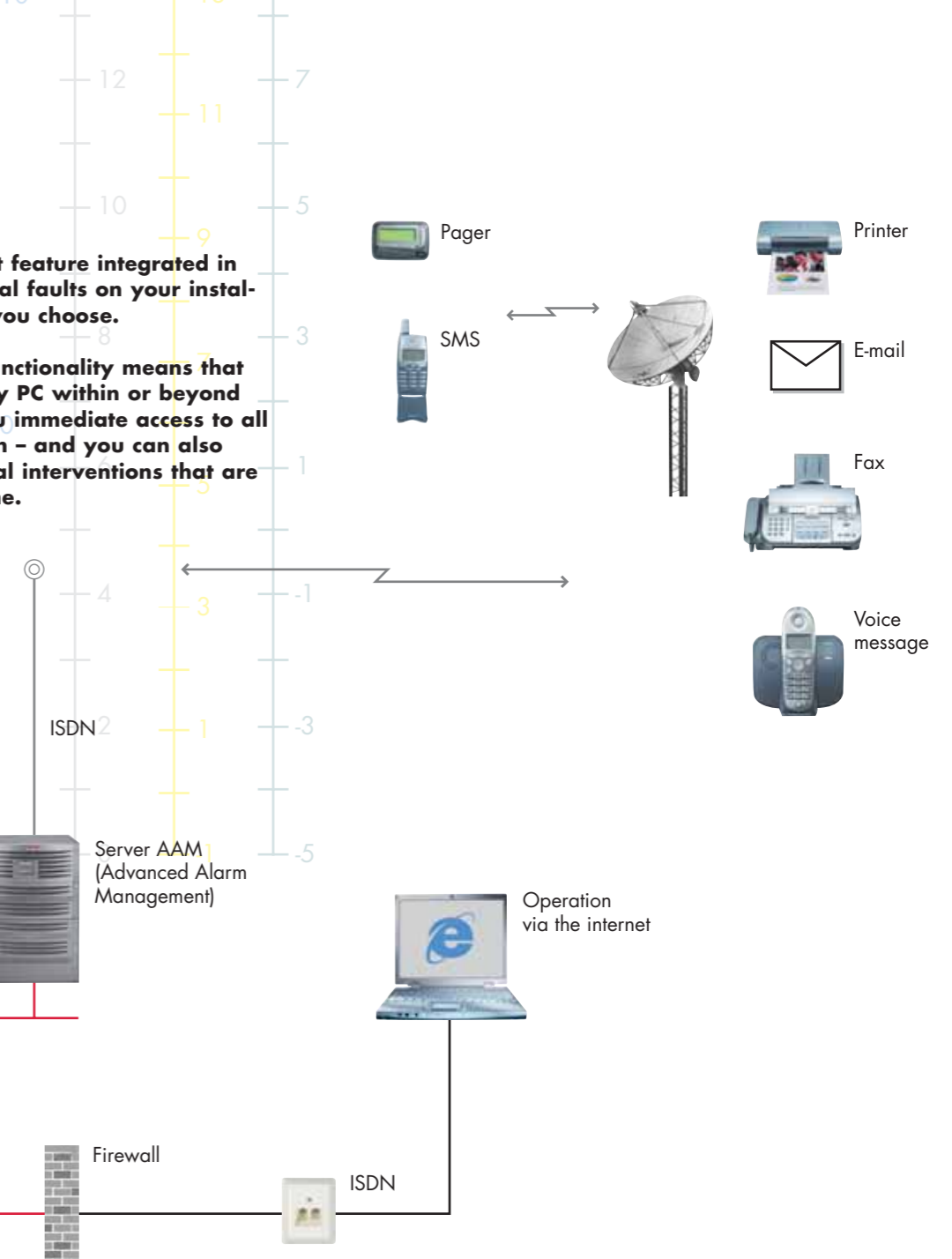


novaPro EBal's efficient monitoring and control of the relevant energy and utility consumption provides you with the lowest possible building operating cost.



The alarm management feature integrated in novaPro Open can signal faults on your installations via any media you choose.

novaPro Open's web functionality means that the web browser of any PC within or beyond your network gives you immediate access to all the detailed information - and you can also perform any operational interventions that are needed at the same time.



BACnet/IP on Ethernet, and LONWORKS®. Communication as you choose, for all levels.

The BACnet standard has become established for communication between automation stations and with the management level via Ethernet. BACnet was devised by ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers), and nowadays it is the first global standard for communication in building management systems (ISO 16484-5).

Sauter's BACnet automation stations can be expanded to a capacity of 1000 BACnet objects thanks to decentralised modules with intrinsic intelligence.

They also provide:-

- event-oriented communication for changes to measured values and statuses
- BACnet server and BACnet client functionality
- support for all commonly used BACnet objects including time programs and calendar objects

30%

All comfort control functions are integrated in one single EY3600 ecolon LON node to cut costs.

LON



50%

60%

70%

80%

- selection of installation variants via the user panel or via LON

- all comfort control functions in one single LON node to cut costs

- simple parameterisation with graphic interface via LNS-compatible plug-in

LONWORKS®, developed by Echelon and standardised in ENV 13154, is the communication protocol for the field level and room automation. It allows integration of lighting, window-blind and air-conditioning control equipment in individual rooms, and communication with the novaPro Open management level.

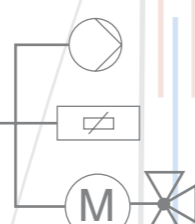
The Sauter EY3600 ecolon individual-room controllers, certified to LONMARK profile #8020, offer every benefit you could wish for:-

- problem-free connection with other certified LON devices

- complete know-how in the controller, with no service needed

Sauter's BACnet automation stations can be expanded to a capacity of 1000 BACnet objects thanks to decentralised modules with intrinsic intelligence.

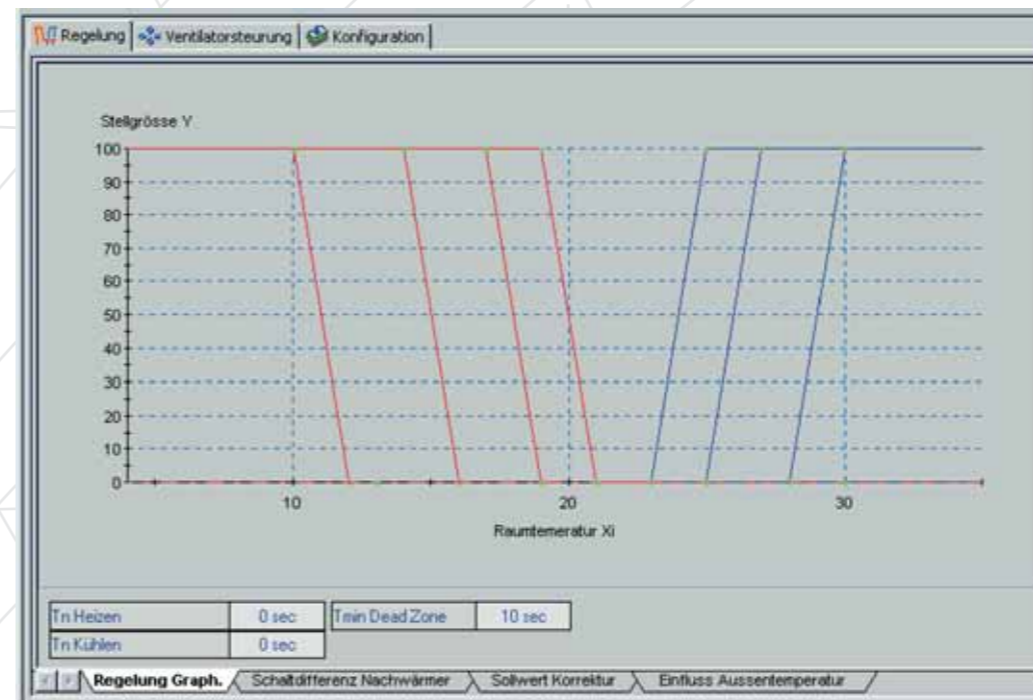
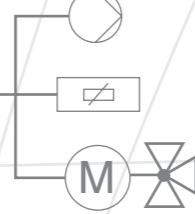
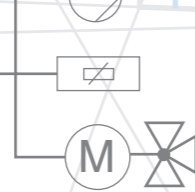
BACnet



25

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The EY3600 ecolon individual-room controller is simple to parameterise via an LNS-compatible plug-in with a graphic interface.

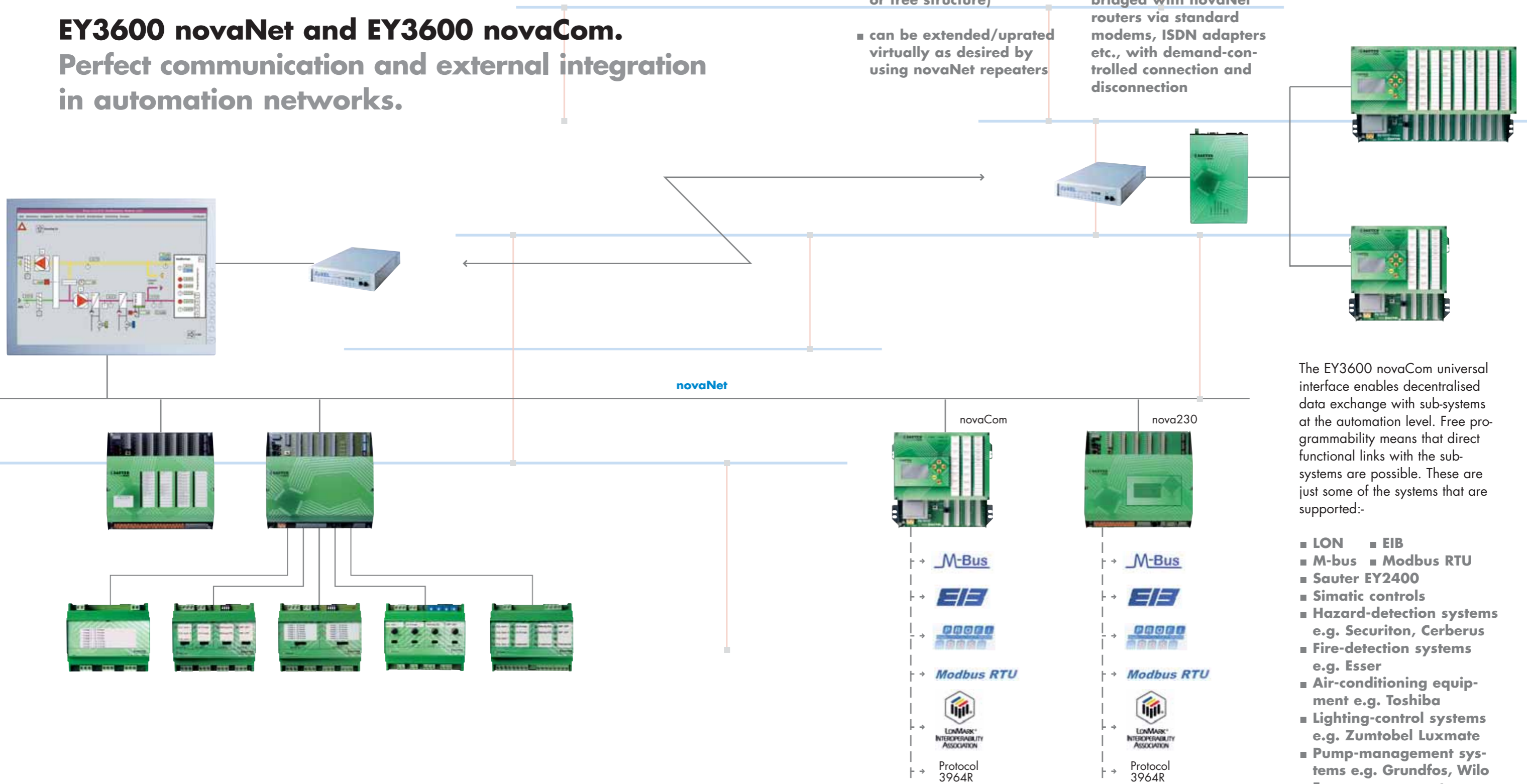
We have developed EY3600 novaNet specifically with building automation in mind. Its structure complies with the internationally standardised OSI layer model. Communication participants may include automation stations, indi-

vidual-room controllers or PCs. The highly efficient novaNet protocol allows simple, low-cost architecture even for large networks. EY3600 novaNet offers these special features:-

- real peer-to-peer/multi-peer cross-communication
- event-orientated data transmission
- short reaction times
- free topology (line, ring, or tree structure)
- can be extended/uprated virtually as desired by using novaNet repeaters
- up to 28,672 automation stations and 256 PCs can be addressed in one network
- several novaNet networks can be coupled together
- any distances can be bridged with novaNet routers via standard modems, ISDN adapters etc., with demand-controlled connection and disconnection
- Standardised driver interface with the novaNet OPC server for any SCADA software.



EY3600 novaNet and EY3600 novaCom. Perfect communication and external integration in automation networks.



The EY3600 novaCom universal interface enables decentralised data exchange with sub-systems at the automation level. Free programmability means that direct functional links with the sub-systems are possible. These are just some of the systems that are supported:-

- LON
- EIB
- M-bus
- Modbus RTU
- Sauter EY2400
- Simatic controls
- Hazard-detection systems e.g. Securiton, Cerberus
- Fire-detection systems e.g. Esser
- Air-conditioning equipment e.g. Toshiba
- Lighting-control systems e.g. Zumtobel Luxmate
- Pump-management systems e.g. Grundfos, Wilo
- Frequency converter e.g. Danfoss VLT

EY3600 automation stations. Distributed intelligence – consistently implemented.

EY3600 nova automation stations consistently put the concept of distributed intelligence into practice. The stations are freely-programmable, allowing decentralised, autonomous function for individual control. Alongside extensive regulation, control and logic functions, the automation stations also feature a time and calendar function and a local historical database. Information affecting several areas is exchanged independently in cross-traffic – for example, energy management for peak load limitation is fully integrated into the system.

The integrated lightning protection and the sturdy design guarantee high noise immunity and reliable operation. The same high-performance microprocessor is used in all the stations. Communication is handled via BACnet or novaNet.

The user-friendly CASE FBD Editor enables graphic programming of the stations using firmware modules that store Sauter's installation know-how. This cuts assignment-specific adjustments down to selecting and connecting suitable modules. Users can make program changes independently with no need for extensive previous knowledge.

NEB-Selection

Specifications	nova210	nova215	nova220	nova225	nova230	nova106 (EYU108)	nova106 (EYU109)
Dimensions (W x H x D in mm)	191 x 266 x 78	191 x 266 x 78	280 x 266 x 78	280 x 266 x 78	280 x 266 x 78	267 x 299 x 180	267 x 482 x 180
LED signalling	yes	yes (novaLink)	yes	yes (novaLink)	–	yes	yes
Labelling possible	yes	yes (novaLink)	yes	yes (novaLink)	–	yes	yes
Power supply	230 V~/24 V~, 50/60 Hz	230 V~/24 V~, 50/60 Hz	230 V~/24 V~, 50/60 Hz	230 V~/24 V~, 50/60 Hz	230 V~/24 V~, 50/60 Hz	230 V~, 50/60 Hz	230 V~, 50/60 Hz
Emergency power	12 V_ (external)	12 V_ (external)	12 V_ (external)	12 V_ (external)	12 V_ (external)	Pb storage battery 12 V/6 Ah	Pb storage battery 12 V/6 Ah
Digital input	16	32 (novaLink)	32	64 (novaLink)	16	Range of cards or novaLink	Range of cards or novaLink
Meter input	2	2	2	2	2	Range of cards or novaLink	Range of cards or novaLink
Analogue input	Ni/Pt1000 4 x U/I/R	Ni/Pt1000 4 x U/I/R	Ni/Pt1000 6 x U/I/R	Ni/Pt1000 8 x U/I/R	Ni/Pt1000 4 x U/I/R	Range of cards or novaLink	Range of cards or novaLink
Digital output	1 x 0-I / 3 x 0-II	12 x 0-I / 6 x 0-II (novaLink)	4 x 0-I/4 x 0-II	16x0-I/16xII (novaLink)	1 x 0-I/3 x 0-II	Range of cards or novaLink	Range of cards or novaLink
Switching power	250 V~/2 A	250 V~/2 A	250 V~/2 A	250 V~/2 A	250 V~/2 A	42 V~/2 A (novaLink 250 V~/2 A)	42 V~/2 A (novaLink 250 V~/2 A)
Analogue output	3 x 0...10 V (1 x 0...20 mA)	4 x 0...10 V (novaLink) (2 x 0...20 mA)	6 x 0...10 V (2 x 0...20 mA)	12 x 0...10 V (novaLink) (6 x 0...20 mA)	3 x 0...10 V (1 x 0...20 mA)	Range of cards or novaLink	Range of cards or novaLink
novaLink field modules	–	yes	–	yes	–	yes	yes
novaFlex I/O modules	yes	yes	yes	yes	yes	yes	yes
Printer interface	–	–	–	–	yes	–	–
Local operation	yes	yes	yes	yes	yes	yes	yes
Certification	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE	CE

Correction

Controller

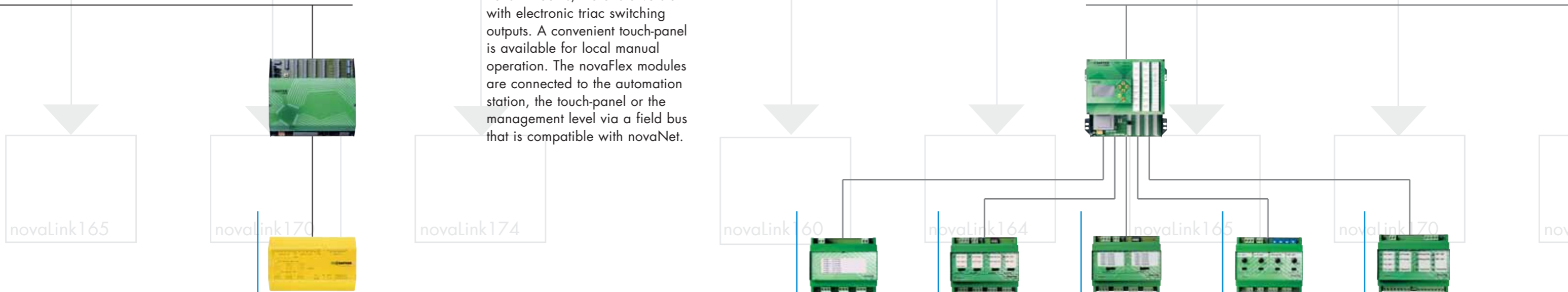
The EY3600 I/O modules.

Decentralised intelligence and manual/emergency operation on the spot.

In the same way as the automation stations, the supplementary novaFlex modules with independent intelligence can also be freely programmed using the CASE FBD Editor. This makes intelligence available on a decentralised basis, close to the process. The modules are installed in the cabinet or directly in the operating plant. For noise-sensitive applications in rooms, there is a version with electronic triac switching outputs. A convenient touch-panel is available for local manual operation. The novaFlex modules are connected to the automation station, the touch-panel or the management level via a field bus that is compatible with novaNet.

Selected automation stations allow the activation of field modules which function as 'intelligent terminals', substantially cutting the cost of installation. With the added manual operating function, they are inserted in the cabinets or directly in the operating plant.

The modules can be run independently of the automation station, so they meet the requirements for an emergency operating level. The connection between the automation stations and the field modules uses a twisted two-wire line which can cover a distance of up to 100 m.



Specifications	novaFlex
Function	To record and output digital and analogue signals. Direct local control and regulation.
Dimensions (W x H x D in mm)	235 x 147.5 x 64.5
Total number of inputs:-	18
■ Analogue inputs Ni/Pt1000	Max. 5
■ Analogue inputs 0...10 V/Pot	Max. 5
■ Digital inputs	Max. 18
Total number of outputs:-	10
■ Analogue outputs 0...10 V/0...20 mA	4
■ Digital outputs	6
■ Switching power	Relay: 250 V~/2 A; Triac: 24 V~/1 A
Display	optionally with touch panel, EYT 250
Manual operation	optionally with touch panel, EYT 250
Number of modules on same field bus	128
Local operation	yes
Certification	CE, UL, CSA

Specifications	novaLink160	novaLink164	novaLink165	novaLink170	novaLink174
Functions	to output switching stages (codable)	to output switching commands 0 - I	to output regulating commands 0 - I - II	to record digital signals	Detects digital inputs
Dimensions (W x H x D in mm)	105 x 90 x 54	105 x 90 x 54	105 x 90 x 54	105 x 90 x 54	105 x 90 x 54
Number of inputs/outputs	7	4	2	4 x 0...10 V 2 x 0...10 V/2 x 0...20 mA	16
Switching power/output signal	250 V~, 2 A	250 V~, 2 A	250 V~, 2 A	0...10 V/0...20 mA	-
Manual operation	no	yes	yes	yes	-
Emergency operation	no	yes	yes	yes	-
LED/display	no	yes (green)	yes (green)	potentiometer setting	yes (red/green)
Labelling possible	yes	yes	yes	yes	yes
Priority switching/watchdog	no	yes	yes	yes	-
Connection to nova106	yes	yes	yes	yes	yes
Connection to nova215/225	no	yes	yes	yes	yes
Distance AS-field module	25 m (2 nF/3 Ω)	100 m (5 nF/3 Ω)	100 m (5 nF/3 Ω)	100 m (5 nF/3 Ω)	100 m (5 nF/3 Ω)
Certification	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

Building management based on EY3600 allows you to monitor and change process values and statuses at any point in the automation network. A varied range of possibilities for decentralised operation is available to match the configuration and requirements of the installation.

The EY3600 nova240 control panel, directly connected to an automation station, offers the information and the possibilities for intervention that you want on the spot.

The EY3600 nova250 touch panel makes all the information available at any point in the automation network, in table form or with complete graphics in colour.

Equally, one or more PCs with the novaPro32 system operating software can be connected at any point in the novaNet. The user interface meets all the needs for modern visualisation:-

- dynamic address list
- individual password protection, finely graduated
- fast access to static data such as firmware module parameters
- integrated system browser for ultra-simple navigation
- placed directly onto the CASE project data with minimal service outlay
- plant diagrams in bitmap or vector format
- alarm output via a variety of communication devices
- pre-configured protocols
- central management of decentralised time profiles and calendars
- convenient presentation of HDB and trend data

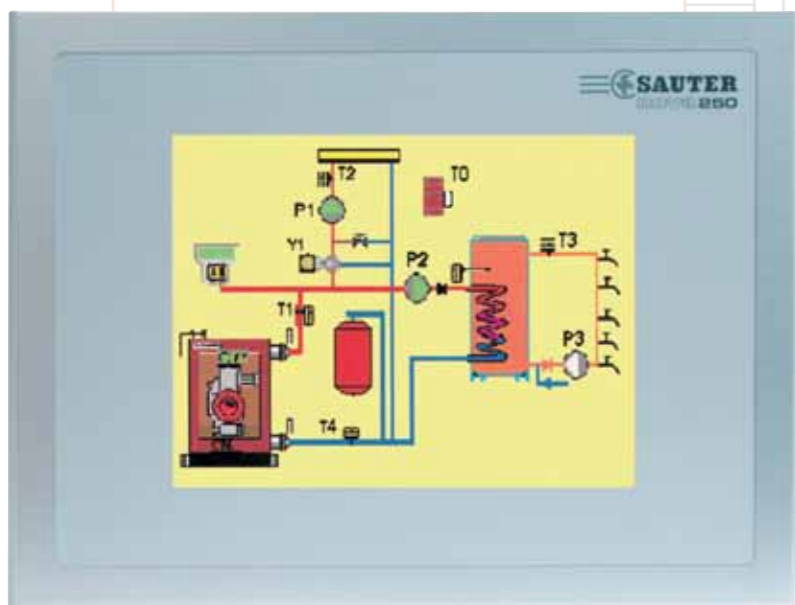
From every PC, the data in the novaPro Open web server can be accessed via a standard web browser without the need for special software. This allows operating actions, remote monitoring and remote maintenance via LAN, WAN, the intranet or the internet. Depending on the desired operating philosophy for room-temperature setpoints, shade and lighting, the web browser can even replace conventional room-control units.

To guarantee maximum flexibility for building operators, the various techniques for decentralised operation can be combined in any desired way.

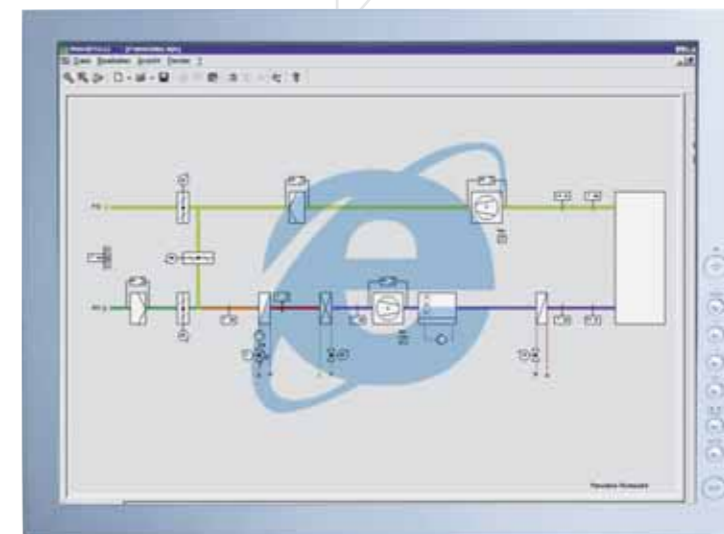
Control panel, touch-panel, PC operating software or web browser. Decentralised operation as requirements demand.



Control panel, EY3600 nova240



Touch-panel EY3600 nova250



PC, tablet PC or handheld

Relative room humidity
in %
100

The EY3600 ecos individual-room controller.

Room control – just as flexible as room use.



Virtual operating unit



80



Several variants of the EY3600 ecos freely-programmable individual-room controller are available, with suitably graduated quantities of inputs and outputs. Maximum flexibility is their key feature.

The EY3600 ecos freely-programmable individual-room controllers are used for individually optimised room control. They are bus-compatible with the automation stations, so they are fully integrated into the complete system. The functionality of these controllers can be adapted to meet individual customer requirements – including the closely associated control tasks for lighting and blinds.

Standard modules are available in the user software to handle complex energy-optimisation functions with adaptive algorithms. Thanks to the intelligent group functionality, changes in room usage (e.g. if partition walls are removed) can be portrayed in the user software simply by clicking with the mouse. Room-control units and window contacts etc. are automatically given the correct assignment.

For installations with individual room devices such as fan-coil units, radiators, heat pumps or chilled beams etc., the ecos201 and ecos202 individual-room controllers are used.

The static differential-pressure sensor is already integrated into the ecos205 and ecos206 variants for individual VAV control.

EYB room-control units are available for operation, containing the room-temperature sensor and offering these features depending on requirements:-

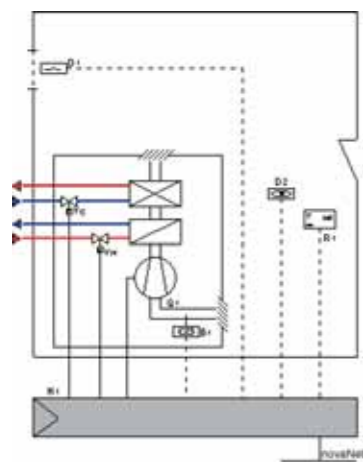
- setpoint adjustment
- occupancy button
- fan-coil unit button
- blind button
- lighting button
- LCD display

The room-control units are always connected via the same three-wire interface, regardless of the type.

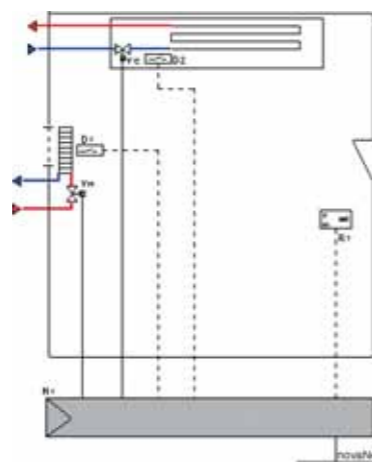
pleasant

50

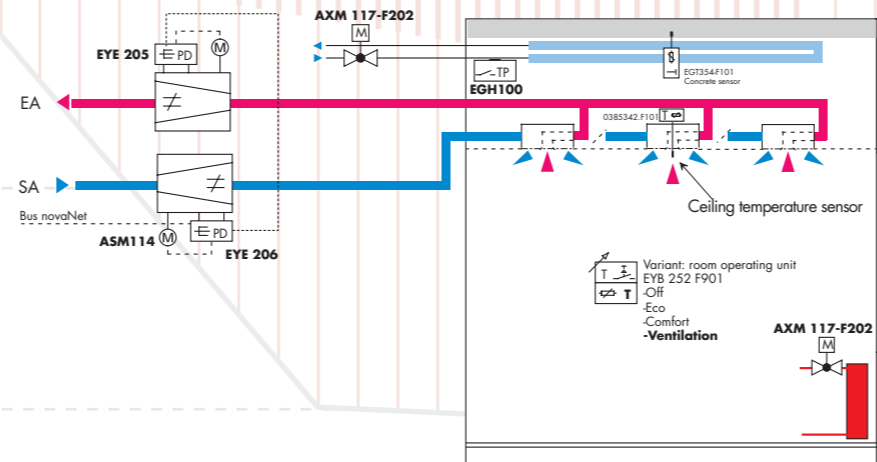
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Application example:
fan-coil unit



Application example:
re-heater/chilled beams



Application example:
VAV/radiator/chilled beams



EYB room-control units

10



Field equipment from Sauter. The technology standard for maximum reliability and control quality.

Any building management system is only as good as its components, be they sensors (such as the outdoor types), actuators, such as the SUT drives, or room-control units with integrated sensors, such as EYB – all from Sauter's own production. Component development and production are two of Sauter's acknowledged core strengths.

Both the automation stations and the field equipment are key factors that determine the functioning quality of building automation – which is why we continue to manufacture these items independently ourselves.

The range is completed by temperature monitors and safety temperature limiters (including intrinsically-safe models) as well as pressure monitors for various pressure ranges and any requirements.

A varied range of humidity transmitters measures relative and absolute humidity as well as enthalpy. There are also monitoring devices such as dew-point monitors to protect against condensation.

Nickel and platinum temperature sensors (as per DIN IEC) are available in a very wide range of designs.

CO₂ transducers and air-quality transducers record the quality of room air, allowing the ventilation to be controlled according to requirements with minimum use of energy.

Valve and damper drives with Sauter Universal Technology (SUT) featuring built-in intelligence can automatically recognise the function that is required, with top operating standards.

Valves and drives for every type of function, and in every size, have been (world-renowned) specialities of ours for decades.

Interior fittings

Planning and implementing a complex building management system calls for concentrated deployment of resources. Here too, time is money. This is why we have developed CASE (Computer-Aided Sauter Engineering) – a project-engineering software package with a database.

CASE includes all the tools needed for engineering and documenting a building management

system. CASE is a 32-bit Windows-based application comprising the project-processing program (CASE Prj) and the 'Function Block Diagram Editor' (CASE FBD) with a constantly expanding library of modules. CASE can be started from an existing system environment or from the system operating software.

A project database stores all the relevant data for a project. This means that the installation is documented for its entire lifetime,

Building contractor

CASE project engineering software. Save time and money – from planning through to perfect project documentation.

Structural engineer

Performance specifications



DB

in a way that is easy to use – an advantage when it comes to maintenance or extensions, benefiting the users of the installation as well as the engineers who plan it.

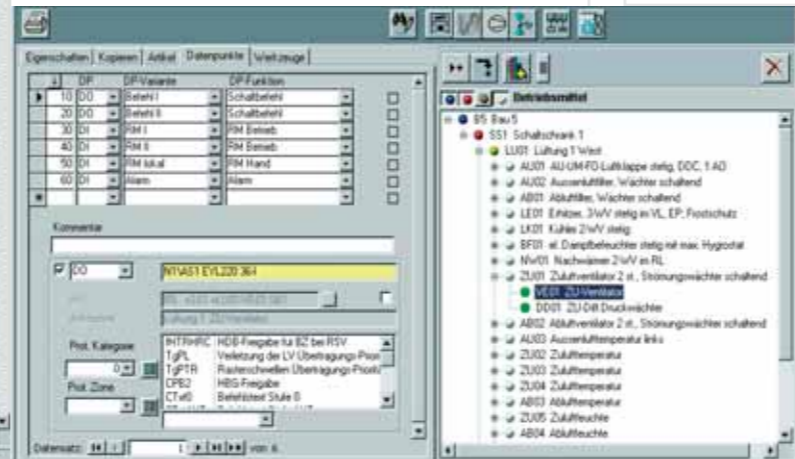
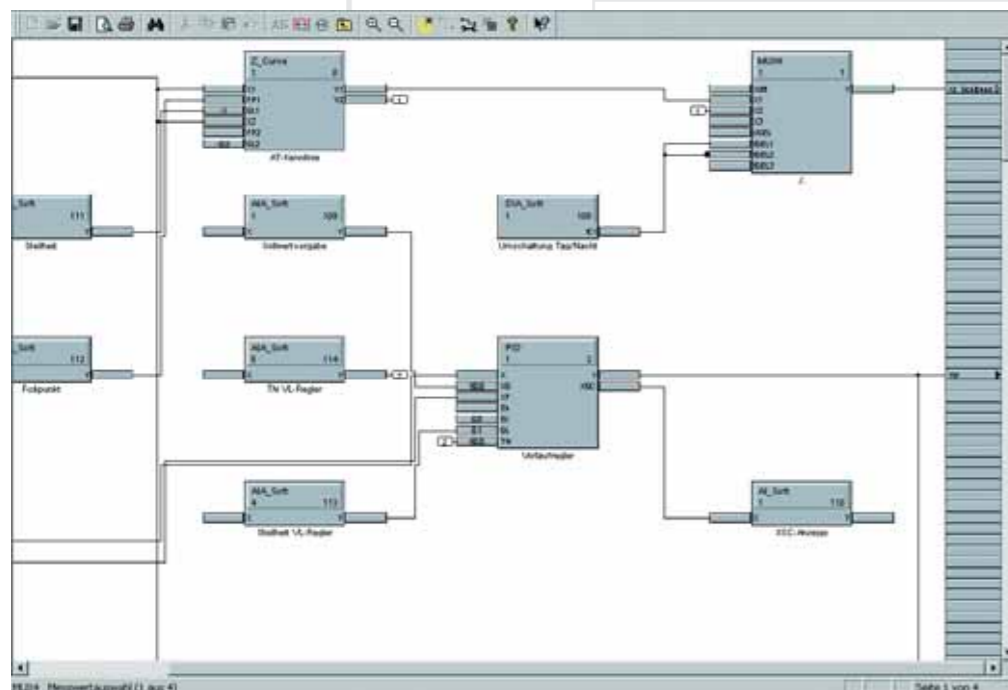
Our specialists use CASE to assist project engineers, but CASE is also issued to system planners who wish to work with it themselves. No specialised computer knowledge is required, and CASE can easily be mastered in a short time.

Take advantage of our experience and know-how of building management technology at the earliest possible stage of your planning. The result will be maximum performance and efficient usage of the building for many years to come.

Relocation management

Cost management

Refurbishment



Thanks to CASE, a building management system can be implemented and documented without errors in the shortest possible time.

