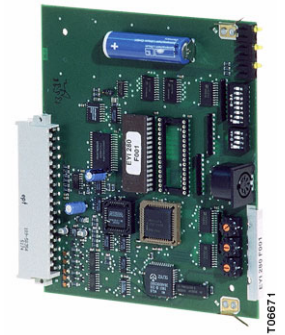


## EYI280, 287: novaCom, Communication solution for non-SAUTER systems

The novaCom enables non-SAUTER automation systems to be linked to SAUTER's EY3600 building management system either as a point-to-point link or as a bus system.

The novaCom is a combined hardware and firmware solution which does not need a PC with attendant software in order to run it. The transfers of the addresses are parameterised. The virtual EY3600 automation stations (AS) of the novaCom can be programmed with communication, DDC/PLC or time-program tasks.

Due to the modularity, configurations of between 504 and 4032 addresses are possible. If more addresses are needed, several novaComs can be run in the same novaNet, though the non-SAUTER bus standards have to be taken into account.



### Products

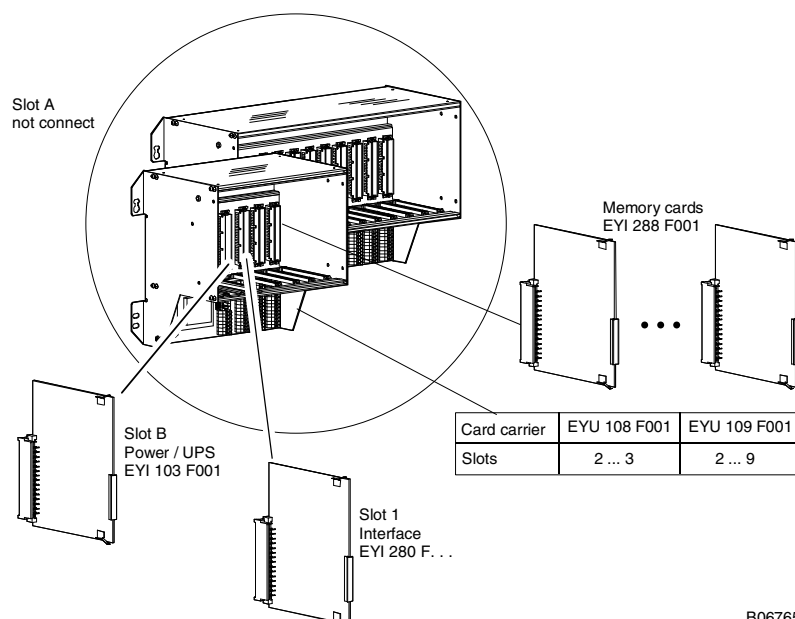
Type	Description
EYI280F010	Communications Interface Siemens 3964R/RK512
EYI280F020	Communications Interface Modbus RTU
EYI280F030	Communications Interface EIB (Instabus)
EYI280F040	Communications Interface Securiton (SecuriLan)
EYI280F050	Communications Interface ESSER (BMZ 8007/8008)
EYI280F060	Communications Interface Toshiba (Dataport 2)
EYI280F070	Communications Interface Toshiba (Dataport 2)
EYI280F090	Communications Interface CIB 8000
EYI280F100	Communications Interface Cerberus
EYI287F010	EY2400 gateway carte

### The hardware concept

The EY3600 novaCom is based on the EYU108F001 and EYU109F001 racks of the modular automation stations and a set of 4 cards. These cards cannot be operated together with the

function cards of the EY3600 automation stations (AS). The set of cards of the novaCom components forms a modular but self-contained family of units.

### Hardware concept



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To create a novaCom, the following components are required:

**Components to create a novaCom**

EYU108F001 or EYU109F001 rack	The rack can take the novaCom cards without technical modifications having to be made. N.B.: It is not possible to combine AS functions and the novaCom in the same rack!
EYI103F001 Power-supply and UPS card	This card provides all power supplies, charges the battery and ensures the uninterrupted change-over to battery back-up supply in the event of a power failure. At the same time, the addressing logic for the memory and AS cards and the central real-time clock are provided on this card.
EYI280F. . . Communication interface	The EYI 280 interface card has an RS-232 interface. The non-SAUTER bus is connected via the rack's terminals. The exchange of data between the interface card and the 'memory and AS cards' is effected cyclically by the DMA method.
<b>Or</b>	
EYI287F010 EY2400 gateway	This card is exclusively for communication with an EY2400 system. It has all the main components for supplying and operating the data line. The microprogram is stored in one EPROM, and the user data (i.e. the transfer list) are in another. The EY2400 data line is connected via the spring terminals (4 terminals) of the relevant card slot (slot 1). Similarly fed to the spring terminals, the data line is also available as a V.24 interface.
EYI288F001 Memory and AS card	There are two 'virtual' ASs on each card. The RAM range of MFA 0 to 256 is available for the transfer addresses. Taking away the service addresses, 504 addresses can therefore be used for each card. All MFAs not used as 'transfer addresses' can be employed for control functions. The functions of the HDB and the time program can be used to the full.

If more than 504 values are transferred, the address range can be increased up to a capacity of 4032 addresses (in the large rack):

**Fitted in rack**

Number of cards	Memory capacity	
	EYU108F001	EYU109F001
1	504	504
2	1008	1008
3	–	1512
4	–	2016
5	–	2520
6	–	3024
7	–	3528
8	–	4032

A minimal configuration requires the following components:-

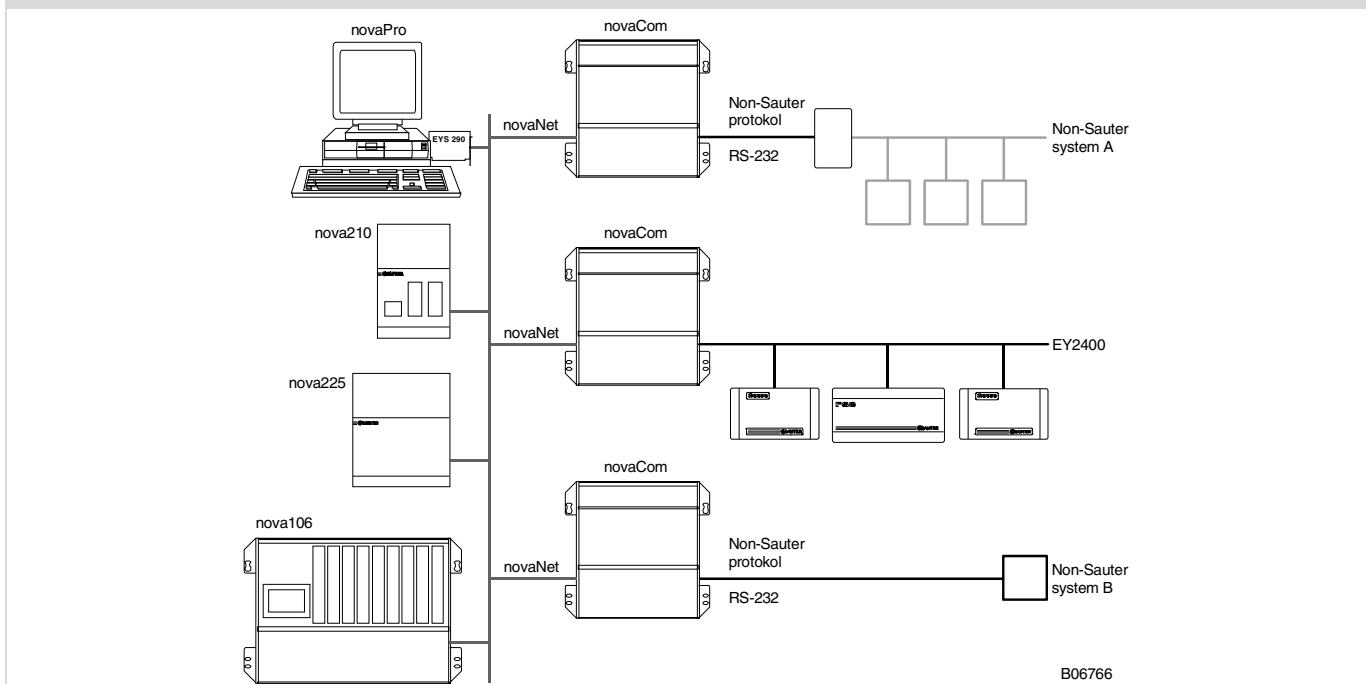
**Components for a minimal configuration**

Number	Type	Description
1	EYU108F001	Rack for 5 cards
1	EYI 103F001	Power-supply and UPS card
1	EYI 280F. . .	Communication interface with protocol x
1	EYI 288F001	Memory and AS card

**System configuration**

Since the virtual AS of the novaCom can be integrated like 'normal' ASs into the nova system, any number of novaComs can be run on the same novaNet. This is necessary if several non-SAUTER systems have to be connected.

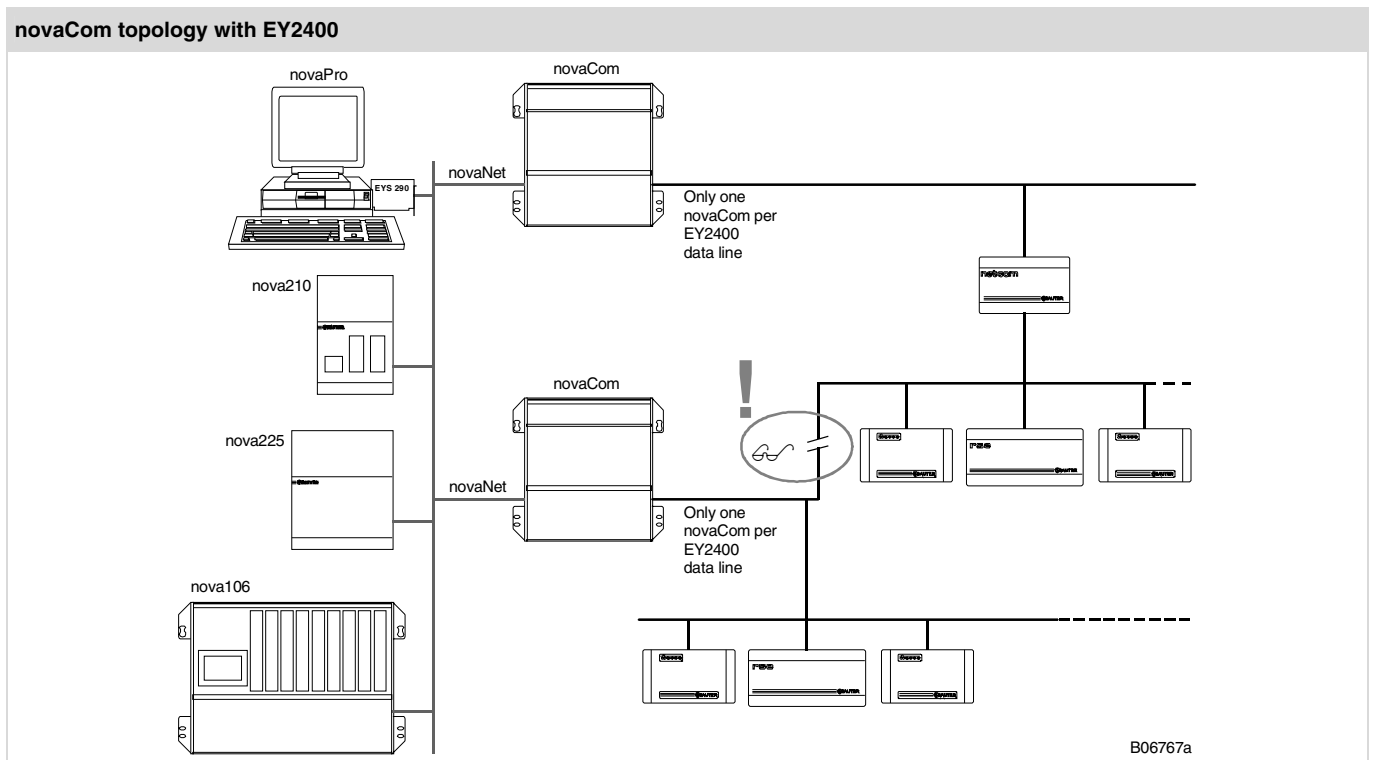
**novaCom topology**



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If there are more than 4032 transfer addresses (large, fully used rack), two or more novaComs must be employed. However, the communication interface (EY1280F. . .) is run as a master on some buses. For this reason, only one novaCom can be employed for some non-SAUTER busses.

Taking the EY2400 gateway as an example, it can be seen that it is necessary to split the EY2400 data line into two segments. Since the EY2400 gateway card acts as a master, transmission errors would otherwise occur continuously due to collisions on a single data line with two novaComs.



**Software concept**

**Firmware**

The interface to the non-SAUTER protocol is stored as firmware in an EPROM of the EY1280F. . . or EY1287F010 cards. Using the non-SAUTER protocol, this interface software can exchange a defined set of values. One of the tasks takes care of constant communication with the non-SAUTER bus, so that spontaneous messages are also accepted. Another task interprets these values and writes them cyclically into the memory of the virtual AS.

The following values can be exchanged between the EY3600 and non-SAUTER systems:

**Exchange of values between EY3600 and alien systems**

Card code	Function	Direction of transfer
10	Alarms and statuses; binary feedback without command	non-SAUTER nova →
20	Switch command; binary command without feedback	Nova non-SAUTER →
30	Switch command; binary command, with feedback from non-SAUTER system	Nova non-SAUTER ↔
70	Measured value	non-SAUTER nova →
80	Setpoint; analog output	Nova non-SAUTER →
A0	Setpoint; analog output with analog feedback from non-SAUTER system	Nova non-SAUTER ↔
D0	Counter value	non-SAUTER nova →

**Parameterising the communication interface card**

Parameterisation is effected either by SAUTER Basle in the factory or by the project engineer using a parameterising program.

In the former case, the project engineer must make a list of the non-SAUTER system's data points with their properties (function code, source address etc.). Depending on the protocol, the project engineer must decide on which memory address (AS number, MFA and data word) and with which card code he wants to transfer the translated value into the nova system. This transfer table forms the user data, which are converted and encoded by SAUTER Basle and written into an EPROM.

In the latter case, the project engineer must make a list of the non-SAUTER system's data points with their properties (function code, source address etc.). Depending on the protocol, the project engineer must decide on which memory address (AS number, MFA and data word) and with which card code he wants to transfer the translated value into the nova system. This transfer table forms the user data, which are encoded in a hex-file by the project engineer and written into an EPROM using a widely available programming unit.

**Parameterising the virtual AS**

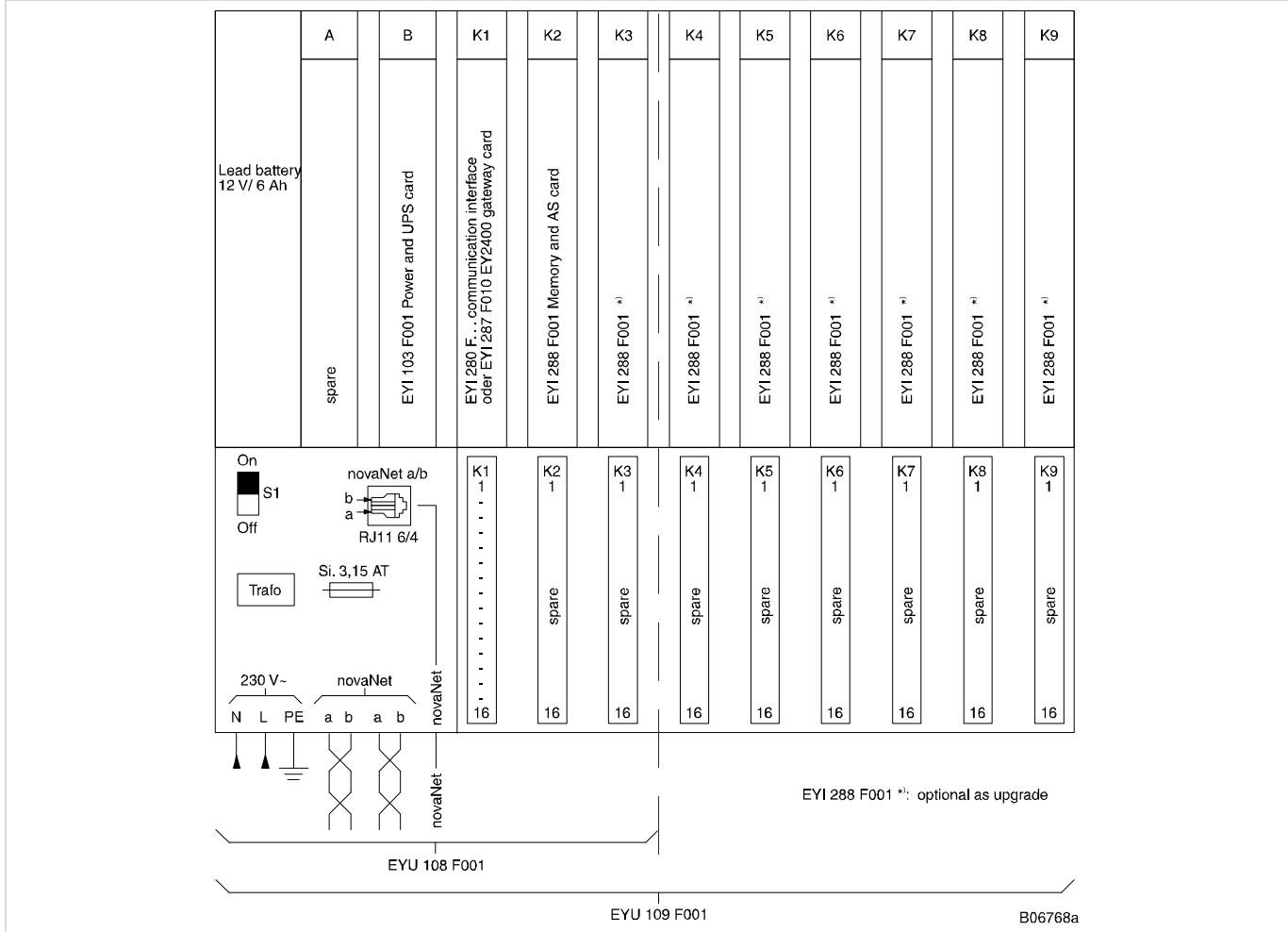
All MFAs (0-59, 64-255) can be used – with no difference – as either a hard or a soft address. A transferred value must have a hardware code, but can lie within the MFA range of 0...255.

Therefore, with the aid of CASE FBD, the 'usual' functions can be obtained for each of the virtual ASs, such as:-

- Control loops
- Control functions
- Specific communication
- Communication via the common
- Time program
- HDB

It should be remembered that transfer addresses and soft addresses use the same memory address. So, if you want to obtain functions that need soft addresses, there are no longer all the 504 addresses per card (252 per virtual AS) available for transfers!

**Terminal plan**



**Connection details**

