

## EYL106: nova106, Processor and power-supply card

As the central processing unit, the processor and power-supply card is the heart of the automation station nova106. It performs the communication with other automation stations and with the visualisation and management level, and provides all the different power levels for the various function cards. The short cycle time enables even fast control tasks to be solved. It can be networked and has communication capability – without additional provisions having to be made. The unit is programmed (parameterised) using a PC with the EY3600 CASE software as per IEC 1131-3 (FBD editor). On the card are the EPROM, a buffer battery, the switch blocks for addressing the station and the connectors for the control panel modu240.



### Products

Type	Description	Weight (kg)
EYL106F001	Processor card	0.235

### Technical data

Electrical supply		Permitted ambient conditions	
Power supply	from transformer 230 V~/40 VA	Operating temperature	0...45 °C
Max. current	3 A from 12 V supply	Storage and transport temperature	-25...70 °C
Current consumption	250 mA	Humidity	10...90% rh no condensation
Power loss, max.	approx. 3 W		
AS address range	0...28671	Standards, guidelines and directives	
		CE conformity as per	
		EMC Directive 2004/108/EC	EN 61000-6-1/EN 61000-6-2
			EN 61000-6-4
			EN 55022 class A
Interfaces, communication		Additional information	
Local Operating Panel modu240	1x RJ45 socket	Fitting instructions	MV 505386
modu240 languages:		Wiring diagram	<a href="#">A04724</a>
German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (other languages, see Accessories)			

### Accessories

Type	Description
EY-OP240	Local Operating Panel modu240
0501101002	nova106 microprogram with modu240 languages: German, French, English, Polish, Slovenian, Hungarian, Romanian, Russian, Czech, Turkish
0367842001	Connecting cable: nova AS – modu240 0.35 m
0367842002	Connecting cable: nova AS – modu240 1.5 m
0367842003	Connecting cable: nova AS – modu240 2.9 m
0367842004	Connecting cable: nova AS – modu240 6.0 m
0367883002	5x EPROM (empty) (USER-EPROM)
0367888001	5x EPROM (4 Mbit (empty))

### Engineering notes

- The processor and power-supply card can be inserted only in slot B of the EYU109F001 or EYU108F001 racks.
- The power unit provides the correct voltages for: contact interrogation (24 V); relay activation (12 V); and the logic modules (5 V). The measurement, output-signal and reference voltages are formed from these voltages on the corresponding function cards.
- The card can provide a current of 3 A. At the project study stage, it is important to ensure that the sum total of currents for all the function cards does not exceed this value.
- The EYL106F001 card has a fast operating program, the cycle time of which depends on the telegram traffic. This communication is processed at a data rate of 19.200 bits per second. The microprogram reads in all inputs, processes the parameterised function modules, updates the outputs and carries out the necessary communication with other stations or with the visualisation PCs.
- A real-time clock for the time programmes is also integrated in the automation stations.
- A lithium battery ensures that the user data (FBD data), time programmes and historical data (HDB) are retained in the SRAM in the event of a power failure. The real-time clock also runs off this lithium battery.
- The battery makes it possible to retain the data and run the real-time clock for at least 10 years without power having to be applied. Date and time are set ex works. When power is restored, the automation station checks the consistency of the data and starts communication.

- The user programmes can be loaded from any point in the novaNet. The data stay in the battery-backed SRAM even in the event of a power failure. In addition, the data can be stored captive in a user EPROM. Therefore, the level of protection against loss of data is very high.
- Every station needs an AS address (0...28671), which is set via coding switches.
- The EYL106F001 card has the following indicators: a green LED to indicate the power; and two yellow LEDs for indicating the directions on the communication line (Receive/Send).
- The nova240 control panel can be linked to the nova106 via an RJ-45 connector.

**Putting into service**

In order to prevent faults and risk of injury, the function card should be inserted and removed with the power switched off and the UPS card removed (see also MV 505386 and MV 505383).

Before being incorporated into the novaNet, every station must be given an AS address, which is binary-encoded using the blocks of DIP switches.

**DIP Switch Blocks, example AS-no.: 10'255**

Value	Off	On
1		x
2		x
4		x
8		x
16	x	
32	x	
64	x	
128	x	
256	x	
512	x	
1024	x	
2048		x
4096	x	
8192		x
16384	x	
Even Parity	x	

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The numbers 0...28671 are available for the automation stations.

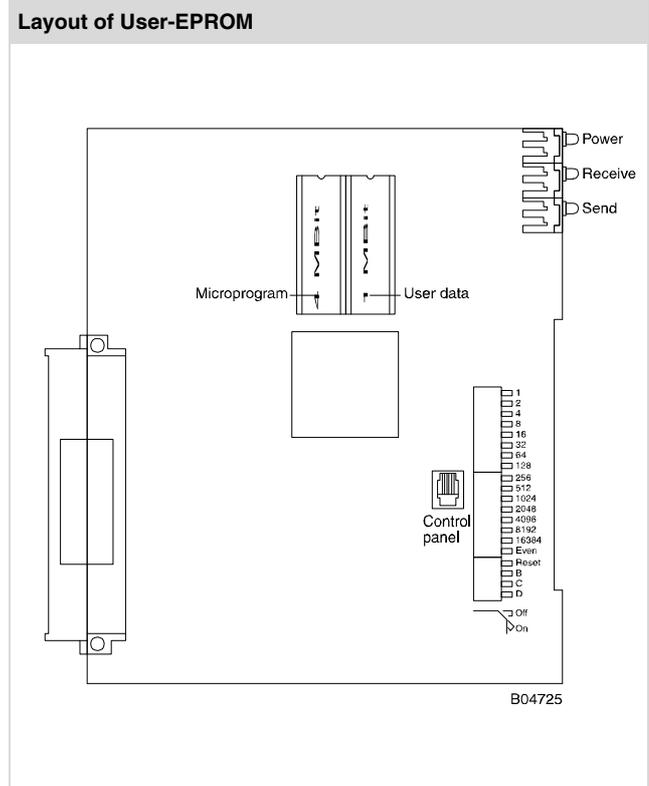
The AS address is set by means of the 16-digit switch-blocks. The last switch is for setting the parity, which refers to the address and not to the four other switches situated below. The parity should be set so that the number of switches in the 'on' position, including parity, is even.

**Example:** 8192 + 2048 + 8 + 4 + 2 + 1 = 10255

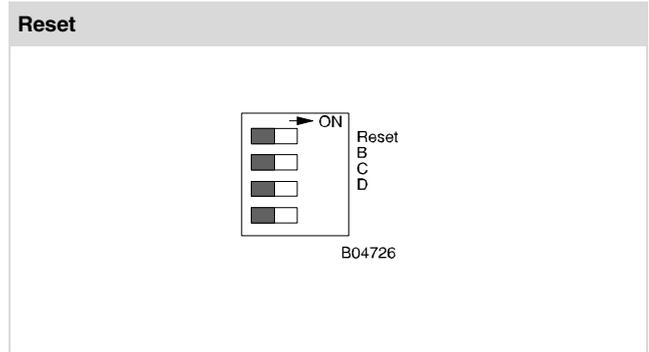
If the station has not already got an EPROM with the parameterised user data, they must be transmitted to the station. It is not necessary for the function cards to be in the rack at the time.

Communication is performed via the novaNet bus and the corresponding terminals or the RJ-11 connector. Download can be done in parallel to the data traffic, though this may lengthen the response time of the other network subscribers. For this reason, the data transfer can be separated from the novaNet for the duration of the data transfer, and the 'parameterising' PC can be connected locally. After the data transfer has been completed, the data are immediately active. The station can then be re-connected to the network and is ready for operation.

You are strongly advised to save the user data in an EPROM as well. Apart from enhancing data security, it facilitates fault-finding. The EYL106F001 has two EPROMs: the microprogram is stored in the 4 Mbit EPROM and the user data (control loops and parameters) should be stored in the 1 Mbit EPROM. The EPROM can be loaded with any normal loading device and employed on the card.



Before being opened, the power supply to the station must be disconnected! Protective measures to prevent electrostatic discharges must be taken before performing any work on the unit. Afterwards, the station must be reset by means of the reset switch.



The reset switch should be set to 'ON' for approx. 1/2 s, causing the station to load the USER-data from the EPROM and to start operation under defined starting conditions.

If the reset switch is left in the ON position, the station remains in the reset mode and cannot function correctly.

The EYL106F001 processor and power-supply card has three LEDs which indicate the status of the automation station. The green LED, at the top, indicates that the power supply is on when lit continuously; the two yellow LEDs indicate telegram traffic in both directions on the novaNet. If the station has stopped or a fault has been detected in the RAM, the watchdog detects this and the station is then restarted with the EPROM data. In this case, no telegrams are sent to the exterior for a brief period, so the yellow 'Send' LED (at the bottom) no longer flashes. If this LED does not

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light up, it means that the EPROM is either the wrong one or is faulty, or that no EPROM has been inserted. In this case, the station is no longer operable. In stand-alone mode (without the novaNet), the 'Receive' LED (in the middle) remains unlit; the 'Send' LED flashes quickly (approx. 7 times per second), since a dummy telegram is sent each cycle.

If the station is reset manually, the microprogram and the user data are also read in afresh. As soon as this has been done, the yellow 'Send' LED again flashes in time to the outgoing telegrams.

**Wiring diagram**

