



# elap NEXUS N2

## MULTIFUNCTIONAL CONTROLLER With Embedded PLC

- Control over 2/4 digital axes
- Embedded PLC, Ladder or Instruction List programming
- Configurable user interface
- Programming through the mini USB 2.0 port
- Real Time Clock
- FLASH memory for data backup
- Main bus for I/O expansion
- Modbus RTU communication protocol over 2 ports
- Removable SD card support for data, recipes and program backup/upload

**NEXUS N2** controls two/four digital axes by its 12-bit analogue output. Its powerful embedded PLC can be programmed both in Ladder and in Instruction List language. **NEXUS N2** user interface can be completely configured according to the application requirements. The user interface and PLC program graphical pages are stored into the wide Flash Memory area in the microprocessor.

**NEXUS N2** can be programmed over the mini USB port, allowing for high speed in the communication, an important feature for programmers when developing projects.

Modbus RTU communication protocol is available on both communication ports, thus allowing **NEXUS N2** to operate as Master over COM1 RS485 port, and as Slave over COM2 RS232 port at the same time.

By means of the SD card it is possible to upload and save recipes, or working and axes data, and to manage the upgrades of application software.

The Real Time Clock with date keeping is accessible through PLC instructions and it allows to handle scheduled activities, such as programmed maintenance operations, productivity control and so on.

**NEXUS BOX N2**, the inside-board mounting version, can be profitably coupled to a touch-screen HMI terminal.

### HARDWARE

- CPU 32 bit RISC
- Flash Memory 512 kB
- Memory for PLC programming: 64 kB Flash
- Memory for graphical pages: 192 kB in memoria Flash
- RAM for PLC data: 8 kB
- RAM for recipes: 1MB

### USER INTERFACE

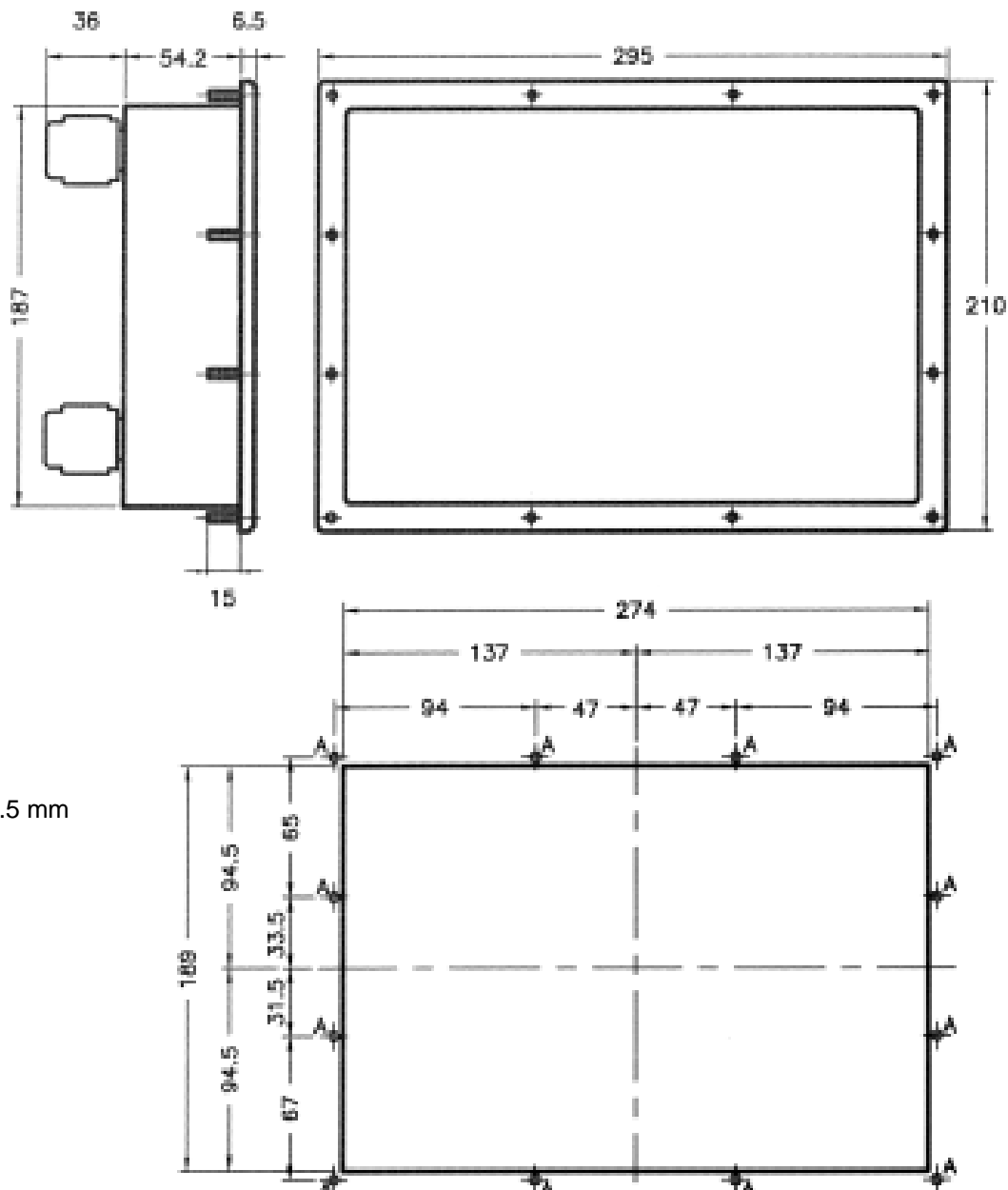
- Polyester 41-key-KEYBOARD each key having programmable functions, i.e.:
  - 8 keys in the display area
  - 10 function keys with custom label possibility
  - 8 navigation keys
  - 1 key for reset function or alarm display
- Numerical pad
- START and STOP push-buttons with LEDs
- 25 programmable signalling LEDs
- Rear-lighted GRAPHICAL DISPLAY 240 x 128 pixel
  - 128 expandable text pages
  - 25 graphical bit-map backgrounds 240x128 pixel
  - 256 messages, each by 30 bytes
  - Storable data structures with indexed access (recipes)

### INTERFACE TO THE FIELD

- DIGITAL INPUTS: 32 optoisolated inputs + 4 inputs devoted for interrupt command
- DIGITAL OUTPUTS: 32 50 mA optoisolated inputs
- I/O EXPANSION MODULES: 16 inputs + 16 outputs 500 mA – Fixing on DIN bar
- INCREMENTAL ENCODERS: 2 bidirectional count inputs, 5V Line Driver (RS422), with zero reference reading, 500 KHz frequency
- AXIS COMMAND: 2/4 differential analogue outputs  $\pm 10V_{cc}$  - 12 bit - Optional: 10 V analogue outputs
- Possibility to handle axes ON/OFF
- ANALOGUE INPUTS: 2/4 analogue inputs 0÷5 V- 10 bits – Optional: 10 V analogue inputs, common type
- ALARMS: 1 contact for system watch-dog
- COMMUNICATION: 2 RS232 serial ports, or 1 serial port RS232 + 1 serial port RS485



## DIMENSIONS



Panel cut off  
A = Holes Ø 4.5 mm

## GENERAL SPECIFICATIONS

- Front protection degree: IP65
- Supply: 24 Vdc  $\pm$ 15% 30 Watt max.
- Connections:  
Extractable terminal box: supply, digital I/O  
Canon connectors: encoder, analogue I/O, serial ports
- On request: digital outputs on relay modules
- Lithium battery 5 years life
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## ORDERING INFORMATION

Type	Axes No.	Input/Ouptut connections	Memory	Serial line
<b>Nexus N2</b>	2 = 2 axes	<b>32 + 32 I/O</b>	<b>128 kB RAM</b>	2 RS232 serial ports
<b>Nexus Box N2</b>	4 = 4 axes	- terminal box connections - external relays connections		1 RS232 + 1 RS485 serial ports
<i>Optional:</i>				
- 4 analogue inputs				
- SSI serial interface				

**elap**

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