

## Numerical control

## DNC 60 G

The numerical control DNC 60 G is specifically intended and optimized for shears. Its software simplifies the work of both the user and the integrator.



### Advantages for the user:

A page entitled Easy-Cut is displayed when the machine turns on.

The user simply enters the desired position of the end stop and the thickness of the material.

The machine is adjusted automatically and the user can cut his sheet. He does not have to erase, memorize or change mode. He simply activates the cut command.

It is as simple to use DNC 60 G as a positioner, but with the advantage of the automatic adjustments of a complex machine.

As with a normal numerical control, DNC 60 G also makes it possible to enter complicated cutting sequences (programs) that can be memorized for consistent cutting work.

Clear messages on security measures or external dysfunctions are naturally displayed if necessary.

DNC 60 G is supplied with its backup software CYBACK\_Win.

DNC 60 G can be connected to the powerful cutting optimizing software ARDIS via RS232. In this way the user can in real time see on the PC screen the cutting plan and the current cut. For each cut, the DNC 60 G receives the new value.

DNC 60 G numerical control has many functions. A full page luminous LCD screen as well as a simplified keyboard with large keys give a comfort of use comparable with that of a high-level numerical control.

There are generally 8 languages available directly in the DNC. With this numerical control, the CYBELEC experience offers very fast programming that is much appreciated by users.

The FLASH memory makes it possible to update the software over an RS232 line.

Each DNC 60 G is supplied with the CYBACK software so that the contents of the numerical control, be it parameters and/or the memorized parts, can be backed up.

## Advantages for the manufacturer:

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DNC 60 G is equipped with 8 inputs and 16 outputs 2.5A which make it possible to directly operate valves without passing through relays.

The numerical control cycle directly controls the blade movements, the blade gap, the cutting angle and/or the cutting length and the pressure.

No need for automats or numerous relays. The electrical wiring is thus greatly simplified and the size of the cabinet consequently reduced, which results in a significant reduction in material, wiring and start-up costs.

The parameters are memorized and the CYBACK software loaded via an RS232 linkup.

The flexibility of the software makes it possible for the manufacturer to configure the axes, the inputs-outputs and auxiliary functions according to his needs.

DNC 60 G is designed to be easily integrated into a control panel or electrical equipment cabinet. Its case, which is ingeniously designed, serves as a mechanical and electrical protection and a fixing element.

The DNC 60 G is of modern design and all its electronics are concentrated on a single board, most of which is assembled in SMD.

Simple connection technology and a single 24VDC power supply unit considerably reduce the material and wiring costs.

## Axis and shear functions

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The elements listed hereafter are available and can be configured in all numerical controls supplied with the standard software (within the number of available axes and inputs/outputs).

### Axis

Backgauge axis.

The DNC 60 G controls:

- the gauge retreat during the cutting process
- the retraction of the gauge, whether in mechanical way or hydraulic (with valves)

### Shear functions

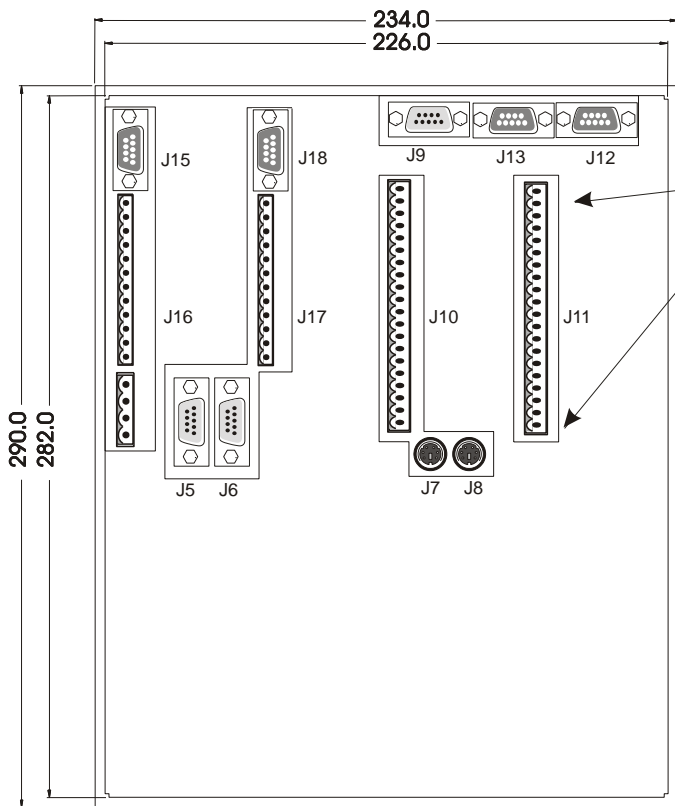
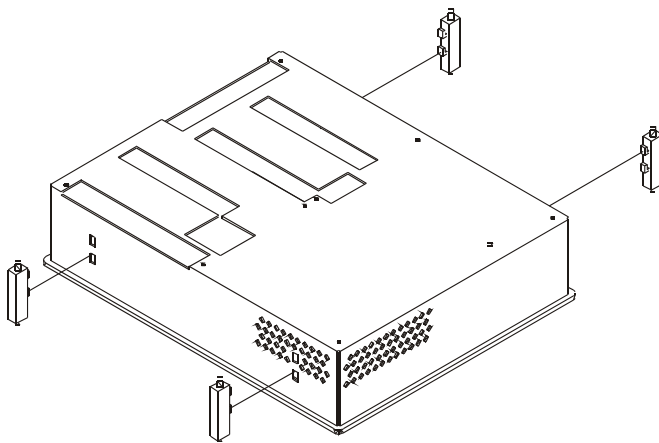
- Easy\_Cut page for an easy use like that of a positioner.
- Management of the system pressure with ramp and pressure proportional valve.
- Management of delays between the pressure valve (ON-OFF) and the direction valves.
- Automatic management of:
  - the blade gap (with one or two actuators and linearisation of the curve)
  - the cutting angle
  - the cutting lengthaccording to the programmed material and thickness.
- 5 pre-programmable types of material.
- Backgauge clearance during the cutting process (yes / no).
- Blade gap with one or two motors.
- Management of the cutting length by delay or by potentiometer.
- Automatic backgauge correction according to the blade gap.
- Sequence repetition, sub-programs, chaining of programs.
- Nibbling function, allowing to bring down the blade by little phases.
- Flying Cut function.

## Technical characteristics

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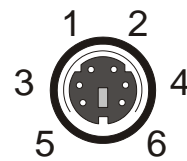
Multiprocessor design using ASIC and SMD components. This allows high integration and ensures great reliability.

<b>Keyboard</b>	Keyboard with large keys.
<b>Screen</b>	Monochrome graphic LCD screen 75 x 130 mm (visible surface) 240 x 128 pixels with automatic contrast correction.
<b>Work memory</b>	SRAM
<b>"Data" memory</b>	FLASH with updating possibility of the software via RS232.
<b>Port</b>	1 RS232-port.
<b>Axis</b>	N2X axes with high speed counting (250 KHz).
<b>Unit of length</b>	Conversion Inch/mm, TON/TONS, etc.
<b>Power supplies</b>	DNC: + 24 VDC (min. 18 – max. 35 VDC) max. 1 A (DNC) 20 W. Electrical cabinet: + 24 VDC $\pm$ 10% for the digital inputs/outputs.
<b>Encoder X3 inputs</b>	Line driver. <b>Attention: the inverted signals are compulsory on all encoder inputs.</b>
<b>Power supply for encoders X3</b>	5 VDC (supplied by the DNC) max. 900 mA for all encoders.
<b>Digital inputs</b>	8 optocoupled inputs 24 VDC stabilized $\pm$ 3 %.
<b>Analogic inputs</b>	According to configuration 0-5, 0-10, 0-24 VDC.
<b>Digital outputs</b>	16 optocoupled short circuit proof outputs (whereof 2 intended to axis X sp/sn). Source 24 VDC max. 2,4 A / output. Possibility to define 2 outputs for doubling the current.
<b>Voltage outputs (axes, functions)</b>	0-10 VDC output impedance $Z_{out} < 100 \Omega$ , load $Z_I \geq 10 k\Omega$ .
<b>Temperature, pollution level, relative humidity, and height during work</b>	Min. 5° Celsius, max. 40° Celsius. Pollution level 2. Relative humidity (10 to 85% non condensing). Max. height 2000 m.
<b>Dimensions</b>	Height: 290 mm / Width: 239 mm / Depth 80 / 140 (with jacks) mm.
<b>EC Directives</b>	Our numerical controls comply with the EC Directives 89/336/EEC and 73/23/EEC.



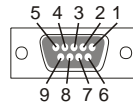
Pin N°

1  
20



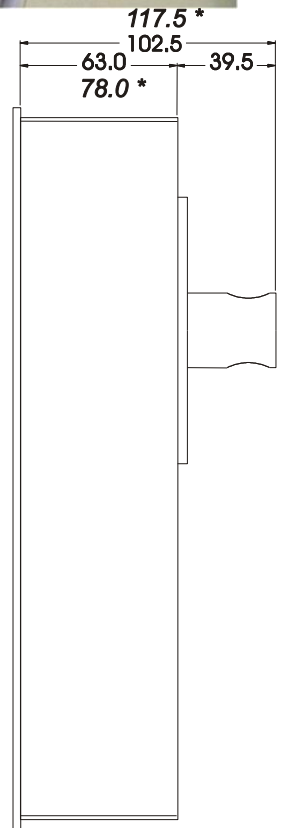
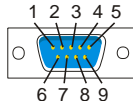
Sub 9 pins

Female



Sub 9 pins

Male



Maximum cutout: 284.0 x 228.0

\* = option 24 or 32 outputs