

# CNC 4010

## Working modes

- even cut
- pipe cut
- teach-in

## Working types

- manual mode
  - reference point
  - jogging skip
  - continuous
  - pace dimension
  - repositioning
  - plate alignment
  - teaching of a rest plate
- automatic mode
  - sequence
  - single block
  - backward (on the contour)
  - skip block / mask block
- programming
  - external (DIN 66025 / ISO 6582)
  - over 110 standard shapes (creation of individual standard shapes possible)
  - free contour
  - nesting of externally created programmes, standard shapes and free contours
  - free setting of the startpoint at the end of programming
  - DXF import

## Functions

- central gas supply
- fast preheating
- oxy-fuel ignition
- torch pre-selection
- cutting oxygen
- cutting oxygen override
- plasma on/off
- plasma ignition
- preselect height adjustment
- height adjustment on
- individual torch height control
- height adjustment for all active torches
- feed override
- feed stop
- dwell time override
- dwell time stop
- heating gas override
- heating oxygen override
- spot-drilling
- marking
- punching

## Options

- laser pointer
- import filter for other data formats
- teach-in (in conjunction with LK500)
- drilling unit

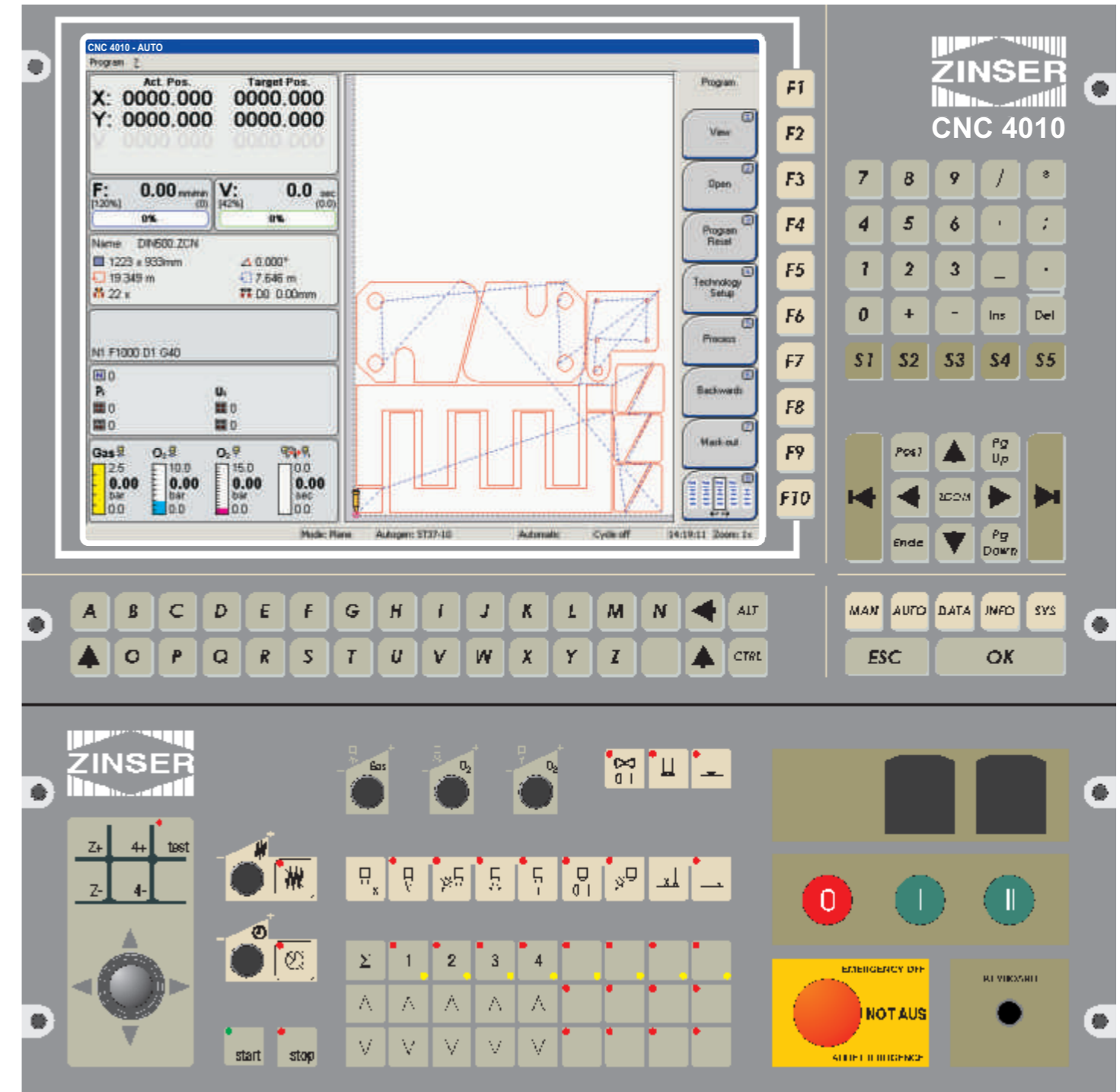
## Hardware / operating system

- Architecture: industrial PC
  - Processor: intel Core Duo CPU
  - Disk drives: > 40 Gbyte hard disk
  - Connection: 2 x USB
  - Display: 15" TFT colour display  
VGA (1024x768)
  - Operating system: Windows® XP Embedded  
real time kernel
  - Network card: integrated network card for:
    - network connection
    - Hypernet-communication
    - Drive and IOs
  - Axes: x- and y-axis / gantry axis  
extendable by e.g. rotation axis (up to 32 axis possible)  
axis adjustment by digital drive bus (digital position adjustment)
  - PLC: cycle time according to task between 2 ms and 10 ms
  - Digital I/O: bus system
  - Analogue I/O: e.g. teach-in (depending on the configuration of the machine)
  - Environmental temperature: +5 to + 45°C max 90% air humidity (control also available with air conditioning system)
- Integrated UPS for a safe shut down of the control also in case of power failure.

## Cutting mode

- technology parameters depending on material and thickness (feed, pre-heating time, gas pressure and ramp, piercing profiles, kerfs, automatic speed reduction for circles possible)
- multiple facilities to modify feedrate e.g. for leadin, at the end of a shape, for small radii, variable speed at the end of cut
- marking and punching with plasma
- accurate pre-off of the cutting process within milliseconds
- programmable kerf (also changeable during cutting process)
- free selectable sheet plate reference point
- resume programmes (restart or continue e.g. when there was a power failure or break)
- warning if program exceeds cutting area
- selection of parts from nesting plan for cutting on any other place on the sheet
- activation of height control depending on different parameters (e.g. feedrate, angle, circle-diameter)
- data base for automated cutting process (oxy-fuel and plasma) (data bases of all well-known manufacturers of plasma and laser sources already integrated)
- operating data logging
- tediagnostic service/telemaintenance
- camera monitoring
- Ink-Jet ink marking system

Subject to technical modifications 11 001-351 / 504 1001-00351 02.11



# CNC 4010

Modern control for machines  
for oxy-fuel, plasma and laser cutting

Please ask your ZINER representative for further information.

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# CNC 4010 - the optimal control for your machine



The newly developed control system ZINER CNC 4010 is the logical continuation of the established CNC 2050. The advantages of the forerunner together with a significantly more effective hardware and the ongoing adjustments to our clients' needs lead to the CNC 4010. This control is specifically designed for the challenges of modern guiding machines for oxy-fuel, plasma and laser cutting.

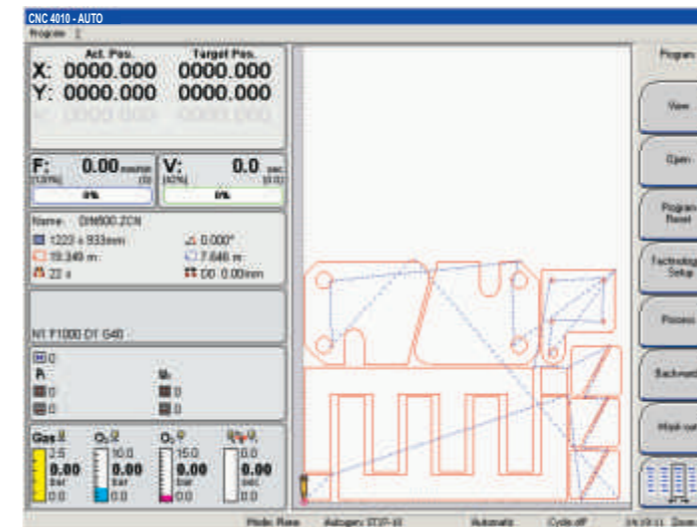
A powerful industrial PC, a real time operating system and a intuitive user interface based on Windows® XP assure high efficiency.

Modular software and extendible hardware are the keys for the best possible adaptation to the manufacturing process.

The CNC 4010 is available in attached form or as a stand-alone version.

## The most important features

- CNC control for
  - cutting machines for oxy-fuel and plasma cutting with up to 8 torches
  - pipe cutting machines for oxy-fuel and plasma cutting
  - combined cutting machines for even cuts (X/Y-axis) and pipe cuts (X/A-axis)
  - cutting machines with special equipment e.g. bevel units
- gantry axis for precise guidance of the bridge
- modern industrial PC with Windows® XP Embedded and real time kernel
- ergonomically designed front with
  - 15" TFT colour display VGA (1024x768 pixel)
  - well arranged keyboard
  - intuitive user interface
  - logically structured operator control panel
  - 2 front side USB ports
  - softkeys for all machine functions
  - well arranged menu
  - joystick for manual move
- easy integration into existing network
- outstanding process security by use of a modern PC and bus technology
- constant cutting feed due to fast processing and look-ahead
- unlimited program size via dynamic reload into NC memory
- integrated UPS for a safe shut down of the control also when there is a power failure.
- axis control by digital drive bus (digital position control), thereby an extremely accurate and high quality interpolation is achieved.



## Plate alignment

According to the points P1, P2 and P3 that have been triggered manually and the inserted measures of the plate, the CNC 4010 calculates the position of the NC program.

Thus, the time consuming alignment of heavy steel plates is obsolete.

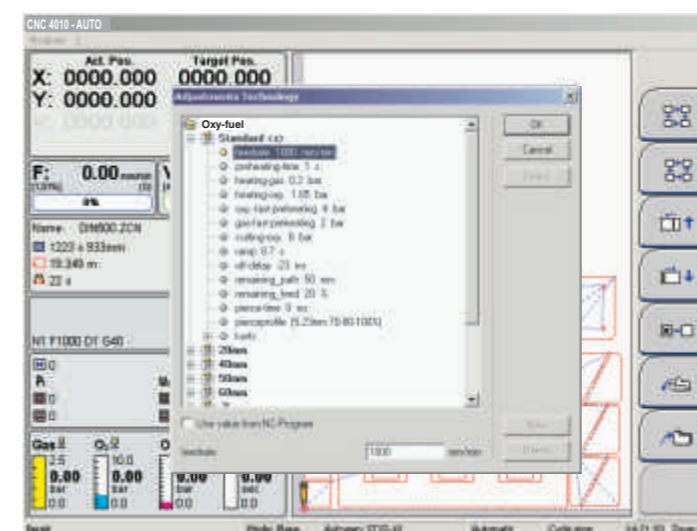
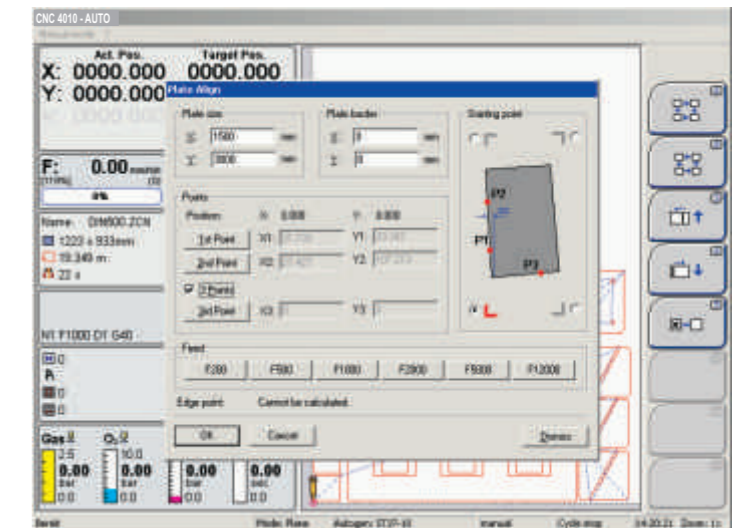
When using the two-point-method the position is calculated from one edge point on the plate and a point on one margin of the plate.

## Run of a NC program

By means of the graphic display of the NC program and the torch symbol, the operator is always informed about the actual working progress.

All important information is being visualized:

- actual and target value
- speed and dwell time
- cutting technology
- program size, program position, cutting length, piercing cycles, kerf
- pressures of digital proportional valves



## Program settings / technology data base

The program settings include all relevant data for the active NC program.

The technology database enables the user to assign the NC program a record with the optimal parameters for this cutting task or to adapt the parameters of the record to the task. The data bases of the leading plasma and laser unit manufacturers are integrated in this system.

The user can decide whether he wishes to adopt certain data from the NC program or if he wishes to use the data sets from the technology data base of the control.

Extra parameters can be defined for special functions.