

## SERIES P52-100

Compact 4 axes CNC controller with touchscreen  
Customized version for metal shear applications



- Controller for sheet metal shear applications up to 4 axes
- Selectively with 7" or 10.1" widescreen colour TFT
- Navigation via high-quality resistive touchscreen
- External control panel with keypad available
- Precise positioning of the back gauge
- Cutting gap and cutting angle control
- Sheet support and retract function
- Adjustable cutting length limitation
- RTO (return to operator) function
- Panel based construction
- USB interface

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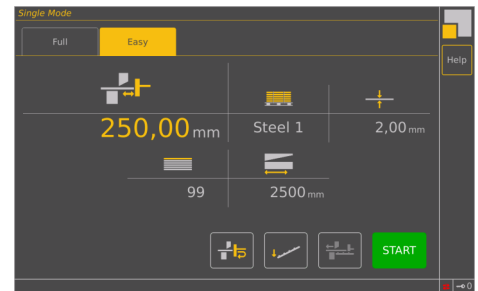
## Product description:

The compact ELGO CNC controller **P52-100** is a cost-effective solution, which has been specially designed for a wide range of metal shear applications. Due to the user-friendly interface, all essential requirements of modern sheet metal shears can be fulfilled. These include the positioning resp. controlling of the back gauge, cutting length, cutting angle and cutting gap.

Based on the given material properties and sheet thickness, the controller is able to calculate and assign the settings for cutting gap and cutting angle automatically. In order to optimize the production process, the adjustable cutting length limiter allows the respective optimal setting of the cutting length.

The clearly structured "Easy Mode" of the monitor shows the most important parameters at a glance. The more comprehensive "Full Mode" also includes the more specific parameters for advanced users.

By using the integrated USB interface it is possible to transfer data backups of material tables to an external data medium (e.g. USB stick or external hard disk).



Example of the surface with activated "Easy Mode"

## Equipment properties:

### Features:

- Controller for metal shear applications up to 4 axes
- Selectively with 7" or 10,1" colour TFT
- Program memory with any number of programs (up to 999 steps per program possible)
- Precise positioning of the back gauge
- Cutting gap and cutting angle control
- Sheet support and retract function
- Adjustable cutting length limitation
- RTO (return to operator) function

### Versions:

- All-in-One CNC system, consisting of a controller with an integrated touchscreen panel
- Decentralized CNC system, consisting of a controller with a separate touchscreen panel

### Options:

- External control panel with membrane keypad
- Additional auxiliary axis

## Flexible machine design:

For the flexible design of the respective metal shear, two different monitor sizes (7" or 10.1") with the same functional scope are available.

- Both versions (7" and 10.1") can be supplied either as a compact all-in-one system or as a decentralized system (controller unit with I/Os and touchscreen panel separately). With the decentralized variant, both components can be integrated separately into the control cabinet. In this case, the touchscreen panel will be installed into the panel cut out and the external controller is snapped onto a DIN rail. This makes sense if there is only a little space behind the front panel of the control cabinet.
- Both variants can optionally be extended by an external control panel with a membrane keypad, which can arbitrarily be placed beside, above or under the controller unit.
- Images and further information can be found on last page.

## Dimensions:

Touchscreen panel with 7" display:	Touchscreen panel with 10" display:	External controller (decentral)
W x H = 216 mm x 144 mm	W x H = 286 mm x 194 mm	W x H = 192 mm x 132 mm
Depth = 32 mm (decentral version) 70 mm* (All-in-One version)	Depth = 40 mm (decentral version) 72 mm* (All-in-One version)	Depth = 54 mm*
Cut out: 196 mm x 134 mm	Cut out: 266 mm x 182 mm	

\*) without connectors

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## Technical data:

Touchscreen panel	
Power supply voltage	24 VDC +10% / -20%
Consumption	max. 200 mA (no load), permitted total current 1 A (without outputs)
Connection type	Pluggable screw terminals
Display	7" Widescreen touch TFT or 10.1" Widescreen touch TFT
Resolution	7" version: 800 x 480 pixels 10.1" version: 1280 x 800 pixels
Hardware / Software	ARM Cortex A8, 1 GHz clock frequency, 512 MB RAM, 4 GB Flash, Linux operating system
Miscellaneous	- Serial RS232 interface - Keypad panel (option) connectable via USB - Ethernet interface
Mounting „All-in-One“	Panel installation
Mounting „Decentral“	Panel installation (touchscreen panel) and DIN rail mounting (controller with I/Os)
Operation temperature	0 ... +45° C
Storage temperature	-20 ... +50° C
Controller	
Power supply voltage	24 VDC +10% / -20%
Consumption	max. 400 mA (no load)
Connection type	Pluggable screw terminals
Encoder supply voltage	4 x (6 x) 24 VDC or 5 VDC; max. 130mA
System accuracy	± 1 increment
Analog inputs	4 x ±10 V, 12 Bit
Analog outputs	2 x ±10 V with control for hydraulic axes 2 x (4 x) ±10 V with PID control 4 x 10 V reference value for measuring systems (max. 20mA, short circuit proof)
Digital inputs	16 galvanically isolated inputs, freely pro- grammable, pulse time min. 300 ms
Digital output	16 galvanically isolated outputs, freely pro- grammable, max. 0.625 A each output, freewheeling circuit for inductive loads, durable short circuit proof
Input frequency	max. 100 kHz
Hardware / Software	32 Bit Microcontroller with 1MByte Flash and 128 kB RAM, real-time operating system, see <a href="http://www.freeRTOS.org">www.freeRTOS.org</a>
Miscellaneous	Serial RS232 interface
Operation temperature	0 ... +45° C
Storage temperature	-20 ... +50° C

## Functional overview:

### General functions:

- Program library
- Measurement units Millimeter / Inch
- Power down memory
- Counter for machine hours
- Counter for number of strokes

### Axis functions:

- Simultaneous axis movement
- Adjustable stroke
- Programmable retract

### Controller functions:

- ±10 V servo control
- AC drive control (2 speeds)
- Inverter control with direction signals

### Computed functions:

- Cutting length, gap and angle
- Pressure (cutting)

### Programmable functions:

- Back gauge position
- Axis speed
- Cutting angle
- Cutting gap
- Cutting length
- Retract function
- Material properties
- Material thickness
- Piece counter
- Step repetition

### Miscellaneous functions:

- Diagnostic tool
- Error messages
- Selectable languages

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## 10.1" versions:

### „All-in-One“



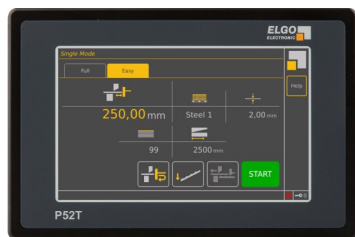
Controller and touchscreen panel in one device

### „Decentral“

Touchscreen panel as shown above + external controller unit with I/Os for DIN rail mounting

## 7" versions:

### „All-in-One“

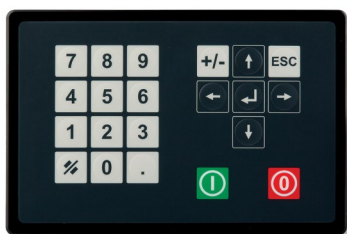


Controller and touchscreen panel in one device

### „Decentral“

Touchscreen panel as shown above + external controller unit with I/Os for DIN rail mounting

## Hardware options:



External control panel with membrane keypad (216 mm x 144 mm)

