



CNC Control Console

Operating Instruction

About this manual:

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1 Introduction

1.1 Preamble

Isel Germany AG has been known for drive systems and CNC-controls with stepper motors for many years. The increasing employment of controlling and operating systems based on Windows make it necessary to provide efficient operating units and controlling computers. Therefore it was required to conceive an operating unit capable for industrial applications for our machines and plants.

The CNC-control panel is a robust and efficient operating unit for *isel*-machines and *isel*-machine tables. It is possible to connect and operate a regular Desktop-PC due to the external standardized connection cables. The basic version of the CNC control panel is equipped with 17" TFT monitor, MF-102-keyboard and optical mouse. In addition to that there are already control keys, which can be connected directly with the used drive control. The optional installing of a spraying water protected keyboard make higher claims of workshop and construction also possible.

2 Technical data

2.1 Technical data of control computer

Component	Description
Mainboard	mATX-Mainboard <ul style="list-style-type: none">- 2 x PCI- PCI Express x16- PCI Express x1- 2 x DDR2 Slots- 1 x serial- 1 x parallel- 1 x LAN- 4 x USB- Audio connectors
CPU	Intel Celeron 430 1,8GHz
RAM	DDR2-RAM \geq 1024 MB
Hard disc	Capacity \geq 160GB/ms, 7200 U/min
DVD drive	52-fold, black
Power supply unit	550W ATX

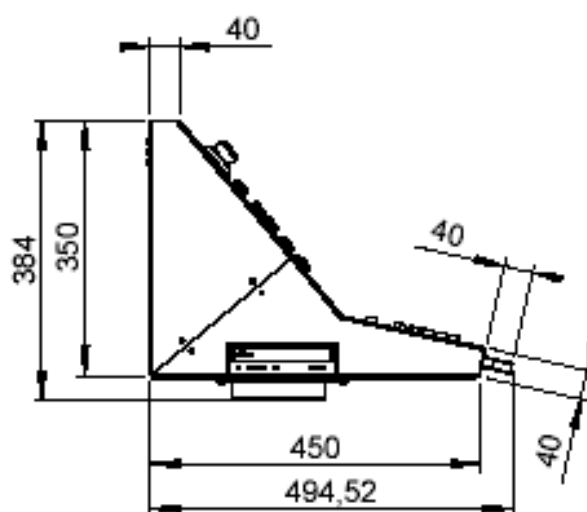
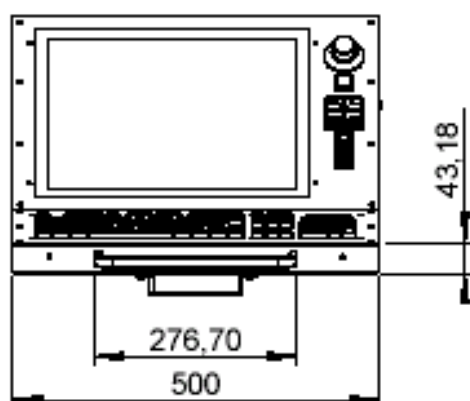
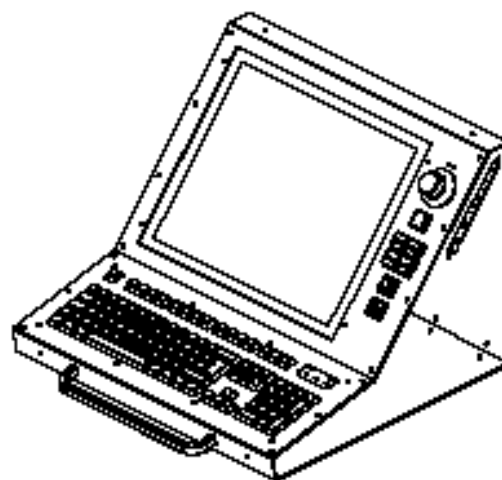
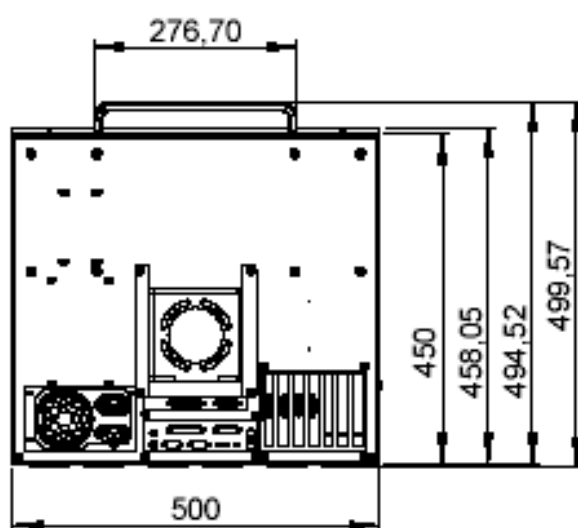
2.2 Technical data of monitor

Features	Monitor
Driver	17" TFT Active Matrix
Viewing angle	75°(horizontal) 60°(vertical.)
Pixel size	0,264(H) x 0,264(W)
Visible surface	337 x 270 mm
max. number of pixels	1280 x 1024
Colour depths	24-bit (16,2 m.)

2.3 Technical data of input devices

Component	Description
Mouse	Optical 3-key wheel mouse, PS2
Keyboard	MF102 keys, black, PS2

2.4 Dimensions of CNC- control console



3 Description of operating components, keys and switches

As a standard the most important operating components (keys, switches) are integrated in the casing. Depending on each machine and control these keys can be used. Subsequently the operating components of the CNC control console are divided into two groups and their functionality and application will be explained.

- **Operating components of control computer**
- **Operating components of machine**



CNC- control console – operating components¹

¹ Technical changes reserved

3.1 Operating components of control computer

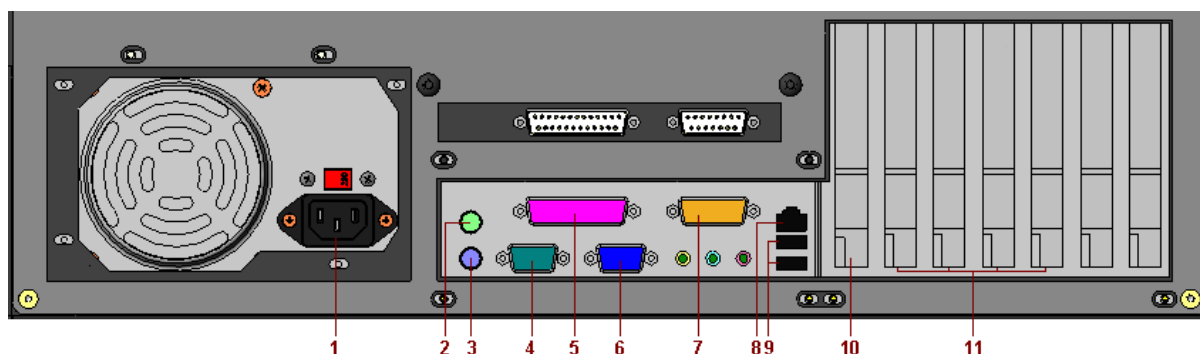
No.	Components	Description
1	HDD-LED (yellow)	Display of hard disc operation within computer.
2	Power-LED (green)	Display of processor operation.
4	PC-Start-Switch	Activation / deactivation of computer.

3.2 Operating components of machine

No.	Component	Description
3	Emergency-Stop button	Deactivation of power supply for motor output stages, converter and working spindle.
5	Fault- display	The Fault- display signalizes an error within the safety circuit..
6	Power-ON-key	Power supply of output stages is connected.
7	Stop-key	Interrupts the execution of the current NC program. Repeated pushing of stop key stops the execution (not valid for all control configurations).
8	Start-Taster	Starts the execution of the current NC-program.
10	Cover- key	This key is used to open the hood (if existent). The hood can only be opened if the cover key is illuminated. This is the case if all axes are in home position or the operation mode – key switch has been set on test mode.
9	ACK (acknowledge) button	This button has to be pushed so the axes can be moved with open hood during setup.
11	Operation mode – key switch	With this key switch it is possible to switch between automatic and setup mode. During automatic mode the hood or door can only be opened if the axes are in home position. During setup mode the hood can be opened and the axes can be moved if the ACK button is pushed.

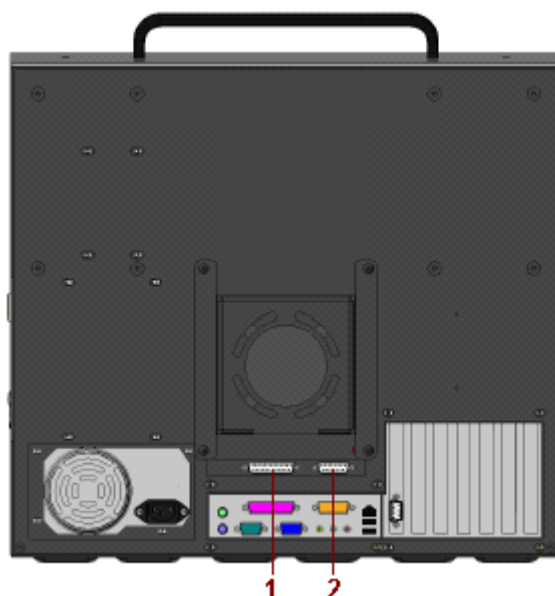
4 Connection of operating components

4.1 Connection of operating components for control computer



No.	Component	Description
1	Power Supply ~230V	Power supply plug for PC
2	PS2-port, mouse	Socket for PS2-mouse
3	PS2-port, keyboard	Socket for PS2-keyboard
4	COM1- port	RS232-SubD9-plug for serial transmission
5	Parallel- port	Parallel interface, SubD25-socket
6	VGA- port	Monitor connection
7	Game- port	Game-port of PC.
8	LAN	Network connection, Ethernet
9	USB	USB 2.0 ports
10	AGP- Slot	Slot for additional graphic card.
11	PCI- Slots	unoccupied PCI- bus slots

4.2 Connection of machine operating components



No.	Description
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1	Operating component SubD25-pole, socket With the help of this port operating components (keys, switches) on the casing front are connected with the safety circuit module of the control inside of the control cabinet. Therefore the connection cable with the SubD25-plug is connected with SubD25 socket. Is the control integrated in the control cabinet, this connection cable is connected directly with the safety circuit module.
2	Connection for additional operating panel SubD15-pole, plug It is possible to connect an additional portable operating panel to this plug. However it is not possible to use all the functionalities as if it was integrated in the casing front.

5 Malfunction

Malfunction	Action
No picture on the LCD screen.	<ol style="list-style-type: none"> 1 Verify that the connected computer is switched on. 2 Check the cable connection from the start switch to the connected computer. 3 Check the power supply (8-pin Phoenix) 4 Check the POWER-ON control LED. Switch On the control panel. 5 A resolution was chosen which the monitor can not display. Please reboot the PC in safe mode and login as administrator. Set a new display resolution e.g. 1280 x 1024 pixel.
The picture is skewed.	<ol style="list-style-type: none"> 1 Press the AUTO calibration key on the monitor panel.
The machine cannot be controlled over the operating components.	<ol style="list-style-type: none"> 1 Check the cable connection to the safety circuit module (SubD25 plug). 2 Check the settings for the signalization in the remote software (affects Start-/Stop switch)

6 Maintenance and Cleaning

Maintenance

The CNC control console is maintenance free.

Cleaning



Switch off the computer and remove the power supply.



Use a wet, soft cloth to clean the display. Don't use cleaning agents or abrasives. This causes scratches on the LCD monitor.
Be sure that no dampness comes into the case.