General

The iCNC-CSP404 is a 4-axis CNC-Controller for stepper motor drives. By its compact structure size the controller requires only a small footprint and can easily be positioned on the desktop.

System architecture
The controller consists of a CPU-Motion-Processor, 4 DSP-microstep-drivers with automatic idle current reduction for 2 phase-stepper motors, a 600W-power supply unit, EMERGENCY-STOP-Safety circuit and a mains switch in a compact enclosure.
The use of digital drivers results in extremely low noise and smoother movement of the drives. The controller is designed with state of the art technology and according to EC-directives.

Safety Circuit E-STOP
The controller incorporates a special safety circuit for stopping the motor drives in an emergency situation (E-STOP-Push Button) with forced opening of the relays contacts (EN 60 947-5-1 appendix K) and function according to ISO 13 850/EN 418, which turns off immediately the supply voltage to the drives when pushing the E-STOP button. The safety circuit includes monitoring of the relay contacts which recognizes a failure of the contacts and inhibits the switch-on of the drive voltage. Thus a safe switch-off in case if Emergency-Stop is assured.

Interfaces
The required signals for controlling a CNC-machine are provided on the rear side of the controller. This includes control outputs for the axes-motors, the spindle motor, spray cooling, flood cooling and tool changer as well as control inputs for end position switches for referencing the machine zero position, a connector for attaching a measuring sensor and an input for an external E-STOP-push button. The control-PC is connected through USB to the controller.

Handwheel (MPG)
A connector for connecting a Handwheel (MPG) for manual movement is provided as well.

Software
The control software USBCNC is designed for reading G-Codes and works with all prevalent CAM-software products. Additionally there is a 2.5D CAM module incorporated, which generates G-code from imported dxf-files for drilling, engraving, contour and pocket milling.

Technical Data CSP404

- CPU 32 Bit RISC-Processor
- Interface USB 2.0
- Status Indicator 5 Status LEDs
- Motion Control full 4-Axis Interpolation
- Control outputs 7 standard CNC-outputs
- Control inputs 10 standard CNC-inputs
- Stepper frequency 100 kHz for all 4 Axes
- Stepper motor driver 4 Axes DSP-Drive, 48V@4A, per axis
- Stepper motor current adjustable by DIP-switches
- Spindle control 0-10V output for VFD
- Spindle motor relays 230V@6A 2 pole Switched on IEC-outlet
- E-STOP safety circuit for motor drives (ISO 13 850/EN 418)
- Connector type SUB-D 9 female
- Operating elements mains switch, DRIVE ON push button, E-STOP
- Handwheel (MPG) connector for axis movement
- Software USB-CNC control program for Windows XP / W7
- Control-code-Files G - code file (iso, nc, cnc ..)
- EMV-Design according to EC-directives
- Power Supply input 230V @ 4A (115V@ 8A)
- Dimensions W x H x D mm 302 x 132 x 279
- Weight 3,8 kg
- Article-Nr. 0815-2014

*Included in delivery : Controller, USB-cable, IEC-power cord , 3x Motor cable D-SUB09, manual, USBCNC software.

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*Technical changes reserved *

