**Hoektronics CNC Controller Specs v1.0**

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| **Licensing** | * Fully OSHW, GPLv3 * Developed in the open at: https://github.com/Hoektronics/Hoektron-CNC |
| **Input Power** | * 12-24VDC, 24V preferred * Internal regulators to 5v and 3.3v * Current sensing on main power for POST and realtime current monitoring. * Replaceable fuse for safety (5x20 cylinder type) |
| **CPU** | * LPCXpresso from NXP * LPC1769 microcontroller * 512kb Flash * 64kb RAM * 100mhz operation |
| **Connectivity** | * USB 2.0 Full Speed (B Connector) * 10mbit Ethernet (RJ45 Connector) |
| **Spindle Control** | * Isolated Relay for up to 230VAC operation, with option to use built-in 24V supply. |
| **Stepper Drivers** | * 5 axes built-in (XYZAB) * Supports 2 different types of modular stepper drivers: * A4983 based “Pololu” style drivers for NEMA17 size motors (Up to 1A) * TB6560 based “HoekStep23” style drivers for NEMA23 size motors (Up to 3A) * Step size and other options configurable. * Optional support for dynamic current setting on MakerBot “BotStep17” style drivers |
| **Storage** | * microSD slot |
| **Debug** | * 3.3v TTL Serial connection * JTAG through LCPXpresso board |
| **Extra I/O / Misc** | * 10 endstops (min/max for each axis) * Tool zeroing input * Door open/close input * Spindle speed input * 2 ADC inputs * Tentative support for 5 quadrature encoders. * 3 high-power MOSFETS switching 24v @ 5-10A. Good for heaters, fans, etc. * Buzzer for alerts and simple user feedback |