



PRODUCT DATASHEET
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CNC PROTON

PROTON Base — Industrial CNC Motion Controller

Fully assembled 4-axis FPGA-based analog servo CNC controller with custom front panel, open-source firmware and pre-installed CNC software. Built in the EU.



- **4 axes**, expandable to 8 (PROTON Extension)
- **±10V analog servo** outputs, galvanically isolated
- **24 inputs / 24 outputs**, optoisolated
- **Custom front panel** matched to your machine wiring
- **Open-source** FPGA firmware + CNC software (LinuxCNC)
- **Fanless** industrial enclosure, 24-month warranty

Core & Motion

FPGA	Hostmot2
Firmware	Open-source (GitHub)
Software	Open-source CNC + NativeCAM
Power input	24V DC
Axes	4 (expandable to 8)
Analog outputs	±10V, galvanically isolated
Slew rate	7 V/μs
Encoder inputs	Isolated, up to 20 MHz

I/O & Mechanical

Digital inputs	24, optoisolated, 12–28V
Digital outputs	24, optoisolated, 24V 0.5A
Mains (with PSU)	~120–230V AC, 0.5A
Cooling	Fanless, no moving parts
Mounting	DIN-rail or 4-screw panel
Capacitors	Ceramic and polymer only
Enclosure	ASA-GF, UV-resistant
Warranty	24 months

Front-panel connectors

Analog servo outputs for X, Y, Z, A and Spindle (DB9). Analog out reference (DB15). Digital I/O on latching connectors: OUTPUT 0–15, OUTPUT 16–31, INPUT 0–15, INPUT 16–31. On-board single-board computer with Ethernet and USB. IEC mains inlet with optional Meanwell PSU (200W fanless for Base; 350W for Base + Extension).

Ordering

Product	Configuration	Price
PROTON Base	4 axes · 24 in / 24 out · custom panel	1499€ founding (reg. 1699€)
PROTON Extension	+4 axes, +24 in / 24 out (needs Base)	+1199€
Meanwell PSU	24V DC, 200W fanless / 350W fan	49€

Prices in EUR, exclude shipping (DHL Express, calculated at checkout). Lead time up to 14 days. Payment in advance.

MB CNC Proton · Skroblų g. 25-169, LT-03141 Vilnius, Lithuania, EU
info@cncproton.com · +370 628 57731 · cncproton.com · github.com/cnc-proton