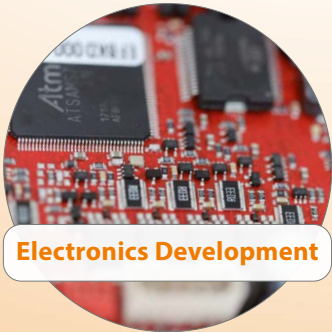




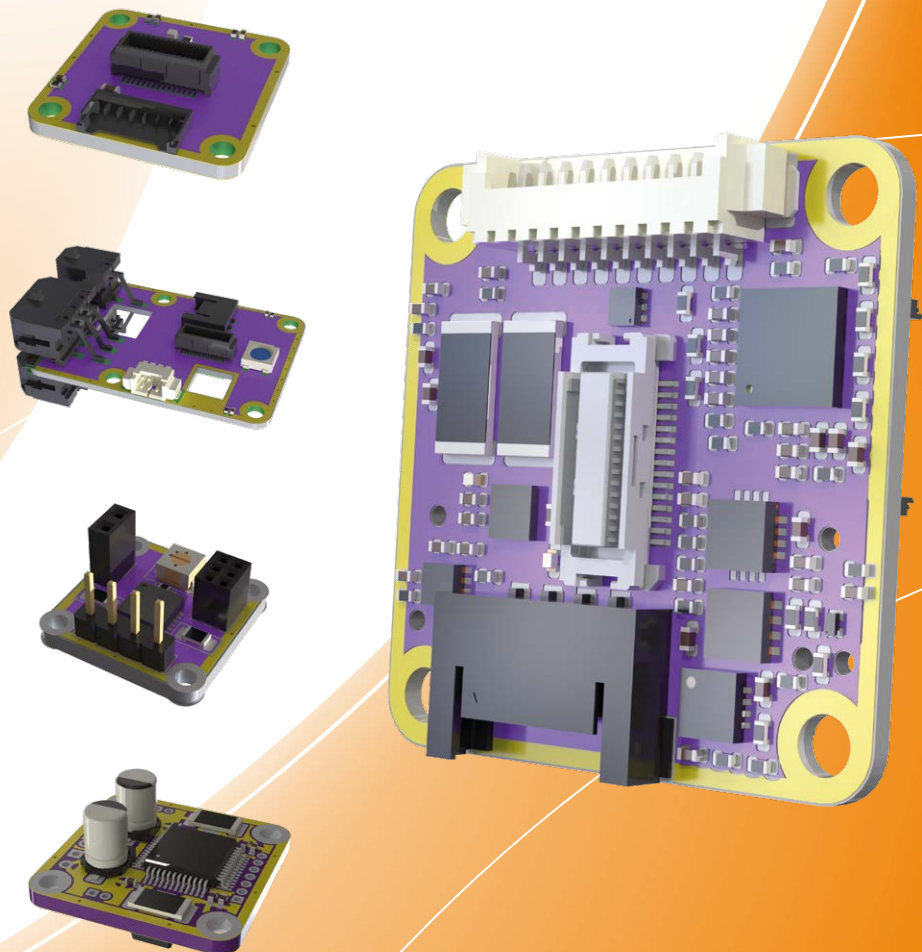
Electronics Development



Series Production



Special Machine Construction



OUR PRODUCTS INTRODUCED

StepperTron

Empowering your precision: our driver, your stepper

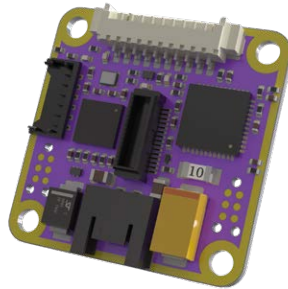
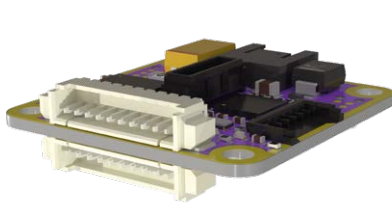
Example from the field: – **Electronics Development** –

CYBERTRON
Gesellschaft für Kinematische Systeme
und Laborautomation mbH
info@cybertron.berlin
www.cybertron.berlin

Our company is certified according to
DIN EN ISO 13485 and 9001

© CYBERTRON GmbH Berlin Germany

2026-03 StepperTron english



Brief Description

Voltage Inputs:

- Motor Voltage: 5V to 48V
- Control Voltage: 3.3V / 5V

Current:

- Continuous Output Current: 4.5A

Motor Support:

- Compatible with Stepper, 2 x DC, and BLDC Motors

Communication Interfaces:

- RS-485, CAN, RS-232, USB, SPI, IO-Link
- Multiprotocol

Features:

- Dynamically expandable according to customer preferences
- Independent control capabilities
- Programmable events and commands
- Bootloader for firmware updates
- Sneaky Step

Diagnostics:

- Encoder, communication, and driver diagnostics
- Stall detection and automatic current reduction

GPIO and Control:

- 20 GPIOs with PWM, I²C, ADC, etc.
- Free programmable Co-Processor

Control Techniques:

- Field-Oriented Control (FOC)
- S-curve, trapezoidal, and velocity contouring profiles
- PID autotune functionality
- FeedForward PID Control

Performance:

- 1 Hz to 1MHz PWM with 256 micro-stepping
- 2 kHz control loop

Additional Features:

- Liquid level detection and touch sensor integration
- Steppertron Studio for configuration and programming

Size and Weight:

- Smallest form factor available: 28 x 28mm, weight of 5g

Long Life Support:

- Designed for durability and a long life

Technological Insights

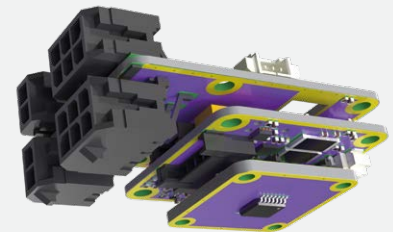
Co-Processor

Bus Communication:

- Supports both RS-485 and CAN bus
- Simultaneous use of both protocols possible
- Offers flexibility in system integration

Predefined Commands for GPIO Control:

- Control of GPIOs (General Purpose Input/Output) using predefined commands
- Seamless integration of external devices (e.g. light barriers, extended communication modules)



MODs:

- 14-Bit SPI Encoder with Gyroscope
- Connector M12 A-coded 5-Pin and MUX Interface RS-485/RS-232/CAN/IO-Link switch
- EtherCAT Connector MOD
- Speedster
- Crawler
- Custom Designs
- Etc.

Our **DIN 13485-compliant development process** guarantees market acceptance!

Further Technology Fields of Cybertron:

- **Single and multi-axis systems** (linear and rotary)
- **Piston stroke pipetting systems** (1K - 8K, 10 - 5000µl)
- **Needle dispensing systems** (1K - 20K)
- **Liquid level detection** (needle + pipette)
- **Gripping systems**
- **Camera systems** (simple, neural networks, AI)
- **Carrier systems** (samples, reagents, glass slides)



Designed, developed and made in Germany.
Our company is certified according to
DIN EN ISO 13485 and 9001

We support your specific product idea
from the special machine to the series product.
Contact us and let us advise you without obligation!

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