

zub OEM Design = A Product fitting your Needs!

Your Requirements ?!

Your product shall offer more than the ones of your competitors!

You need specific interfaces or functions?

You count on the best cost-benefit ratio for your products?

In short:

You are looking for the most competitive product concerning functionality, technology, size, and cost!

OEM products designed by zub machine control AG offer the solution to all your requirements.

Reinvent the Wheel?

No!

OEM products base on industry proven hardware and software modules, which are adapted to your needs. You save the risk and cost of a complete start-up development thereby. The base components give a chance for early prototype testing, which is the base for a reliable mutual trust in a development partnership.

Development focused on your Advantage

You just have to pay for the development tasks, which are linked to your specific functionality, hardware or software design. Your "speciality" extend your's lead to the competitors and protects you from simple imitators using standard products.



Example: 3-Axis Motion Control Unit incl. 6 Encoder Interfaces + 3 Servo Amplifiers

A manufacturer of a highly-sophisticated measurement device, asked for a compact motion control unit, fulfilling the following requirements:

- 3-axis motion control offering a position accuracy of 1 μm
- On-board interfaces for incremental and absolute sin/cos encoders
- Integrated amplifiers for 3 servo motors
- Position, speed and current control
- USB interface for data exchange with visualisation unit (PC)
- Compact housing with customized connectors on the front side

The former solution was a separate control card, a 3-axis servo amplifier and external interface modules for the Sine/Cosine encoders. A solution, that was not very satisfying concerning cost, size and amount of cabling.

The OEM solution by zub machine control AG was a very compact one-box-design with all interfaces and amplifiers integrated. The prototype, which was almost in serial production state, passed all tests successfully already six months after signing the contract.

Core Competency at its best!

We are able to react flexible and fast to your needs due to a lean company structure. Our long-term motion control experience with lots of own, license free hardware and software libraries is the base for an efficient and competitive development. Our core competencies are dynamic, accurate drive positioning and synchronisation, CAN-, EtherCAT- and Profibus-communication, as well as 24 V up to 380 V servo amplifier design.

zub machine control AG delivers YOUR product!

OEM-EXAMPLE: CUSTOMIZED MACS4-DSP WITH INTEGRATED SERVO AMPLIFIERS

Note

Electrical Data

Supply voltage logic	24 V DC ±25 %
Supply voltage servo amplifiers	12 ... 48 V DC

CPU & Memory

Microprocessor	DSP TI2812	150 MHz	
Workspace & program memory	1 Mbyte SRAM	512 kbytes Flash	Application and data

Control Characteristic

Axis control: number and type	3	PID + feedforward	
Position control frequency	1 kHz	1 ms cycle time	configurable
Speed control frequency	2,5 kHz	400 µs cycle time	
Current control frequency	5 kHz	200 µs cycle time	

Motion-Control Functionality combined with Programmability

Velocity and position control with linear, S-profile or jerk limited ramps
 Velocity and position / angle synchronization with or without master / slave marker correction, CAM profile synchronization

Integrated Servo Amplifiers

Amplifier type	4Q-PWM, 24 kHz		
Number of servo amplifiers	3 x DC (brush) or	2 x EC (brushless)	
Maximum output current	3 A continuous	7 A peak	

Encoder Interfaces

Encoder 1 ... 3	Inkremental encoder	5 V, RS422, max. 32 MHz	
Encoder 4 ... 6	Sine/Cosine encoder	1 Vpp, max. 150 kHz	max. 400 kHz at 25 % resolution
Hall sensor inputs	H1, H2, H3 for 2 motors	5 V	

Digital Inputs & Outputs

Digital Inputs	4	Low: < 4.6 V / High: > 18 V	max. 45 V
Digital Outputs	2	24 V, 100 mA, 300 kHz	short-circuit protected

LED

Status	4
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Auxiliary supply outputs

Encoder / hall sensor power	5 V DC	total max. 1 A
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Bus Interfaces

CAN Interface	ISO/DIS 11898	max. 1 Mbaud
Serial Interface 1	USB	

Mechanical Data

Type of housing	Compact metal housing		
Length x Height x Depth / Weight	approx. 170 x 65 x 105 mm	approx. 0.8 kg	
Connector type	different types, according to customer specification		

Temperature Range

Operation / Storage	0...+40 C / -20...+85 C	20 ... 80% humidity	non-condensing
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No responsibility is taken for the correctness of the given information