

# CONTROLLERS, SERVO AMPLIFIERS & FREQUENCY CONVERTERS

## Drive Positioning and Drive Synchronization

for use in CAN-, EtherCAT-, Profibus- or RS485-Networks  
or just for Standalone usage and High-Level Language Programmability!

### MACS<sub>4</sub>-DSP

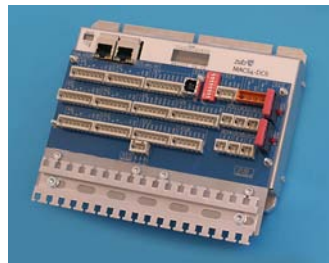
1-, 2-, 3-axis  
positioning  
and synchronization



- ◆ Free programmable process and motion control unit
- ◆ Multi-axis position regulation & synchronization
- ◆ Standalone usage or part of a PLC / PC network
- ◆ 1 x CAN, 1 x USB, 1 x RS485, Option: **EtherCAT**
- ◆ Analog, RS485, CANopen I/Fs for servo drives / FCs
- ◆ OEM: Customized connectors boards

### MACS<sub>4</sub>-DC6

6-axis positioning  
with integrated  
servo amplifiers



- ◆ Free programmable process and motion control unit
- ◆ 6 integrated servo amplifiers (24-48V) for DC motors
- ◆ Standalone usage or part of a PLC / PC network
- ◆ 1 x CAN, 1 x USB, 1 x RS485, Option: **EtherCAT**
- ◆ OEM: Customized connectors boards and power stage design

### MACS<sub>3</sub>

1-, 2-, 3-axis  
positioning  
and synchronization



- ◆ Free programmable process and motion control unit
- ◆ Digital position regulation & synchronization
- ◆ Standalone usage or part of a PLC / PC network
- ◆ 2 x CAN, 1 x RS232
- ◆ Analog and CANopen interfaces for servo drives / FCs

### DSA

CANopen servo amplifier



- ◆ Digital current, speed & position regulation
- ◆ CANopen DS402 compatible
- ◆ PWM power stage(s) for brush and brushless motors, up to 1'500 W continuous power
- ◆ OEM: Pre-configuration as an analogue amplifier replacement or with EtherCAT-Option

### OEM SOLUTIONS

Products according to  
your own needs



- ◆ Products with the highest performance/cost ratio: Function, design, power data and connectors ... all optimized for your application
- ◆ Focused: High-end motion control features
- ◆ Flexible: Free programmable process control
- ◆ Compatible: CAN, EtherCAT, Profibus, USB, RS485
- ◆ Compact: Integrated PWM amplifiers on demand

# ZUB CONTROLS: A WIDE RANGE OF APPLICATIONS!

## Storage

MACS<sub>4</sub>-DSP +  
FREQUENCY CONVERTER  
or MACS<sub>3</sub> + DSA



- ◆ Cart positioning in high bay warehouse or automated racks (e.g. pharmacy)
- ◆ Positioning with on-the-fly target adaptation
- ◆ Jerk limited ramps for acceleration and deceleration

## Positioning

MACS<sub>4</sub>-DC6  
or MACS<sub>3</sub> + DSA



- ◆ Low cost mechanical stop adjustment
- ◆ X/Y-positioning of probes (e.g. analytical systems)
- ◆ Work-piece and tool positioning in machines

## Feeding

MACS<sub>4</sub>-DSP +  
FREQUENCY CONVERTERS  
or SERVO DRIVES



- ◆ Synchronous feeding of components, (e.g. supplement, CDs)
- ◆ Position synchronization using marker correction and signal filtering

## Labeling

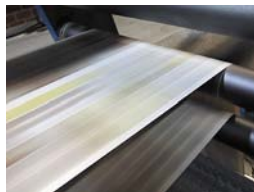
MACS<sub>4</sub> OEM-DESIGN  
or MACS<sub>3</sub> + DSA



- ◆ Synchronization of label ejection and goods
- ◆ Synchronous feeding with marker correction and online CAM profiling

## Winding

MACS<sub>4</sub>-DSP + DSA  
or MACS<sub>3</sub> + DSA



- ◆ Electronic servo traversing gear: Synchronization of the traversing with the speed of the material
- ◆ Tension control of a center winder

## Dosing

MACS<sub>4</sub>-DC6  
or MACS<sub>4</sub> OEM-DESIGN  
or MACS<sub>3</sub> + DSA



- ◆ High precision flow control of pumps
- ◆ Flow rate control of analytic and infusion pumps
- ◆ Control of electronic pipet systems

## Lifting

MACS<sub>4</sub>-DSP +  
FREQUENCY CONVERTERS



- ◆ Standalone control of lifting platforms
- ◆ Network-based controls for theatre platform or fly

Many other examples of applications and practical experience can be found on our website [www.zub.ch](http://www.zub.ch) in the section „Application”.