WEST

Position and axis control modules

The possibility of universal use, the independency from different hydraulic manufacturers and thus simple handling are the outstanding features of our control modules. Control and commissioning stay the same, regardless of valve brand.

Electronics
Hydraulics meets
meets Hydraulics
Electronics

WEST

Position- and axis control modules

Position and synchronization controls are two of the most frequently used control concepts in the domain of hydraulic drive control.

When using the "simpler" modules with analog interfaces, the focus is on product and commissioning costs. The POS-123 and POS-323-P are optimized to meet these requirements.

In the age of digitization and industry 4.0, the transition to the digital interface (fieldbus coupling) is the decisive step that has been taken with the UHC-126 and POS-124 modules. In addition to Profibus, PROFINET, EtherCAT and Ethernet/IP, the increased functionality and extended diagnostic options are arguments for the digitization of the interface to the machine controls. High-precision position control, pressure limiting control and synchronization control are integrated as standard.

POS-123-P and POS-323-P

Technical properties:

- Freely scalable input signals

- Stroke-dependent deceleration

- NC profile generation

- Advanced control technology (product-dependent scope) with PT_1-controller, acceleration feedback, lag compensation, drift compensation and fine positioning as well as lag control via MR controller

- Analog or SSI sensors (interface for incremental sensors in preparation)

Technological background: Advanced control technology

In addition to the classic P-controller and stroke-dependent braking, particular emphasis is placed on high dynamics and positioning accuracy.

1. The PT_1 - controller (in place of the P controller) can improve the dynamic behaviour and enable a higher gain, which results in more accurate and faster positioning.

2. The switching integrator enables positioning accuracies down to the signal resolution limit.

3. Acceleration feedback can be the right solution for critical drives that are otherwise virtually uncontrollable.

4. The MR controller transforms the hydraulic drive into a linear control system.

5. The combination of the different options is of course possible, a little experience or consultation by our control engineers is beneficial.

Suitable for valves of the following manufacturers:

BOSCH REXROTH

PARKER

HYDAC

DUPLOMATIC

and many more

Products

POS-123:   Positioning module with discrete analog and digital interfaces

- With analog 0... 10 V or 4... 20 mA interface
- P - version with integrated power stage
- Available with SSI interface instead of the analog position input

POS-323-P: Positioning module with integrated power stage

- With analog 0... 10 V or 4... 20 mA interface
- ACA (integrated automatic commissioning assistant)
- Residual speed mode
- Optionally with Ethernet fieldbus interface

POS-123-U

POS-124:   Two-axis positioning module

- With fieldbus interface (PFN, ETC or E/IP)
- Can be employed as two-axis synchronous control module
- MR controller for optimum synchronous control
- Optional: Incremental sensor interface for synchronous control of hydraulic motor drives
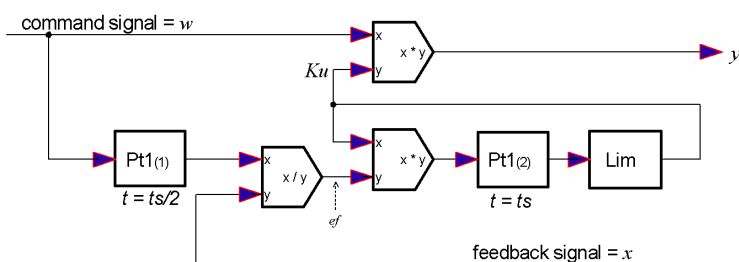
UHC-126:   Axis control module for position and/or force control

- With fieldbus interface (PFN, ETC or E/IP)
- Advanced control technology
- Position control, pressure control or pressure limit control
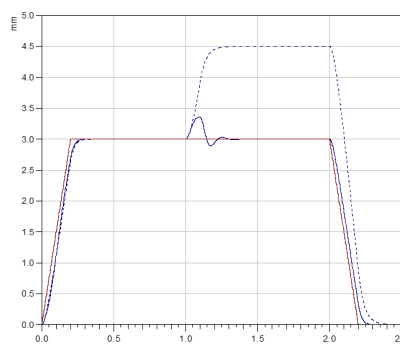- **Optional:** Incremental sensor interface

UHC-126-U-*

$$w_{t1} = PT1_1(w) \, ; \; t_1 = \frac{t_s}{2}$$

$$ef = \frac{w_{t1}}{x}$$

$$K_U(t) = PT1_2(K_U(t-1) \cdot ef) ; \; t_2 = t_s$$

$$y = w \cdot K_U(t)$$

Your advantages:

- Uniform product family
- Compact housing
- Inexpensive Snap-On solution
- Pioneering due to the integration of different fieldbuses
- Universally usable

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We offer an extensive product line for all typical applications, from simple power amplifiers to p/Q regulated press control systems, up to multi-axis closed-loop synchronization control systems. Custom developments for the clients are one of the strengths and many products for our well-known hydraulic manufacturers are being equipped with "brand labels". Premium quality, extremely short delivery times, flexibility, as well as fast assistance in case of emergencies – without the usual red tape – is what keeps the customers very satisfied.

Besides electronic products, W.E.St. Elektronik GmbH also offers competent support in the application of proportional control valves.

Application areas:

The sophisticated design does not only address one specific application area but rather focuses on the universal use. Although, emphasis is put on industrial applications, however, the power amplifiers can be found in mobile as well as in marine applications (with GL approval).

Our products:

Analog and digital power amplifiers	universally adaptable, for the control of various proportional control valves. The completely digital modules distinguish themselves through their high flexibility and fault diagnosis.
Positioning modules	which are optimized for fast moving cycles and highly dynamic control systems.
Pressure controlling	with pressure valves control valves and variable displacement pumps with simple and robust control behavior.
Synchronization modules	for synchronized control systems in bypass or as a synchronized position control system with integrated pressure limitation control (optional use).
Pump control	systems for various displacement and servo pumps.
Fieldbus connections	for the most of our control modules. The products support CAN Bus, Profibus, PROFINET, EtherCAT and various Ethernet versions.

Our additional services:

Development of custom electronics according to your specification

Planning and production of electronics

Training for our standard products as well as training for special subjects

Pictures: PHOTOmotics

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