POS Positioning modules

Characteristics

- **Principle of stroke depended deceleration (robust and fast positioning)**
- **NC-following error control - velocity controlled**
- **Analogue input of position and velocity**
- **Programmable positions and velocities**
- **Profibus DP coupling**
- **Analogue or SSI sensors**
- **Optionally with integrated power amplifier**
- **Simplest handling**

Description

This product family is used for position control of hydraulic axes. From ‘simple’ stroke depended deceleration with analogue demand and actual values up to the NC axis control mode with SSI sensor and Profibus DP interface all typical drive tasks can be solved.

The stroke depended deceleration is implemented in all modules and offers an especially simple handling and parametering. Because of the specific deceleration characteristic and the deadband compensation optimized for positioning drives, very good results can be achieved both with control valves and with simple overlapped proportional valves.
Simultaneously this positioning technique offers the shortest positioning time with high strength opposite to hydraulic influences on the closed loop control system.
In the NC mode the system works like a typical NC axis and the velocity is quasi regulated. This is reasonable especially in case of high demands on a constant velocity independent from the load.

Next to the simple analogue control the modules can also be controlled by field busses. Up to three axes can be used by only one Profibus node, so that the costs are minimized.

The modules are parameterized with our efficient PC software or with our new hand-held terminal (in particular suitable for the mobile use). These tools are optimized for a fast and easy start-up.

Note:
A self optimisation of the valve adaptation and the control parameters is actually in the test phase.

The positioning controllers

POS-121: Simple positioning module with analogue demand and actual values. Optionally this module can be equipped with a power amplifier.

POS-122: Simple positioning module with analogue actual values and eight digital selectable demand positions and demand velocities. Optionally this module can be equipped with a power amplifier and a SSI sensor interface.

POS-123: Standard positioning module with analogue demand and actual values as well as analogue velocity preset. This module can be equipped with a SSI sensor interface, Profibus DP interface or with a power amplifier. It is the most versatile positioning module with most options. Simple positioning up to the complete axis at the Profibus.

PPC-125: PQ axis controller at the Profibus DP. This module includes both a positioning controller (similar to the POS-123) and a pressure control function (similar to the PQ-132). Two axes can be controlled by one Profibus node.

POS-123A, standard positioning controller

POS-127: Module for fast double strokes and/or fast oscillating of hydraulic drives. All internal functions are time optimized so that a double stroke can be driven theoretically in 5 ms.

POS-128: Specific module for high/low speed positioning in both motion directions. This module can replace the typical limit switch controlled axis, it is independent from the viscosity and it drives in case of missing mechanical stop into a regulated target position.

Custom-built adaptations:

- Changeable input scaling, the 10 V input signal corresponds to only 1mm stroke of the cylinder, positioning accuracy better 1 µm.
- 4… 20 mA output signal

Applications:

- Tool machines
- Tire mounting and filling-system with 19 regulated axes and Profibus DP
- Wall thickness control with an accuracy of 0,5µm
- Low cost positioning in sawing machines
- Presses including pressure limitation control and Profibus DP
- Bending machines including pressure limitation control
- Motorcar joystick steering for handicapped persons
- High-speed press with approx. 120 double strokes / min; stroke 120 mm.
- Oscillating drives
- Positioning controller of process valves
- Various handling axes

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