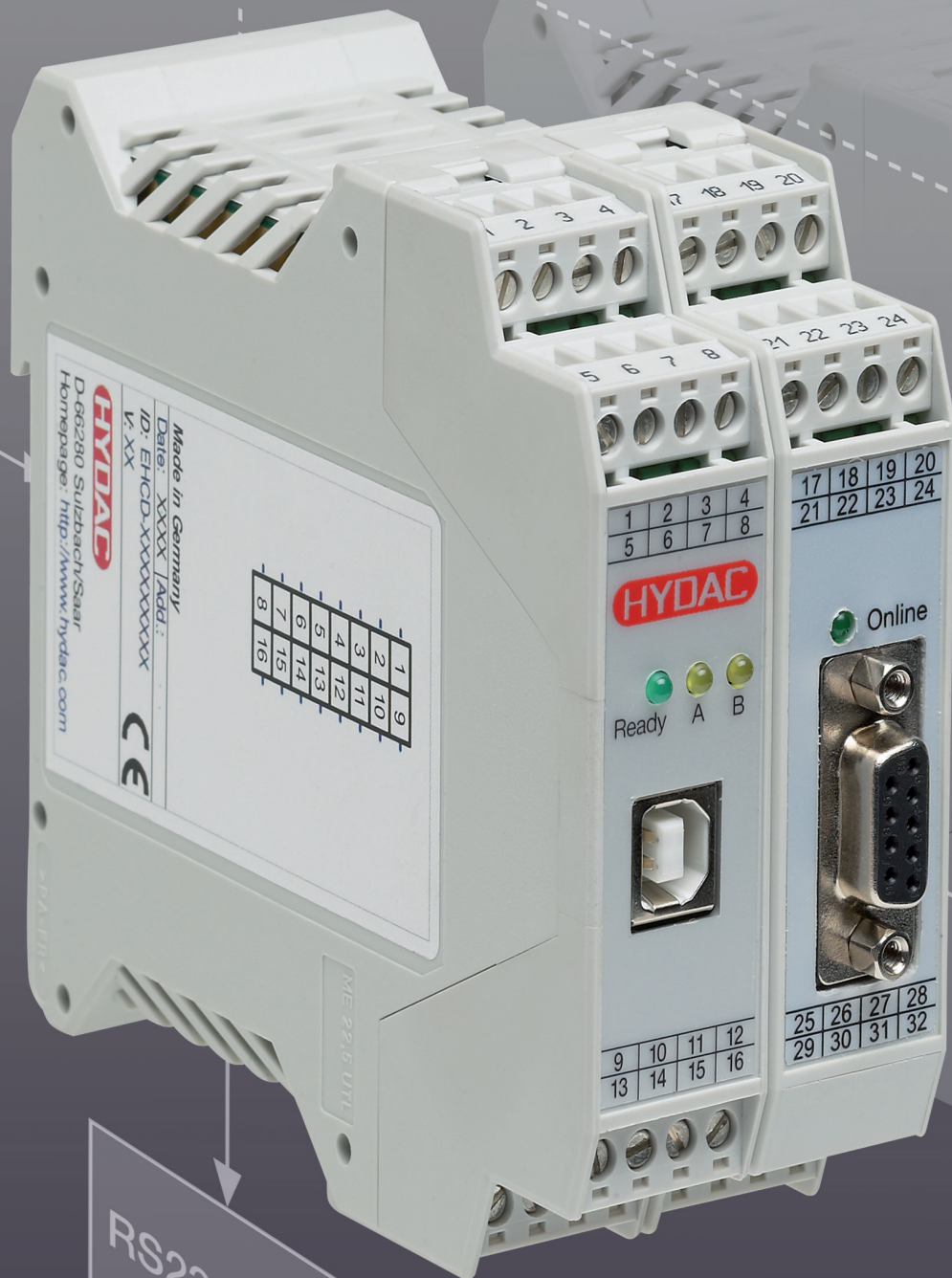
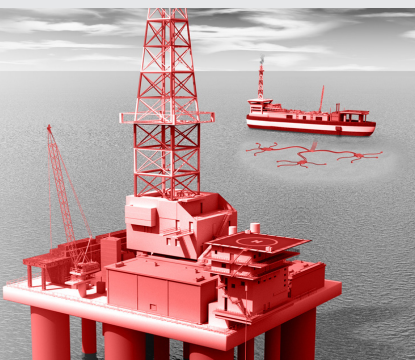
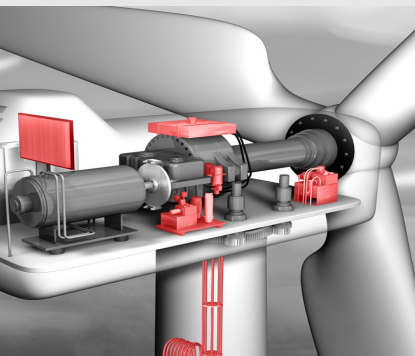
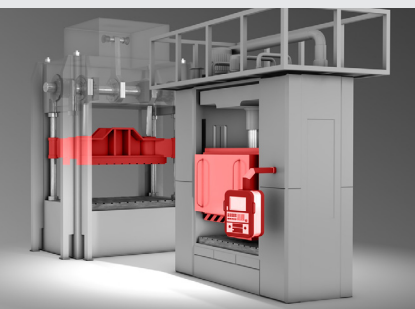
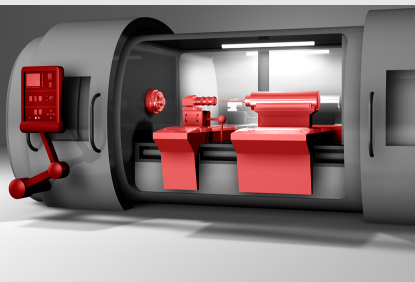
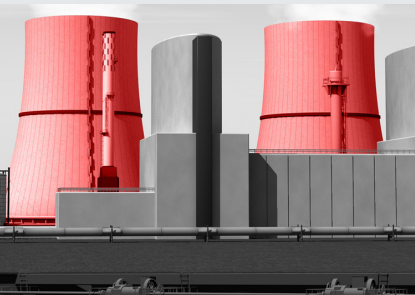


EHCD

Control modules for hydraulic transmissions.



RS232 / USB



HYDAC

Your professional partner for control technology.

Global Presence, Local Expertise.

With over 8,000 employees worldwide, HYDAC is one of the leading suppliers for fluid technology, hydraulic and electronic equipment. With 45 overseas companies, and more than 500 sales and service partners, HYDAC maintains close links with its customers.

We know hydraulics.

For more than five decades, we have been gathering experience which enables us to offer you optimum solutions for hydraulic applications and, in close co-operation with our customers, to pursue the further development of our products continuously and with specific objectives in mind. At the same time we are also the competent development partner for our customers in the area of control technology from the very start. Customer satisfaction and a long-term partnership cooperation are of primary importance for us in this connection. The transmission solutions from HYDAC are represented in practically all technology fields world-wide:

- Automotive industry
- Construction Machinery
- Agricultural machines
- Lifting and material handling
- Machine tools
- Plastics machinery
- Presses
- Iron and steel industry
- Power plant technology
- Wind power
- Process technology
- Mining machinery
- Shipbuilding
- Paper industry
- and in many other areas.

Profit from our applications experience, our development methods and from our high-quality products and systems.

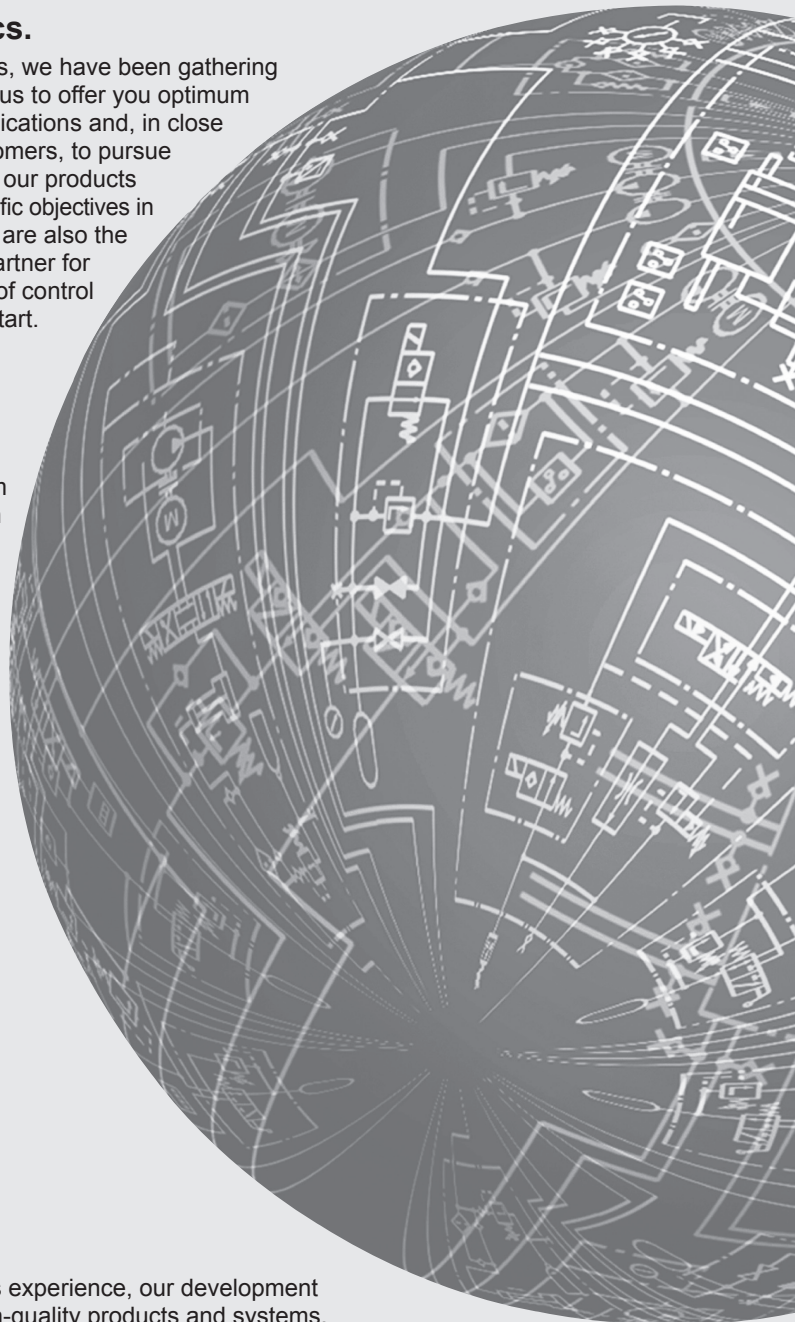
With HYDAC as your internationally present development partner, new paths will open up to give you a technological head start.

Worldwide specifications and approvals

Our quality and environment certification to ISO 9001/2008 and ISO 14001 / 2004 denote first class quality and responsible management of our resources.

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2

HYDAC



Our experience. Your advantages

Your advantages

We have every problem under control

Are you looking for a solution for general and hydraulic transmission tasks?

We offer you an extensive product family in the area of decentralised regulating electronics.

From the simple power amplifier and general control modules all the way to synchronised regulation, we always offer you the right product for typical applications.

Less is more

Our electronic assemblies are tailored to the individual requirements of our customers. Each module fulfills a particular transmission task.

This way, we can offer our customers an inexpensive alternative to complex expensive competitor products.

Simple installation

Thanks to the use of snap-on housings, we provide you with a simple and rapid commissioning.

Rapid commissioning

A simple and rapid commissioning our digital modules are made possible by our parameterisation software.

We are there for you

Our competency centre for electrohydraulic control is happy to help you further with any questions and problems which may arise.

Parameterisation software.

The parameterisation software is for the simple and rapid parameterisation of our digital controllers and for the optimization of hydraulic cylinder transmissions. With the integrated REMOTE CONTROL function, the controller can be controlled directly and the transmission can be driven without higher-level control.

Properties:

- Table-oriented input
- Saving and loading of datasets
- Monitor for process data display
- 4-channel oscilloscope function
- REMOTE-CONTROL function
- Universal application for all digital modules

Technical Description

Product structure

Our Miniboards and our Standard Hardware form the basis for all of our modules. The various types or versions are implemented in the software. It is thus always possible to offer you our products at inexpensive prices. It is thus always possible to offer you our products at inexpensive prices.

Regulation focal points:

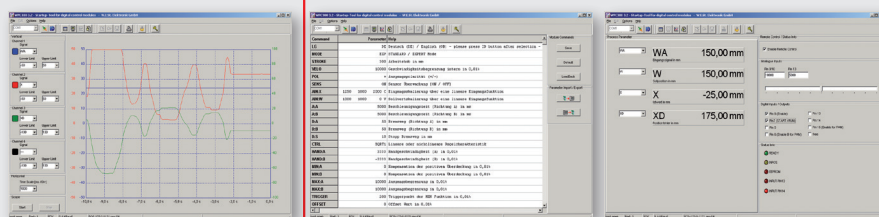
- Analogue and digital Power amplifiers
- Pressure regulators
- Synchronisation regulators
- Position controller

Product advantages:

- High-performance electronics
- Minimum-cost design
- Easiest of handling
- High flexibility
- Robust in defence against Application errors

Interfaces:

- USB interface for parameterisation
- Profibus (optional)



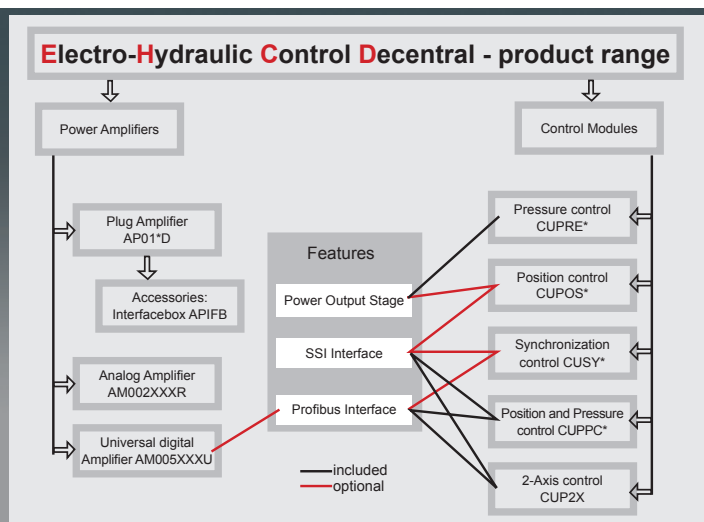
Download under:

www.hydac.com

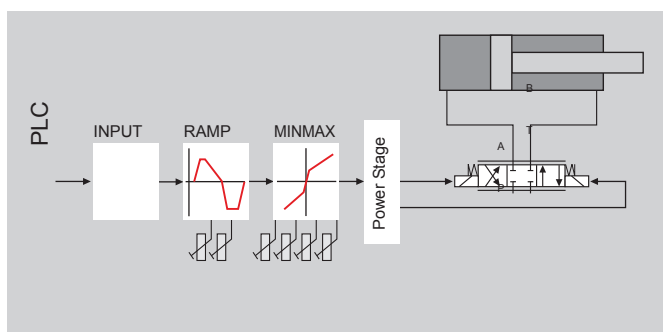
General overview



Control modules in various versions



Power amplifiers



Analogue power amplifier

Analogue power amplifier

For continuous valves with one or two magnets. The voltage supply range is between 10...30 V.

0...10 V, ± 10 V, 0...20 mA

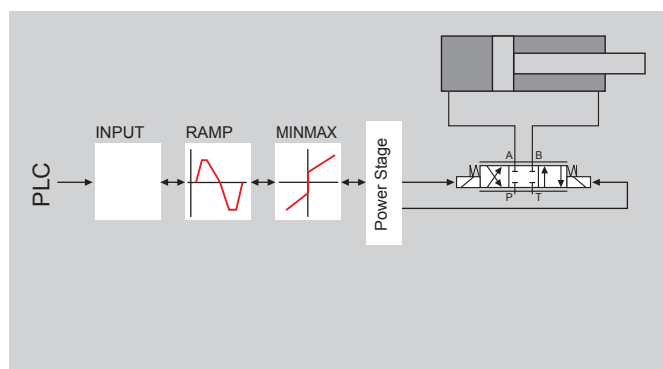
and 4...20 mA can be processed as input signals.

The settings of MIN, MAX, RAMP and DITHER are made per potentiometer.

The inner workings of these amplifiers are completely digital.

An output current range from 1.0 A to 2.6 A can be implemented.

Internal monitors report such typical errors as cable breakage with the input signal (4...20 mA) as well as cable breakage to the magnets via the LED.



Digital power amplifier

Digital power amplifier

For continuous directional control valves or for two continuous pressure or continuous throttle valves.

The voltage supply range is between 10...30 V.

0...10V, ± 10 V, 0...20 mA and 4...20 mA can be processed as input signals.

An output current range from 1.0 A to 2.6 A can be implemented.

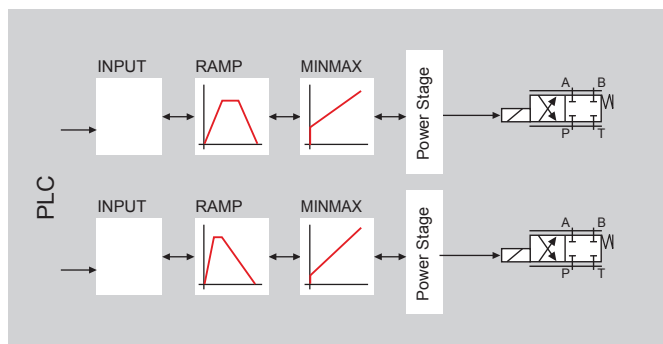
One PWM input can be integrated as an option.

All settings are carried out flexibly via the USB port, which means that 100% reproducibility is ensured.

This is an advantage, particularly for serial utilisation and for adjustment to various continuous valves.

A characteristic curve linearisation via freely definable XY points for adjusting flow rates and/or pressure curves, respectively, remains available.

Just as with the analogue variant, the error messages here are reported additionally through a switching output.



Digital power amplifier, 2 independent channels

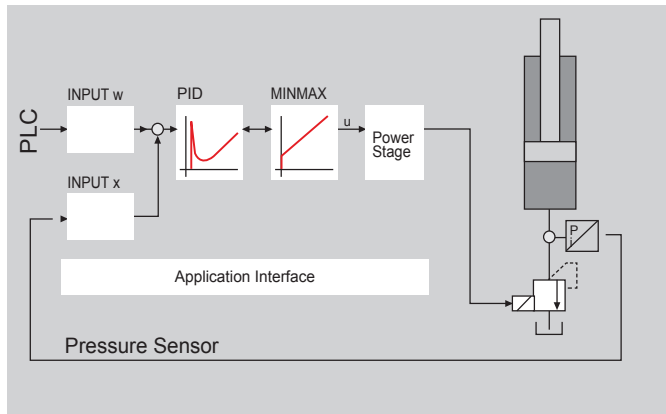
Plug amplifiers

The small and compact design is achieved at low cost through digital electronic construction and a standard Hirschmann housing (GDM 2011).

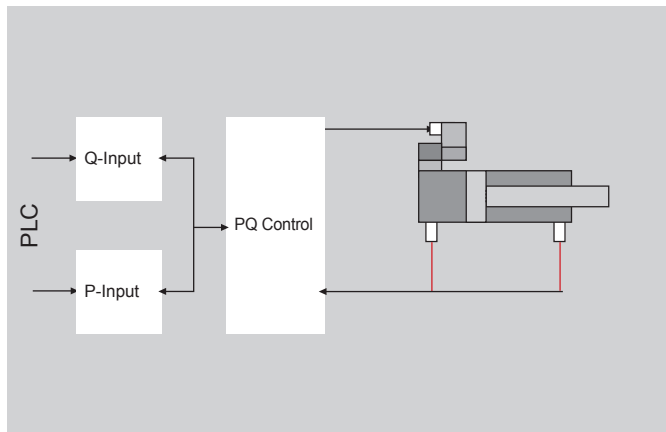
This completely digital version is parameterised on-site at the plug by means of two buttons. The parameterisation is supported by an LED display. Parameterisation is also possible using parameterisation software and an interface box / USB interface.

The plug-in power amplifier is available with an M12 screwdriver (DESINA standard) or optionally for custom cabling.

Pressure control



Pressure control module for pressure valves



Pressure control module with two sensor inputs

The parameterisation is effected using our parameterisation software.

Pressure control module for pressure valves

This module is used for controlling a universal control loop for controlling pressure and velocity.

One power end stage up to 2.6 A is already integrated.

The nominal value and the actual value are set up via a 0...10 V signal (optional 4...20 mA with cable breakage and overcurrent monitoring).

The ramp function and PID controller are universally applicable.

Pressure control module for directional valves with two sensor inputs

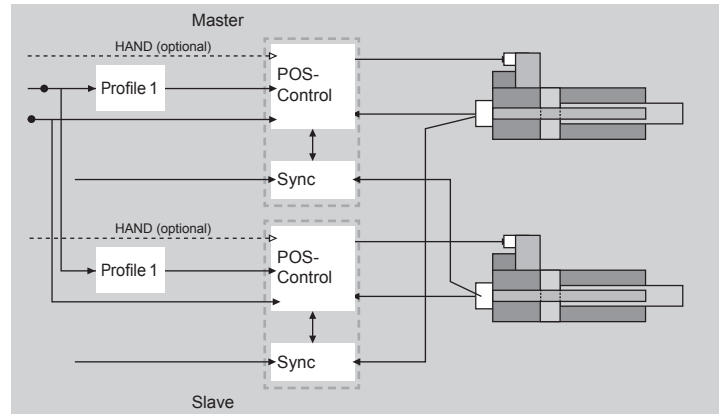
This module was developed for controlling pressure-regulated hydraulic axes via analogue or (optional) integrated Profibus-DP port.

In the Profibus version, the regulation parameters can be specified directly via the Profibus and the regulation portions can be activated or deactivated individually.

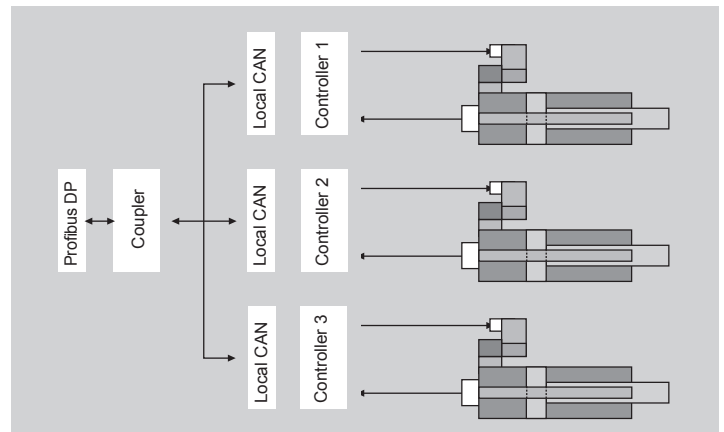
The differential output is designed for the actuation of continuous valves with integrated or external electronics (differential input).

Possible regulations are power/pressure regulation with a sensor or differential pressure regulation with two pressure sensors.

Synchronisation regulators



Synchronous control module with analogue target position specification



Synchronisation control module with SSI and Profibus DP

Synchronous control module with analogue target position specification

This module is used for the regulation of hydraulic positioning transmissions with the possibility of overlapped synchronised regulation with additional modules.

Continuous valves with integrated or external electronics can be actuated with the differential output (0...10V, optional 4...20 mA) (optionally with power stage up to 2.6 A).

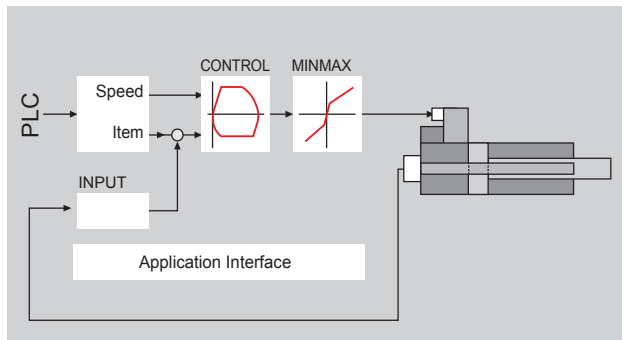
Synchronisation control module with SSI and Profibus DP

With this module, the nominal value specification, the control byte and the status byte are transferred through the field bus. The distance measurement can be analogue or digital via SSI port in its execution.

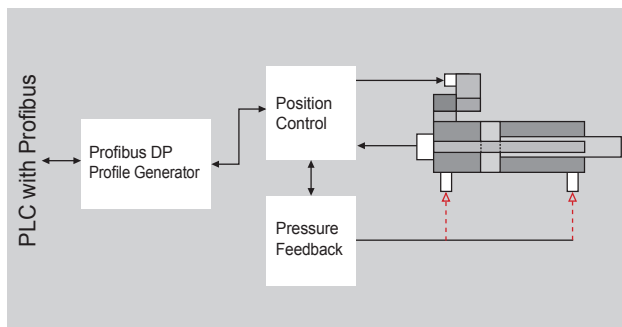
A distance resolution up to 1 μm (SSI) and a velocity resolution up to 0.005 mm/s are possible.

Various synchronised axes can be controlled via the Profibus DB. One synchronisation module is necessary for each axis and one Profibus DB coupler for every group.

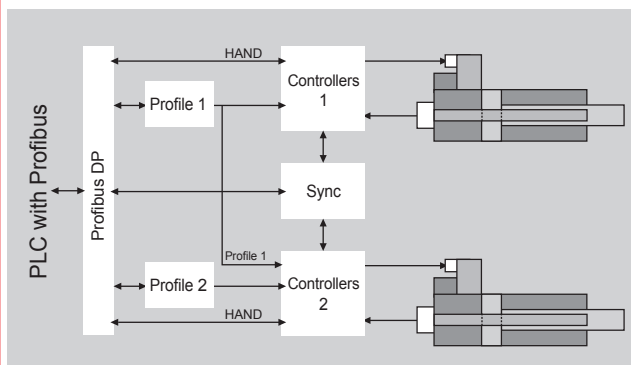
Position controllers



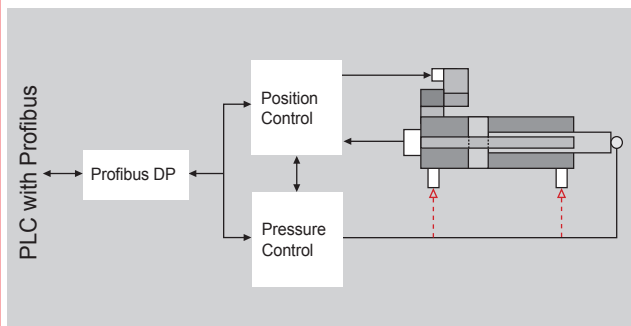
Universal positioning assembly



Universal positioning assembly with SSI / Profibus



2-axes positioning assembly/synchronisation



Axis control assembly for position and force control

We offer you a complete range of products for the position control of hydraulic axes. Starting from "simple" distance-dependent braking with analogue nominal value and actual value specification and ranging to the NC axis regulator with SSI sensor interface and Profibus coupling, all typical transmission tasks can be solved. Distance-dependent braking is implemented in all devices and offers a particularly simple handling and setting of the parameters by means of our parameterisation software.

Universal positioning assembly (variants SSI and field bus)

For controlling hydraulic positioning transmissions.

The typical positioning resolution is approximately 0.003 % of the sensor length.

The target position specification and the actual position return occur analogously (0...10 V, 4...20 mA). The nominal velocity is specified analogously (0...10V, 4...20 mA). Continuous valves with integrated or external electronics can be actuated with the differential output (optionally with power stage up). Here, too, an NC mode can be activated and a set-up mode can be run.

Variant SSI:

In the case of the SSI variant, the actual position response takes place through an SSI sensor. A position resolution of 0.001 mm can be achieved as a result.

Variant field bus:

This has to do with an expanded version for the Profibus or Ethernet and digital sensors (SSI).

Nominal values and control signals are sent to the module via the Profibus, while status information and actual values are reported back from the module.

The current actual position can also be fed in via the analogue input (0...10 V, 4...20 mA). A distance resolution of up to 1 µm (SSI) and a velocity resolution of up to 0.005 mm/s are possible.

2-axes positioning assembly/synchronisation

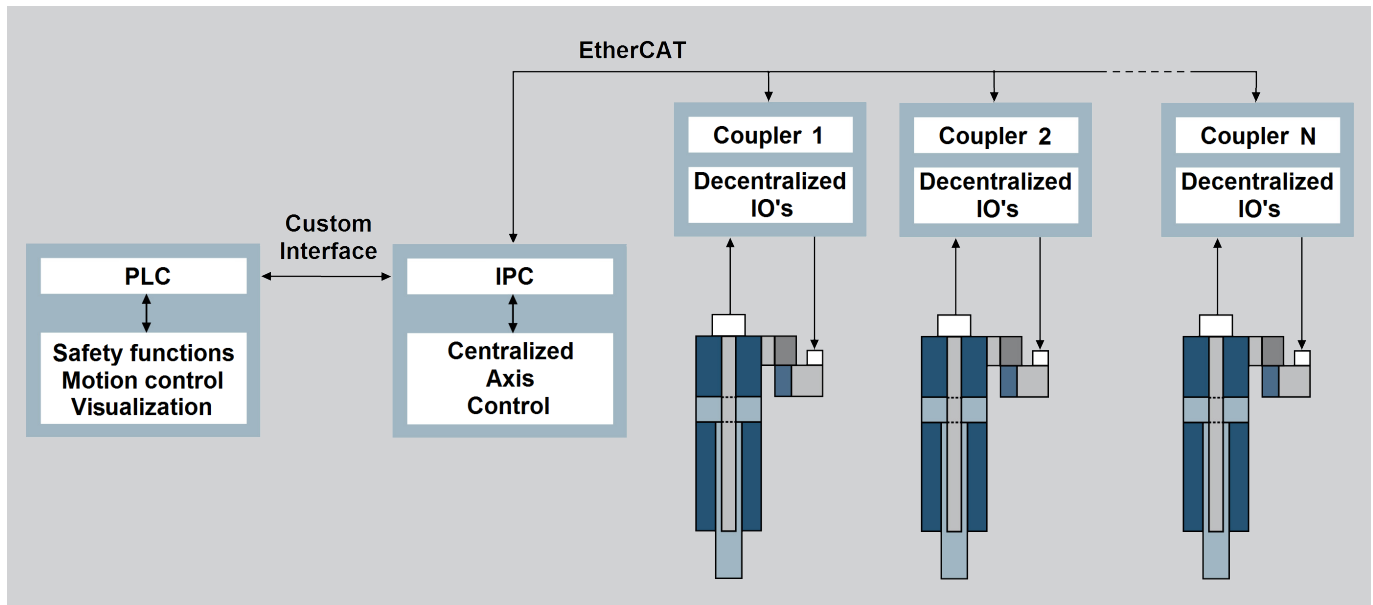
This module is used for the control of two hydraulic positioning axes via one integrated Profibus DP interface. The two axes can be operated completely independently as position regulation or as a two-axis synchronous system. Nominal values and control signals are transferred to the module and actual values and status signals are transferred from the module through the Profibus DP. The differential outputs (0...10 V, optional 4...20 mA) are designed for actuation of continuous valves with integrated or external electronics (differential output). The assembly is intended for the connection of analogue distance sensors (0...10V, 4...20 mA, scalable).

Axis control assembly for position and force control

This module was developed for controlling hydraulic axes via an integrated Profibus-DP interface. The hydraulic axes can be designed as position regulation with digital distance measurement via a universal SSI interface or via analogue sensors (0...10V, 4...20 mA). In the case of the SSI interface, a distance resolution of up to 1 µm can be achieved. In addition, a power or differential pressure regulation, respectively, is integrated as replacement pressure limitation regulation. Optimum utilisation is achieved with zero-cut control valves.

■ Further products from our EHC series

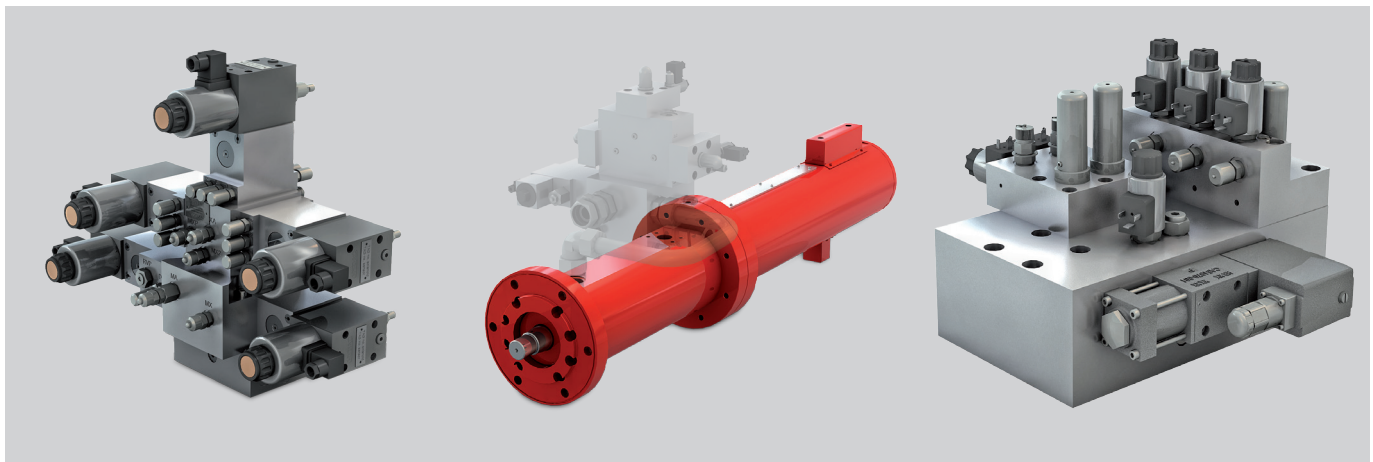
■ IPC-based central control systems EHC-C



■ Safety control EHC-S

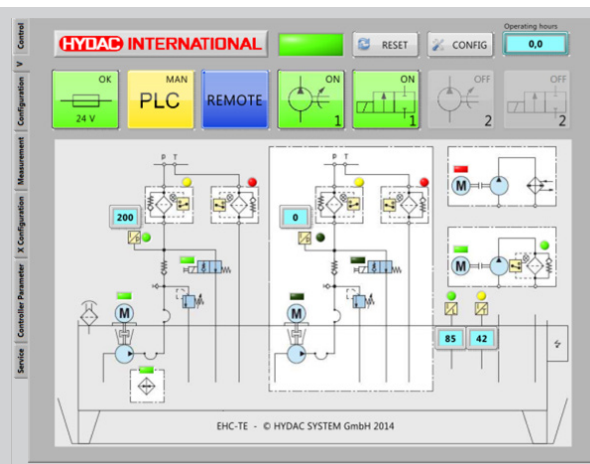
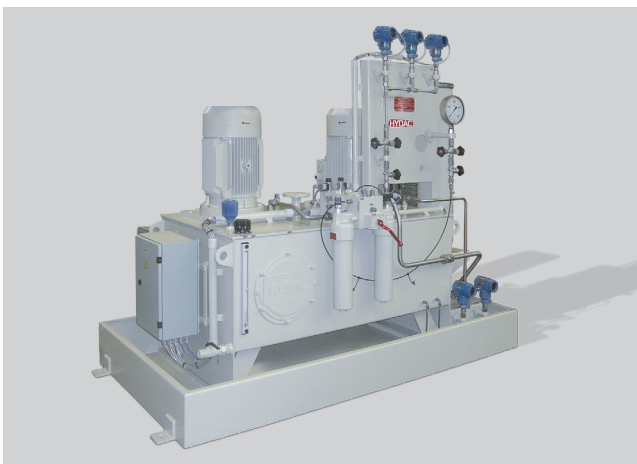
■ Hydraulic cylinder EHC-A

■ Function module EHC-M for actuator systems



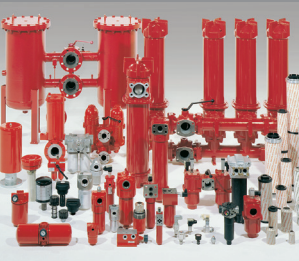
■ Electro-hydraulic oil supply unit EHC-U

■ Universal control for oil supply unit EHC-TE





Accumulators 30.000



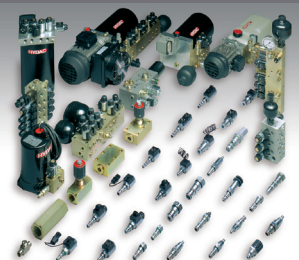
Filter Technology 70.000



Process Technology 77.000



Filter Systems 79.000



Compact Hydraulics 53.000



Accessories 61.000



Electronics 180.000



Cooling Systems 57.000

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