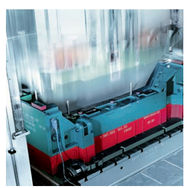
Control technology from Rexroth – scalable, consistent and easy to use, open

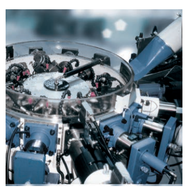
Rexroth combines know-how across technologies with competence in controls and hydraulics to create system solutions in all drive and control technologies for nearly all industrial sectors. Your advantage: The open Rexroth system solutions fit easily into your concept and shorten your ‘time to market‘. Consistently simple engineering tools help you realize your concepts and proven technology functions ensure perfect results.



Be it in presses, steelworks and rolling mill technology, material handling or special machinery – Rexroth offers the optimum motion logic systems.

Presses
- Ejector controls
- Glass presses
- Internal high-pressure forming
- Laboratory presses
- Metal/ceramic powder presses
- Tube forming presses
- SMC/IMC presses
- Brick presses
- Deep drawing presses/ die cushions

Steelworks and rolling mill technology
- 3-roll bending machines
- Curved-mold continuous casting machines
- Flying shears
- Ladle cars
- Mold oscillation



- Sand molding plants
- Segment adjustment
- Continuous casting machines
- Roll stands
- Turntable cooling beds

Material handling
- Belt feed
- Container cranes
- Quay cranes
- Train lifts
- Truck lifts

Special machines
- Thick plate turnover device
- Automatic rotary tables
- Screw conveyors
- Bending and pushing devices
- Coal distributors
- Motor turning plants
- Stretch bending machines

Woodworking machines
- and many more

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R999000323A (2017-02)

Electro-hydraulic components for scalable Motion Control systems

Product overview

Platform	IAC Multi-Ethernet	VT-HACD-3-2X	VT-HMC-1X	VT-HNC100-3X	MLC for hydraulic drives
					
Application	Parameterizable Motion Control Type 4WRPDH, NG6 and 10 Type 4WRLD, NG16, 25 and 27	Parameterizable Motion Control for 3 control loops	Parameterizable and programmable Motion Control, up to 2 axes	Programmable Motion Control, up to 4 axes	Motion and Logic Control, up to 32 centrally controlled axes (type VPx)
Design	On-board electronics	Top hat rail for control cabinet installation	Top hat rail for control cabinet installation	Top hat rail for control cabinet installation	Top hat rail for control cabinet installation
Voltage supply	18 V ... 36 VDC; Current consumption max. 4 A	18 ... 30 VDC; Current consumption 400 mA	17.5 V ... 30 VDC; Maximum current consumption 1.1 A	18 ... 30 VDC; Current consumption up to 4 A (depending on the axis)	19 ... 30 VDC; Current consumption up to 8 A (depending on the application)
Digital outputs	1 enable acknowledgement, 1 switching output	"Ok" + 7 configurable	2 configurable	up to 22 configurable	8 (on-board) + modularly expendable
Digital inputs	1 x Enable	"Enable" + 8 configurable	4 configurable	up to 44 configurable	modularly expendable
Reference outputs / No voltage supply	5 V, 24 V for sensor	+V10.0 V	24 V for sensor	10 V (5 V, 24 V for sensor)	depending on the extension
Positional transducer	SSI, 1Vpp, EnDat2.2, analog	SSI, incremental, analog	SSI, incremental, EnDat2.2, analog	SSI, incremental, analog	SSI, incremental encoder, analog
Number of analog inputs	2 voltage inputs 1 current input 2 current/voltage inputs	6 inputs	4 inputs per axis	2 voltage inputs and 2 current inputs per axis	12 inputs on 4-axis block I/O 6 inputs on S20 module
Analog sensor inputs	±10 V and 4 ... 20 mA; Resolution 12 bits	±10 V and 0(4) ... 20 mA; Resolution 12 bits	+/-10 V and 0(4) ... 20 mA; Resolution 14 bits	±10 V and 4 ... 20 mA; Resolution 12 bits	±10 V; ±10 mA and 0(4) ... 20 mA; Resolution 16 bits
Number of analog outputs	1 analog output for actual value	2 voltage outputs and 1 current output	2 outputs per axis	2 voltage outputs and 1 current output per axis	4 outputs on 4-axis block I/O 2 outputs on S20 module
Analog signal outputs	±10 V and 4 ... 20 mA; Resolution 10 bits	±10 V and 0(4) ... 20 mA; Resolution 14 bits	+/-10 V and 0(4) ... 20 mA; Resolution 16 bits	±10 V and 4 ... 20 mA; Resolution 14 bits	±10 V; ±10 mA; 0(4) ... 20 mA; Resolution 16 bits
Bus communication slave	Sercos III, PROFINET RT, Ethernet/IP, EtherCat, Varan, POWERLINK	EtherNet/IP, PROFIBUS DP/V0, PROFINET RT	Sercos, EtherNet/IP, PROFIBUS DP/V0, PROFINET RT, EtherCAT, POWERLINK	EtherNet/IP, PROFIBUS DP/V0, PROFINET RT	PROFIBUS, PROFINET RT, EtherNet/IP
Bus communication master	No	No	No	No	Sercos III, PROFIBUS, PROFINET, EtherNet/IP
Parameterization and diagnosis (via)	Ethernet or control	RS232, Ethernet or bus	Ethernet or control	RS232, Ethernet or control system	Ethernet
Hydraulic drive control					
Pressure control	Yes	Yes	Yes	Yes	Yes
p/Q control	Yes	Yes	Yes	Yes	Yes
Position control	Yes	Yes	Yes	Yes	Yes
Velocity control	Yes	Yes	Yes	Yes	Yes
Pressure/force control	Yes	Yes	Yes	Yes	Yes
Substitutional control (position/pressure force)	Yes	Yes	Yes	Yes	Yes
State feedback	Yes	Yes	Yes	Yes	Yes
Path-dependent braking	No	No	Yes	Yes	Yes
Mathematical link	No	Basic mathematical and logic signal processing	Yes/IEC61131	Basic mathematical and numerical (NC) programming	Yes/IEC61131
IEC61131-3	Yes	No	Yes	No	Yes
Table function	No	Command position detection and profile	No	Profile and linearization	Yes
Motion Control via bus	Very good, via external Sercos master	Limited, via external Motion Controller	Very good, via external Sercos master	Limited, via external Motion Controller	By means of project template
Multi-axis control					
Synchronism	No	No	in preparation	Synchronism / 2 or 3 linked axes	Yes
Interpolation	No	Yes / linear	By superior control system	By superior control system	Yes
Path control/robotics	No	No	By superior control system	By superior control system	Yes
Application support					
Open software development platform	Open Core Interface	No	Open Core Interface	No	Open Core Engineering
Software tools	IndraWorks DS with initial parameterization wizard	BODAC	IndraWorks DS or MLD with initial parameterization wizard	WINPED6, WINPED7	IndraWorks Engineering with initial parameterization wizard
Online measurement tool	IndraWorks	WinView	IndraWorks	WinView	MlcTrending
Safety function	Shut-off of a channel according to EN 13849-1 in the direction P to A	No	No	No	Yes
$MTTF_D$ values (electronics)	On request	On request	On request	On request	On request
Further information					
Data sheet	29391 (type WRPDH) 29288 (type WRLD)	30543	30239	30139	R911332115
Brochure	R999000314 (DE) R999000315 (EN)	R999000119 (DE) R999000120 (EN)		R999000068 (DE) R999000069 (EN)	R999000113 (DE) R999000114 (EN)
Internet	www.boschrexroth.de/iac	www.boschrexroth.com/HACD	www.boschrexroth.de/hmc	www.boschrexroth.de/hnc100	www.boschrexroth.de/mlc

Electro-hydraulic Motion Controls by Rexroth maximize hydraulic drive power. With our innovative product technology and application technology, perfect position, velocity, pressure and force controls can be quickly implemented. The connection options comprise many popular analog, digital and bus variants such as: 4 ... 20 mA, SSI, incremental, EnDat, CANopen, Sercos, Profibus, DeviceNet, EtherNet ...