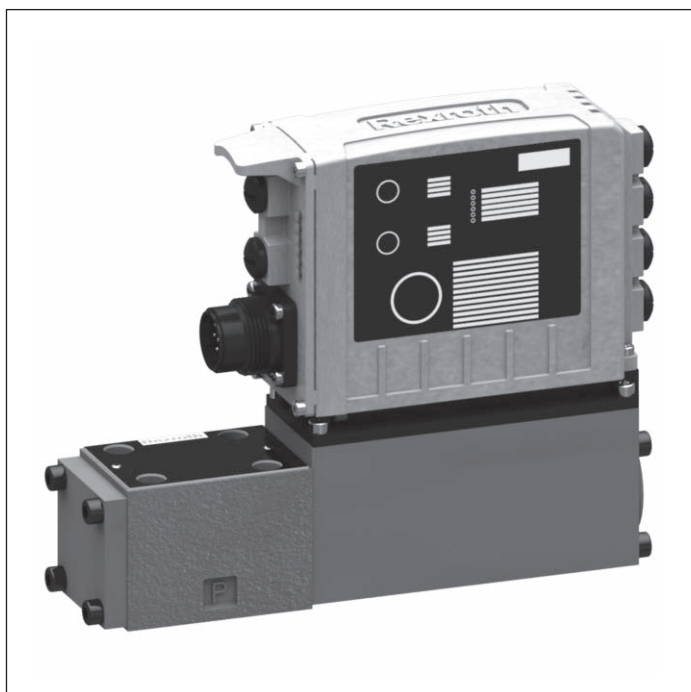


# High-response valve with integrated digital axis controller (IAC-Multi-Ethernet)

## Type 4WRPDH

**RE 29391**

Edition: 2013-03



- ▶ Sizes 6 and 10
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 100 l/min



## Features

- ▶ Direct operated servo quality high-response valves
- ▶ Integrated digital axis control functionality (IAC-Multi-Ethernet)
- ▶ Best-in-class hydraulic controller
- ▶ Bus connection/service interface (sercos, EtherCAT, EtherNet/IP, PROFINET RT)
- ▶ Actual value detection:
  - 2 x configurable analog sensors (current/voltage)
  - 1 x linear position measurement system (SSI, EnDat 2.2 or 1Vss)
- ▶ Internal safety function (can be used up to category 4/PL e according to EN 13849-1)
- ▶ CE conformity according to EMC Directive 2004/108/EC

## Contents

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**Ordering code**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
<b>4</b>	<b>WRP</b>	<b>D</b>	<b>H</b>			<b>B</b>			<b>2X</b>	<b>/</b>	<b>/</b>	<b>24</b>		<b>D6</b>	

01	4 main ports	<b>4</b>
02	High-response valve	<b>WRP</b>
03	With integrated digital axis controller	<b>D</b>
04	Control spool/bushing	<b>H</b>
05	Size 6	<b>6</b>
	Size 10	<b>10</b>

**Control spool symbols** (possible designs, characteristic curves see page 4)

06	Symbol	Characteristic curve L	Characteristic curve P		
			Inflection 60 % (size 6 only)	Inflection 40 %	
		•	•	•	<b>C</b>
		•	•	•	Rated flow 40 l/min or higher <b>C1</b> <sup>1)</sup>
		•	•	•	<b>C4</b>
		•	•	•	<b>C3</b>
		•	•	•	Rated flow 40 l/min or higher <b>C5</b> <sup>1)</sup>
	<p>• = available</p> <p><sup>1)</sup> With symbols C1 and C5:</p> <p>P → A: <math>q_v</math>      B → T: <math>q_v/2</math></p> <p>P → B: <math>q_v/2</math>      A → T: <math>q_v</math></p>				

07	Installation side of the inductive position transducer	<b>B</b>
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**Rated flow of size 6** with 70 bar valve pressure differential (35 bar/control edge)

	Characteristic curve L	Characteristic curve P	
08    2 l/min	•		<b>02</b>
4 l/min	•	•	<b>04</b>
12 l/min	•		<b>12</b>
15 l/min		•	<b>15</b>
24 l/min	•		<b>24</b>
25 l/min		•	<b>25</b>
40 l/min	•	•	<b>40</b>

• = available

**Rated flow of size 10** with 70 bar valve pressure differential (35 bar/control edge)

08    50 l/min	<b>50</b>
100 l/min	<b>100</b>

**Flow characteristics**

09	Linear	<b>L</b>
	Inflected characteristic curve (inflection 60 % for size 6 with rated flows " <b>15</b> " and " <b>25</b> ", otherwise inflection 40 %)	<b>P</b>

## Ordering code

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
<b>4</b>	<b>WRP</b>	<b>D</b>	<b>H</b>			<b>B</b>			<b>2X</b>	<b>/</b>	<b>/</b>	<b>24</b>	<b>D6</b>		

10	Component series 20 ... 29 (20 ... 29: Unchanged installation and connection dimensions)	<b>2X</b>
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### Seal material

11	NBR seals	<b>M</b>
	FKM seals	<b>V</b>

12	Supply voltage 24 V	<b>24</b>
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### Field bus interface

13	EtherNET/IP	<b>E</b>
	PROFINET RT	<b>N</b>
	Sercos	<b>S</b>
	EtherCAT (CANopen profile)	<b>T</b>

### Electrical interface

14	±10 VDC or 4 ... 20 mA	<b>D6</b>
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### Sensor interfaces

15	0 ... 10 V/4 ... 20 mA/EnDat 2.2	<b>S</b>
	0 ... 10 V/4 ... 20 mA/SSI	<b>T</b>
	0 ... 10 V/4 ... 20 mA/1Vss	<b>U</b>

16	Further details in the plain text	
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**Notice!** For ordering codes and technical information regarding high-response valves with integrated digital axis controller and additional bus profiles, please refer to:

- Data sheet 29191: CANopen, Profibus DP V0/V1
- Data sheet 29291: Profibus DP/V2 (PROFIdrive profile)



**Important notice!** Control spool versions that have been approved for the safety function:

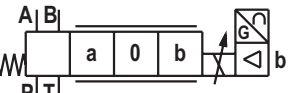



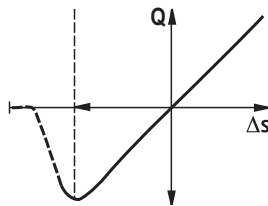
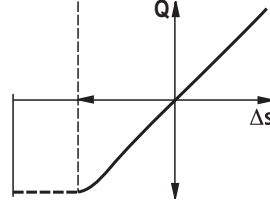
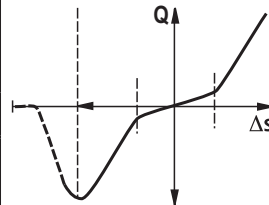
- C
- C1
- C3
- C4
- C5

Symbols

Size 6

	Linear	P: Inflection 60 % [ $q_n = 15.25 \text{ l/min}$ ]	P: Inflection 40 % [ $q_n = 40 \text{ l/min}$ ]
 C3, C5	 C3, C4	 C3, C5, C4, C1	 C3, C5, C4, C1
 C4, C1	 C		
 C			
Standard = 1:1, from $q_n = 40 \text{ l/min}$ also 2:1			

Size 10

	Linear	P: Inflection 40 %
<div><div>C3, C5</div></div> <div><div>C4, C1</div></div> <div><div>C</div></div>	<div><div>C3, C4</div></div> <div><div>C</div></div>	<div></div> <div>C3, C5, C4, C1</div>

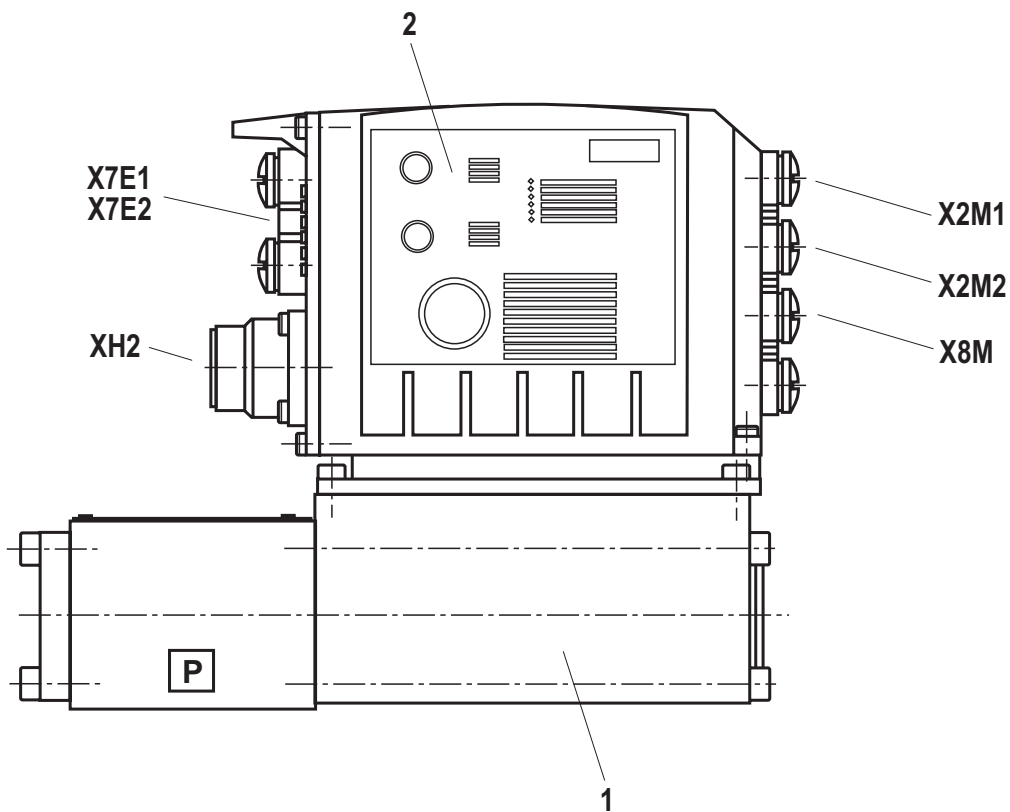
## Function, section

### Design

The high-response valve with IAC-Multi-Ethernet electronics mainly consists of:

- ▶ Direct operated high-response valve (1) with control spool and bushing in servo quality
- ▶ Integrated digital axis controller (2) with:
  - Analog/digital interface (XH2)
  - Ethernet interfaces (X7E1, X7E2)
  - Analog sensor interfaces (X2M1, X2M2)
  - Digital sensor interface (X8M)

**High-response valve with integrated axis controller, analog interfaces (X2M1, X2M2), digital interfaces (XH2, X8M) and Ethernet interfaces (X7E1, X7E2)**



## Function, section

### Functional description

The **IAC-Multi-Ethernet** valve (Integrated **A**xis **C**ontroller based on high-response valves) is a digital high-response valve with integrated axis controller and the following functionalities:

- ▶ Position control
- ▶ Pressure control
- ▶ Force control
- ▶ Override control (position/pressure)

This enables, amongst others, the following operating modes:

- ▶ Valve direct control
- ▶ Drive-controlled position control
- ▶ Drive-controlled positioning
- ▶ Positioning block operation
- ▶ The command values are specified via the Ethernet interface (X7E1 or X7E2) or, alternatively, via the analog/digital interface (XH2)
- ▶ The feedback information of the actual value signals to the superior control system is provided optionally either via the Ethernet interface (X7E1 or X7E2) or the analog/digital interface (XH2)
- ▶ The control parameters are set via the Ethernet interface (X7E1 or X7E2)

### Safety function

The integrated control electronics of the valve enables the additional switch-off of a channel according to EN 13849-1 in the direction "P" to "A" (depending on the application, the fail-safe position must be adhered to).

For this purpose, a suitable control system must be provided to perform the plausibility check between the direction-dependent valve signals "enable input" and "enable acknowledgement" (signal fed back by the valve). It is not possible to switch off direction "P" to "B" in a safety-relevant manner according to EN 13849-1 (depending on valve type).

### Monitoring

The digital control electronics enables comprehensive monitoring functions/fault detection including:

- ▶ Undervoltage
- ▶ Communication error
- ▶ Cable break for analog sensor inputs and digital position measurement system
- ▶ Short-circuit monitoring for analog/digital outputs
- ▶ Monitoring of the microcontroller (watchdog)
- ▶ Temperature of the integrated electronics

### IndraWorks PC program

To implement the project planning task and to parameterize the IAC-Multi-Ethernet valves, the user may use the IndraWorks engineering tool (see accessories).

- ▶ Project planning
- ▶ Parameterization
- ▶ Commissioning
- ▶ Diagnosis
- ▶ Comfortable management of all data on a PC
- ▶ PC operating systems: Windows XP (SP3), Windows 7

**Technical data**

(for applications outside these parameters, please consult us!)

general		Size 6	Size 10
Design		Spool valve, direct operated, with steel sleeve,	
Operation		Proportional solenoid with position control, OBE	
Type of connection		Plate connection, porting pattern according to ISO 4401	
Installation position		Any	
Ambient temperature range	°C	-20 ... +60	
Storage temperature range	°C	-10 ... +50	
Sine test according to DIN EN 60068-2-6		10...2000 Hz / maximum of 10 g / 10 cycles / 3 axis	
Random test according to DIN EN 60068-2-64		20...2000 Hz / 10 g <sub>RMS</sub> / 30 g peak / 30 min / 3 axis	
Transport shock according to DIN EN 60068-2-27		15 g / 11 ms / 3 axis	
Weight	kg	3.2	7.2
Maximum relative humidity (non-condensing)	%	97	

hydraulic	
Hydraulic fluid	See table page 8
Viscosity range	<div>– recommended mm<sup>2</sup>/s 20 ... 100</div> <div>– maximum admissible mm<sup>2</sup>/s 10 ... 800</div>
Hydraulic fluid temperature range	°C -20 ... +60
Maximum admissible degree of contamination of the hydraulic fluid Cleanliness class according to ISO 4406 (c)	Class 18/16/13 <sup>1)</sup>
Direction of flow	According to symbol

hydraulic, size 6							
Rated flow at $\Delta p = 35$ bar per edge <sup>2)</sup>	l/min	2	4	12	15	24/25	40
Maximum operating pressure	<div>– Ports A, B, P bar 315</div> <div>– Port T bar 250</div>						
Limitation of use with regard to the transition to failsafe	<div>– Spool symbols C3, C5 bar 315</div> <div>– Spool symbols C1, C4 bar 315</div>	315	315	315	315	315	160
Zero flow at 100 bar	<div>– Linear characteristic curve L cm<sup>3</sup>/min &lt; 150</div> <div>– Inflected characteristic curve P cm<sup>3</sup>/min -</div>	< 150	< 180	< 300	-	< 500	< 900
		-	-	-	< 180	< 300	< 450

hydraulic, size 10							
rated flow at $\Delta p$ = 35 bar per edge <sup>2)</sup>			l/min	50 (1:1)	50 (2:1)	100 (1:1)	100 (2:1)
Maximum operating pressure	– Ports A, B, P		bar	315			
	– Port T		bar	250			
Limitation of use with regard to the transition to failsafe	– Spool symbols C3, C5		bar	315	315	160	160
	– Spool symbols C1, C4		bar	250	250	100	100
Zero flow at 100 bar	– Linear characteristic curve L		cm³/min	< 1200	< 1200	< 1500	< 1500
	– Inflected characteristic curve P		cm³/min	< 600	< 500	< 600	< 600

<sup>1)</sup> The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.  
For the selection of the filters, see [www.boschrexroth.com/filter](http://www.boschrexroth.com/filter).


<sup>2)</sup> Flow with different  $\Delta p$ :

$$q_x = q_{\text{rated}} \cdot \sqrt{\frac{\Delta p_x}{35}}$$

**Technical data**

(for applications outside these parameters, please consult us!)

static/dynamic		
Hysteresis	%	≤ 0.2
Manufacturing tolerance $q_{\max}$	%	< 10
Actuating time for signal step 0 ... 100 %	ms	≤ 10      25
Temperature drift		Zero shift < 1 % with $\Delta\theta = 40\text{ °C}$
Zero compensation		Ex factory ±1 %

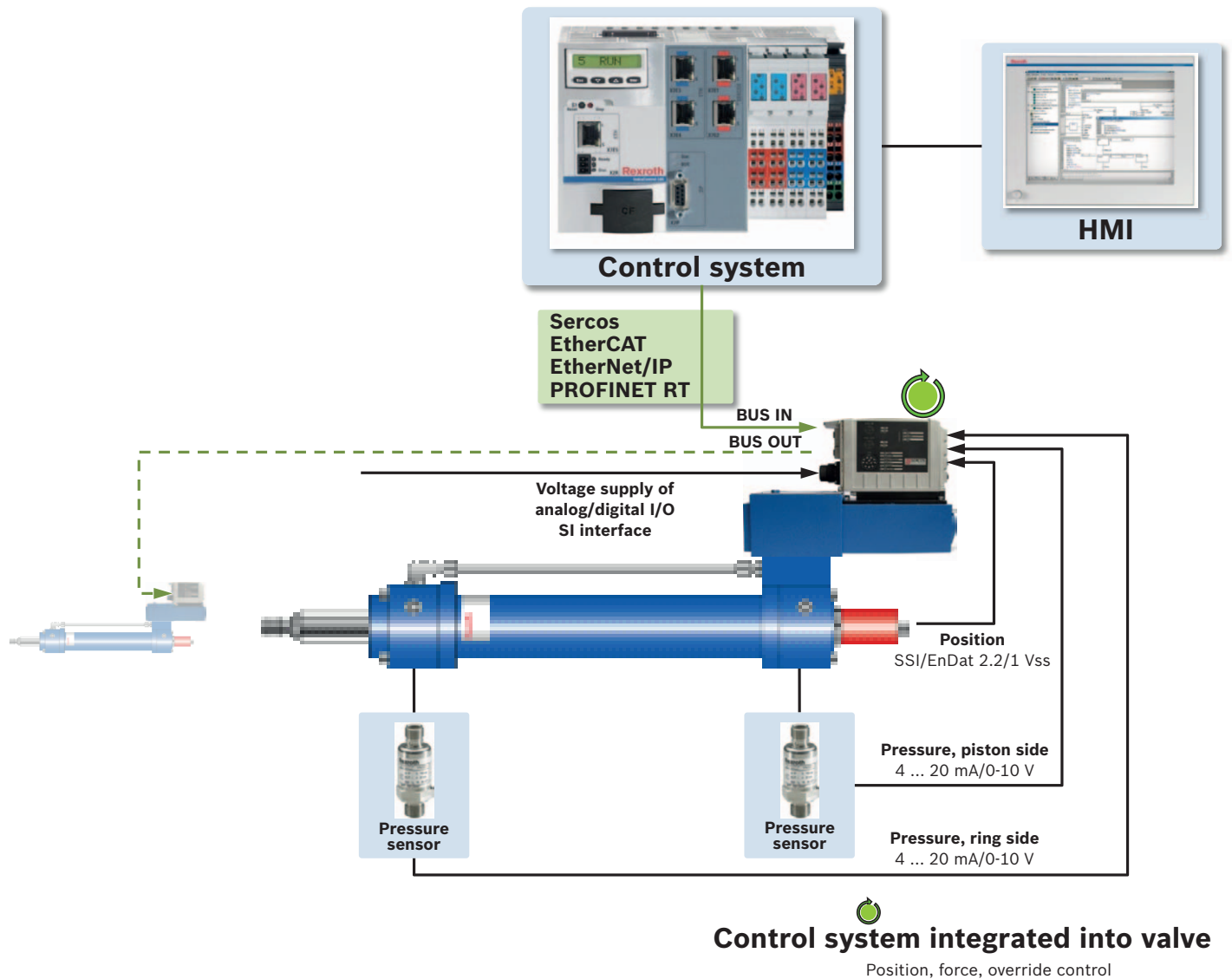
Hydraulic fluid	Classification	Suitable sealing materials	Standards
Mineral oils and related hydrocarbons	HL, HLP, HLPD, HVLP, HVLDP	NBR, FKM	DIN 51524
Bio-degradable – insoluble in water	HETG	NBR, FKM	VDMA 24568
	HEES	FKM	
– soluble in water	HEPG	FKM	VDMA 24568
Flame-resistant – water-free	HFUD, HFDR	FKM	ISO 12922
	HFC	NBR	ISO 12922
<p> <b>Important information on hydraulic fluids!</b></p> <p>► For more information and data on the use of other hydraulic fluids, refer to data sheet 90220 or contact us!</p> <p>► There may be limitations regarding the technical valve data (temperature, pressure range, life cycle, maintenance intervals, etc.)!</p> <p>► The flash point of the hydraulic fluid used must be 40 K higher than the maximum solenoid surface temperature.</p> <p>► <b>Flame-resistant – containing water:</b> Maximum pressure differential per control edge 50 bar. Pressure pre-loading at the tank port &gt; 20 % of the pressure differential; otherwise, increased cavitation. The pressure peaks should not exceed the maximum operating pressures!</p> <p>– If HFUD is used, data sheet 90222 must be complied with!</p>			

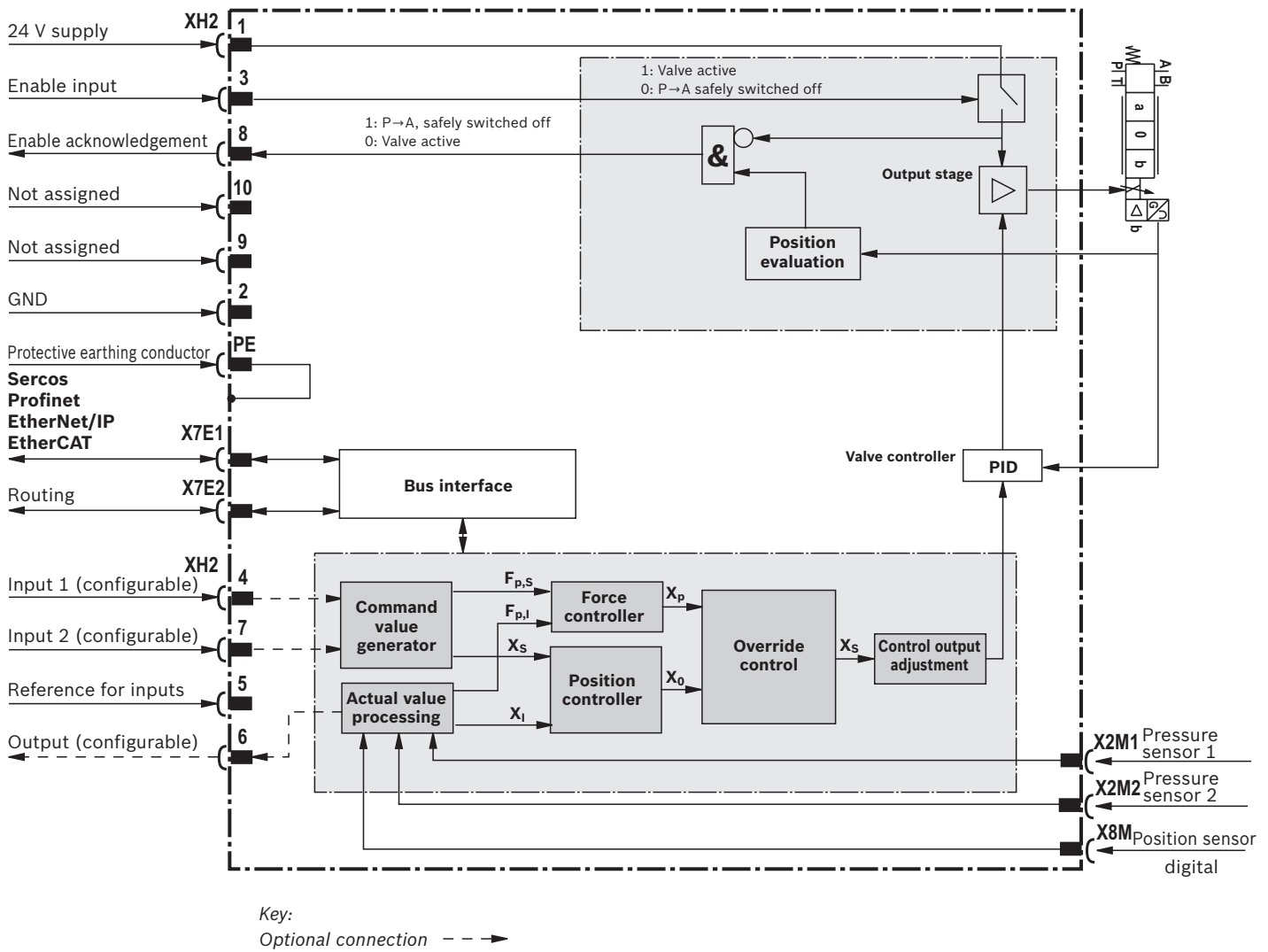
electrical, integrated electronics (OBE)		
Relative duty cycle	%	100 (continuous operation)
Protection class according to EN 60529		IP 65 with mounted and locked plug-in connectors
Supply voltage <sup>1)</sup>	– Nominal voltage	VDC 24
	– Lower limit value	VDC 18
	– Upper limit value	VDC 36
	– Maximum admissible residual ripple	Vpp 2.5 (Comply with absolute supply voltage limit values!)
Power consumption	– Size 6	W Maximum of 40
	– Size 10	W Maximum of 60
AD/DA resolution	– Analog inputs	12 bit
	– Analog output	10 bit
Protective earthing conductor and screening		See pin assignment (CE-compliant installation)
Required fuse protection, external	A	4, time-lag
Adjustment		Calibrated at plant, see valve characteristic curve
Conformity		CE according to EMC Directive 2004/108/EC tested according to EN 61000-6-2 and EN 61000-6-3

<sup>1)</sup> Supply voltage is used directly for sensor connections X2M1, X2M2 and X8M (no internal voltage limitation)



## Representation of the axis controller in the system network



**Block diagram/controller function block****Detailed description of the safety function:**

After the signal at the enable input has been removed, the output stage, and thus the solenoid of the valve, are internally separated from the available supply voltage. The enable acknowledgement will only be activated after the safe valve control spool position has been achieved.

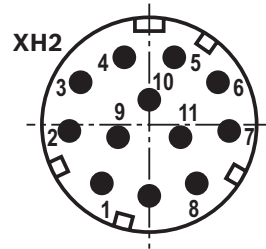
For a more detailed description of the safety function, please refer to the 29391-B operating instructions as well.

## Electrical connections, assignment

### Connector pin assignment XH2, 11-pole + PE according to EN 175201-804

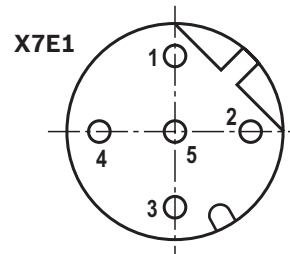
Pin	Core marking <sup>1)</sup>	Interface D6 assignment
1	1	24 V DC supply voltage
2	2	GND
3	3	Enable input, output stage 24 V DC
4	4	Command value 1 (4 ...20 mA/±10 V) <sup>2)</sup>
5	5	Reference for command values
6	6	Actual value (4 ...20 mA/±10 V) <sup>2, 3)</sup>
7	7	Command value 2 (4 ...20 mA/±10 V) <sup>2)</sup>
8	8	Enable acknowledgement, output stage 24 V DC
9	9	Not assigned
10	10	Not assigned
11	11	Switching output 24 V (error signal or power switching signal) max 1.5 A
PE	green-yellow	Protective earthing conductor (connected directly to metal housing)

- <sup>1)</sup> Core marking of the connection lines for mating connector with cable set (see accessories)
- <sup>2)</sup> Selection via commissioning software
- <sup>3)</sup> For diagnostic purposes, precise actual value response via Ethernet interface



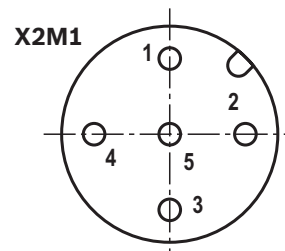
### Connector pin assignment for Ethernet interface "X7E1" and "X7E2" (coding D), M12, 4-pole, socket

Pin	Assignment
1	TxD +
2	RxD +
3	TxD -
4	RxD -
5	Not assigned



### Analog configurable sensor interfaces, connections "X2M1", "X2M2" (coding A), M12, 5-pole, socket

Pin	Assignment
1	+24 V voltage output (sensor supply) <sup>1)</sup>
2	Sensor signal input current (4 ... 20 mA) <sup>2)</sup>
3	GND
4	Sensor signal input voltage (0 ... 10 V) <sup>2)</sup>
5	Negative differential amplifier input to pin 4 (optional)



- <sup>1)</sup> Maximum load capacity 50 mA, voltage output same as voltage supply connected to input XH2!
- <sup>2)</sup> Only one signal input per interface, configurable

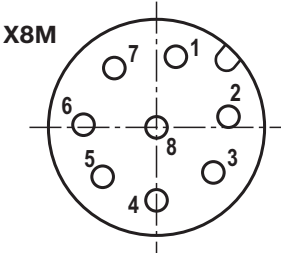
Electrical connections, assignment

Digital sensor interface SSI, EnDat 2.2 or 1 Vpp measurement system "X8M", M12, 8-pole, socket

Pin	SSI pin assignment <sup>1)</sup>	EnDat 2.2 pin assignment <sup>1)2)</sup>	1Vpp pin assignment
1	GND	GND	GND
2	+24 V	+5 V	+5 V
3	Data +	Data +	A +
4	Data –	Data –	A –
5	GND	GND	B +
6	Clock –	Clock –	B –
7	Clock +	Clock +	R +
8	+24 V	+5 V	R –

<sup>1)</sup> Pins 2, 8 and 1, 5 each with same assignment

<sup>2)</sup> Supported resolution ≥ 10 nm

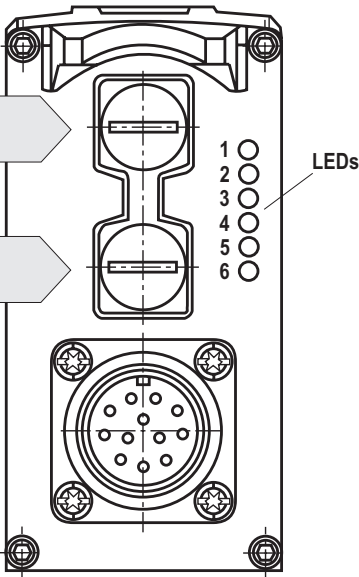


Notice!

- ▶ Maximum load capacity at pin 2 (encoder supply): 50 mA (SSI), 250 mA (EnDat 2.2, 1 Vpp)
- ▶ We recommend connecting the screens on both sides over the metallic housings of the plug-in connectors. Using connector pins will affect the shielding effect! Internal screens are not required.

LED displays

LED	Interface	Sercos	EtherNET/IP	EtherCAT	PROFINET
1	X7E1	Activity	Activity	Not used	Activity
2		Link	Link	Link/activity	Link
3	Electronics module	S	Network status	Network status	Network status
4		Module status	Module status	Module status	Module status
5	X7E2	Activity	Activity	Not used	Activity
6		Link	Link	Link/activity	Link



Displays of the Status LEDs

Module status LED (LED 4)	Display status
Off	No voltage supply
Green-red, flashing	Self-test
Green, flashing	Standby
Green	Operation
Red, flashing	Warning
Red	Error

Network status LED (LED 3)	Display status
Off	No voltage supply
Green	Operation

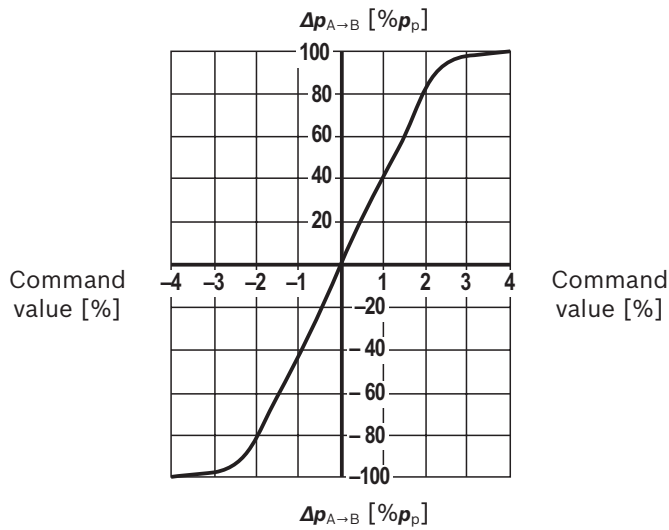
Notice!

- ▶ LEDs 1, 2, 5 and 6 refer to interfaces "X7E1" and "X7E2"
  - Link: Cable plugged in, connection established (permanently lit)
  - Activity: Data sent/received (flashing)
- ▶ Module status LEDs 3 and 4 refer to the electronics module
- ▶ For a detailed description of the diagnosis LEDs, please refer to the functional description Rexroth HydraulicDrive HDS-xx.

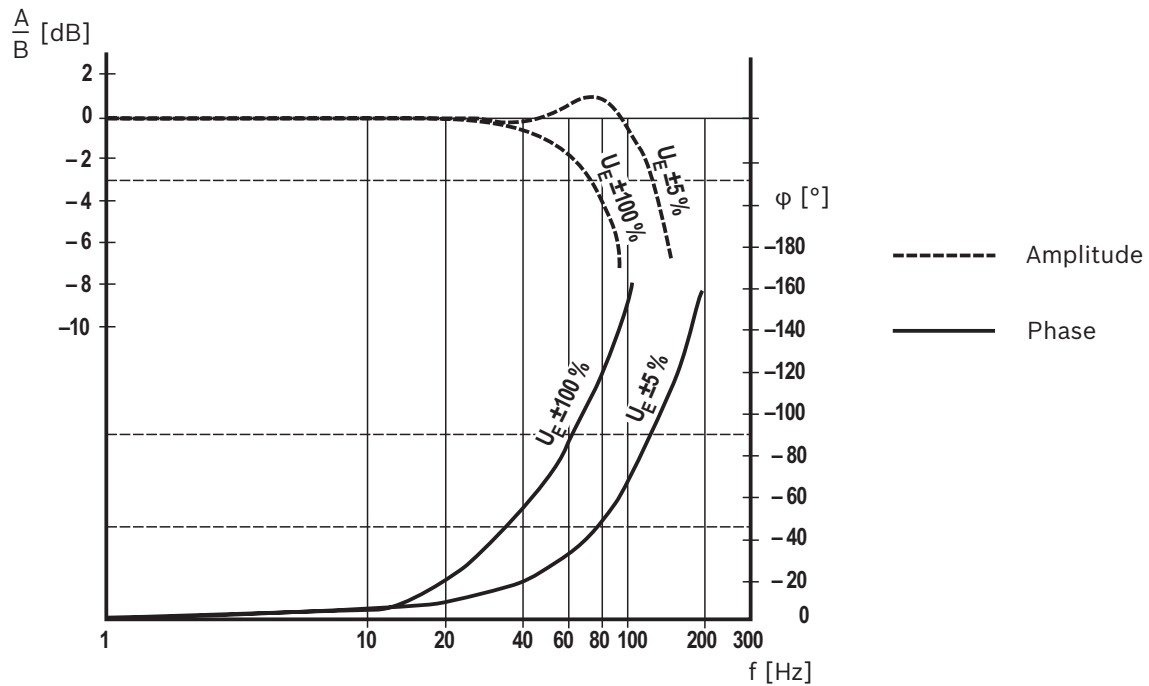
## Characteristic curves size 6

(measured with HLP46,  $\vartheta_{oil} = 40 \pm 5 \text{ }^{\circ}\text{C}$ )

### Pressure amplification



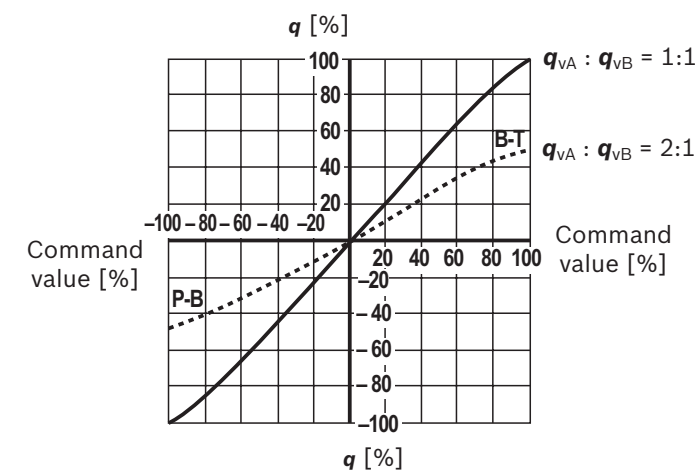
### Bode diagram



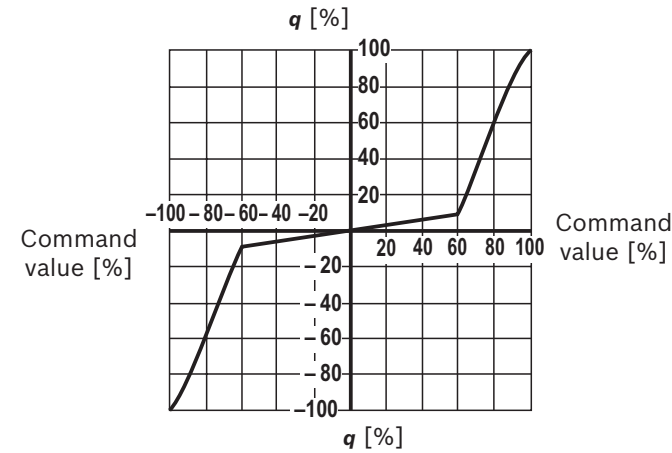
**Characteristic curves size 6**  
(measured with HLP46,  $\vartheta_{oil} = 40 \pm 5 \text{ }^{\circ}\text{C}$ )

**Flow/signal function**

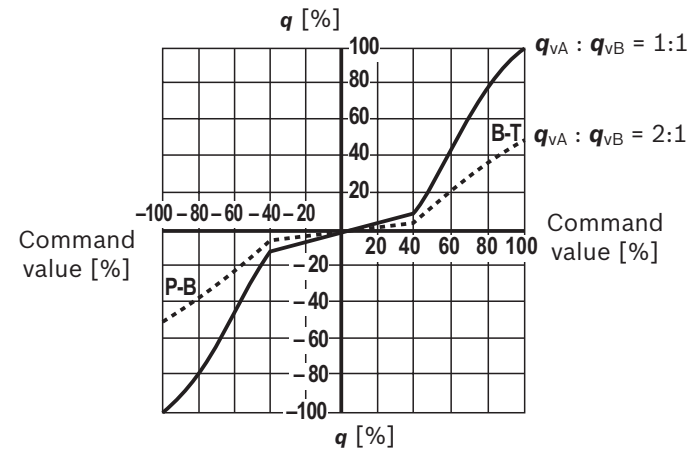
**L: Linear**



**P: Inflection 60 %**



**P: Inflection 40 %**

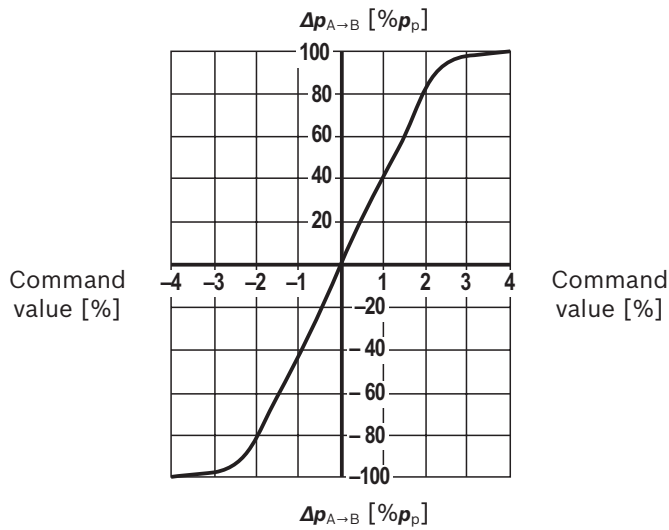


Fail-safe position				
	Zero flow at	100 bar	P→A	50 cm <sup>3</sup> /min
			P→B	70 cm <sup>3</sup> /min
	Flow at	$\Delta p = 35 \text{ bar}$	A→T	10 ... 20 l/min
			B→T	7 ... 20 l/min
	Zero flow at	100 bar	P→A	50 cm <sup>3</sup> /min
			P→B	70 cm <sup>3</sup> /min
			A→T	70 cm <sup>3</sup> /min
			B→T	50 cm <sup>3</sup> /min
Enable "off" or internal shut-off if an error has occurred $U_B \leq 18 \text{ V}$ or $I \leq 2 \text{ mA}$ (with 4 ... 20 mA signal, cable break detection: Current threshold configurable)				

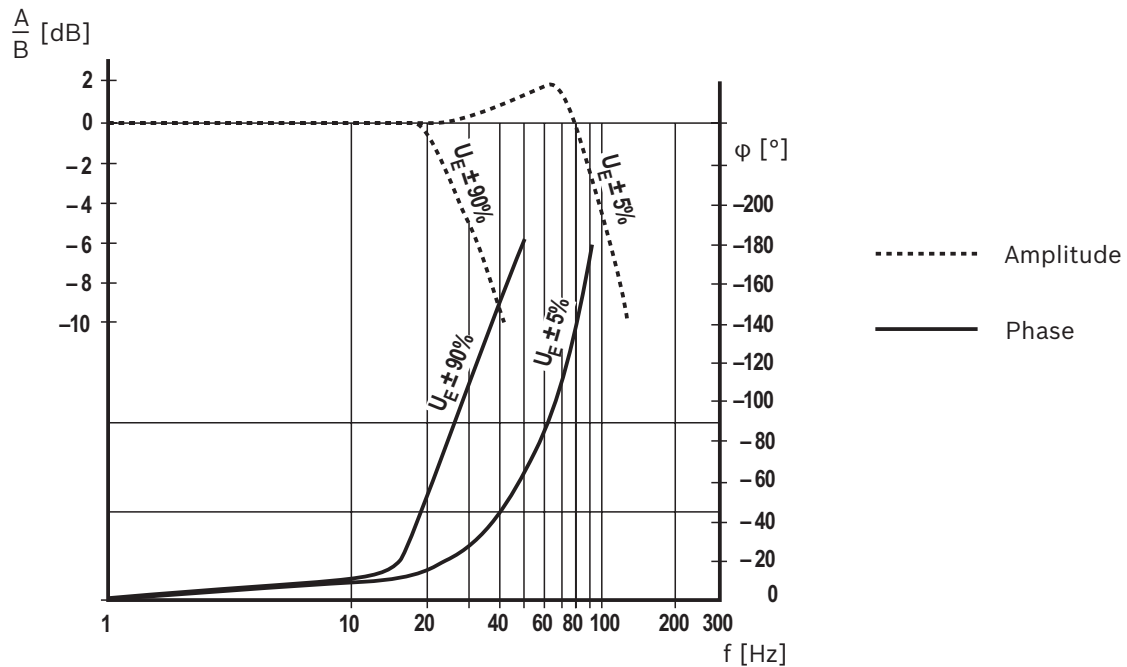
## Characteristic curves size 10

(measured with HLP46,  $\vartheta_{oil} = 40 \pm 5 \text{ }^{\circ}\text{C}$ )

### Pressure amplification



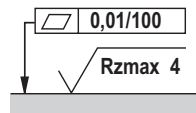
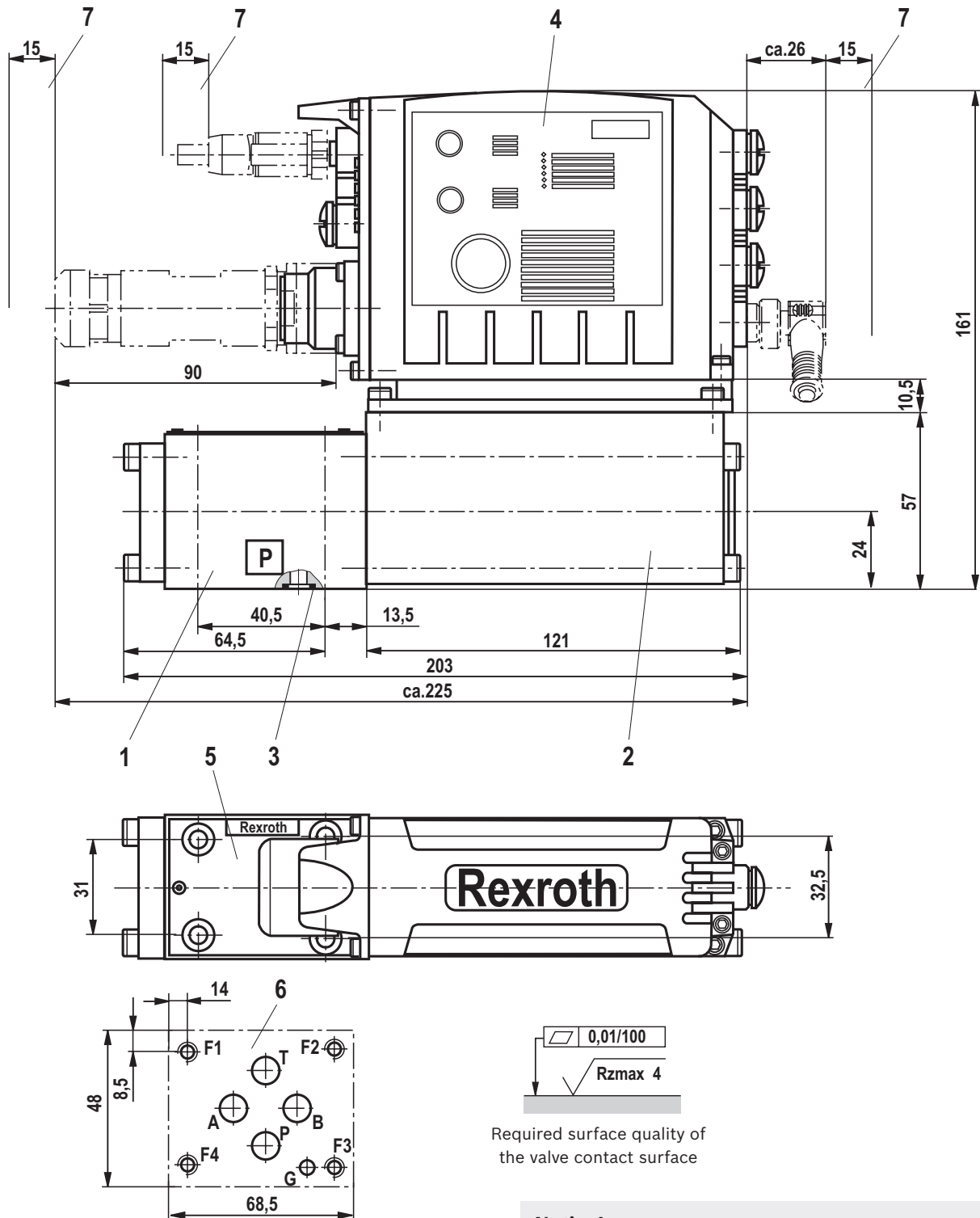
### Bode diagram







## Dimensions, size 6 (dimensions in mm)



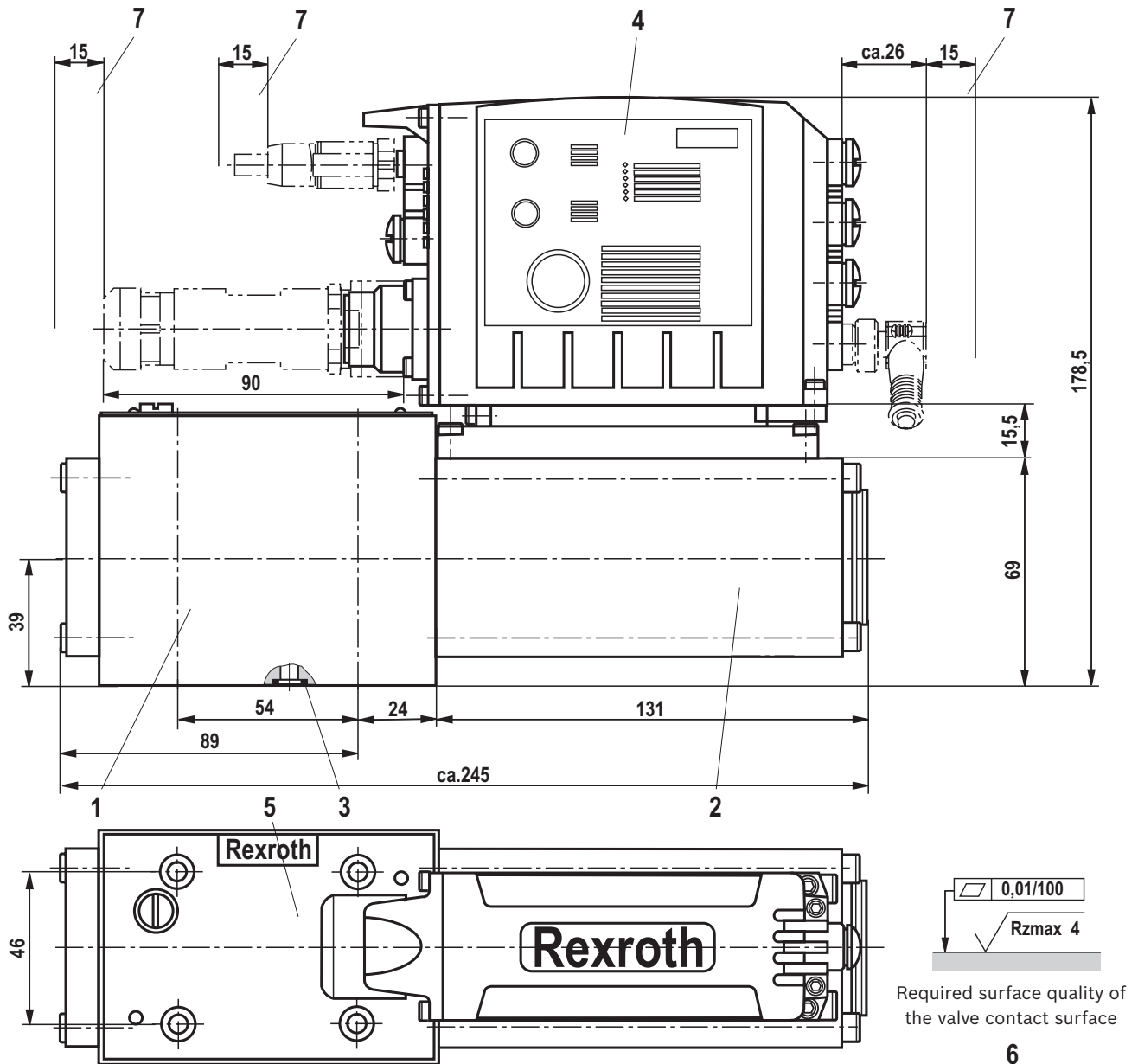
Required surface quality of the valve contact surface

### Notice!

The dimensions are nominal dimensions and subject to tolerances.

**Valve mounting screws** (separate order)  
**4 hexagon socket head cap screws, metric,**  
**ISO 4762 - M5 x 30 - 10.9-N67F 821 70**  
 Tightening torque  $M_A = 6 + 2 \text{ Nm}$   
 Material no. 2910151166

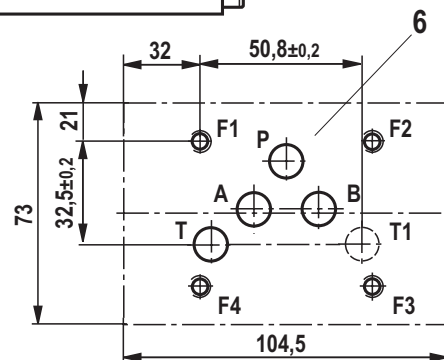
# Dimensions, size 10 (dimensions in mm)



## Notice!

The dimensions are nominal dimensions and subject to tolerances.

- 1 Valve housing
- 2 Control solenoid with position transducer
- 3 Identical seal rings, 12.0 x 2, for ports A, B, P, T, T1
- 4 Integrated digital control electronics
- 5 Name plate
- 6 Machined valve contact surface, porting pattern according to ISO 4401-05-04-0-05  
Deviating from the standard:  
Port T1 is additionally available
- 7 Space required for removing the mating connectors



**Valve mounting screws** (separate order)  
**4 hexagon socket head cap screws, metric,**  
**ISO 4762 - M6 x 40 - 10.9-N67F 821 70**  
Tightening torque  $M_A = 11 + 3 \text{ Nm}$   
Material no. 2910151209

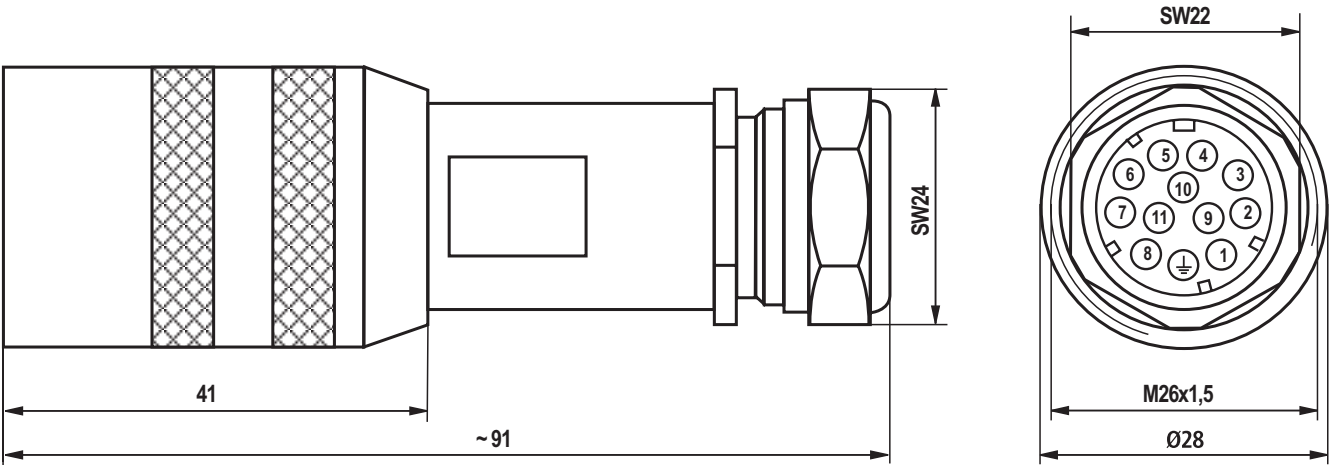
**Accessories for parameterization** (not included in scope of delivery)

For parameterization via PC, the following is required:	
<b>1</b> Commissioning software	IndraWorks Indraworks D Indraworks DS, download from <a href="http://www.boschrexroth.com/IAC">www.boschrexroth.com/IAC</a>
<b>2</b> Connection cable, 3 m	Shielded, M12 on RJ45, length can be freely chosen Mat. no. R911172135, type designation to be specified additionally RKB0044/xxx.x (length in meters)



**Accessories, port XH2** (not included in the scope of delivery)

Mating connector for XH2	Design	Material number
Mating connector according to DIN EN 175201-804 (12-pole, metal design)	Mating connector (assembly kit) for cable diameters of 12-15 mm	R901268000
	Mating connector with 5 m cable, 12 x 0.75 mm <sup>2</sup> with cable shield, assembled	R901272854
	Mating connector with 20 m cable, 12 x 0.75 mm <sup>2</sup> with cable shield, assembled	R901272852



**Accessories, sensor connections X2M1 and X2M2** (not included in the scope of delivery)

Cable set for X2M1, X2M2 (Analog sensors)	Design	Material number
Cable set for connecting Bosch Rexroth pressure sensors HM20, shielded, 5-pole, A coding, PUR/PVC, straight connector M12, on straight socket M12, line cross-section 0.34 mm <sup>2</sup>	Length 1.0 m	R901111712
	Length 2.0 m	R901111713

**Accessories, sensor connection X8M** (not included in the scope of delivery)

Cable set for X8M (SSI, 1Vss only) <sup>1)</sup>	Design	Material number
Shielded, 8-pole, A coding, straight connector M12, on free line end, line cross-section 0.25 mm <sup>2</sup>	Length 10.0 m	R913002642

<sup>1)</sup> **Recommendation:** If an EnDat 2.2 sensor is used, please refer to the sensor manufacturer Heidenhain with respect to a cable set.

**Accessories, Ethernet connections X7E1 and X7E2** (not included in the scope of delivery)

<b>Cable set for X7E1, X7E2 (Ethernet interface)</b>	<b>Design</b>	<b>Material number</b>
Cable set, shielded, 4-pole, D coding, straight connector M12, on straight connector M12, line cross-section 0.25 mm <sup>2</sup>	Length xx.x m	R911172111 (type designation RKB0040/xx.x to be specified additionally)
Cable set, shielded, 4-pole, straight connector M12, on straight connector RJ45, line cross-section 0.25 mm <sup>2</sup>	Length xx.x m	R911172135 (type designation RKB0044/xx.x to be specified additionally)

**Miscellaneous accessories** (not included in scope of delivery)

<b>Protective cap</b>	<b>Design</b>	<b>Material number</b>
Protective cap M12		R901075563

## Project planning/maintenance instructions/additional information

### Product documentation for IAC-Multi-Ethernet

- ▶ Data sheet 29391 (this data sheet)
- ▶ Operating instructions 29391-B
- ▶ CE declaration of conformity (available from Bosch Rexroth upon request)
- ▶ Operation of IAC-Multi-Ethernet electronics (xx: Software version):
  - Functional description Rexroth HydraulicDrive HDS-xx
  - Parameter description Rexroth HydraulicDrive HDS-xx
  - Diagnosis description Rexroth HydraulicDrive HDS-xx
- ▶ General information on the maintenance and commissioning of hydraulic components 07800/07900
- ▶ General operating instructions: Hydraulic valves for industrial applications 07600-B

### Product family

- ▶ 4-way analog valve, direct operated, sizes 6 and 10, with integrated electronics (see data sheets 29035 and 29037)
- ▶ 4-way bus valve, direct operated, sizes 6 and 10, in CANopen or Profibus version (see data sheet 29191)

Commissioning software and documentation on the internet: [www.boschrexroth.com/IAC](http://www.boschrexroth.com/IAC)

### Maintenance instructions:

- ▶ The devices have been tested in the plant and are supplied with default settings.
- ▶ Only complete units can be repaired. Repaired devices are returned with default settings. User-specific settings will not be applied. The machine end-user will have to retransfer the corresponding user parameters.

### Notes:

- ▶ The supply voltage must be permanently connected, as otherwise bus communication is not possible.
- ▶ If electromagnetic interference is to be anticipated, suitable measures must be taken to ensure the function (depending on the application, e.g. shielding, filtration)!

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