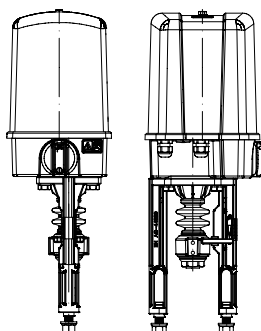


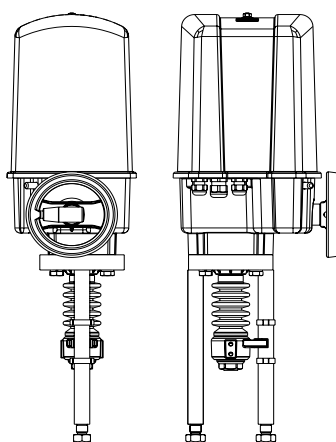
Electric actuator ARI-PREMIO®

Electric thrust actuator
ARI-PREMIO®
2,2 - 5 kN



Page 2

Electric thrust actuator
ARI-PREMIO®
12 - 25 kN



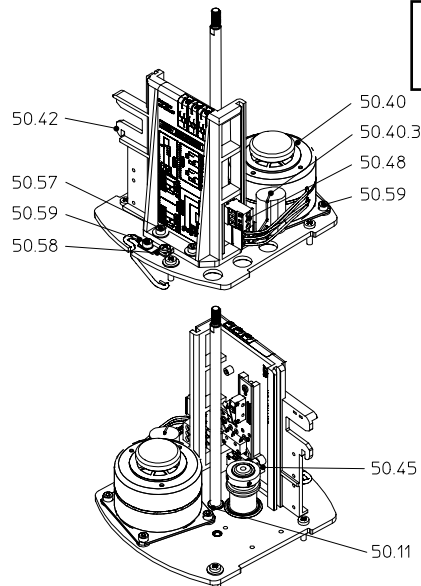
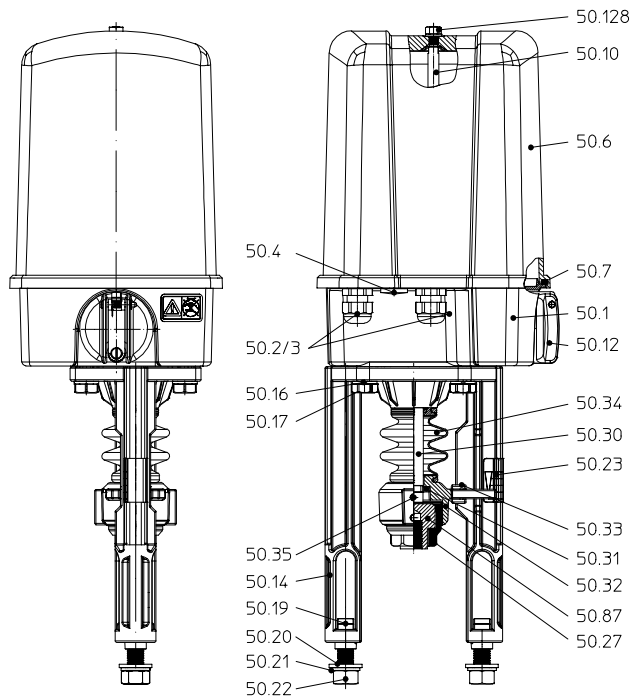
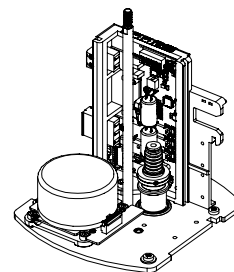
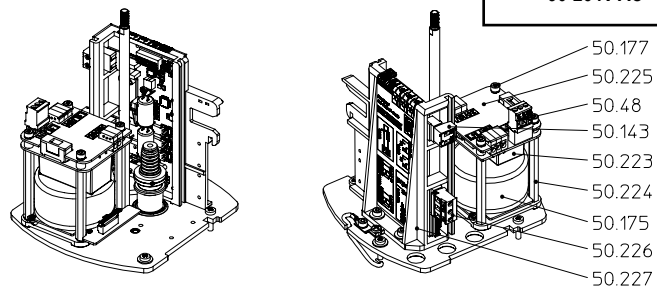
Page 4



Features

- 2 torque switches
- Handwheel
- Operative ambient temperatures -20°C up to +70°C
- Enclosure IP 65
- Additional devices available, e.g. potentiometer
- Travel indicator

Electric actuator ARI-PREMIO® 2,2 - 5 kN


 Synchronous motor
115V AC - 230V AC

 BLDC motor
24V AC/DC

 BLDC motor
90-264V AC

Pos.	Description
50.1	Gearbox
50.2/3	Cable gland 2 x M16x1,5
50.4	Sealing plug 1 x M16x1,5
50.6	Hood
50.7	Hood seal
50.10	Column
50.11	Conical spring washer
50.12	Handwheel
50.14	Yoke
50.16	Spring washer DIN 128-A10
50.17	Hexagon screw DIN EN ISO 4017 - M10x40
50.19	T-head bolt DIN 261-M12x40
50.20	Washer DIN EN ISO 7089
50.21	Spring washer DIN 128 - A12
50.22	Hexagon nut DIN EN ISO 4032 - M12
50.23	Lift dial
50.27	Coupling
50.30	Driving spindle
50.31	Spindle safety feature
50.32	Torsion safety feature
50.33	Slide

Pos.	Description
50.34	Bellow
50.35	Grub screw DIN ISO 4766 - M6
50.40	Synchronous motor, complete
50.40.3	Capacitor
50.42	Board support, cpl. (incl. circuit board)
50.45	Shift lever
50.48	Connector, 3-pole (standard)
50.57	Cylinder screw DIN EN ISO 4762 - M4x10
50.58	Protective conductor terminal
50.59	Cylinder screw DIN EN ISO 4762 - M4x6
50.87	Threaded bush
50.128	Collar nut with sealing ring M6
50.143	Connector, 2-pole (N/L)
50.175	BLDC motor
50.177	Cylinder screw M4x18
50.223	Input board ESP with power supply
50.224	Distance bolt M4x65
50.225	Protective cover BLDC ESP
50.226	Connector, 3-pole (0V/24V up/down)
50.227	Board support PREMIO, cpl.

Technical data

Type		ARI-PREMIO® 2,2 kN		ARI-PREMIO® 5 kN	
Thrust force	kN	2,2 kN		5,0 kN	
Operating speed	mm/s	0,38 mm/s	0,25 / 0,38 / 0,47 / 1,0 mm/s adjustable		
Travel distance max.	mm	50 mm			
Duty classification in accordance with EN 60034-1		S3 80% ED / max. 1200 c/h (at 70°C)			
Supply voltage	V - Hz	230V - 50/60 Hz	24V AC/DC		
Motor type		Synchronous motor	BLDC (Brushless DC motor)		
Power consumption	VA	21	max. 22	max. 65	
Torque switch		2 pcs., fixed wiring switching capacity 10A, 250V~			
Travel switch		1 pc., fixed wiring switching capacity 10A, 250V~ (Options trip slide necessary!)			
Enclosure EN 60529		IP 65			
Max. storage temperature	°C	-40 °C ... +85 °C			
Max. permissible ambient temperature	°C	-20 °C ... +70 °C (For outdoor use and sub-zero temperatures, a heating is recommended!)			
Hand operating device		Yes (always running)			
Operation		3-point - Response time 250 msec (with power supply)			
Max. cable cross section	mm ²	3-point-input: 2,5 mm ²			
Mounting position		Any, except: motor not hanging downwards			
Gear lubricant		Klüber Isoflex Topas NB152			
Weight	kg	5,8 kg			
Accessories		refer to page 6			

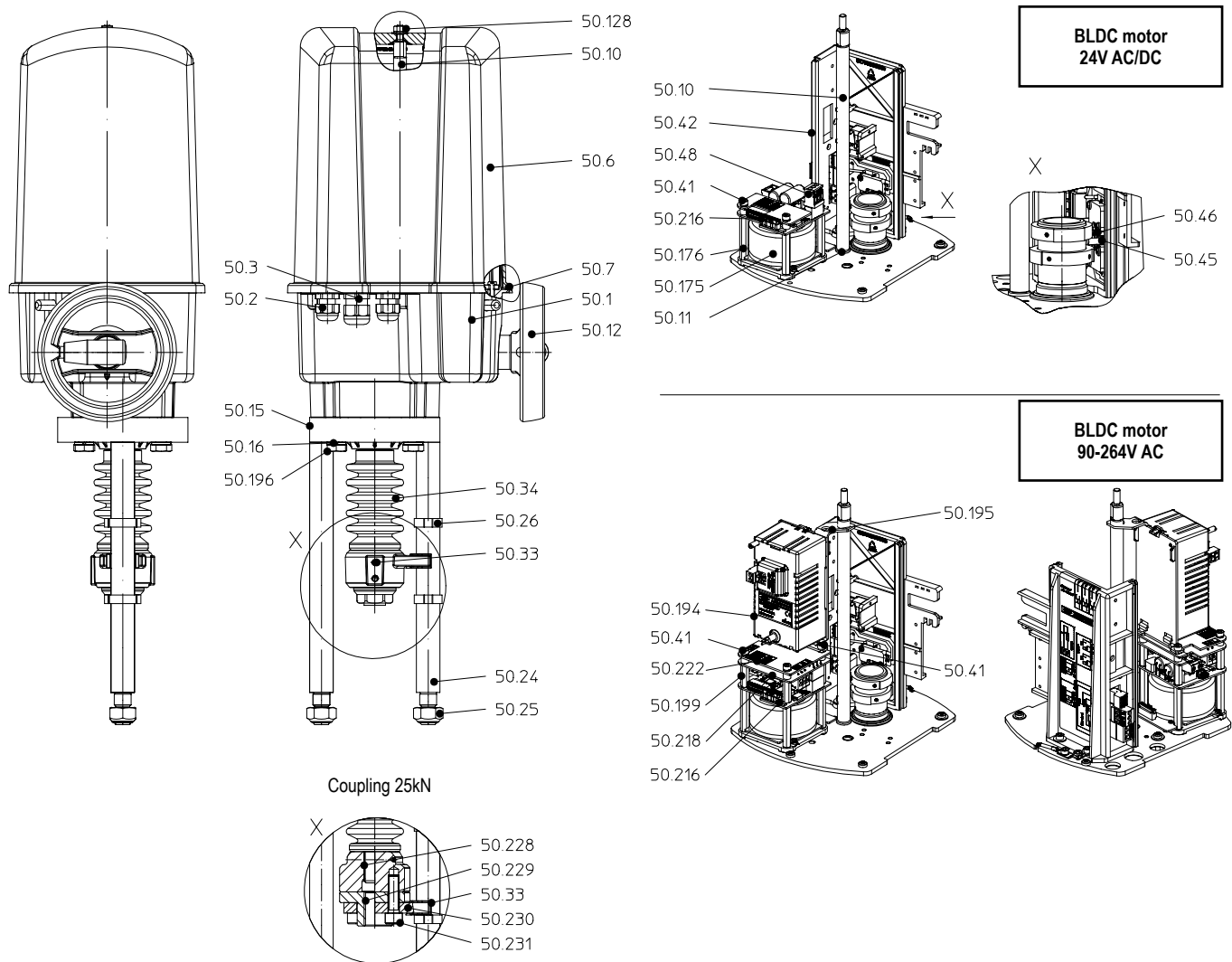
Additional voltage / frequencies

Type		90-264V AC switching power supply for BLDC type	
Thrust force	kN	2,2 kN	5,0 kN
Supply voltage	V - Hz	90-264V AC 47-63Hz 127-370V DC	
Output voltage	V	24V DC	
Power consumption max.	VA	max. 65 (depending on the operating speed and operating force)	



Type		3~ 400V transformer for BLDC type	
Thrust force	kN	2,2 kN	5,0 kN
Supply voltage	V - Hz	3~ 400V - 50/60Hz	
Output voltage	V	24V AC	
Power consumption max.	VA	max. 65 (depending on the operating speed and operating force)	



Elektrischer Schubantrieb ARI-PREMIO® 12 - 25 kN


Pos.	Description
50.1	Gearbox
50.2/3	Cable gland 2 x M16 x 1,5 / 1 x M20 x 1,5
50.6	Hood
50.7	Hood seal
50.10	Column
50.11	Conical spring washer
50.12	Handwheel (engageable)
50.15	Flange
50.16	Spring washer DIN 128-A10
50.24	Distance column
50.25	Hexagon nut DIN EN ISO 7042 -V-M16
50.26	2-ear clamp (Travel indicator)
50.33	Slide
50.34	Bellow
50.35	Grub screw DIN ISO 4766 - M6
50.41	Cylinder screw DIN EN ISO 4762-M4 - 18
50.42	Board support, cpl. (incl. circuit board)

Pos.	Description
50.45	Shift lever
50.46	Spring washer
50.48	Connector, 3-pole (standard)
50.128	Collar nut with sealing ring M6
50.175	BLDC motor
50.176	Distance bolt M4x45
50.194	Power supply, cpl.
50.195	Fastening angle power supply
50.196	Hexagon screw DIN EN 24017 M10 x 100
50.199	Distance bolt M4 x 23
50.216	Motor control board BLDC
50.218	Input board 3-point without power supply
50.222	Protective cover BLDC without power supply
50.228	Spindle unit
50.229	Threaded bush
50.230	Non-rotation lock
50.231	Cylinder screw M10x35

Technical data

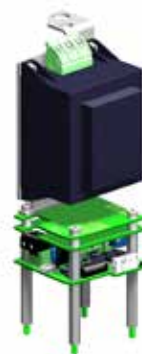
Type		ARI-PREMIO® 12 kN	ARI-PREMIO® 15 kN	ARI-PREMIO® 25 kN
Thrust force	kN	12,0 kN	15,0 kN	25,0 kN
Operating speed	mm/s	0,20 / 0,31 / 0,38 / 0,79 mm/s adjustable		
Travel distance max.	mm	80 mm		
Duty classification in accordance with EN 60034-1		S3 80% ED / max. 1200 c/h (at 70°C)		
Supply voltage	V - Hz	24V AC/DC		
Motor type		BLDC (Brushless DC motor)		
Power consumption	VA	max. 65 (depending on the operating speed and operating force)		max. 130 (depending on the operating speed and operating force)
Torque switch		2 pcs., fixed wiring switching capacity 16A, 250V~		
Travel switch		1 pc., fixed wiring switching capacity 16A, 250V~ (Options trip slide necessary!)		
Enclosure EN 60529		IP 65		
Max. storage temperature	°C	-40 °C ... +85 °C		
Max. permissible ambient temperature	°C	-20 °C ... +70 °C (For outdoor use and sub-zero temperatures, a heating is recommended!)		
Hand operating device		Yes (engageable)		
Operation		3-point - Response time 250 msec (with power supply)		
Max. cable cross section	mm ²	3-point-input: 2,5 mm ²		
Mounting position		Any, except: motor not hanging downwards		
Gear lubricant		Klübersynth G34 - 130		
Weight	kg	10,0 kg		11,0 kg
Zubehör		refer to page 6		

Additional voltage / frequencies

Type		90-264V AC switching power supply		
Thrust force	kN	12,0 kN	15,0 kN	25,0 kN
Supply voltage	V - Hz	90-264V AC 47-63Hz 127-370V DC		
Output voltage	V	24V DC		
Power consumption max.	VA	max. 65 (depending on the operating speed and operating force)		max. 130



Type		3~ 400V transformer		
Thrust force	kN	12,0 kN	15,0 kN	25,0 kN
Supply voltage	V - Hz	3~ 400V - 50/60Hz		
Output voltage	V	24V AC		
Power consumption max.	VA	max. 65 (depending on the operating speed and operating force)		max. 130

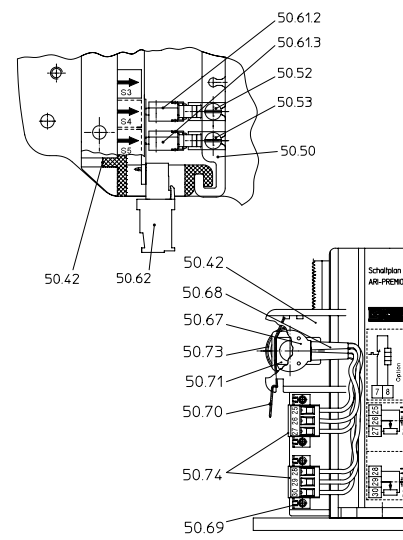


Accessories

Type		ARI-PREMIO® 2,2 kN - 25 kN	
Trip slide		Required for actuating ... - the travel switch S3 / retracting spindle (the travel swith S3 is in the basic version of the actuator already available) - the potentiometer - the additional travel switches S4 / S5	
Options trip slide necessary !	Additional intermediate position switches S4, S5 (for low switching capacities and at aggressive atmosphere gold contacts should be used)	Type Standard	- 2 pieces, zero potential, switching capacity max. 10 A, 250 V~
		Type Low voltage	- 2 pieces, zero potential, with gold contacts, switching capacity max. 0,1 A, 4-30 V
	Potentiometer	Conductive (max. 2 pcs.)	- 1000, 2000, 5000 Ohm; 1 Watt (at +70 °C) - Wiper current max. 0,01 mA / recommended 0,002 mA
		Wire (max. 2 pcs.)	- 100, 200 Ohm; 0,5 Watt (bei +70 °C) - Wiper current max. 35 mA / recommended 0,02 mA
		TÜV-approved potentiometer (max. 2 pcs.)	- TÜV tested „conductive plastic for use as a sensor for position feedback of control devices in electronic systems for controlling and monitoring of fuel, air and gas streams in combustion plants“ - 5000 Ohm (standard) - or optional: 100, 200, 1000 Ohm; 1 Watt (at +70 °C) - Wiper current max. 0,01 mA / recommended 0,002 mA - No retrofitting possible!
	Electronic position controller (for controlling the actuator with an analogue control signal)	Type PREMIO-Plus 2G (according to separate data sheet / operating instructions)	- Input signals: 3-point, 0-10V or 4-20mA - Self-adaptation - Optional position feedback - Galvanical separation between power supply and control signal
		Type ES11	- Input signals 0(2)...10V or 0 (4)...20mA - Galvanical separation between power supply and control signal - Including potentiometers (note max. number of potentiometers)
	Electronic position indicator (for position feedback with an analogue control signal)	RI21 (only for AC)	- Analogue output for position-feedback 0(4)...20mA changeable to 0(2)-10V, invertable; galvanical separation between power supply and control signal - Active - Incl. potentiometers (note max. number of potentiometers)
		RI32	- Analogue output for position-feedback 2... 10V; 4... 20 mA - Compact design; 2 (passive) or 4-wire technology (active) - Power supply: 24V AC/DC - Incl. potentiometers (note max. number of potentiometers)
	Heating		Heating resistor
Connection board 2 Torque- and 1 Travel switch, all switch contacts are wired on terminals (for low switching capacities and at aggressive atmosphere gold contacts should be used)		Type Standard PA	- Zero potential, switching capacity 10A, 250V~ - (At 12-25kN already possible with the standard version)
		Type Low voltage NA	- Zero potential, with gold contacts, switching capacity max. 0,1 A, 4-30 V
(Process-) controller		Type processcontroller dTRON 316 (according to data sheet / operating instructions PREMIO®-Plus 2G)	- Mounted in the actuator PREMIO®-Plus 2G - 4-20mA output for operating the PREMIO-Plus 2G - For resistance thermometers and thermocouples (provided by the customer) or standard signals - Pre-configured for temperature control: control range von -200°C up to +850°C (resistance thermometer)
Special voltage 3~400 V			
Built-in reversal feature		Electronic reversing contactor (according to data sheet / operating instructions PREMIO®-Plus 2G)	- PREMIO®-Plus 2G with 3~400 V transformer - 3-point, 4-20mA or 0-10V operation - Electronically commutated, variable speed BLDC motor

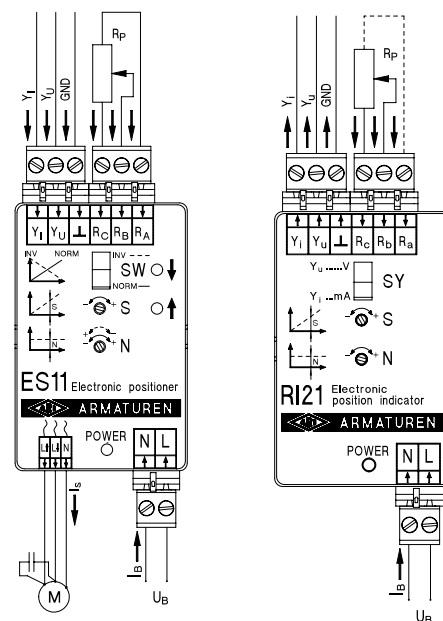
Intermediate position switch	
Pos.	Description
50.42	Board support
50.50	Trip slide
50.52	Setting spindle for switch S4
50.53	Setting spindle for switch S5
50.61.2	Travel switch S4
50.61.3	Travel switch S5
50.62	Connector, 6-pole

Potentiometer	
Pos.	Description
50.42	Board support
50.67	Potentiometer
50.68	Connecting cable
50.69	Self-tapping screw
50.70	Pinch spring
50.71	Slide block
50.73	Pinion
50.74	Connector, 3-pole

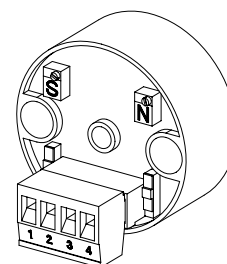


Electronic position controller ES11						
Motor type		BLDC motor		Synchronous motor		
Operating voltage	U _B	24V - DC	24V - AC	24V - AC	115 V - AC	230 V - AC
		--	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Operating current without load	I _B	150 mA			40 mA	20 mA
Input control signal	Y _U	0 (2) 10 V DC - (RI = 30 kOhm)				
Input control signal	Y _I	0 (4) 20 mA DC - (RI = 125 Ohm)				
Potentiometer input	R _P	0 10 kOhm, recommended 0 1 kOhm (Potentiometer can be used only as a voltage divider)				
3-point-output	U _A	24 V - DC	24 V - AC	115 V - AC	230 V - AC	
3-point-switching current	I _S	4 A max.				

Electronic position indicator RI21				
Operating voltage	U_B	24 V - AC 50/60 Hz	115 V - AC 50/60 Hz	230 V - AC 50/60 Hz
Operating current without load	I_B	150 mA	40 mA	20 mA
Output control signal	Y_U	0 (2) 10 V DC - (load resistance > 1 kOhm) active		
Output control signal	Y_I	0 (4) 20 mA DC - (load resistance max. 800 Ohm) active		
Potentiometer input	R_P	0 1 kOhm		



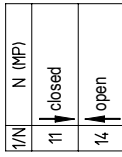
Electronic position indicator RI32		
Operating voltage	U_B	24V - DC/AC 50/60 Hz
Output control signal	Y_U	2 10 V DC active
Output control signal	Y_I	4 20 mA DC - (load resistance max. 500 Ohm) passive or active
Potentiometer input	R_P	100 Ohm 20 kOhm



Accessories

Wire connections of the different valve types

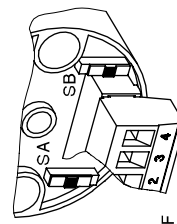
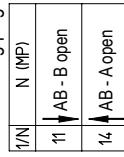
Straight through valve



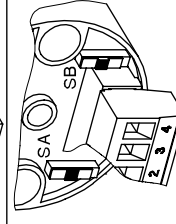
3-way valve with mixing plug



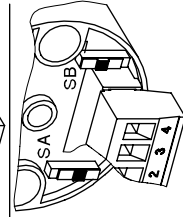
3-way valve with diverting plug



Two-wire connection
(current loop)
4...20mA
24V DC



Four-wire connection
4...20mA
24V DC and AC

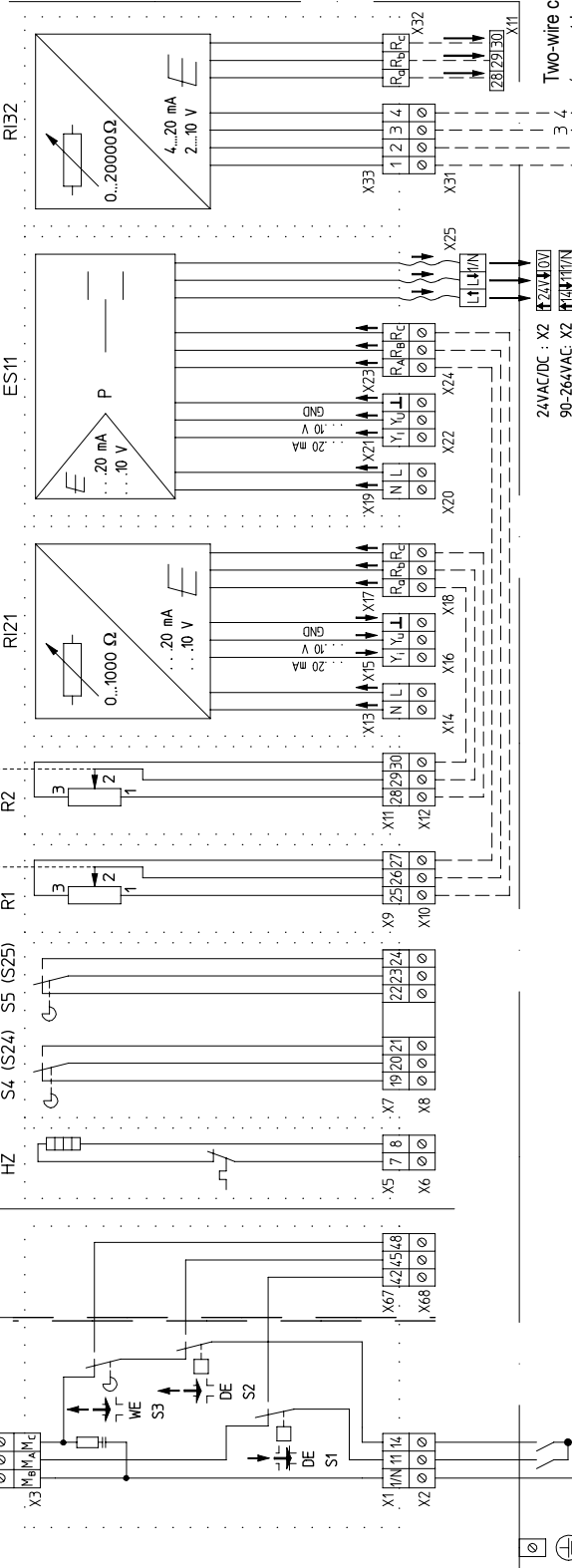


Four-wire connection
2...10V
24V DC and AC



Four-wire connection
2...10V
24V DC and AC

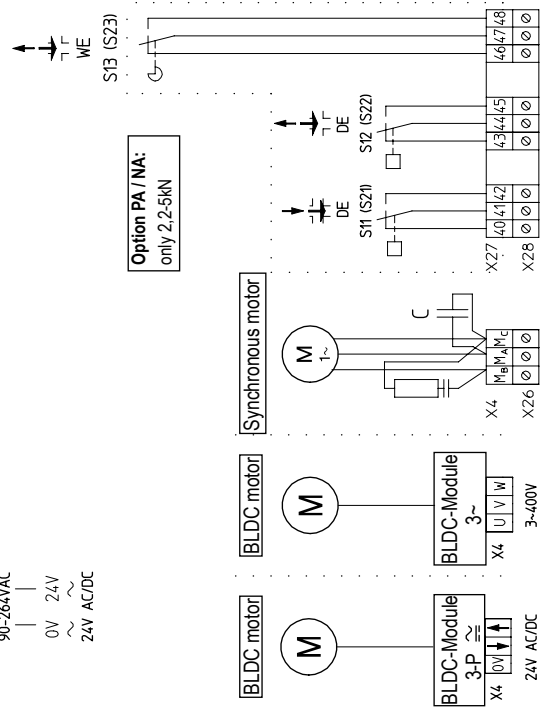
only one position indicator RI21 or RI32 possible!



RI32
Attention!

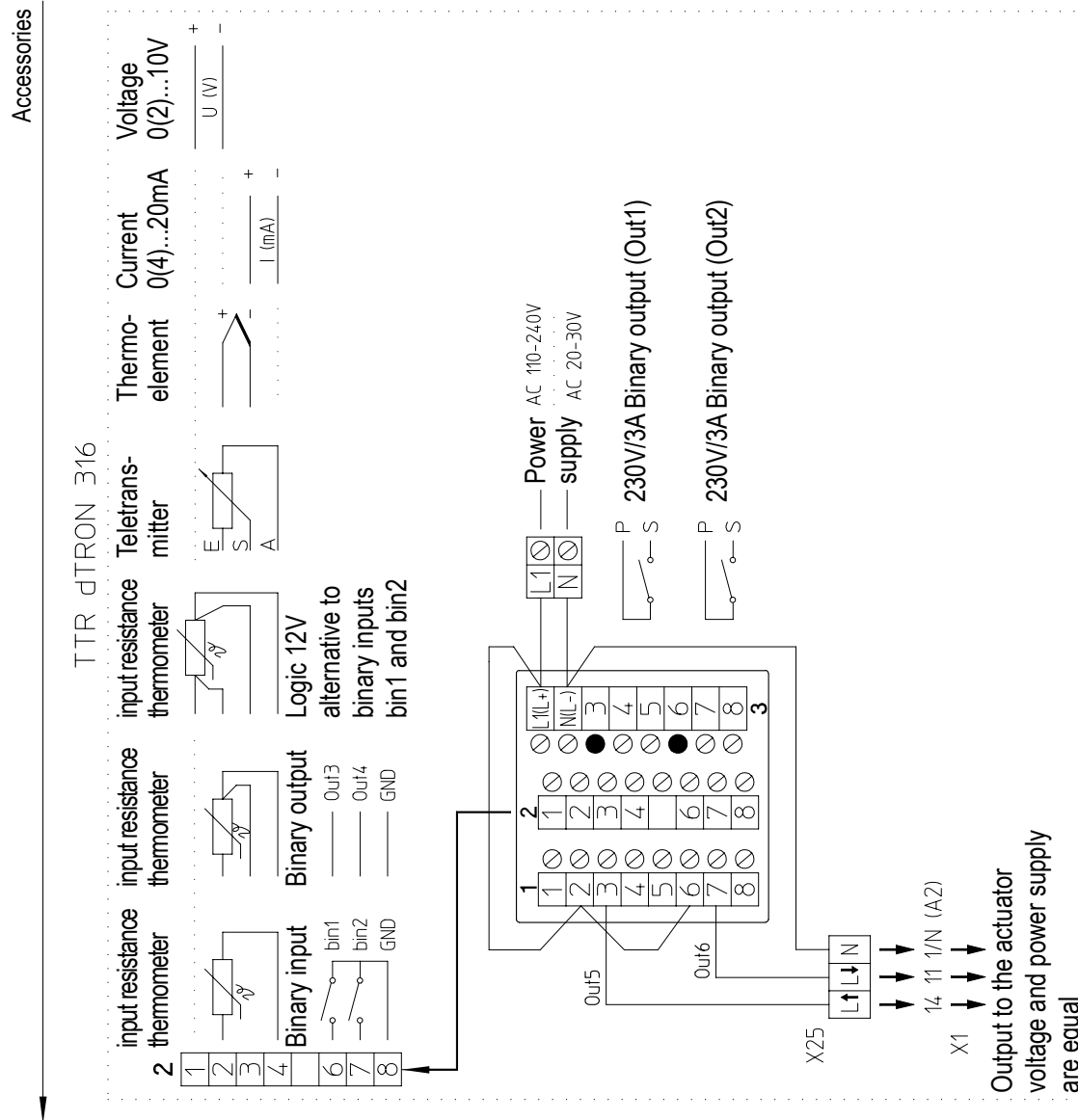
Do not connect terminal 2 and 3.
By a potential shift the position indicator RI32 could be destroyed.

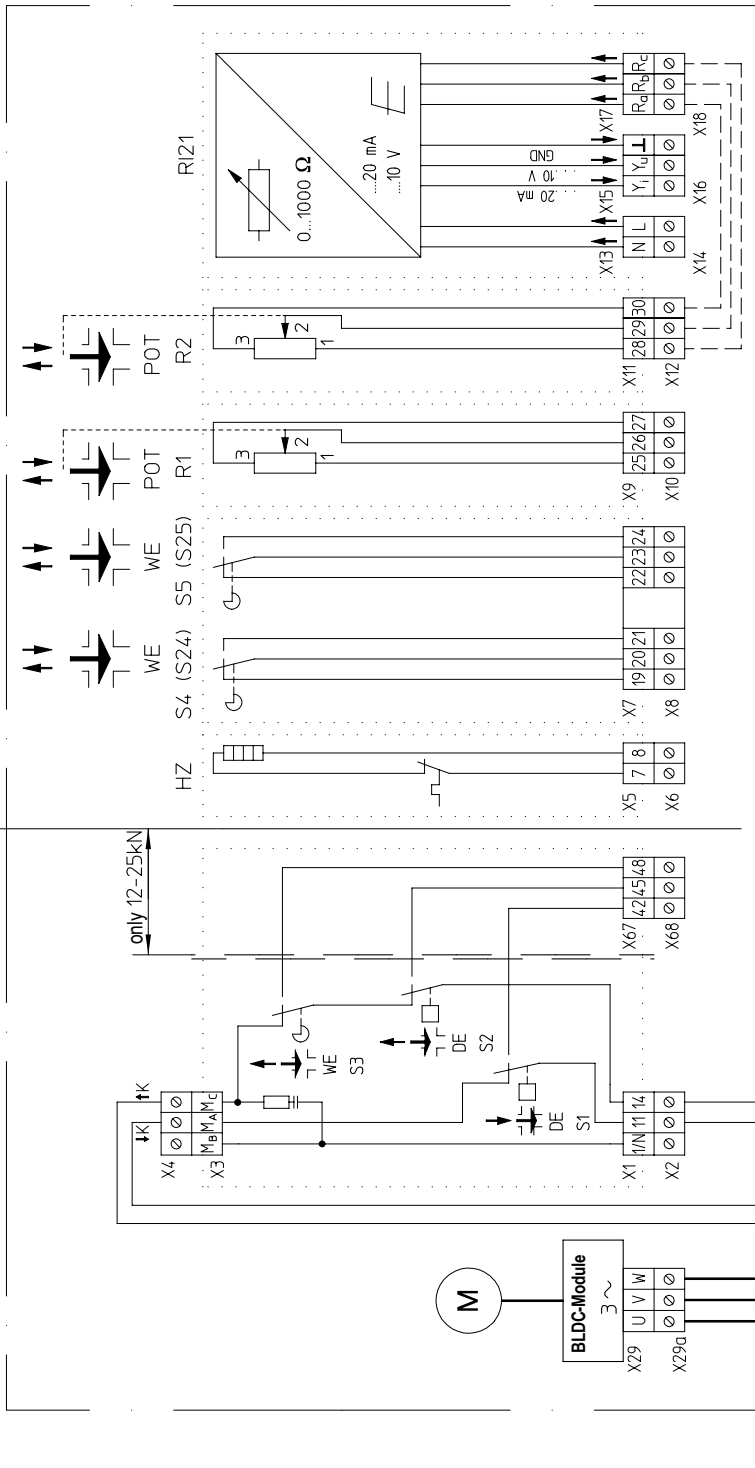
HZ	Heating resistor
DE	Torque switch
WE (S3)	Travel switch for limiting the travel distance in retracting direction
RI21	Electronic position indicator
ES11	Electronic position controller
RI32	Electronic position indicator
NA	Low-voltage connection board, zero potential
PA	Standard-voltage connection board, zero potential
POT	Potentiometer
WE	Travel switch, zero potential



Option PA / NA:
only 2,2-5kN

ARI-PREMIO 2,2-25kN 90-264V / 24VAC/DC





For external reversing contactor

connect at L1, L2, L3.

L1, L2, L3 - actuator spindle drives in

L3, L2, L1 - actuator spindle drives out

In all external reversing circuits the torque switches S1 and S2/S3 have to be used to switch off the actuator motor.



Attention:
Please check the operating direction of the actuator!

Wire connections of the different valve types

Straight through valve

1/N	N (MP)
11	closed
14	open

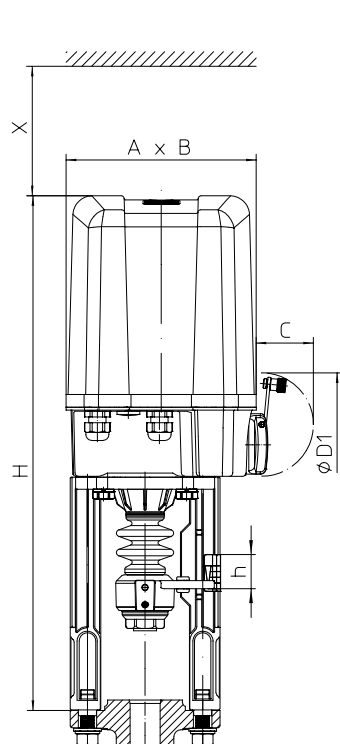
3-way valve with mixing plug

1/N	N (MP)
11	A - AB open
14	B - AB open

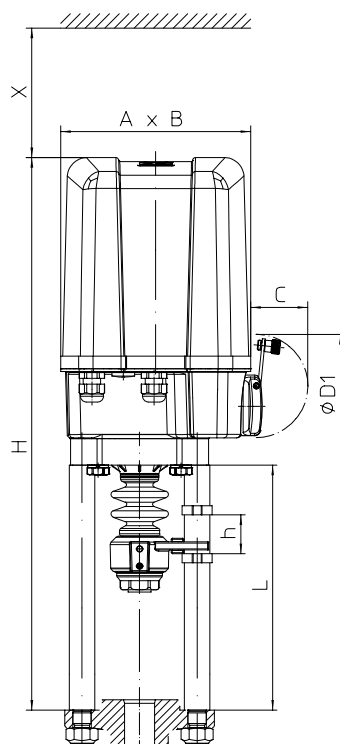
3-way valve with diverting plug

1/N	N (MP)
11	AB - B open
14	AB - A open

HZ	Heating resistor
DE	Torque switch
WE (S3)	Travel switch for limiting the travel distance in opening direction
R21	Electronic position controller
POT	Potentiometer
WE	Travel switch, zero potential

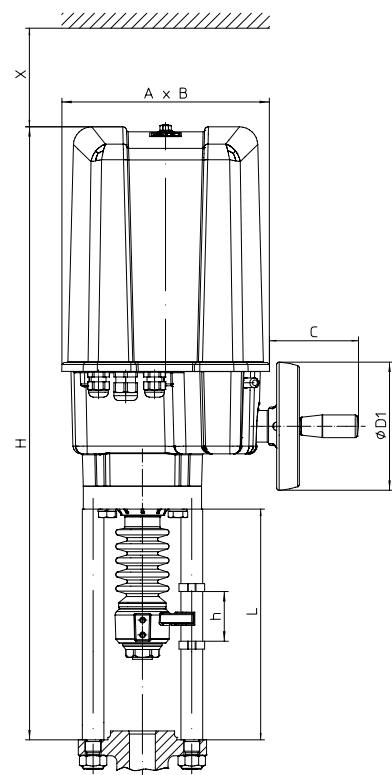

2,2 - 5 kN

Nominal travel max. 30 mm


2,2 - 5 kN

Nominal travel > 30 mm - 50 mm

		2,2 - 5 kN	
A	(mm)	171	
B	(mm)	156	
C	(mm)	50	
Ø D1	(mm)	90	
X	(mm)	150	
H	(mm)	448	482
h (Nominal travel)	(mm)	max. 30	max. 50
L (Column)	(mm)	199	


12 - 25 kN

Nominal travel max. 80 mm

		12 - 25 kN		
A	(mm)	210		
B	(mm)	184		
C	(mm)	90		
Ø D1	(mm)	130		
X	(mm)	200		
H	(mm)	622	637	652
h (Nominal travel)	(mm)	max. 50	max. 65	max. 80
L (Column)	(mm)	234	249	for x=83 249 for x=98 264



Technology for the Future.
GERMAN QUALITY VALVES

ARI-Armaturen Albert Richter GmbH & Co. KG, D-33750 Schloß Holte-Stukenbrock,
Tel. +49 (0)5207 / 994-0, Telefax +49 (0)5207 / 994-158 or 159 Internet: <http://www.ari-armaturen.com> E-mail: info.vertrieb@ari-armaturen.com