

Technical Data

Electric Rotary Actuators 2SA7



ECOTRON



PROFITRON

Contents		Page
General data	Mounting position, duty classifications, noise level, paint finish and corrosion protection, lubrication, degree of protection, vibration performance, ambient temperature, installation altitude	2 - 3
Mechanical data	<ul style="list-style-type: none"> • ON-OFF duty (2SA70) and inching/positioning duty(2SA73) 	Tripping torque, manual force, flange size, output shaft design, output speed, position recording, revs/stroke 4 - 5
	<ul style="list-style-type: none"> • Modulating duty (2SA75) 	Actuating torque, tripping torque, manual force, flange size, output shaft design, output speed, position recording, revs/stroke 6 - 7
	<ul style="list-style-type: none"> • Flange and output shaft dimensions 	8
	<ul style="list-style-type: none"> • Dimensional drawings 	9 - 13
Electrical data	<ul style="list-style-type: none"> • Power supply 	- ON-OFF duty (2SA70) and inching/positioning duty (2SA73) 14 - 15 - Modulating duty (2SA75) 16
	<ul style="list-style-type: none"> • Control and feedback signals 	17 - 19
	<ul style="list-style-type: none"> • Wiring diagrams 	20 - 27

Technical Data

General data

SIPOS actuators are suitable for automatic and safe operation of industrial valves in accordance with EN 15714-2.

Mounting position

The actuator can be mounted in **any position**. To make local operation easier, e.g. reading information on the display, a regular mounting is recommended, i.e. the mounting flange of the valve should be positioned below the actuator.

The electronics unit of the actuator can be **mounted separately** (e.g. wall bracket) using our separate mounting kit (e.g. order add-on **S41**).

Duty classifications

2SA70..-

- ON-OFF duty, class **A** according to EN 15714-2
- Short-time duty **S2-15 min** according to DIN EN 60034

2SA73..-

- Inching/positioning duty, class **B** according to EN 15714-2

2SA75..-

- Modulating duty, class **C** according to EN 15714-2
- Intermittent duty **S4/S5 min. 25 % ED** duty cycle, 1200 c/h according to DIN EN 60034
 In S4 duty (without electr. braking) and S5 duty (with electr. braking) with at least 25 % relative on-time, 1,200 cycles per hour are ensured.

The actuators can be operated for all torque and speed combinations for the entire temperature range from -20 °C to +70 °C.

Noise level

The noise level caused by the actuator (sound pressure level at 1 m distance) is **< 70 dB (A)**.

Paint finish and corrosion protection

All outside screws are exclusively made of **stainless steel**. The housing material consists of a **corrosion-resistant aluminum alloy** for normal atmospheric ambient conditions. Rotary actuators 2SA7 can be used without coating but are painted with a 2K-PUR-single layer coat (two-component polyurethane single layer coating) as standard.

The single layer coating is UV-resistant. It is applied with a minimum coating thickness of 60 µm when dry, in color similar to **RAL 7037** (silver-gray). Other RAL colors (add Y35 + number of RAL color to order) are available.

After roughening and cleaning the surfaces, the single layer coating can be painted with all common painting material. This includes epoxid lacquers, nitrocellulose lacquers etc.

Protection against corrosion from outside is stipulated in corrosivity categories in accordance with EN15714-2 (EN ISO 12944-2):

Version	Standard version: Corrosivity category C5	Very high corrosion protection, corrosivity category C5 with long protection time >> superior to 300 µm conventional paint thickness <<
Installation / Environmental condition	- Industrial areas with high humidity and aggressive atmosphere - Areas with almost permanent condensation and with high pollution	- Coastal and offshore areas with high salinity - Industrial areas with high humidity and aggressive atmosphere - Areas with almost permanent condensation and with high pollution
Order add-on	---	L38

Technical Data

Lubrication

The gears are filled with durable gear oil. They therefore require little maintenance. The maintenance intervals after commissioning must be observed (refer to recommendations in operating manual). The bearings of output shaft type A are lubricated with grease.

Degree of protection

The actuators meet the requirements of **IP68** protection as standard (DIN EN 60529).

They are fully screen-protected (electrical voltage and moving parts) and protected against the ingress of foreign bodies (dust), and against harmful quantities of water on continuous immersion up to max. 3 m head of water for a duration of max. 72 hours. During flooding up to 10 motor operations (switching cycles) are permitted.

IP68-8, continuous immersion up to max. 8 m head of water, on request!

Vibration performance

Electric rotary actuators 2SA7 are certified according to:

	Acceleration	Frequency range	Throughput speed	Test duration
Germanischer Lloyd	0.7 g	5 – 200 Hz	in the resonance frequencies	min. 1.5 h / in 3 directions
EN 60068-2-6	2 g	5 – 500 Hz	1 octave/min	20 sweeps (10 cycles) / in 3 directions
	Standard for 2SA7.1 to 2SA7.4			

Loads according to EN 60068-2-6 up to **2 g** for types 2SA7.5 and 2SA7.6 on request.

Loads according to EN 60068-2-6 up to **5 g** for separate mounting of electronics and gear unit on request.

The actuators can withstand a continuous load caused by plant-generated vibrations within a frequency range of 5 Hz – 200 Hz at up to **0.5 g**.

Ambient temperature

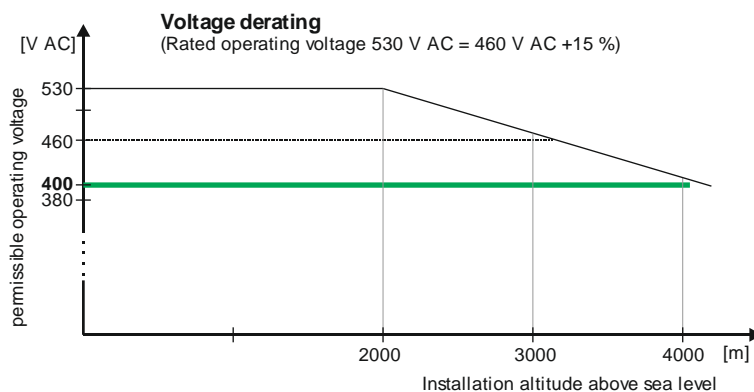
There are no functional restrictions for the temperature range of **-20 °C to +70 °C**. Lower or higher temperatures on request!

Installation altitude above sea level

The actuators are designed for an installation altitude up to 2,000 m above sea level.

Since the insulating properties of air decrease with increasing installation altitude, a voltage derating for the maximum permissible operating voltage has to be considered at installation altitudes above 2,000 m.

Installation altitude above sea level [m]	Derating factor	permissible operating voltage [V AC]
2000	1	460 + 15 % (530 + 0 %)
3000	0.88	405 + 15 % (465 + 0 %)
4000	0.77	355 + 15 % (410 + 0 %)

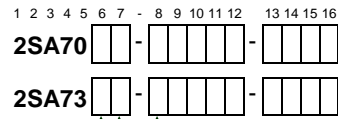


When considering a limited permissible voltage tolerance, SIPOS actuators can be safely operated at installation altitudes of up to 4,000 m with 3- phase 400 V AC (-15%/+0 %).

Technical Data

Mechanical data

- ON-OFF duty
- Inching/positioning duty



Tripping torque

Adjustable tripping torque T_c [Nm] typical running torque > 50% max. torque $T_{c \max.}^1$		Weight ≈ [kg]
9 - 30		19
18 - 60		20
37 - 125 ³⁾		34
75 - 250		38
150 - 500		69
300 - 1000		69
600 - 2000		136
1200 - 4000		136

Force for manual mode ²⁾ >> self-locking version (i = 40) <<	
Crank length / hand wheel dia.	at $T_{c \max.}$
60 mm	31 N
	63 N
90 mm	87 N
	174 N
Ø 250 mm	125 N
	250 N
	263 N

Adjustable tripping torque in steps of 10% from 30% – 100% max. torque $T_{c \max.}$

30 % $T_{c \max.}$ is default setting

Tripping torque range [Nm]	Tripping torque setting at .. % of $T_{c \max.}$ [Nm]							
	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
9 - 30	9	12	15	18	21	24	27	30
18 - 60	18	24	30	36	42	48	54	60
37 - 125 ³⁾	37	50	62	75	87	100	112	125
75 - 250	75	100	125	150	175	200	225	250
150 - 500	150	200	250	300	350	400	450	500
300 - 1000	300	400	500	600	700	800	900	1000
600 - 2000	600	800	1000	1200	1400	1600	1800	2000
1200 - 4000	1200	1600	2000	2400	2800	3200	3600	4000

permitted tolerance: ± 10% of $T_{c \max.}$

Manual mode

>> Switchover only when drive is at standstill! <<
Switchover takes place by pressing in the hand crank/hand wheel, motor stops operating automatically.
Electrical operation restarts automatically after releasing hand crank/hand wheel.

Direction of rotation: Turning hand crank/ hand wheel clockwise results in clockwise rotation of output shaft
(Exception: 2SA707.- and 2SA708.- resp. 2SA737.- and 2SA738.-).

Self-locking: The hand crank/hand wheel acts directly on the motor shaft when turned by hand; the self-locking function is thus retained for self-locking actuators.

Flange size

DIN ISO 5210	DIN 3210	Flange size for tripping torque [Nm]						Spindle opening [mm]
F07	-	9-30	18-40					0
F10	G0	9-30	18-60	37-125	75-125			1
F12	-			37-125	75-250			2
F14	G1/2		18-60	37-125	75-250	150-500	300-500	3
F16	G3					150-500	300-1000	4
F25	G4						300-1000	5
F30	G5						600-2000	6
							1200-2000	
							1200-4000	

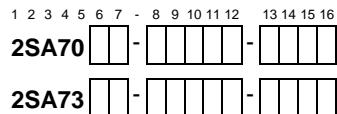
Dimensions to flanges and output shafts, see page 8

Output shaft design

form	DIN ⁴⁾	Output shaft with	
A	ISO 5210	threaded bush	0
	103 ⁵⁾	+ acme screw thread	Order-no. with „ - Z “ + Y18
B1	ISO 5210	bore with keyway	2
C	3338	claw coupling	3
B3	ISO 5210	bore with keyway	5
B2 / B4 ⁶⁾	ISO 5210	bore with keyway	9
			Order-no. with H2Y

- 1) Exception: 35% for adjustment/setting to highest output speed for the types 2SA701 -E, 2SA702.-E, 2SA706.-C, 2SA706.-D, 2SA708.-A and 2SA708.-B resp. 2SA731 -E, 2SA732.-E, 2SA736.-C, 2SA736.-D, 2SA738.-A and 2SA738.-B and 25% for 2SA706.-D, 2SA736.-D, 2SA708.-B and 2SA738.-B for separate mounting >10 m.
- 2) Non-self-locking actuators (refer to "Output speed" column) have manual forces 30% higher.
- 3) Tripping torque range reduced to 37 – 112 Nm for 110 – 115 V connection voltage.
- 4) Special output shaft and output shaft design acc. to DIN 3210 on request.
- 5) Acme screw thread LH according to DIN 103, Part 2, thread nominal diameter as listed in Line 1, pitch according to preferred series. The acme screw thread must be expressly stated, e.g. Tr 16 x 4 LH DIN 103!
- 6) The special bore must be stated, e.g. ø 26 with featherkey A8x7 DIN 6885!

Technical Data



Output speed

Speed range	Output speed [rpm]		default setting	
	for tripping torque [Nm]	not self-locking		
1.25 – 10		1200-4000	3.5	A
2.5 – 20		600-2000 1200-4000	7	B
5 – 20 ¹⁾	9-30 18-60 37-112			
5 – 28		600-2000		
5 – 40	9-30 18-60 37-125 75-250 150-500 300-1000		14	C
10 – 40 ¹⁾	9-30 18-60			
10 – 80	9-30 18-60 37-125 75-250 150-500 300-1000		28	D
20 – 56 ¹⁾	9-30			
20 – 80 ¹⁾	18-60			
20 – 112	9-30 150-500			
20 – 160	18-60 37-125 75-250		56	E

ECOTRON: 7-step adjustable output speed within the selected speed range

Speed range (n _{min.} – n _{max.})	adjustable in seven steps; step-up factor 1.4 [rpm]						
	1	2	3	4	5	6	7
1.25 – 10	1.25	1.75	2.5	3.5	5	7	10
2.5 – 20	2.5	3.5	5	7	10	14	20
5 – 40	5	7	10	14	20	28	40
10 – 80	10	14	20	28	40	56	80
20 – 160	20	28	40	56	80	112	160

PROFITRON: continuous adjustable output speed within the selected speed range

Speed range (n _{min.} – n _{max.})	adjustable in 2.5% increments between 12.5 - 100% n _{max.} [rpm]						
	12.5%	...	35%	...	100%		
1.25 – 10	1.25	1.5	1.75	...	3.5	...	9.75 10
2.5 – 20	2.5	3	3.5	...	7	...	19.5 20
5 – 40	5	6	7	...	14	...	39 40
10 – 80	10	12	14	...	28	...	78 80
20 – 160	20	24	28	...	56	...	156 160

Position recording

mechanical position indicator	Position recording	
without	signaling gear with precision metal film potentiometer	0
with		1
without	non-intrusive position encoder – commissioning without opening the actuator with contactless position detection (without battery), data stored in non-volatile memory, position indication via progress bar and additional value indication [%] (only PROFITRON) on the display	2

Setting for signaling gear

setting for signaling gear	Revolutions per stroke (revs/stroke)									
	0.8	2.1	5.5	14	36	93	240	610	1575	4020
2SA701/2/3/4/5/6										
2SA731/2/3/4/5/6										
2SA707/8	0.2	0.52	1.37	3.5	9	23.2	60	152	393	1005
2SA737/8										

Self-locking

Self-locking actuators have a ratio of i=40.

Non-self-locking actuators have a ratio of i=20.

Speed setting

Speed is set via the hermetically sealed control button "DriveController" of the local control, via fieldbus or the PC programming software "COM SIPOS".

In PROFITRON version, different speeds can be set for OPEN, CLOSE, EMERGENCY OPEN and EMERGENCY CLOSE.

„non-intrusive“

The non-intrusive version has no signaling gear.

The exact number of rotations for the travel (max. 353.000 rev/stroke) are automatically determined and saved when approaching both end positions during end position adjustment.

Adjusting the revs/stroke

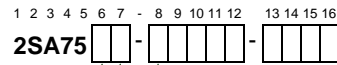
Remove the cover from the signaling gear, adjust the slide wheel so that the gear rim faces the required value on the scale. The adjusted value is ≥ the value for the valve, e.g. a stage of 93 must be adjusted for a valve with 40 revs/stroke.

1) reduced speed range for 110 – 115 V connection voltage

Technical Data

Mechanical data

Modulating duty



Tripping torque

Max. act. torque (modulating torque)	Adjustable tripping torque T_C [Nm]	Weight \approx [kg]
15	10 - 20	19
30	20 - 40	20
60	40 - 80	34
125	87 - 175	38
250	175 - 350	69
500	350 - 700	69
1000	700 - 1400	136
2000	1400-2800	136

Force for manual mode	
Crank length / hand wheel dia.	at T_C max.
60 mm	21 N
	42 N
90 mm	56 N
	122N
Ø 250 mm	88 N
	175 N
	92 N
	184 N

Adjustable tripping torque in steps of 10% from 50% - 100% max. torque T_C max.

50 % T_C max. is default setting

Tripping torque range [Nm]	Tripping torque setting at .. % of T_C max. [Nm]					
	50 %	60 %	70 %	80 %	90 %	100 %
10 - 20	10	12	14	16	18	20
20 - 40	20	24	28	32	36	40
40 - 80	40	48	56	64	72	80
87 - 175	87	105	122	140	157	175
175 - 350	175	210	245	280	315	350
350 - 700	350	420	490	560	630	700
700 - 1400	700	840	980	1120	1260	1400
1400 - 2800	1400	1680	1960	2240	2520	2800

permitted tolerance: \pm 10% of T_C max.

Manual mode

>> Switchover only when drive is at standstill! <<
Switchover takes place by pressing in the hand crank/hand wheel, motor stops operating automatically. Electrical operation restarts automatically after releasing hand crank/hand wheel.

Direction of rotation: Turning hand crank / hand wheel clockwise results in clockwise rotation of output shaft (Exception: 2SA757.- and 2SA758.-).

Self-locking: The hand wheel acts directly on the motor shaft when turned by hand; the self-locking function is thus retained for self-locking actuators.

Self-locking

Rotary actuators for modulating duty are self-locking actuators. The gear ratio is $i=40$.

Flange size

DIN ISO 5210	DIN 3210	Flange size for tripping torque [Nm]						Spindle opening [mm]
F07	-	10-20	20-40					0
F10	G0	10-20	20-40	40-80	87-122			1
F12	-			40-80	87-175			2
F14	G1/2		20-40	40-80	87-175	175-350	350-490	3
F16	G3					175-350	350-700	4
F25	G4						700-980	5
F30	G5						350-700	6
							700-1400	
							1400-1960	
							1400-2800	

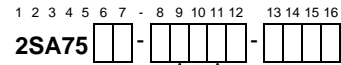
Dimensions to flanges and output shafts, see page 8

Output shaft design

form	DIN 1)	Output shaft with	
A	ISO 5210 103 2)	threaded bush	0
		+ acme screw thread	Order-no. with „ - Z “ + Y18
B1	ISO 5210	bore with keyway	2
C	3338	claw coupling	3
B3	ISO 5210	bore with keyway	5
B2 / B4 3)	ISO 5210	bore with keyway	9
			Order-no. with H2Y

1) Special output shaft and output shaft design acc. to DIN 3210 on request.
2) Acme screw thread LH according to DIN 103, Part 2, thread nominal diameter as listed in Line 1, pitch according to preferred series. The acme screw thread must be expressly stated, e.g. Tr 16 x 4 LH DIN 103!
3) The special bore must be stated, e.g. ϕ 26 with featherkey A8x7 DIN 6885!

Technical Data



Output speed

Speed range	Output speed [rpm]		default setting	
	for tripping torque [Nm]			
1.25 – 10	700-1400	1400-2800	3.5	
5 – 20 ¹⁾	10-20	20-40	40-80	14
5 – 40	10-20	20-40	40-80	
10 – 80	10-20	20-40	40-80	28

ECOTRON: 7-step adjustable output speed within the selected speed range

Speed range (n _{min.} – n _{max.})	adjustable in seven steps; step-up factor 1.4 [rpm]						
	1	2	3	4	5	6	7
1.25 – 10	1.25	1.75	2.5	3.5	5	7	10
5 – 40	5	7	10	14	20	28	40
10 – 80	10	14	20	28	40	56	80

PROFITRON: continuous adjustable output speed within the selected speed range

Speed range (n _{min.} – n _{max.})	adjustable in 2.5% increments between 12.5 - 100% n _{max.} [rpm]							
	12.5%	...	35%	...	100%			
1.25 – 10	1.25	1.5	1.75	...	3.5	...	9.75	10
5 – 40	5	6	7	...	14	...	39	40
10 – 80	10	12	14	...	28	...	78	80

Speed setting

Speed is set via the hermetically sealed control button "DriveController" of the local control, via fieldbus or the PC programming software "COM SIPOS".
In PROFITRON version, different speeds can be set for OPEN, CLOSE, EMERGENCY OPEN and EMERGENCY CLOSE.

Position recording

mechanical position indicator	Position recording	
without	signaling gear with precision metal film potentiometer	0
with		1
without	non-intrusive position encoder – commissioning without opening the actuator with contactless position detection (without battery), data stored in non-volatile memory, position indication via progress bar and additional value indication [%] (only PROFITRON) on the display	2

„non-intrusive“

The non-intrusive version has no signaling gear.
The exact number of rotations for the travel (max. 353.000 rev/stroke) are automatically determined and saved when approaching both end positions during end position adjustment.

Setting for signaling gear

setting for signaling gear	Revolutions per stroke (revs/stroke)									
2SA751/2/3/4/5/6	0.8	2.1	5.5	14	36	93	240	610	1575	4020
2SA757/8	0.2	0.52	1.37	3.5	9	23.2	60	152	393	1005

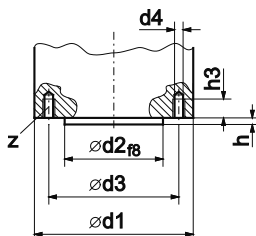
Adjusting the revs/stroke

Remove the cover from the signaling gear, adjust the slide wheel so that the gear rim faces the required value on the scale.
The adjusted value is ≥ the value for the valve, e.g. a stage of 93 must be adjusted for a valve with 40 revs/stroke.

1) reduced speed range for 110 – 115 V connection voltage

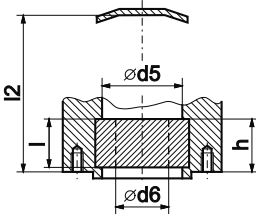
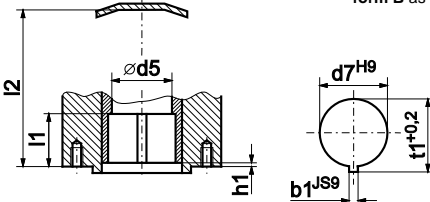
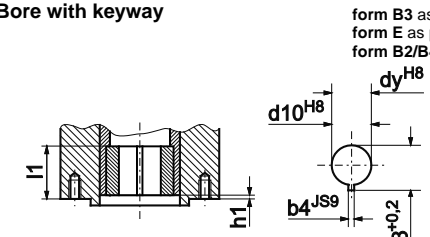
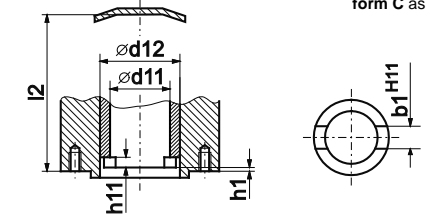
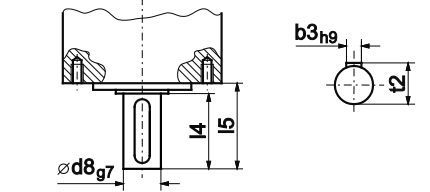
Technical Data

Flange sizes



Rotary actuator type	2SA7 . □□	10	11	31	32	33	53	54	75	86
Flange size as per	DIN ISO 5210 DIN 3210	F07	F10 — 0	F10 — 0	F12	F14 — 1/2	F16 — 3	F25 — 4	F30 — 5	F30 — 5
d1		90	125	125 ⁸⁾	150 ⁸⁾	175	210	300	350	350
d2		55	70 60	70 60	85	100	130	200 160	230 180	230 180
d3		70	102	102	125	140	165	254	298 300	298 300
d4		M8	M10	M10	M12	M16	M20	M16	M20	M20
z ¹⁾		4	4	4	4	4	4	8	8	8
h		3	3	3	3	4	5	5	5	5
h3		12	17	17	20	25	32	24	30	30

Output shaft dimensions

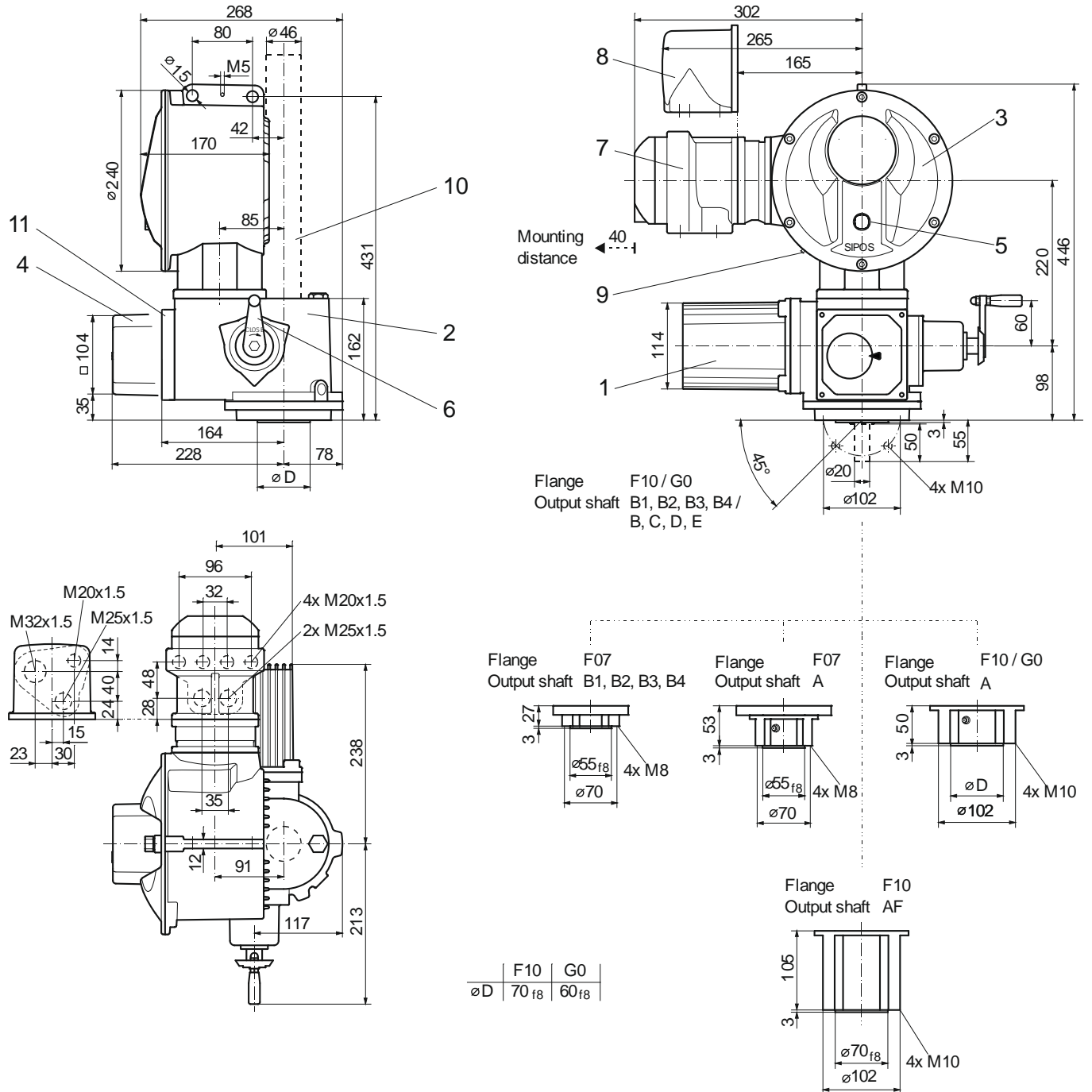
	Hollow shaft with threaded bush form A as per DIN ISO 5210 and form A as per DIN 3210	d6 max. ²⁾	26	32	48	48	52 ⁴⁾	65	75	77	80 ⁵⁾
		d5	32	34	55	55	55	80	80	80	92
		h	38	48	86	86	62	108	77	126	155
		l	37	47	85	85	61	108	76	126	155
		l2	175	173	267	267	243	347	316	691	782
	Thrust max. [kN] ⁷⁾		40	60	100	120	120	160	160	350	450
	Bore with keyway form B1 as per DIN ISO 5210 and form B as per DIN 3210	d7	28	42	42	50	60	80	100	120	
		d5 ³⁾	28	34	42	50	55 60	80	80	80	80
		b1	8	12	12	14	18	22	28	28	32
		t1	31.3	45.3	45.3	53.8	64.4	85.4	106.4	127.4	127.4
		l1	36	45	45	60	65 70	87	139	139	139
		h1	0	0	0	0	0	0	2	2	2
		l2	150	123	210	210	178 280	236	583	583	583
	Bore with keyway form B3 as per DIN ISO 5210 and form E as per DIN 3210; form B2/B4 (dy max.)	d10	16	20	20	25	30	40	50	60	
		dy max.	28	30	42	50	45 60	60	80	95	
		dy max. ⁶⁾	—	50	—	—	60	—	70	100	
		b4	5	6	6	8	8	12	14	18	
		t3	18.3	22.8	22.8	28.3	33.3	43.3	53.8	64.4	
		l1	36.5	45	52	60	65 70	80	139	139	
		h1	0	0	0	0	0	0	2	2	
	Hollow shaft with claw coupling form C as per DIN 3338 and form C as per DIN 3210	d12	—	42	42	—	60	80	100	120	
		d11	—	28	28	—	38	47	64	75	
		b1	—	14	14	—	20	24	30	40	
		h1	—	0	0	—	0	0	2	2	
		h11	—	9	9	—	10	12	11	13	
		l2	—	123	210	—	178 280	236	583	583	
	Free shaft end with featherkey form D as per DIN 3210	d8	—	20	20	—	30	40	50	60	
		l4	—	50	50	—	70	90	110	120	
		l5	—	55	55	—	76	97	117	127	
		b3	—	6	6	—	8	12	14	18	
		t2	—	22.5	22.5	—	33.0	43.0	53.5	64.0	

1) number of tapped holes d4 2) max. diameter for the spindle 3) max. diameter for the spindle, if spindle protection tube is necessary; see dimension d6max. (form A) 4) for version with spindle protection tube max. 50 mm 5) max. ø77 for spindle stroke ≥ 541 mm for form A resp. ≥ 348 mm for form B1 (dimensions from connection flange) 6) with adaptation flange (height on request) 7) only applies to ON-OFF duty and inching/positioning duty, for modulating duty on request 8) 175 mm with output shaft form A

Technical Data

Dimensional drawing **2SA701., 2SA702., 2SA731., 2SA732., 2SA751., 2SA752.**

R866851

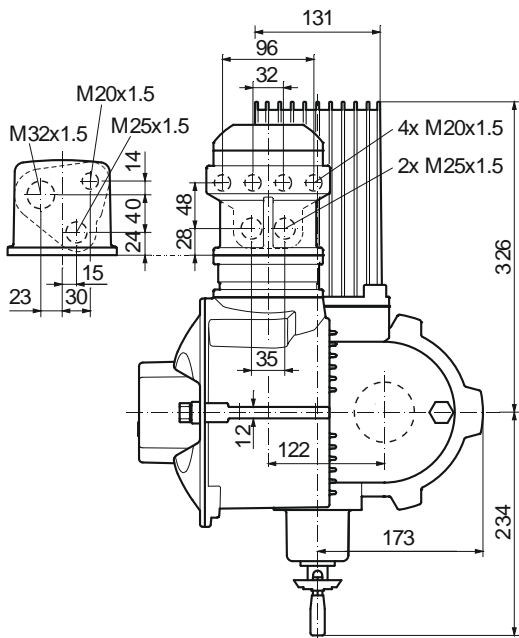
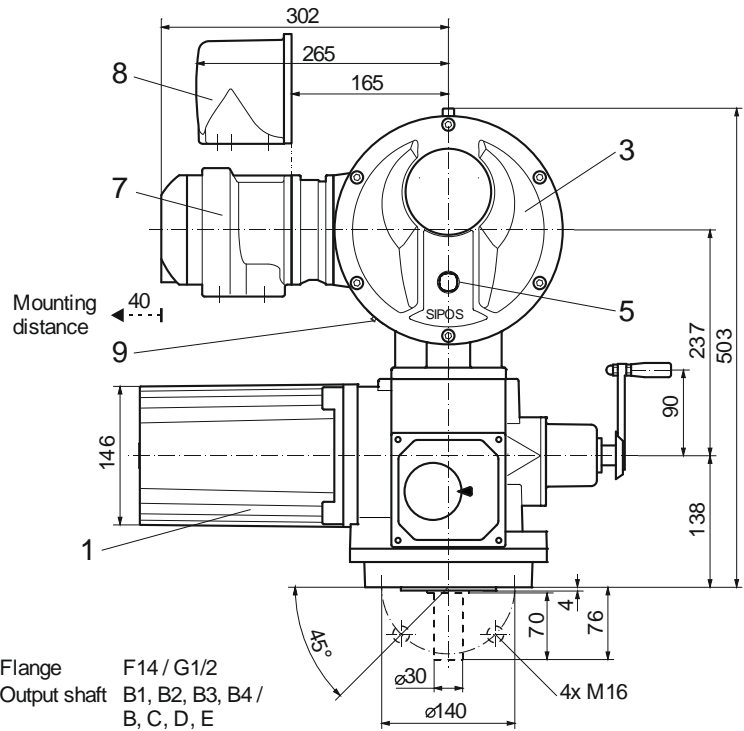
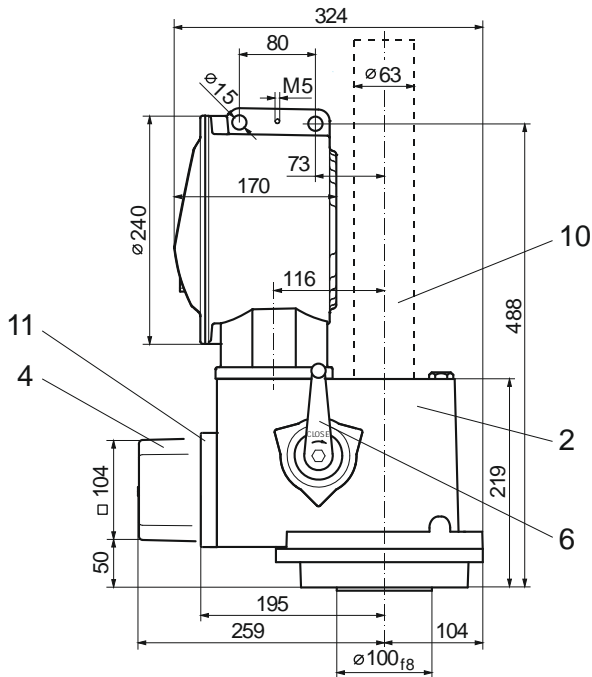


- | | | | | | |
|---|------------------|---|-----------------------|----|---|
| 1 | Motor | 4 | Signaling gear | 8 | Plug connection |
| 2 | Gear unit | 5 | Local control station | 9 | USB interface (only PROFITRON) |
| 3 | Electronics unit | 6 | Hand crank | 10 | Spindle protection tube (for length, see catalog) |
| | | 7 | Field bus connection | 11 | non-intrusive position encoder |

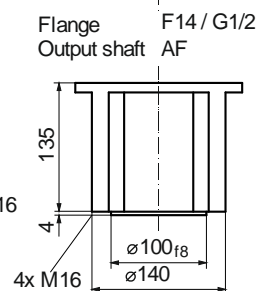
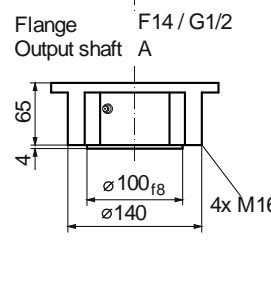
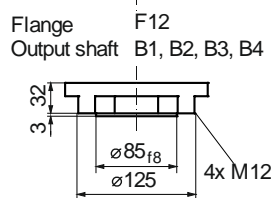
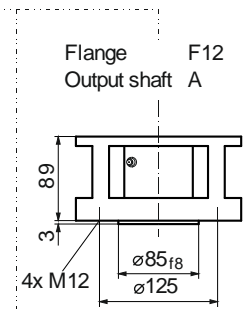
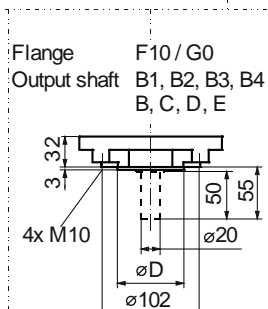
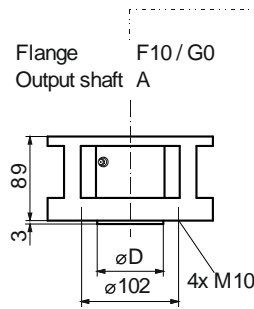
Technical Data

Dimensional drawing **2SA703., 2SA704.-.C, 2SA733., 2SA734.-.C, 2SA753., 2SA754.-.C**

R866852



	F10	G0
∅D	70 _{f8}	60 _{f8}

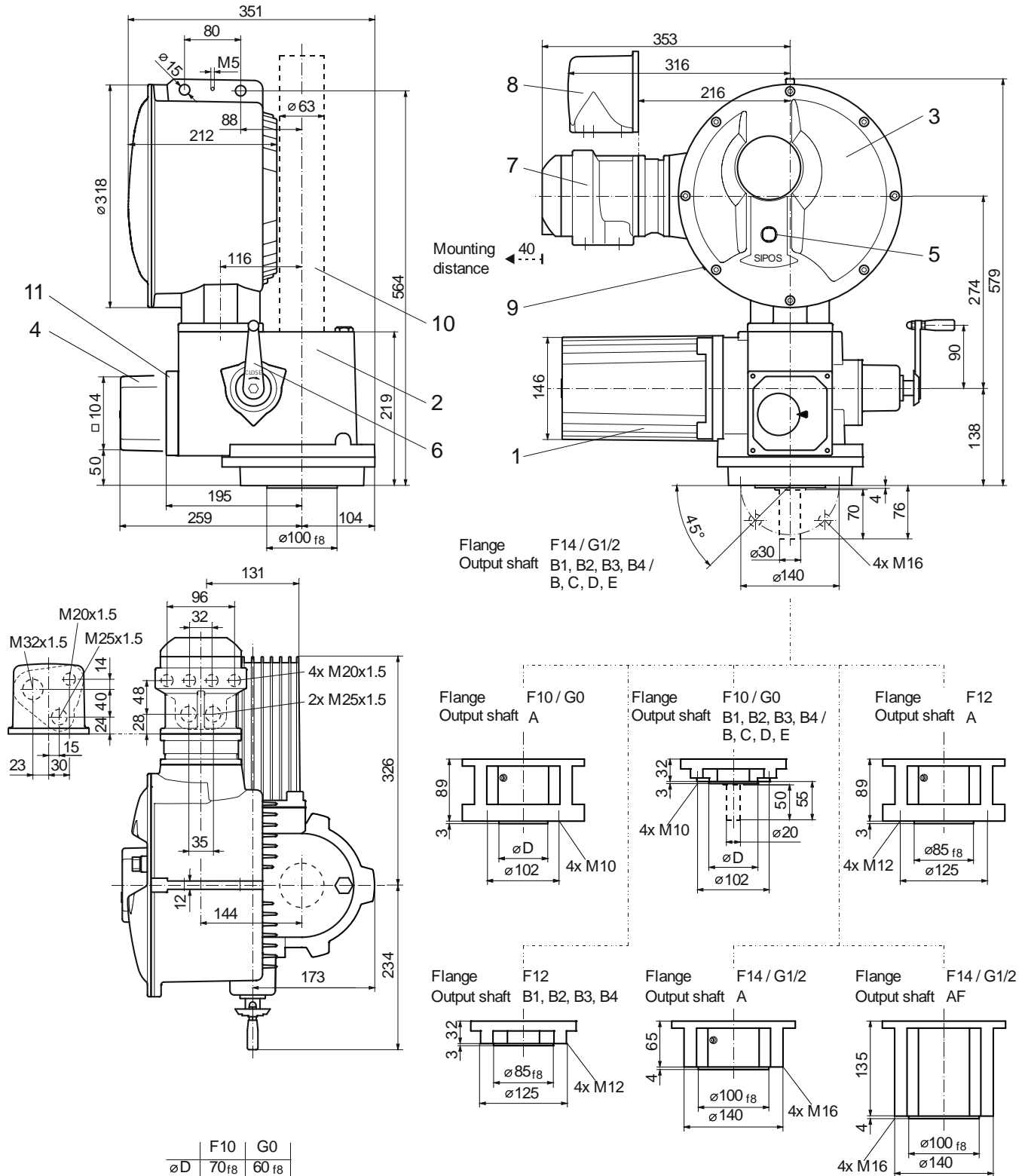


- | | | |
|--------------------|-------------------------|--|
| 1 Motor | 4 Signaling gear | 8 Plug connection |
| 2 Gear unit | 5 Local control station | 9 USB interface (only PROFITRON) |
| 3 Electronics unit | 6 Hand crank | 10 Spindle protection tube (for length, see catalog) |
| | 7 Field bus connection | 11 non-intrusive position encoder |

Technical Data

Dimensional drawing **2SA704.-D, 2SA704.-E, 2SA734.-D, 2SA734.-E, 2SA754.-D**

R866853

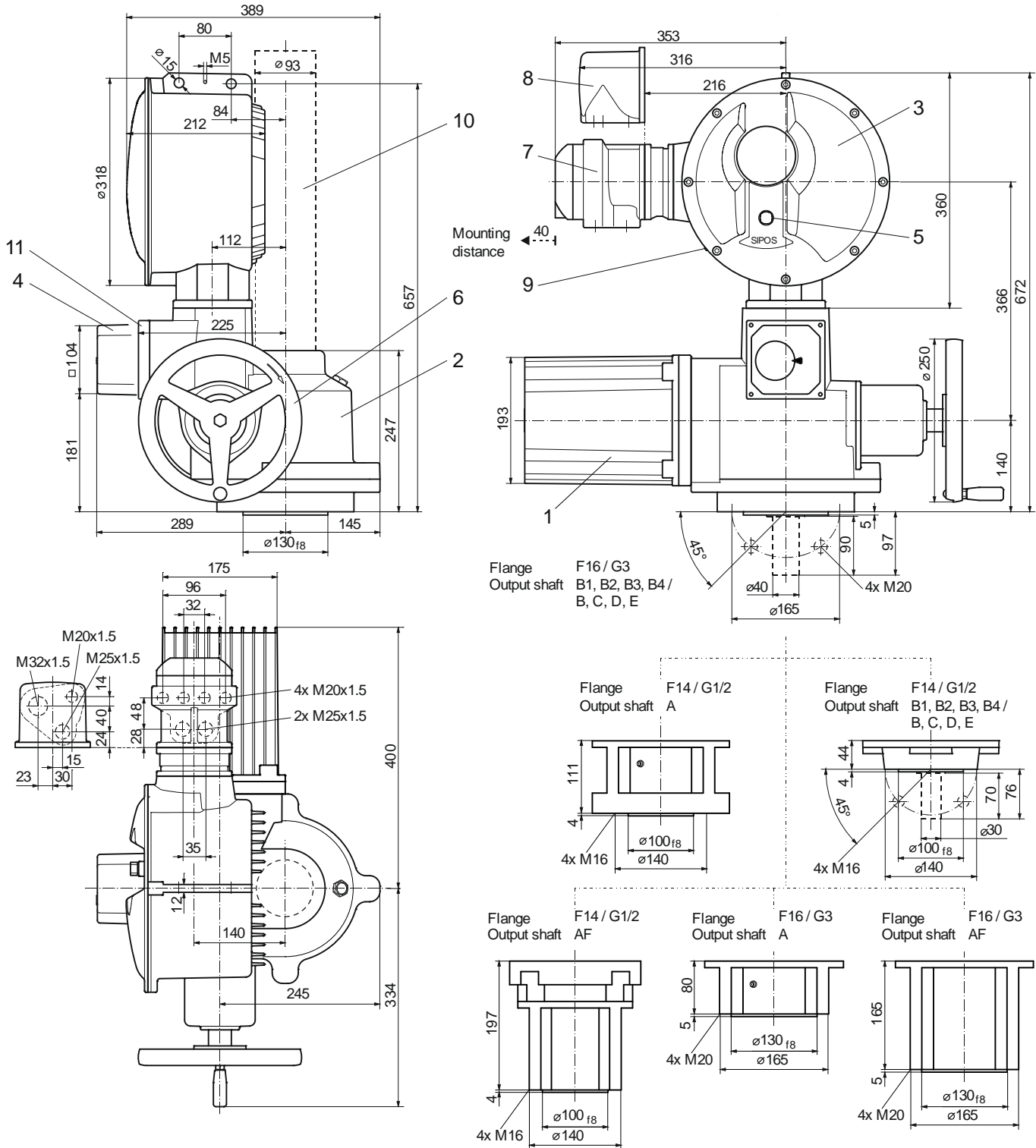


- | | | |
|--------------------|-------------------------|--|
| 1 Motor | 4 Signaling gear | 8 Plug connection |
| 2 Gear unit | 5 Local control station | 9 USB interface (only PROFITRON) |
| 3 Electronics unit | 6 Hand crank | 10 Spindle protection tube (for length, see catalog) |
| | 7 Field bus connection | 11 non-intrusive position encoder |

Technical Data

Dimensional drawing **2SA705., 2SA706., 2SA735., 2SA736., 2SA755., 2SA756.**

R866854

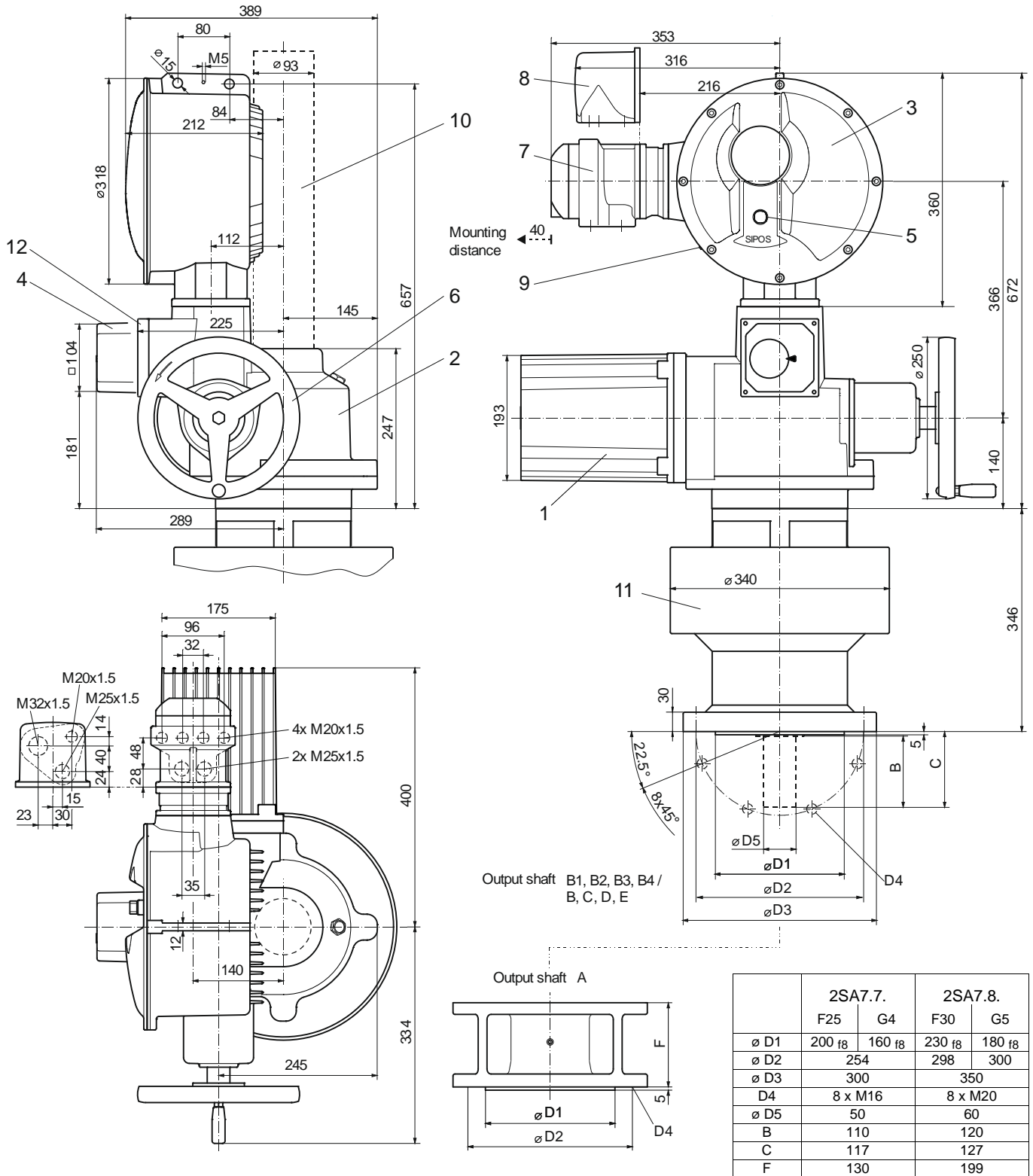


- | | | | | | |
|---|------------------|---|-----------------------|----|---|
| 1 | Motor | 4 | Signaling gear | 8 | Plug connection |
| 2 | Gear unit | 5 | Local control station | 9 | USB interface (only PROFITRON) |
| 3 | Electronics unit | 6 | Hand wheel | 10 | Spindle protection tube (for length, see catalog) |
| | | 7 | Field bus connection | 11 | non-intrusive position encoder |

Technical Data

Dimensional drawing **2SA707., 2SA708., 2SA737., 2SA738., 2SA757., 2SA758.**

R866855



- 1 Motor
- 2 Gear unit
- 3 Electronics unit
- 4 Signaling gear
- 5 Local control station
- 6 Hand wheel
- 7 Field bus connection
- 8 Plug connection
- 9 USB interface (only PROFITRON)
- 10 Spindle protection tube (for length, see catalog)
- 11 Intermediate gear (supplied separately)
- 12 non-intrusive position encoder

Technical Data

Electrical data – Power supply of ON-OFF duty (2SA70) and Inching/positioning duty (2SA73)

Connection voltage U_N 1-phase, 110 – 115 V AC (40 – 70 Hz)
permissible voltage tolerance: -10% / +15%

Type 2SA70.. 2SA73..	$n_{max.}$ [rpm]	$T_C max.$ [Nm]	Current (110 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1.	-CB	20	30	2.9	3.1	0.2	10
	-DB	40		3.1	3.8		
	-EB	56		4.6	5.6		
..... 2.	-CB	20	60	3.3	4.2	0.2	10
	-DB	40		4.8	6.5		
	-EB	80		7.1	9.6		
..... 3.	-CB	20	112	6.1	7.9	0.4	

↓
small electronics-unit
↓

Connection voltage U_N 1-phase, 220 – 230 V AC (40 – 70 Hz)
permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA70.. 2SA73..	$n_{max.}$ [rpm]	$T_C max.$ [Nm]	Current (230 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1.	-CD	40	30	1.7	2.1	0.2	10
	-DD	80		2.9	3.9		
	-ED	112		2.7	3.6		
..... 2.	-CD	40	60	2.3	3.1	0.3	10
	-DD	80		4.1	5.4		
	-ED	160		6.0	10.0		
..... 3.	-CD	40	125	4.5	6.3	0.6	

↓
small electronics-unit
↓

Connection voltage U_N 3-phase, 190 – 200 V AC (40 – 70 Hz)
permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA70.. 2SA73..	$n_{max.}$ [rpm]	$T_C max.$ [Nm]	Current (200 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1.	-CJ	40	30	1.2	1.5	0.2	6
	-DJ	80		2.1	2.8		
	-EJ	112		2.0	2.6		
..... 2.	-CJ	40	60	1.7	2.3	0.3	6
	-DJ	80		3.0	3.9		
	-EJ	160		4.4	7.3		
..... 3.	-CJ	40	125	3.3	4.6	0.6	

↓
small electronics-unit
↓

Connection voltage U_N 3-phase, 380 – 460 V AC (40 – 70 Hz)
permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA70.. 2SA73..	$n_{max.}$ [rpm]	$T_C max.$ [Nm]	Current (400 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1.	-CE	40	30	0.6	0.7	0.2	10
	-DE	80		1.0	1.2		
	-EE	112		1.0	1.2		
..... 2.	-CE	40	60	1.2	1.8	0.3	6
	-DE	80		1.4	1.8		
	-EE	160		1.9	2.6		
..... 3.	-CE	40	125	1.4	1.8	0.6	10
	-DE	80		2.4	3.1		
	-EE	160		3.4	4.8		
..... 4.	-CE	40	250	1.9	2.9	0.9	10
	-DE	80		4.1	5.4		
	-EE	160		5.9	8.2		
..... 5.	-CE	40	500	3.7	5.0	1.7	10
	-DE	80		7.5	10.0		
	-EE	112		7.7	11.7		
..... 6.	-CE	40	1000	5.6	10.8	2.6	16
	-DE	80		9.4	12.8		
	-BE	20		7.5	10.0		
..... 7.	-CE	28	2000	7.7	11.7	3.8	16
	-AE	10		5.6	10.8		
	-BE	20		9.4	12.8		

↓
small electronics-unit
↓
big electronics-unit
↑

- 1) full torque for voltage fluctuations between -30 % and +15 %
(in case of undervoltage from U_N -30% to -10%, operation may be performed at reduced output speed n)
- 2) lower voltage increases the current, higher voltage reduces the current
- 3) starting current $I_A \leq$ nominal current I_N
- 4) at 35% of the maximum torque $T_C max.$
- 5) maximum current $I_{max.}$ is present for torque-dependent cut-off mode and for a running torque of 50% the maximum torque $T_C max.$

Technical Data

Motor operation

The frequency converter generates a frequency/amplitude adjustable 3-phase AC voltage for the motor from the single or 3-phase main voltage supply. Motor speed and thus actuator output speed are internally adjusted via the frequency.

Motor protection

The motor has a thermistor-type motor protection against thermal damage. The winding temperature is monitored continuously by the microcontroller. The response after exceeding the permitted winding temperature is programmable on the PROFITRON. On the ECOTRON the motor protection cannot be inhibited.

Motor space heater (programmable for PROFITRON, for ECOTRON only with option „M18“)

The microcontroller continuously monitors the current winding temperature by means of a temperature sensor integrated in the motor winding. When the motor space heater is activated by the program, the motor winding is heated by a DC voltage via the frequency converter depending on the cooling characteristic of the motor winding when the motor is switched off.

Technical Data

Electrical data – Power supply of Modulating duty (2SA75)

Connection voltage U_N 1-phase, 110 – 115 V AC (40 – 70 Hz)

permissible voltage tolerance: -10% / +15%

Type 2SA75..	$n_{max.}$ [rpm]	$T_C \text{ max.}$ [Nm]	Current (110 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1. -CB	20	20	1.9	2.6	0.1	0.75	10
..... 2. -CB		40	2.4	3.8	0.2		
..... 3. -CB		80	4.2	8.3	0.3		

↓
small
electronics-
unit
↓

Connection voltage U_N 1-phase, 220 – 230 V AC (40 – 70 Hz)

permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA75..	$n_{max.}$ [rpm]	$T_C \text{ max.}$ [Nm]	Current (230 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1. -CD	40	20	1.3	1.9	0.2	0.75	10
	80		2.6	3.8	0.4		
..... 2. -DD	40	40	1.7	2.8	0.2	0.75	10
	80		3.4	5.6	0.4		
..... 3. -CD	40	80	3.4	6.2	0.4	0.75	10

↓
small
electronics-
unit
↓

Connection voltage U_N 3-phase, 190 – 200 V AC (40 – 70 Hz)

permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA75..	$n_{max.}$ [rpm]	$T_C \text{ max.}$ [Nm]	Current (200 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1. -CJ	40	20	0.9	1.4	0.2	0.75	6
..... 2. -CJ		40	1.2	2.0	0.2		
..... 3. -CJ		80	2.5	4.5	0.4		

↓
small
electronics-
unit
↓

Connection voltage U_N 3-phase, 380 – 460 V AC (40 – 70 Hz)

permissible voltage tolerance: -10% (-30% ¹⁾) / +15%

Type 2SA75..	$n_{max.}$ [rpm]	$T_C \text{ max.}$ [Nm]	Current (400 V) ^{2) 3)}		Power P_N ⁴⁾ [kW]	Motor power [kW]	Fuse slow blowing [A]
			Nominal current I_N ⁴⁾ [A]	$\approx I_{max.}$ ⁵⁾ [A]			
..... 1. -CE	40	20	0.5	0.7	0.2	0.75	6
	80		1.0	1.4	0.4		
..... 2. -DE	40	40	0.9	1.7	0.2	0.75	6
	80		1.8	3.4	0.4		
..... 3. -CE	40	80	1.2	1.8	0.5	1.50	10
	80		2.4	3.6	1.0		
..... 4. -DE	40	175	1.6	3.0	0.7	3.00	10
	80		3.2	6.0	1.4		
..... 5. -CE	40	350	3.0	5.0	1.3	5.50	16
	80		6.0	10.0	2.6		
..... 6. -DE	40	700	5.1	9.5	2.3	5.50	16
..... 7. -AE	10	1400	3.0	5.0	1.3	3.00	10
..... 8. -AE		2800	5.1	9.5	2.3	5.50	16

↓
small
electronics-
unit
↓
big
electronics-
unit
↓

Motor operation

The frequency converter generates a frequency/amplitude adjustable 3-phase AC voltage for the motor from the single or 3-phase main voltage supply. Motor speed and thus actuator output speed are internally adjusted via the frequency.

Motor protection

The motor has a thermistor-type motor protection against thermal damage. The winding temperature is monitored continuously by the microcontroller. The response after exceeding the permitted winding temperature is programmable on the PROFITRON. On the ECOTRON the motor protection cannot be inhibited.

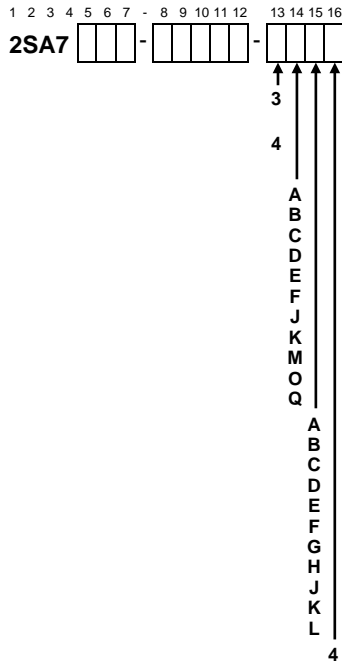
Motor space heater (programmable for PROFITRON, for ECOTRON only with option „M18“)

The microcontroller continuously monitors the current winding temperature by means of a temperature sensor integrated in the motor winding. When the motor space heater is activated by the program, the motor winding is heated by a DC voltage via the frequency converter depending on the cooling characteristic of the motor winding when the motor is switched off.

- 1) full torque for voltage fluctuations between -30 % and +15 %
(in case of undervoltage from U_N -30% to -10%, operation may be performed at reduced output speed n)
- 2) lower voltage increases the current, higher voltage reduces the current
- 3) starting current $I_s \leq$ nominal current I_N
- 4) at 35% of the maximum torque $T_C \text{ max.}$
- 5) maximum current $I_{max.}$ is present for torque-dependent cut-off mode and for a running torque of 70% the maximum torque $T_C \text{ max.}$

Technical Data

Electrical data – Control and feedback signals



ECOTRON: 3 binary inputs 24/48 V DC (OPEN, CLOSE, STOP), 5 binary outputs 24/48 V DC
 1 analog output 4 – 20 mA (actual position value), segment display (symbols for parameterization/commissioning)

PROFITRON: 5 binary inputs 24/48 V DC (OPEN, CLOSE, STOP, EMERGENCY, Mode), 8 binary outputs 24/48 V DC,
 1 analog output 0/4 – 20 mA (actual position value), multicolor graphic display with status indication

electronics unit without hardware extension
 relay board with 5 outputs for ECOTRON, 8 for PROFITRON
 PROFIBUS DP 1 channel - with V1 and V2 services
 PROFIBUS DP 2 channel - with V1 and V2 services
 MODBUS RTU 1 channel
 MODBUS RTU 2 channel
 HART (only PROFITRON)
 HART + relay board (only PROFITRON)
 MODBUS TCP/IP 1 channel
 prepared for remote control unit RCU (only PROFITRON) + MODBUS RTU 1 channel

A standard software-function
 B positioner
 C process controller
 D travel dependent output speed adjustment
 E positioner + travel dependent output speed adjustment
 F external analog output speed setpoint
 G positioner + external analog output speed setpoint
 H positioner with split-range functionality
 J travel dependent freely adjustable positioning times
 K positioner + travel dependent freely adjustable positioning times
 L process controller + travel dependent freely adjustable positioning times

4 round plug

	ECOTRON 2SA7.	PROFITRON		
		2SA70	2SA73	2SA75
A	X	X	X	X
B			X	X
C				X
D		X	X	X
E			X	X
F		X	X	X
G			X	X
H			X	X
J		X	X	X
K			X	X
L				X

Signal assignment for the binary outputs

- for ECOTRON (also refer to wiring diagrams, signals 1-5):

Output	Signaling set (set 1 to 4 can be adjusted locally in the segment display of the actuator)							
	default setting		optional sets				with option „Y12“	
	Set 1		Set 2		Set 3		Set 4	
1	Travel end OPEN	NO	End position OPEN	NO	End position OPEN	NO	Travel end OPEN	NO
2	Travel end CLOSE	NO	End position CLOSED	NO	End position CLOSED	NO	Travel end CLOSE	NO
3	Torque CL/OP reached	NC	Blinker	NO	Fault	NC	Ready+Remote	NO
4	Ready+Remote	NO	Ready+Remote	NO	Local	NO	Torque OPEN reached	NC
5	Warning motor temp.	NC	Warning motor temp.	NC	Warning motor temp.	NC	Torque CLOSE reached	NC

NO = active high, NC = active low

- for PROFITRON (also refer to wiring diagrams, signals 1-8):

Output	default setting	with option „Y12“	with option „Y15“	with option „Y90“
1	End position OPEN NO	Intermediate contact OP NO	Intermediate contact OP NO	Intermediate contact OP NO
2	End position CLOSED NO	Intermediate contact CL NO	Intermediate contact CL NO	Intermediate contact CL NO
3	Torque OPEN reached NC	Ready+Remote NO	Torque OPEN reached NO	Torque OPEN reached NO
4	Torque CLOSE reached NC	Torque OPEN reached NC	Torque CLOSE reached NO	Torque CLOSE reached NO
5	Fault NC	Torque CLOSE reached NC	Ready+Remote NO	Local NC
6	Local NO	Local NO	Local NO	Fault NC
7	Blinker NO	Warning motor temp. NO	Blinker NO	Not used
8	Warning motor temp. NC	Fault external voltage NC	Warning motor temp. NO	Not used

NO = active high, NC = active low

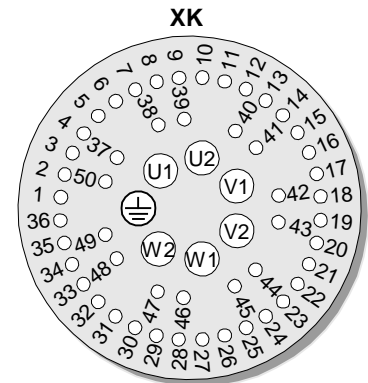
Optional free assignment of outputs, NO/NC optional (can be changed locally)

End position CLOSED
End position OPEN
Torque CLOSE reached
Torque OPEN reached
Torque CL/OP reached
Fault
Blinker
Ready
Ready+Remote
Local
Intermediate contact CL
Intermediate contact OP
Fault motor temperature
Warning motor temp.
Fault external voltage
Maintenance
Run indication CLOSE
Run indication OPEN
Run indication OPEN/CLOSE
Blinker+ End position CLOSED
Blinker+ End position OPEN
Travel end CLOSE
Travel end OPEN

Technical Data

Connections at round plug (plug assignment)

Inputs and outputs		ECOTRON	PROFITRON	
		2SA7.	2SA70	2SA73 2SA75
Binary	Inputs	2, 3, 4 and 5	2, 3, 4, 5, 9, 10 and 27	
	Outputs	16 ¹⁾ , 17, 19, 20, 21, 22 and 23	16 ¹⁾ , 17, 19, 20, 21, 22, 23, 24, 25 and 26	
Analog	Inputs	---	11 and 12 (option)	11 and 12 (option), 13 and 14 (option)
	Outputs	7 and 8	7 and 8, 48, 49 and 50 (option)	
Relay outputs (option)		28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 40, 41, 42, 43 and 44	28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 40, 41, 42, 43, 44, 45, 46 and 47	
Fieldbus (option)	1 channel	28, 29, 30 and 31	28, 29, 30 and 31	
	2 channel	28, 29, 30, 31, 32, 33, 34 and 35	28, 29, 30, 31, 32, 33, 34 and 35	
Voltage output „P24 int.“ resp. „P24 gal.“		1, 6, 15 ¹⁾ and 18 ¹⁾	1, 6, 15 ¹⁾ and 18 ¹⁾	
Auxiliary 24 VDC supply for electronics unit „P24 ext.“		38 and 39	38 and 39	



Plug assignment for the external round plug connection

Position recording

If the actuator is equipped with a signaling gear, position recording is performed via precision film potentiometer with microcontroller assessment. The signaling gear reduces the revolutions required for travel to the permissible rotation angle of the precision film potentiometer. For "non-intrusive – commissioning without opening the actuator" (without signaling gear), the position is recorded with utmost precision and is transmitted to the microcontroller.

Positioner

Defining an analog position setpoint (0/4–20mA) for the positioner results in precise control of the position corresponding to this value.

The **positioner** works adaptively. This leads to a continuous automatic adaptation of the threshold value to the controlled system:

- hysteresis 0.4% of the travel
- response threshold (dead band) adjustable, default setting: 0.2 to 2.5 % of the travel
- upward adaptation response threshold is enlarged by 0.1 %, if an OPEN ==> CLOSE ==> OPEN command sequence occurs within 6 seconds
- downward adaptation response threshold is reduced by 0.01 %, when no control has taken place within 10.8 seconds

1) Not applicable for version with relay board.

Technical Data

Power and consumption values

Binary inputs and outputs

binary inputs - Control inputs OPEN, CLOSED, STOP, Emergency and Mode (Emergency and Mode only on PROFITRON)
binary outputs - 8 binary electronic outputs for signals on PROFITRON, 5 outputs on ECOTRON

All binary inputs and outputs are galvanically isolated and potential-free.

Exception: For ECOTRON with relay board, the binary outputs refer to the potential of the electronics.

Binary outputs are resistant to both short-circuits and overloads.

			Input		Output	
			24 V DC	48 VDC	24 V DC	48 VDC
Level	L - potential (low -)	[V DC]	0 – 4	0 – 4	0 – 2.5	0 – 2.5
	H - potential (high -)	[V DC]	16 – 30	16 – 60	18 – 30	18 – 60
Current (per input or output)		[mA]	4 – 7	7 – 15	max. 100	max. 50
Resistance		[Ω]	4000	4000	max. 10	max. 10

Analog inputs and outputs

analog inputs - AI1: 0/4-20mA
 - AI2: 0/4-20mA (add-on PCB)

analog outputs - AO1: Position actual value (0/4-20mA) active, i.e. with internal power supply 24 V DC
 - AO2: Position actual value (0/4-20mA) passive, i.e. with external power supply 24 V DC (add-on PCB)

Analog inputs and outputs are galvanically isolated (only PROFITRON).

AI2 and AO2 are located on a common add-on PCB and have the same potential.

For existing add-on PCB (AI2+AO2), assignment of AI1 and AO2 analog inputs as well as AO1 and AO2 analog outputs is freely programmable.

Analog outputs are resistant to both short-circuits and overloads.

		Input	Output
Current	[mA]	0 – 20 (max. 24)	0 – 20 (max. 21)
Resistance / load	[Ω]	45	max. 600

Ranges 0-20mA or 4-20mA with rising or falling level can be adjusted for PROFITRON; for ECOTRON, the curve is rising (4-20mA).

Relay outputs

Relay outputs are galvanically isolated.

	DC for resistive load			AC
	max. switching capacity	180 W (for 30 V)		
max. switching voltage	30 V	50 V	300 V	250 V
max. switching current	6 A	0.6 A	0.15 A	6 A

The PROFITRON relay board has 8 relay outputs (5 NO, 1 NC and 2 change-over contacts), the 5 relay outputs of the ECOTRON are all designed as change-over contacts.

Internal 24 V power supply

Only for PROFITRON are the binary inputs and outputs galvanically isolated from the electronics in case of internal 24V DC power supply via „P24 gal.“.

External 24 V power supply

During power failure, both actual position value and device state are still sent via the external 24V DC supply „P24 ext.“ to the binary signal outputs (signals 1-8) and communication via COM-SIPOS or fieldbus is available.

During mains operation, own supply via actuator.

External 24V power supply		Current consumption	
Input P24 ext.		min. 20 V (21 V with relay board)	typ. 24 V
Σ current standard version	[mA]	155	140
additional load:			
with PROFIBUS DP / Modbus RTU, 1 channel	[mA]	+20	+20
with PROFIBUS DP / Modbus RTU, 2 channel	[mA]	+40	+40
with Modbus TCP/IP	[mA]	+50	+50
with HART	[mA]	+18	+21
with relay board	[mA]	+50	+60
with „non-intrusive“	[mA]	+10	+10
with actual position value	[mA]	+20	+20
with Bluetooth	[mA]	+10	+10

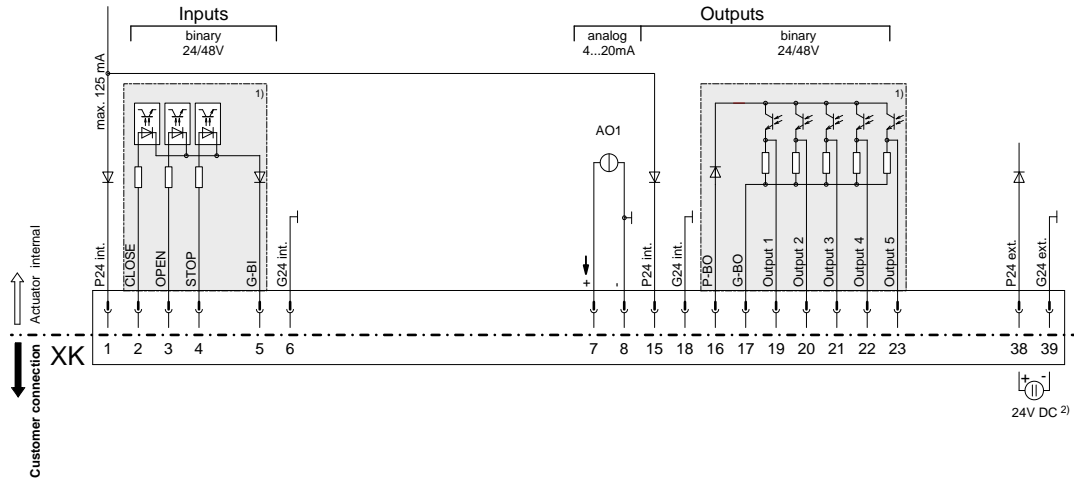
Technical Data

Wiring diagram

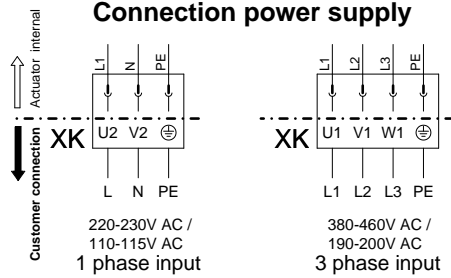
ECOTRON

Y070.243

Connection control and feedback signals



Connection power supply



Customer connection - wiring examples:

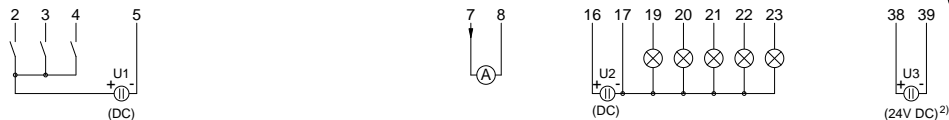
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

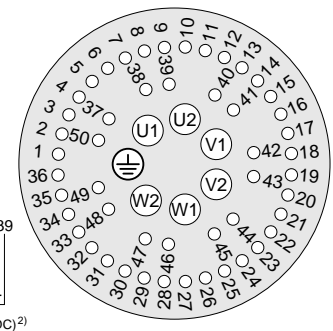


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-5) will continued to be signalled.
Communication via COM-SIPOS – changes of parameters resp. download of actuator data – is possible.)

Wire cross-section max.:

- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

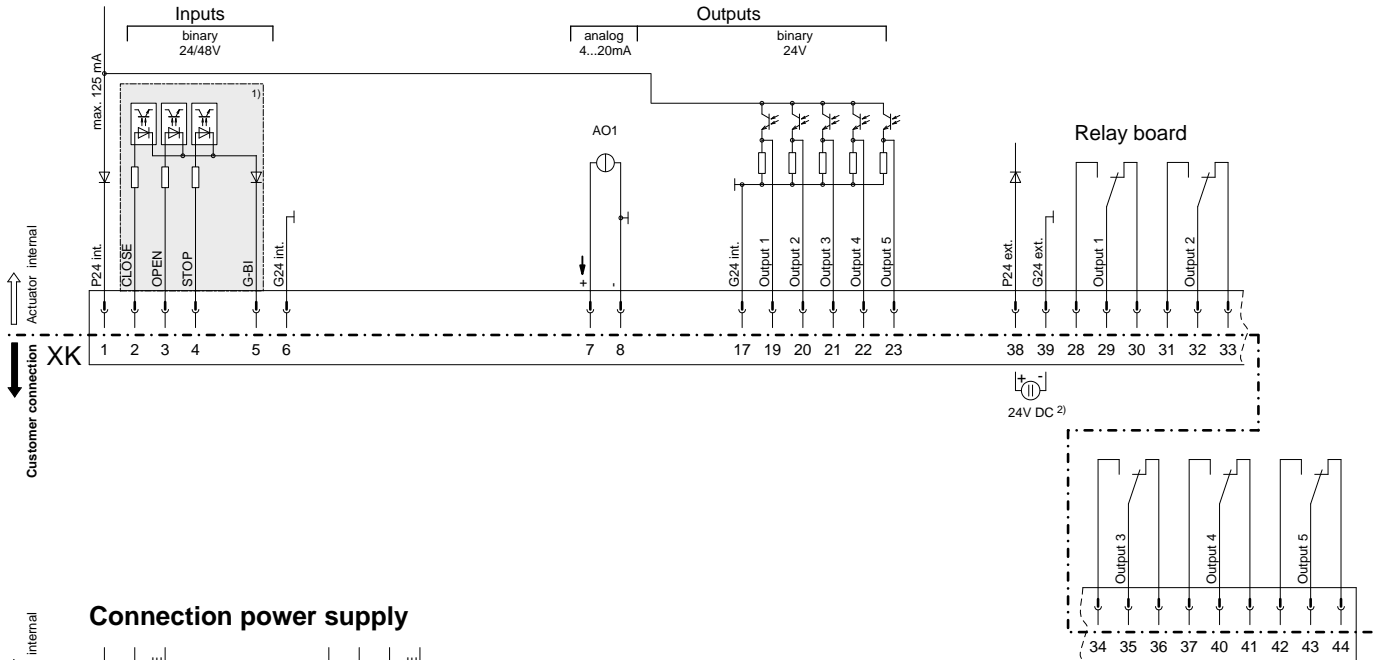
The control/feedback wire **must** be shielded!

Technical Data

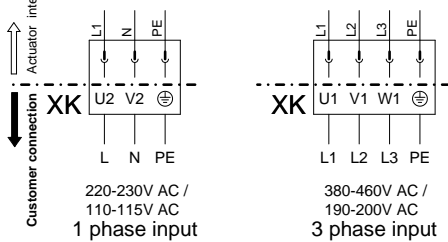
Wiring diagram ECOTRON with relay board

Y070.244

Connection control and feedback signals



Connection power supply



Customer connection - wiring examples:

Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

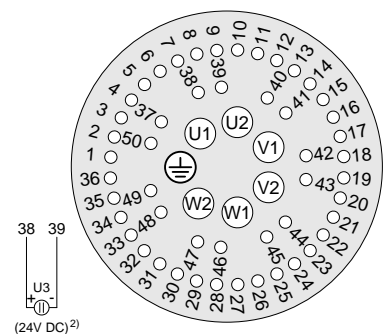


Wiring example II: „external 24/48V DC supplies“

(in this example the galvanically isolated area is supplied externally from a different 24/48V DC power source)



Plug assignment XK



- 1) galvanically isolated area: can be supplied from different source with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-5) will continued to be signalled. Communication via COM-SIPOS – changes of parameters resp. download of actuator data – is possible.)

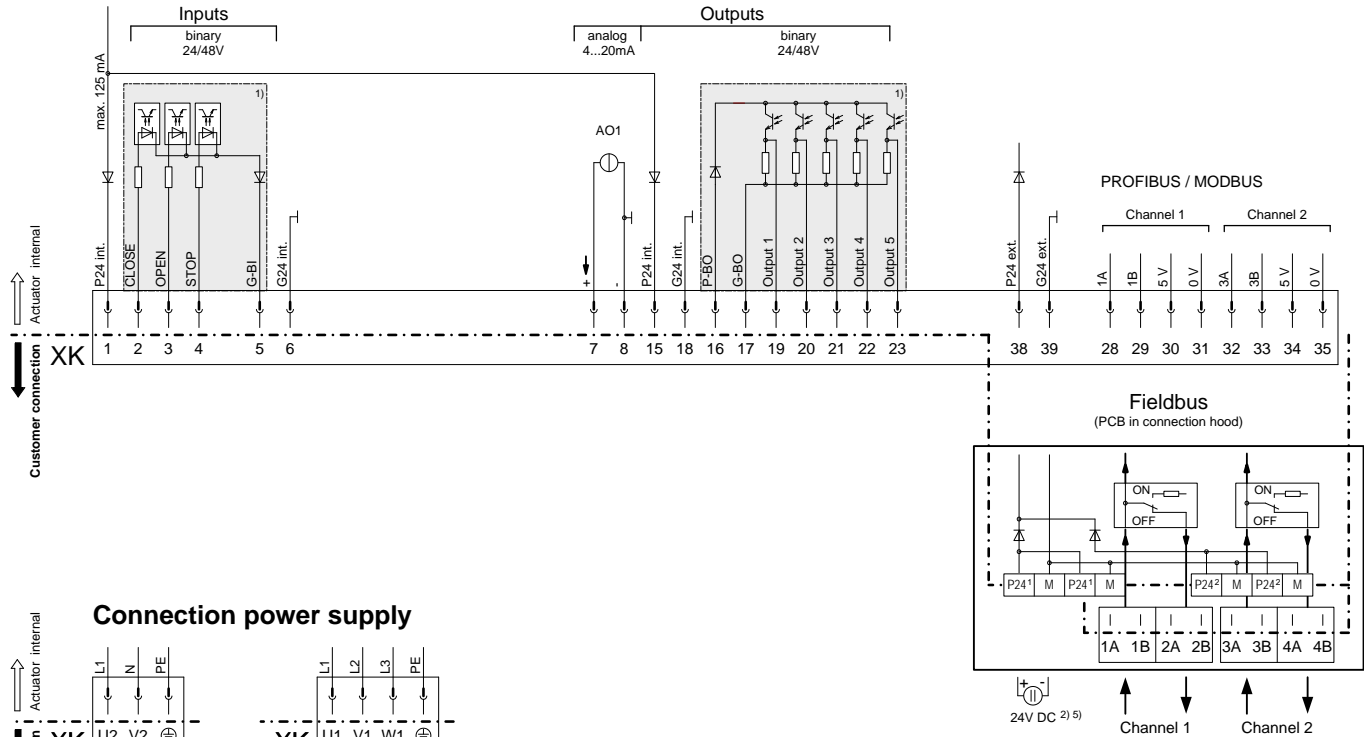
Wire cross-section max.:
 - 6 mm² Power supply
 - 2.5 mm² Control and feedback signals
 The control/feedback wire **must** be shielded!

Technical Data

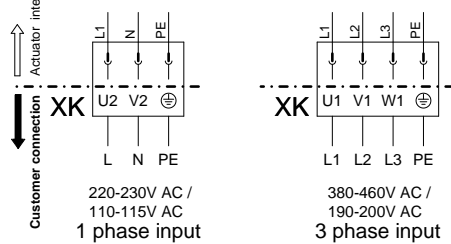
Wiring diagram **ECOTRON with Fieldbus**

Y070.245

Connection control and feedback signals



Connection power supply



Customer connection - wiring examples:

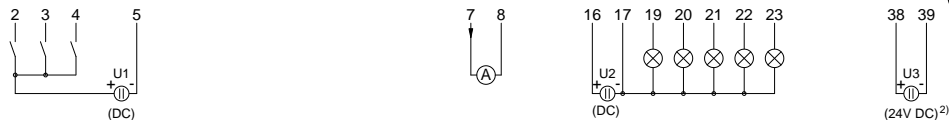
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

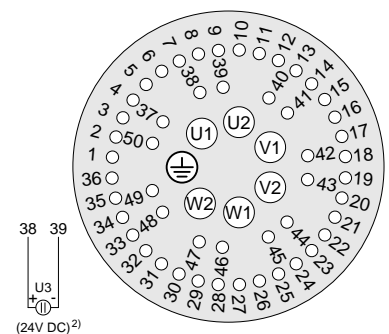


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-5) will continued to be signalled.
Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)

- 5) up to 4 connectors P24 and M on the fieldbus connection PCB

Wire cross-section max.:

- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

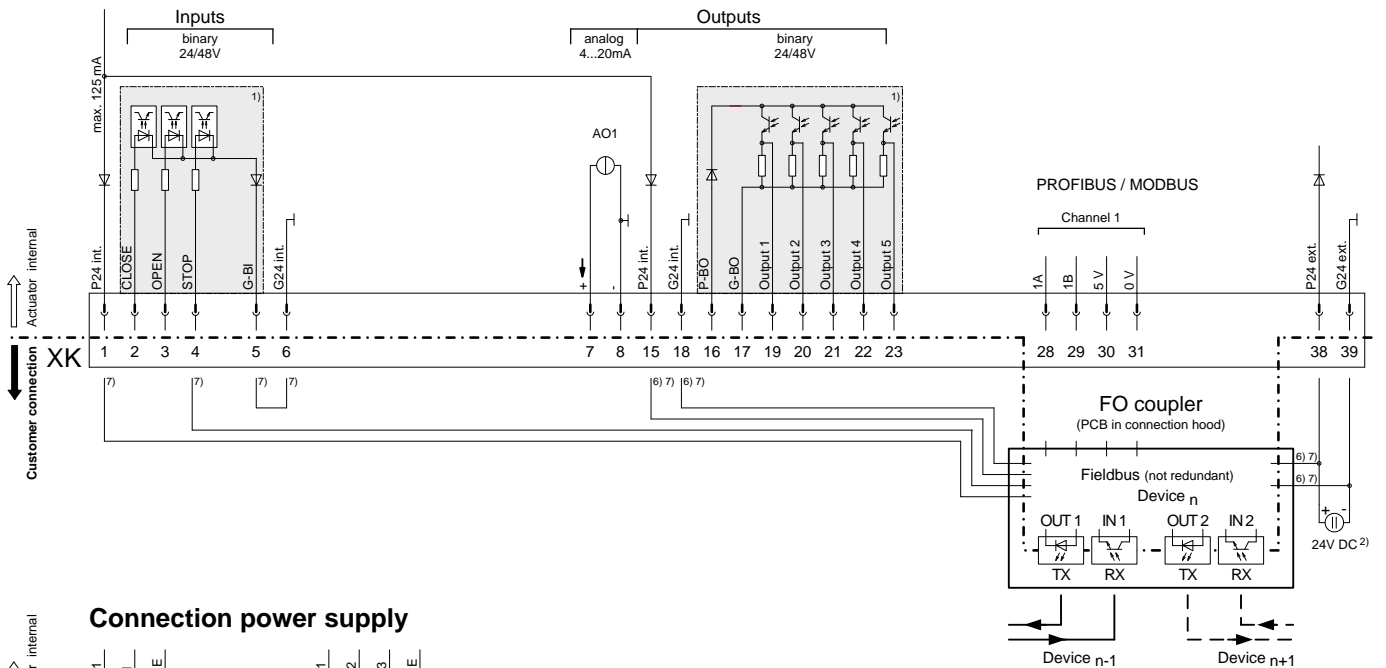
The control/feedback wire **must** be shielded!

Technical Data

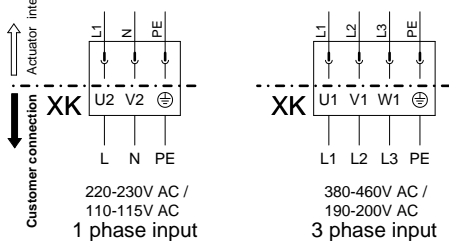
Wiring diagram **ECOTRON with Fieldbus and FO**

Y070.360

Connection control and feedback signals



Connection power supply



Customer connection - wiring examples:

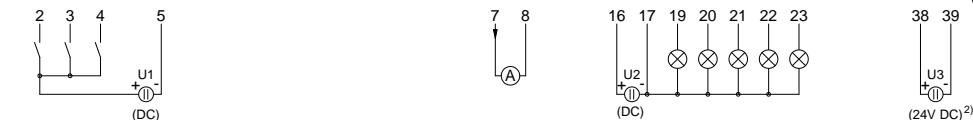
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

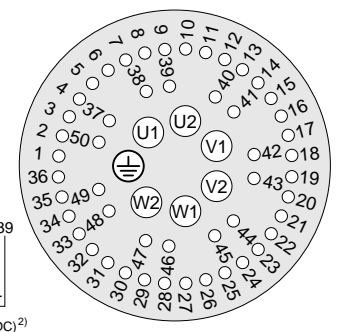


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- galvanically isolated areas: can be supplied from different sources with 24/48V DC
- auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-5) will continued to be signalled.
Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)

- factory-wired connection cable only with option „C17“ (FO in linear or star topology)
- factory-wired connection cable only with option „C18“ (PROFIBUS, FO in ring topology)

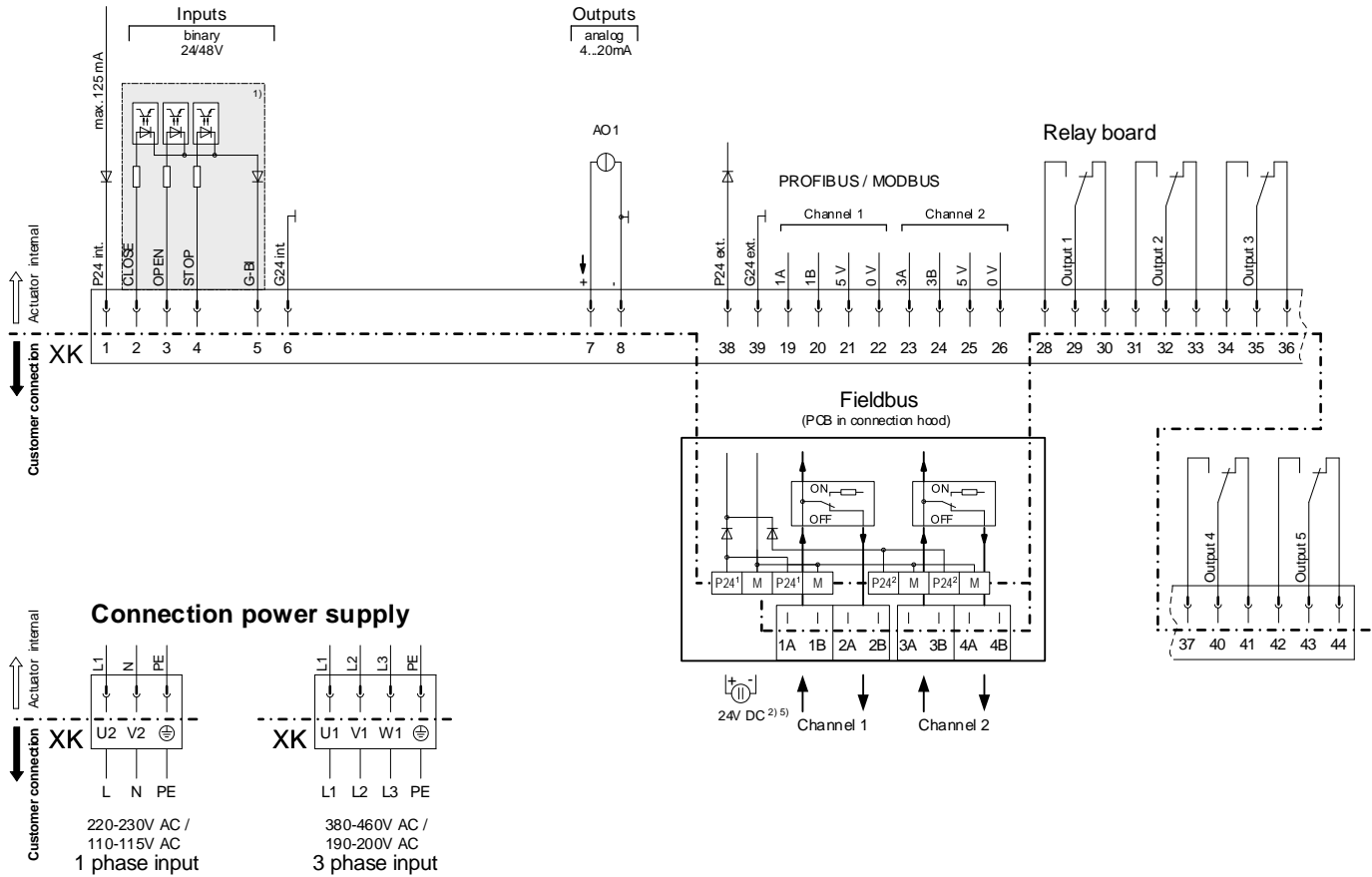
Wire cross-section max.:
 - 6 mm² Power supply
 - 2.5 mm² Control and feedback signals
 The control/feedback wire **must** be shielded!

Technical Data

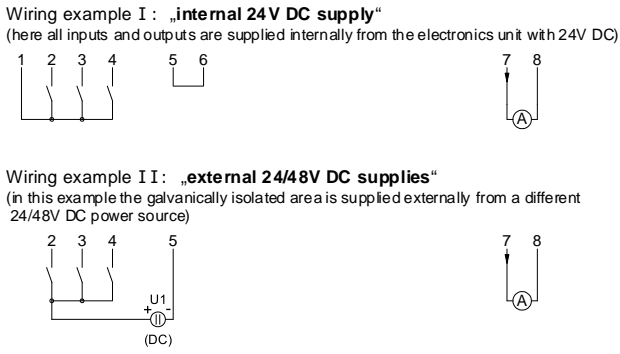
Wiring diagram **ECOTRON with Fieldbus and relay board**

Y070.468

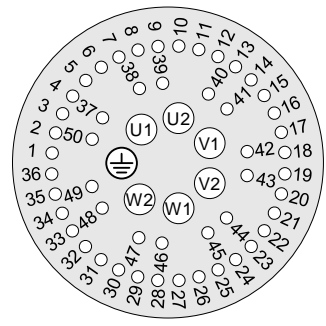
Connection control and feedback signals



Customer connection - wiring examples:



Plug assignment XK



- galvanically isolated area: can be supplied from different source with 24/48V DC
- auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-5) will continued to be signalled.
Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)
- up to 4 connectors P24 and M on the fieldbus connection PCB

Wire cross-section max.:
 - 6 mm² Power supply
 - 2.5 mm² Control and feedback signals
 The control/feedback wire **must** be shielded!

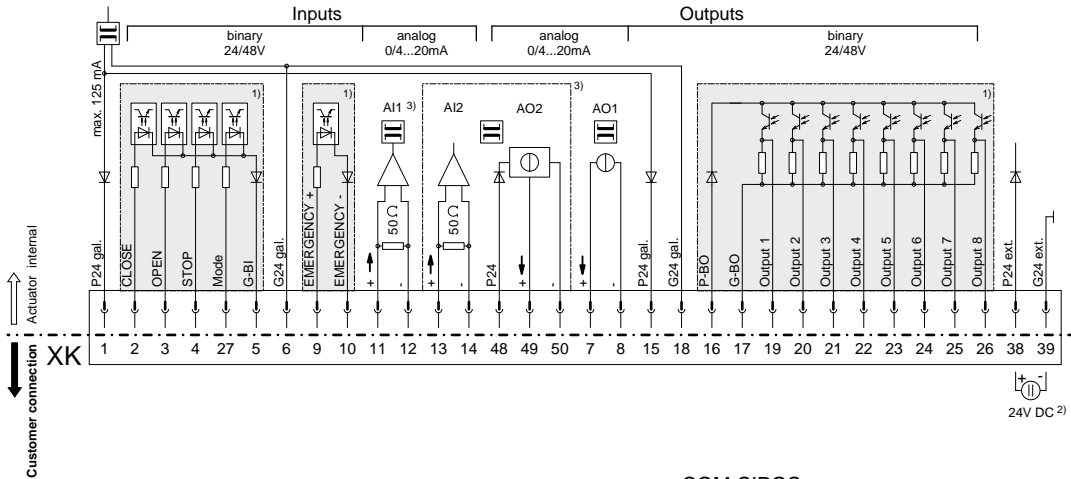
Technical Data

Wiring diagram

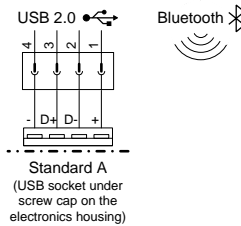
PROFITRON

Y070.247

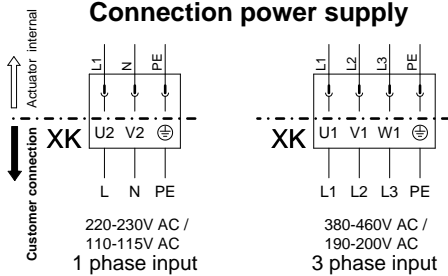
Connection control and feedback signals



COM-SIPOS



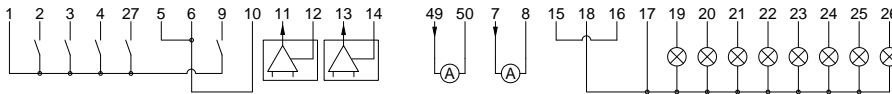
Connection power supply



Customer connection - wiring examples:

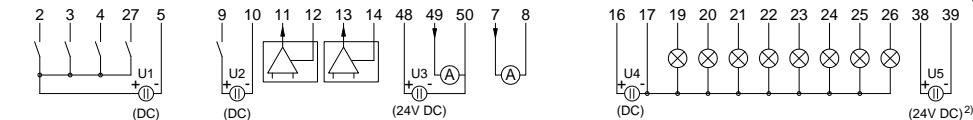
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

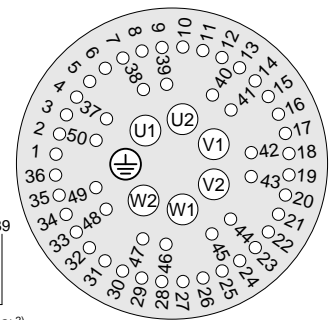


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-8) will continued to be signalled.
Communication via COM-SIPOS – changes of parameters resp. download of actuator data – is possible.)
- 3) option

Wire cross-section max.:

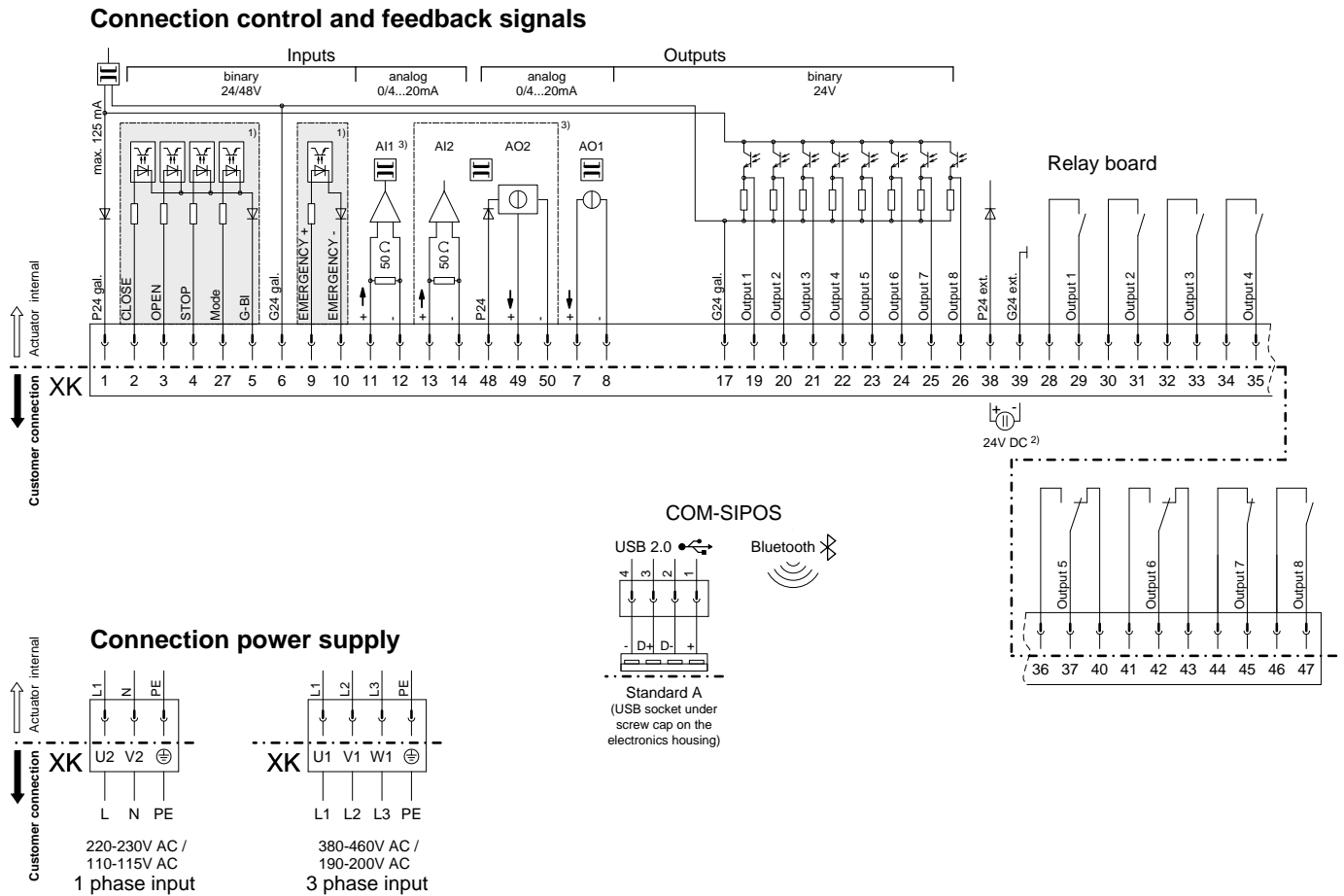
- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

The control/feedback wire **must** be shielded!

Technical Data

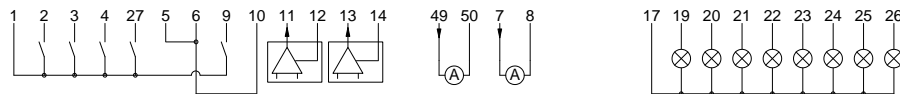
Wiring diagram PROFITRON with relay board

Y070.248

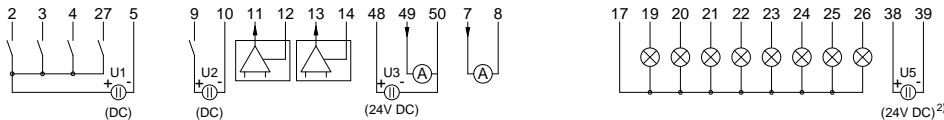


Customer connection - wiring examples:

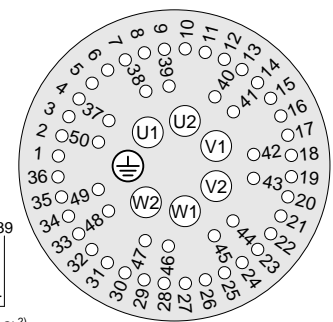
Wiring example I: „internal 24V DC supply“
(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)



Wiring example II: „external 24/48V DC supplies“
(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-8) will continued to be signalled.
Communication via COM-SIPOS – changes of parameters resp. download of actuator data – is possible.)
- 3) option

Wire cross-section max.:

- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

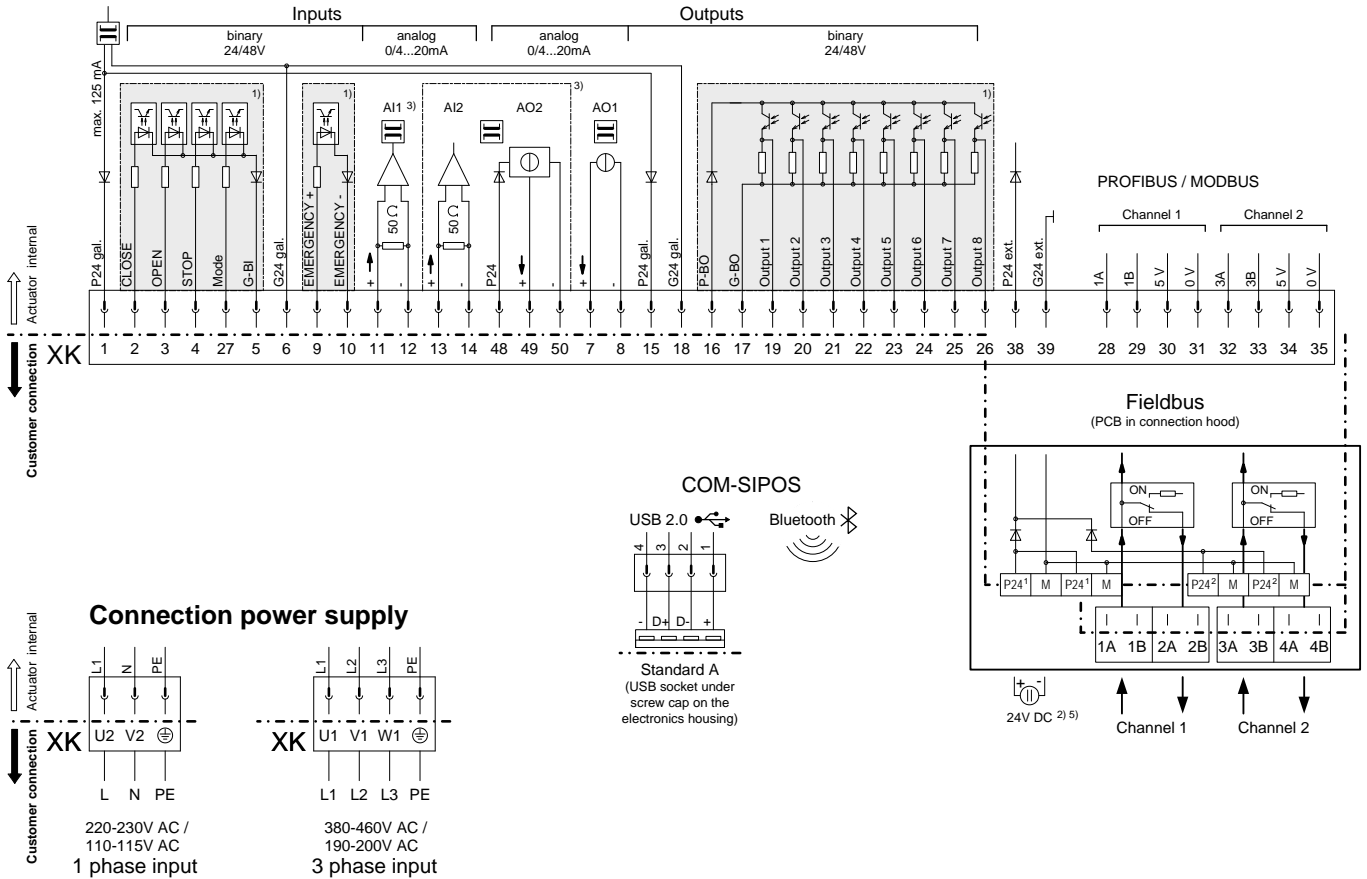
The control/feedback wire **must** be shielded!

Technical Data

Wiring diagram PROFITRON with Fieldbus

Y070.249

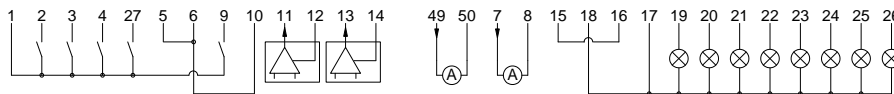
Connection control and feedback signals



Customer connection - wiring examples:

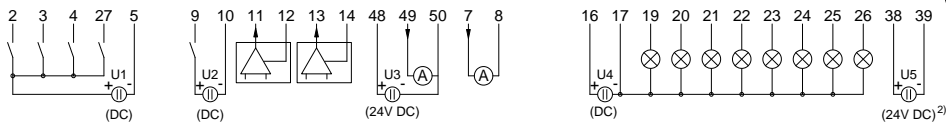
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

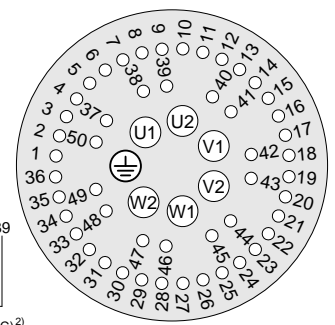


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- galvanically isolated areas: can be supplied from different sources with 24/48V DC
- auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-8) will continued to be signalled.
Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)
- option
- up to 4 connectors P24 and M on the fieldbus connection PCB

Wire cross-section max.:

- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

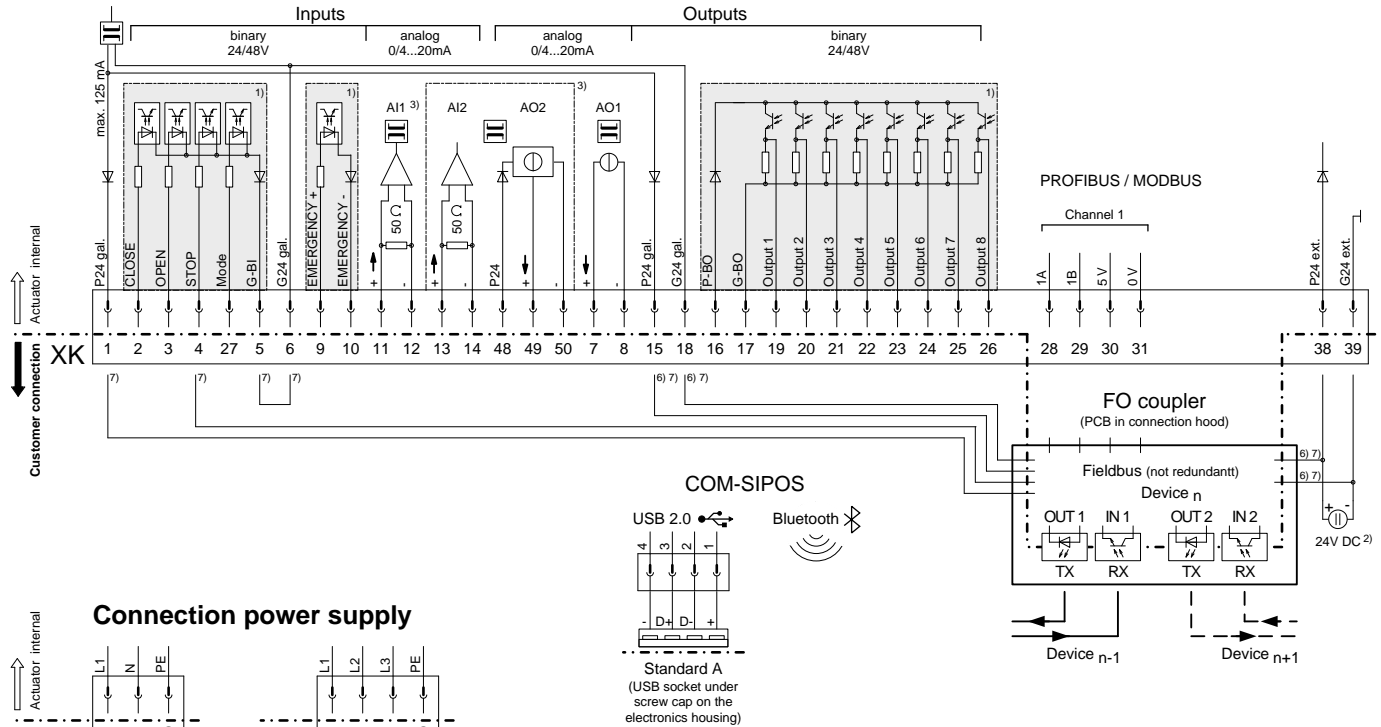
The control/feedback wire **must** be shielded!

Technical Data

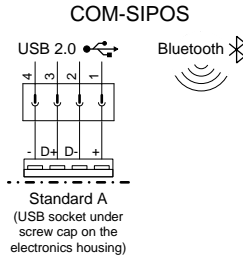
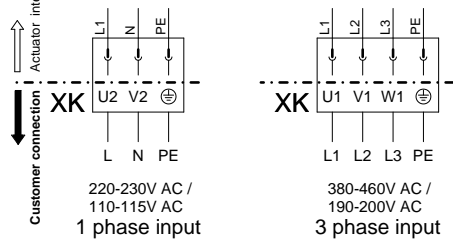
Wiring diagram PROFITRON with Fieldbus and FO

Y070.361

Connection control and feedback signals



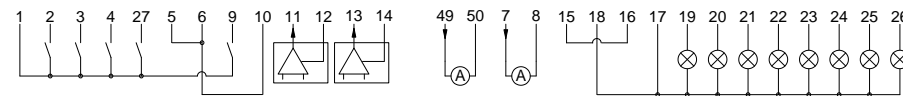
Connection power supply



Customer connection - wiring examples:

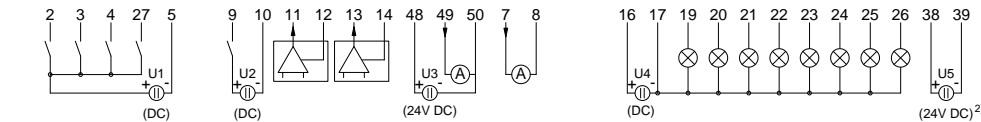
Wiring example I: „internal 24V DC supply“

(here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

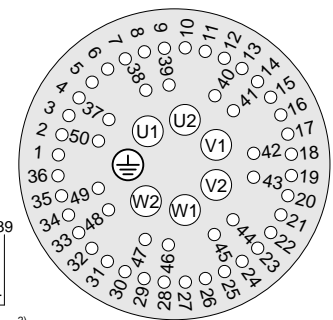


Wiring example II: „external 24/48V DC supplies“

(in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



Plug assignment XK



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
(In case of mains failure both actual position value and actuator status (binary outputs 1-8) will continued to be signalled.
Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)
- 3) option
- 6) factory-wired connection cable only with option „C17“ (FO in linear or star topology)
- 7) factory-wired connection cable only with option „C18“ (PROFIBUS, FO in ring topology)

Wire cross-section max.:

- 6 mm² Power supply
- 2.5 mm² Control and feedback signals

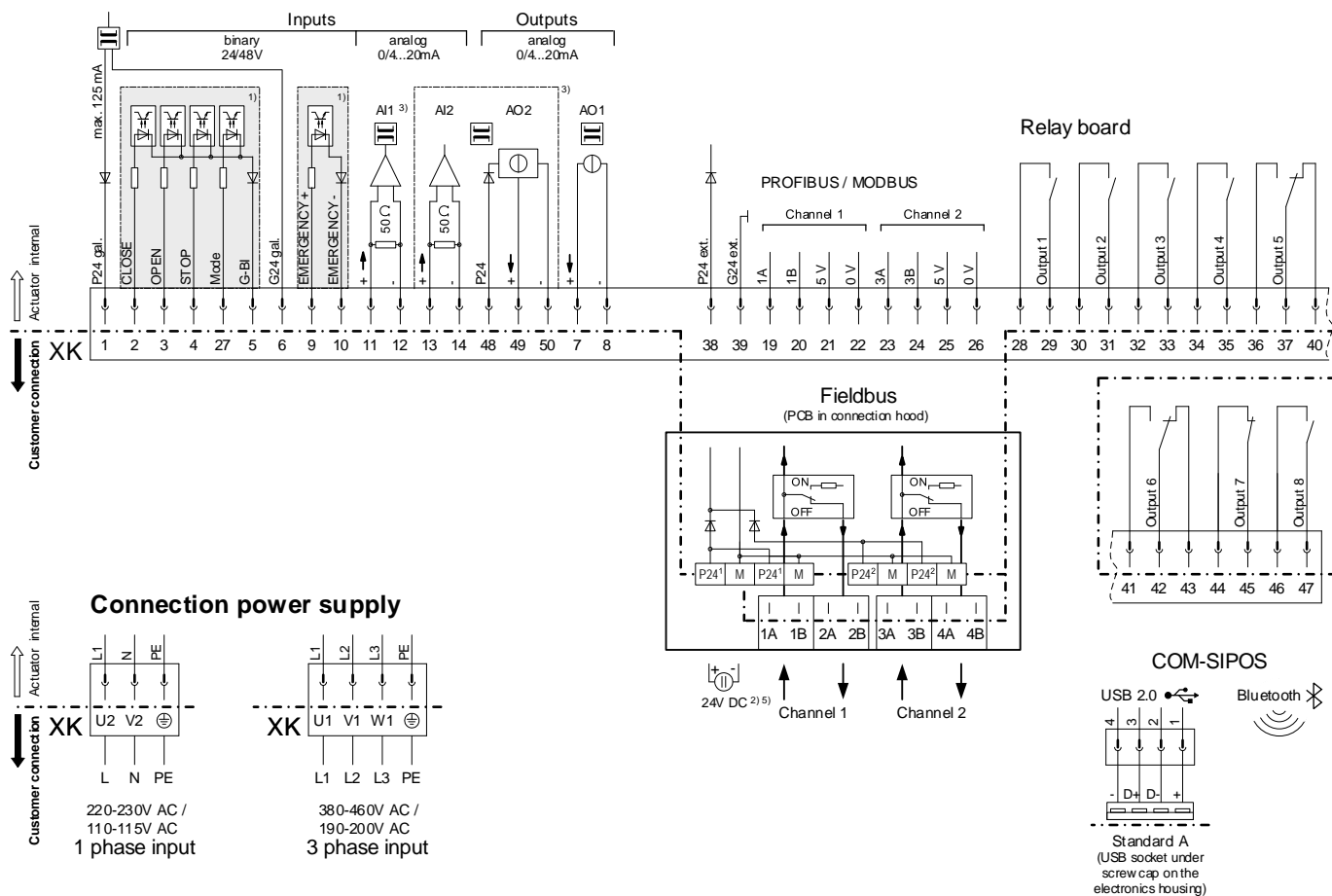
The control/feedback wire **must** be shielded!

Technical Data

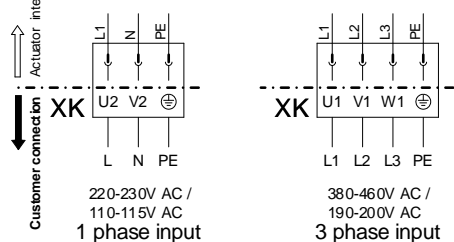
Wiring diagram PROFITRON with Fieldbus and relay board

Y070.469

Connection control and feedback signals

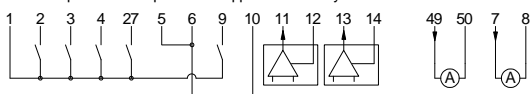


Connection power supply

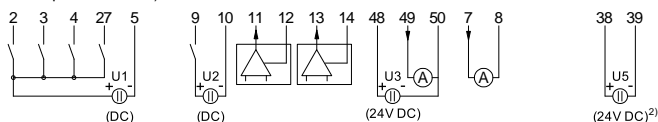


Customer connection - wiring examples:

Wiring example I: „Internal 24V DC supply“
 (here all inputs and outputs are supplied internally from the electronics unit with 24V DC)

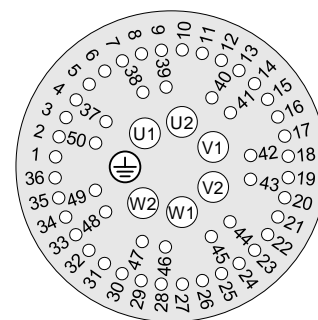


Wiring example II: „external 24/48V DC supplies“
 (in this example all galvanically isolated areas are supplied externally from different 24/48V DC power sources)



- 1) galvanically isolated areas: can be supplied from different sources with 24/48V DC
- 2) auxiliary 24V DC supply for electronics unit (if required)
 (In case of mains failure both actual position value and actuator status (binary outputs 1-8) will continued to be signalled.
 Communication via COM-SIPOS or fieldbus – changes of parameters resp. download of actuator data – is possible.)
- 3) option
- 5) up to 4 connectors P24 and M on the fieldbus connection PCB

Plug assignment XK



Wire cross-section max.:
 - 6 mm² Power supply
 - 2.5 mm² Control and feedback signals
 The control/feedback wire **must** be shielded!

Technical Data

Technical Data

Technical Data
