



702-703 VALVE WITH SA ELECTRIC ACTUATOR

Model/Ref: 271540023010



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Without Limits.*

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702-703 VALVE WITH SA ELECTRIC ACTUATOR

CHARACTERISTICS

The 702+SA valve is a 3-piece ball valve dedicated to the automatic opening/shut off of industrial uncharged fluids below 100 bar. Its double sealed, antistatic and firesafe body make it possible for use in the oil and gas industry. This full bore valve has the Firesafe, EC and ATEX certifications. The ISO 5211 pad allows a simple mounting of the SA actuator. It is perfectly suitable for an indoor or outdoor industrial use.

AVAILABLE ITEMS

702: carbon steel body

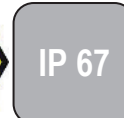
703: stainless steel body

Size ¼" to 2"

BSP and NPT threaded connections

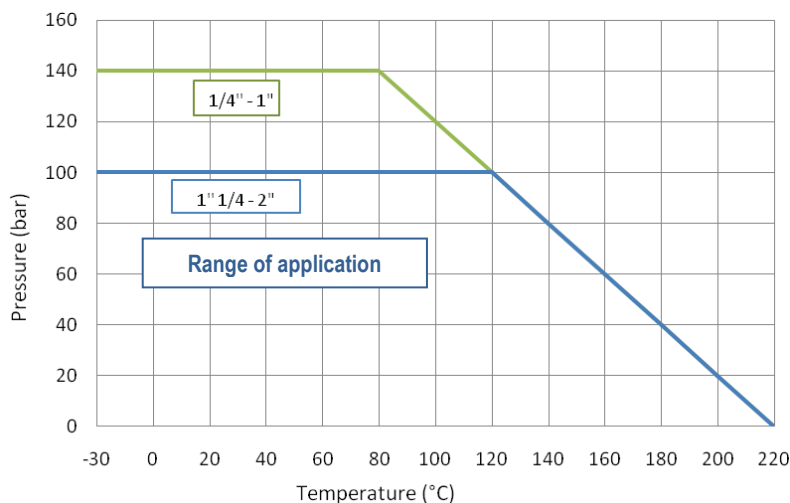
SW and BW connections

Voltages: 12 V DC, 24 V AC/DC and 230 V AC



LIMITS OF USE

Max. allowable pressure (PS)	1/4' to 1": 140 bar (20 °C) 1" ¼ to 2": 100 bar
Min./max. allowable temperature (TS)	Steel: -20 °C / +218 °C Stainless steel: -30 °C / +218 °C
Room temperature	-20 °C / +70 °C
Service	S2 – 70%

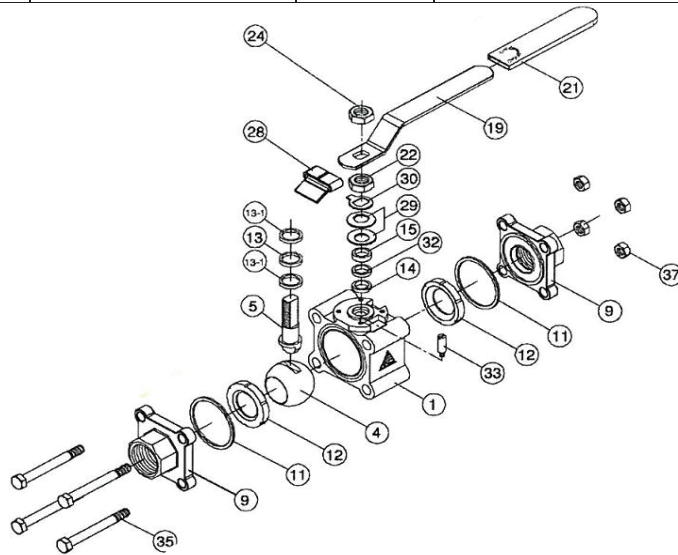


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DIRECTIVES AND DEVELOPMENT STANDARDS APPLICABLE

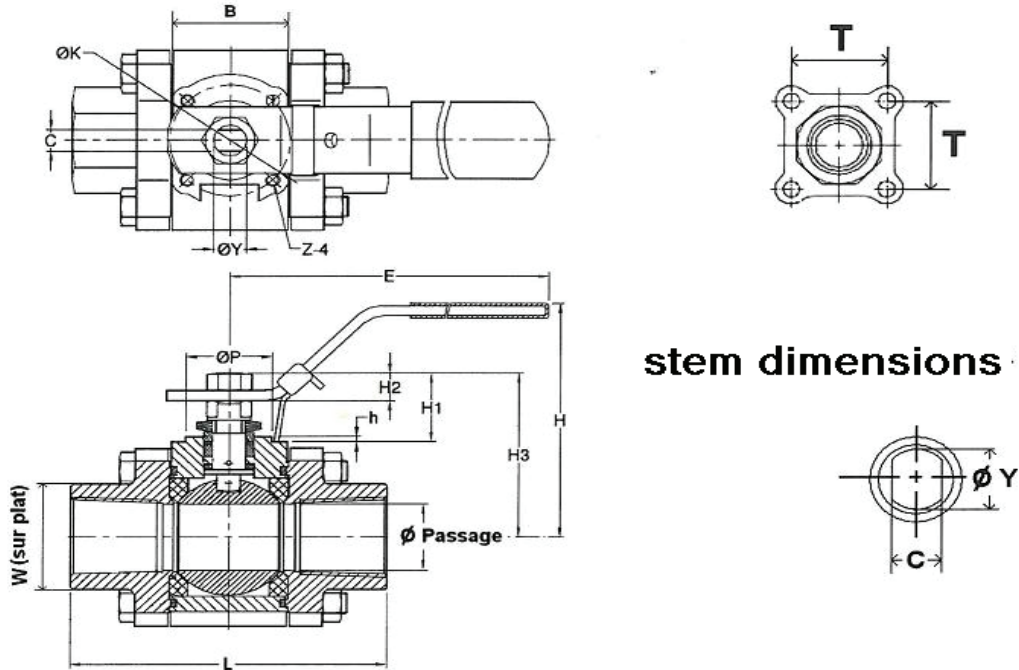
	Standard	Notified bodies		Standard
97/23/EC Pressure Equipment directive	¼" to 1" : N/A		Final testing	API 598
	1" ¼ to 2" : category III	TÜV#0035	Material certification	EN 10204
Conception	ANSI B16.34		Firesafe	API 607
Shell design	EN 12516-1		Actuator attachments	ISO 5211
Alloy grades	EN 1503-2			
BSP threaded standard	ISO 228-1		NPT threaded standard	ANSI B1.20
ATEX directive	Valve	TÜV#0035	II 2G/D Tx for zones 1,2,21 and 22	
	Actuator (SA-X option)	KEMA#0344	II 2G EEx d II C T4 for zones 1 and 2	



CONSTRUCTION

#	Item	Steel	Stainless steel	#	Item	Steel	Stainless steel
1	Body	ASTM A216 WCB	ASTM A351 CF8M	21	Handle sleeve	PVC	
4	Ball	ASTM A351 CF8M		22	Gland pack nut	Stainless steel 304	
5	Stem	Stainless steel A182 F 316		24	Handle nut	Stainless steel 304	
9	Ends	ASTM A216 WCB	ASTM A351 CF8M	28	Lockout device	Stainless steel 304	
11	Body gaskets	Graphite		29	Belleville spring washer	Stainless steel 301	
12	Seat	PTFE + 15% Graphite		30	Locking washer	Stainless steel 304	
13	Ring	Graphite		32	Gland packing	PTFE + 15% Graphite	
13.1	Ring	PTFE + 15% Graphite		33	End stop	Stainless steel 304	
14	Gland pack	Graphite		35	Bolts	Stainless steel 304	
15	Spacer sleeve	Stainless steel 304		37	Bolt nuts	Stainless steel 304	
19	Handle	Stainless steel 304					

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DIMENSIONS (mm)

stem dimensions

DN	¼"	3/8"	½"	3/4"	1"	1" ¼	1" ½	2"
ØD	10	10	15	20	25	32	38	50
L	64.8	64.8	72.5	85.4	105.3	111	127.3	145
L (BW)	64.8	64.8	75	90	110	115	130	145
B	19.6	19.6	24	31	40.7	47.7	55.6	70
E	134	134	134	134	170	170	207	215
H	64	64	72	77	83	88	104	133
H1	7.4	7.4	16.1	18.4	25.2	24.2	33.4	28.1
H2	6.1	6.1	7.3	9.1	11.6	9.6	15	16
H3	37.2	37.2	45.1	51.4	61.4	64.2	79	99.4
h	0.5	0.5	2	2	2	2	2.2	1.5
C	6.5	6.5	6.5	6.5	8	8	9.7	12
ØY	9.5	9.5	9.5	9.5	11.1	11.1	14.3	19
T	32	32	39	45	50	58	68	82
W	29.5	29.5	30	36	44.5	54	60	73.2
ØK	36	36	36	36	42	42	50	70
ØP	25	25	25	25	30	30	35	55
Z-4	M5	M5	M5	M5	M5	M5	M6	M8
Weight (kg)	0.7	0.7	0.85	1.37	2	2.78	4.08	6.80

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ACTUATION WITH SA

Suggested standard SA actuation under the following conditions:

- Electric actuator with an IP 67 epoxy coated aluminium enclosure and steel gears
- A minimum 1.3 safety factor compared with the valve nominal torque rating,
- A maximum pressure differential up/downstream of 10 bar (=ΔP)






Direct mounting of the electric actuator

DN	Actuator	Power	Intensity 230 V AC	Intensity 24 V AC/DC	Operating Time*	Standard equipment of the actuator
¼"	SA05	6 W	28 mA	1.8 mA	17 s	2 adjustable limit switches 2 dry auxiliary switches 2 W anti-condensation heater Actuator thermal cut-out Manual override by key Backlit position indicator (except for the SA-X version) Electrical connection: 2 gland packs. M20x1.5
3/8"	SA05	6 W	28 mA	1.8 mA	17 s	
½"	SA05	6 W	28 mA	1.8 mA	17 s	
¾"	SA05	6 W	28 mA	1.8 mA	17 s	
1"	SA05	6 W	28 mA	1.8 mA	17 s	
1" ¼	SA05	6 W	28 mA	1.8 mA	17 s	
1" ½	SA05	6 W	28 mA	1.8 mA	17 s	
2"	SA05	6 W	28 mA	1.8 mA	17 s	

*Unloaded operating time given for information purpose only. May vary depending on the medium
For any other working conditions, please contact us.

ACTUATION OPTIONS

There are many different options, please contact our commercial department.

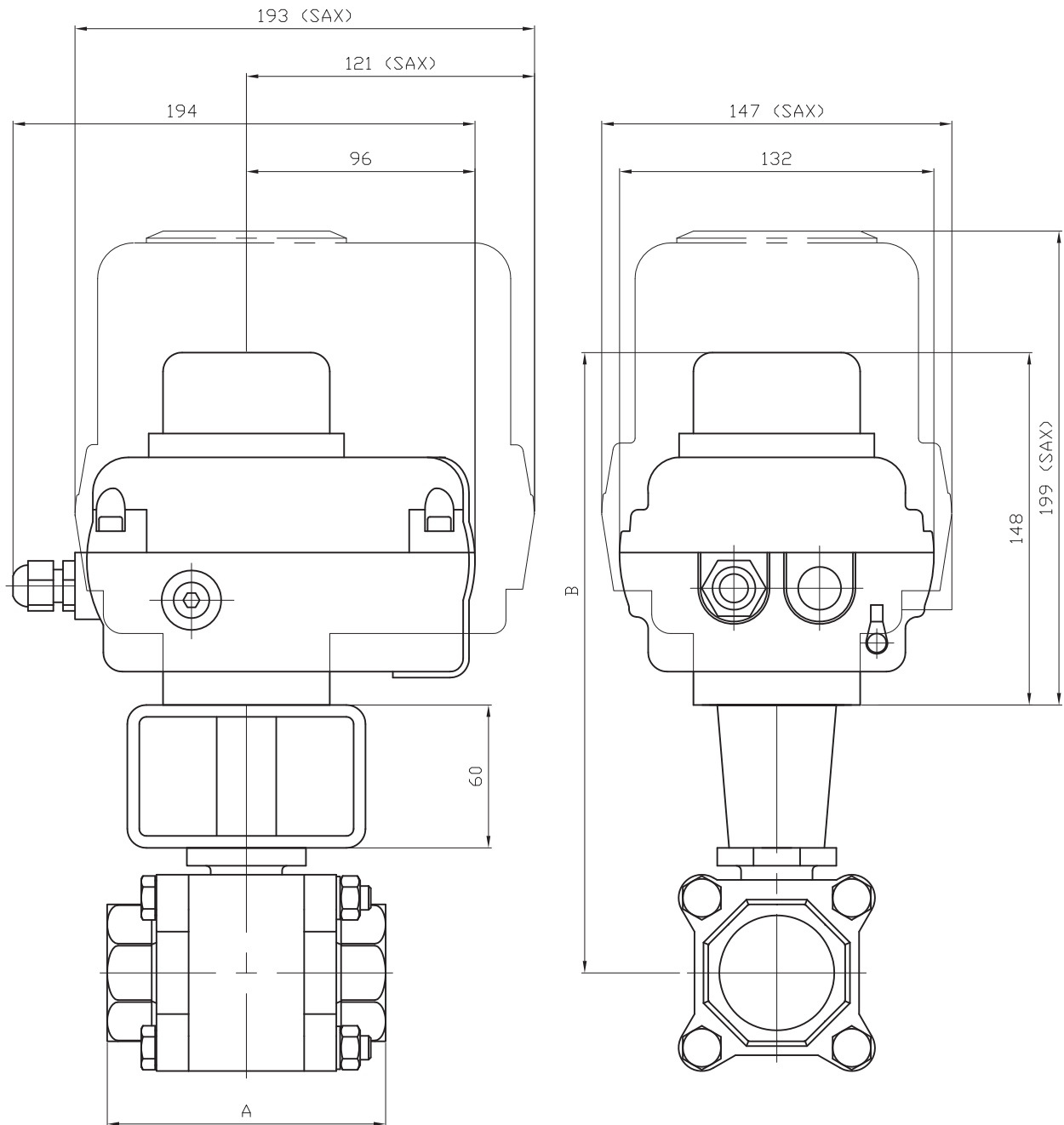
1	2	3	4	5
SA05S: Low speed electric actuator 70 s	SA05PCU: Regulation actuator 4-20 mA or 0-10 V	SA05RBP: Safety actuator with an integrated battery emergency shutdown	SA05 X: Actuator for use in ATEX zones 1 and 2	SR05: Spring return actuator
				
6	SAPUI electric actuator with feedback potentiometer			
7	Thermal dispersion bracket for high temperature fluids			
8	100 mm stem extension for pipe insulation			
9	Electric actuator sized for a maximum pressure differential up/downstream over 10 bar (=ΔP)			
10	NA electric actuator with a declutchable manual override by handwheel			

ATEX ZONE INSTALLATION

It is compulsory to specify if the installation of the automatic valve 702-703+SA-X will take place in ATEX zones 1 or 2 while making the order. Our services will proceed to the mounting check, to a grounding strip installation and will edit a mounting certificate. Those operations are performed by our proper engineers. Please contact us for further details. It is also compulsory to follow the ATEX zone motorized valves mounting and maintenance special instructions. The ATEX gland packs and sealing plugs are not provided. Please use the following codes:

ATEX aluminium gland pack M20x1.5	Code 980179	ATEX aluminium sealing plugs M20x1.5	Code 980180
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DN	1/4"-3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	65	72	86	105	111	127	145
B	237.8	237	241	244.2	248	253.6	279.3
KG	3.87	4.02	4.54	5.17	5.95	7.2	9.97
KG(SAX)	6.07	6.22	6.74	7.37	8.15	9.4	12.17

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GENERAL DESCRIPTION

The SA05 electric actuator is dedicated to the actuation of industrial ¼ turn valve. The torque value is 50 Nm. With a compact design, an IP 67 cast aluminium enclosure and an epoxy protection, the SA electric actuator is especially adapted to the actuation of ball valves and butterfly valves in outdoor or indoor areas. The SA05 is equipped with a visual 3D position indicator and a manual override driven by an Allen key. It complies with the EN 15714-2 standard.

AVAILABLE ITEMS

Voltage: 230 V AC (50-60 Hz), 24 V AC/DC and 12 V DC

IP 67

ISO
9001

CE

LIMITS OF USE

Protection rating	IP 67
Temperature range	-20 °C / +70 °C
Service	S2 - 70%

MECHANICAL CHARACTERISTICS

Gears	Treated steel pinions
Torque	50 Nm
Rotation angle	90° +/-5°
Decutching	N/A
Manual override	Allen key (except for SA05S)



Electric actuator	SA05			SA05S	
	Voltage	230 V AC	24 V AC/DC	12 V DC	230 V AC
Torque	50 Nm				
Operating time	17 s	17 s	17 s	100 s	100 s
ISO 5211 pad	F03/F05/F17 star 14				

ELECTRICAL CHARACTERISTICS

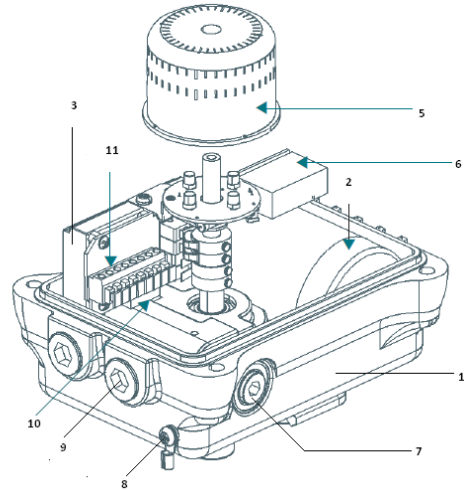
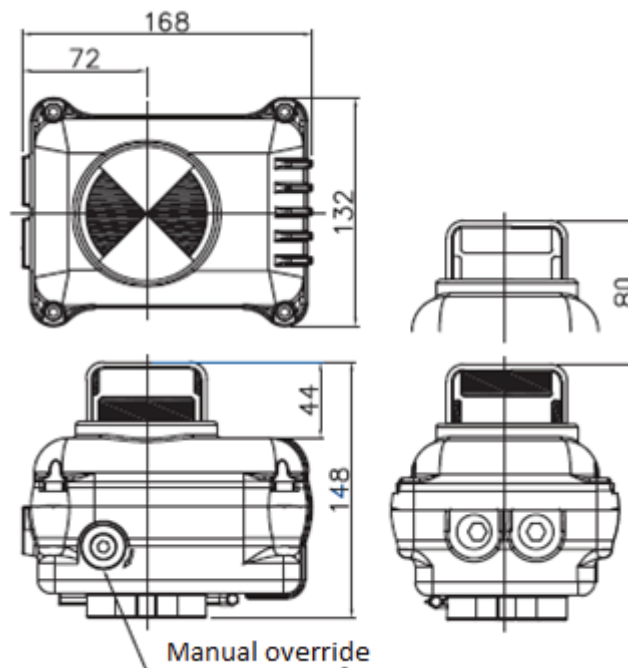
Motor protection	Thermal cut-out	Anti-condensation	2 W heater
Limit switches	2 adjustable switches	Electrical connection	2 gland packs M20x1.5
Auxiliary switches	2 adjustable dry switches		

Electric actuator	SA05			SA05S	
	Voltage	230 V AC	24 V AC/DC	12 V DC	230 V AC
Power	6 W	15 W	15 W	6 W	6 W
Intensity	0.24 A	1.8 A	3.6 A	0.24 A	1.8 A

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CONSTRUCTION

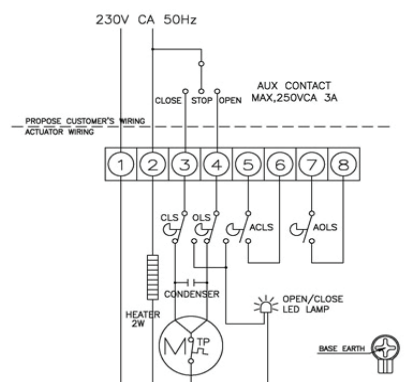
1	Enclosure	Polyester coated aluminium
2	Electric motor	
3	Gear	Treated steel pinions
4	Cover	Polyester coated aluminium
5	Position indicator	Polycarbonate plastic
6	Condenser	
7	Manual override	
8	Connection to ground	
9	Cable inlet	
10	Anti-condensation heater	
11	Terminal block	


DIMENSIONS (mm)


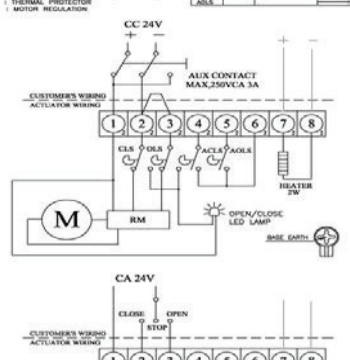
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WIRING SCHEME 230 V AC

1	Common	<p>CLS : CLOSE LIMIT SWITCH (250VCA 3A) OLS : OPEN LIMIT SWITCH (250VCA 3A) ACLS : AUX. CLOSE LIMIT SWITCH (250VCA 3A) AOLS : AUX. OPEN LIMIT SWITCH (250VCA 3A) TP : THERMAL PROTECTOR</p> <table border="1"> <thead> <tr> <th>SWITCH</th> <th>CLOSE</th> <th>OPEN</th> </tr> </thead> <tbody> <tr> <td>CLS</td> <td></td> <td></td> </tr> <tr> <td>OLS</td> <td></td> <td></td> </tr> <tr> <td>ACLS</td> <td></td> <td></td> </tr> <tr> <td>AOLS</td> <td></td> <td></td> </tr> </tbody> </table> 	SWITCH	CLOSE	OPEN	CLS			OLS			ACLS			AOLS		
SWITCH	CLOSE		OPEN														
CLS																	
OLS																	
ACLS																	
AOLS																	
2	Anti-condensation heater																
3	Closing control																
4	Opening control																
5	Auxiliary switch closing																
6	Auxiliary switch closing																
7	Auxiliary switch opening																
8	Auxiliary switch opening																

WIRING SCHEME 24 V AC/DC

1	Common or +	<p>CLS : CLOSE LIMIT SWITCH (250VCA 3A) OLS : OPEN LIMIT SWITCH (250VCA 3A) ACLS : AUX. CLOSE LIMIT SWITCH (250VCA 3A) AOLS : AUX. OPEN LIMIT SWITCH (250VCA 3A) TP : THERMAL PROTECTOR RM : MOTOR REGULATION</p> <table border="1"> <thead> <tr> <th>SWITCH</th> <th>CLOSE</th> <th>OPEN</th> </tr> </thead> <tbody> <tr> <td>CLS</td> <td></td> <td></td> </tr> <tr> <td>OLS</td> <td></td> <td></td> </tr> <tr> <td>ACLS</td> <td></td> <td></td> </tr> <tr> <td>AOLS</td> <td></td> <td></td> </tr> </tbody> </table> 	SWITCH	CLOSE	OPEN	CLS			OLS			ACLS			AOLS		
SWITCH	CLOSE		OPEN														
CLS																	
OLS																	
ACLS																	
AOLS																	
2	Closing control																
3	Opening control																
4	Auxiliary switch closing																
5	Auxiliary switch opening																
6	Auxiliary common																
7-8	Anti-condensation heater power supply																

OPTIONS

1	SA05X: ATEX area version
2	SA05PIU: feedback potentiometer version
3	SA05CPT: 4-20 mA position transmitter version
4	SA05PCU: 0-10, 2-10 V, 2-20 mA, 4-20 mA regulation card version
5	SA05LCU: local control version
6	SA05RBP: integrated battery emergency shutdown device version

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