SERVO-TOP

QE5542

CE

Type

Q61SE

Instruction Manual

Part 3

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11. Survey and List of Parameters

11.1 Explanation of Parameter Survey

The parameter survey is designed as an aid for finding parameters quickly. It is a summary of references for the parameter list. Listed behind each reference are all parameters which exert an influence on the function described by the reference.

The parameter survey is divided into five columns:
Column 1 shows the references (functions) to which parameters are assigned.
Column 2 shows the abbreviations of the respective functions.
Column 3 shows all parameters (setting numbers) belonging to the respective reference.
Column 4 shows, for each function (reference) which controls inputs or outputs, the applicable indications such as Ex or Ax which can also be found on the connections diagram.
Column 5 shows, for each function (control inputs (Ex) or control outputs (Ax)), the respective plugs with the number of contacts (see connections diagram).

Example for searching a parameter:
Keyword (function): inverse rotation
The parameter survey shows in column 3 the parameter numbers 618, 623, 801.

Suppose that the inverse rotation function is to be enabled. The parameter list shows this function under parameter number 618.

11.2 Explanation of Parameter List

The parameter list is divided into 5 columns. These comprise, in

column 1: the parameter number,
column 2: is the explanation (meaning) of the parameters and the coding system of row 1 of the keys of the mini operator's panel, used when the parameter concerned can be programmed with the mini operator's panel,
column 3: the programming level (A, B, C) on which the parameter in question can be accessed,
column 4: the range of values within which the parameter in question can be set,
column 5: the value of the parameter in question is set on delivery ex factory.

Parameters having "either/or" validity (software switches) can merely be set to value I or II. In the case of such parameters, column 4 is empty.

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11.3 Parameter survey Q61SE (2A_953_L.EN)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Auxiliary drive	ZUSAN	892/893		
Backtack	RIE	102/103/108 109/110		
Blower	BLA	668	A3	X1:7
Brake	DRZAB	723/851		
Chain blowing	KEBLA	321/548		
Control	REG	884/885/886 887/889/890 891/892/893 894		
Decorative backtack	ZRIE	679		
Defect search	HWT	797		
Delay	VERZ	320/539/545 581/594/595 596/597/598 599/623/679 730		
Direction of rotation	DRR	800		
End backtack	ER	108/109/110		
Front backtack	AR	102/103/105		
Hardware test	HWT	797		
Inverse rotation	RDR	618/623/801		
Machine class	MAKL	790/799		
Needle position	NAPO	521/700/701 702/703		
Photocell	LS	111/112/161		
Presser foot	PF	598/651/719 729/730	A4	X1:13
Program	PR	138/203/851		
Programming level C	EBC	798		
Residual brake	STBR	718		
Seam end	NE	321/548		

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Soft start	SANL	116/117		
Speed	DRZ	105/110/117 203/605/606 607/608/609 676/850		
Speed decrease	DRZAB	723/851		
Speed increase	DRZAN	722		
Start	START	161/540/603		
Start delay	STVERZ	729		
Starting block	ANLSP	665	E6	X1:6
Stitch condensation	STVD	102/105/108 110/570		
Stop	STOP	665	E6	X1:6
Thread clamp	FK	581/582/594 596/599		
Thread puller	FZ	581/582		
Thread tension release	FSL	540/542		
Thread trimming	SN	609		
Thread wiper	WI	668		
Time needed to switch on	EINZ	321/548/582 889		
Timing output	TA	719		
Vacuum	SAUG	320/545/594 595/596/597 598	A5	X1:11

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11.4 List of Parameters Q61SE (2A_953_L.EN)

No.	Function (Meaning)	Level	Range of Values	Standard Value
102	(AR/RIE/STVD) Front backtack stitches forward	C	0-9	3
103	(AR/RIE) Front backtack stitches backward	C	0-9	3
105	(AR/DRZ/STVD) Speed for front backtack/stitch condensation (11000000)	B,C	100-6400	5000
108	(ER/RIE/STVD) End backtack stitches backward	C	0-9	3
109	(ER/RIE) End backtack stitches forward	C	0-9	3
110	(ER/RIE/DRZ/STVD) Speed for end backtack/stitch condensation (01100000)	B,C	100-6400	5000
111	(LS) Light barrier compensation stitches 1 (stitches from light barrier clear to seam end)	C	1-255	0
112	(LS) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	A,B,C	0-255	0
116	(SANL) Soft start stitches (11100000)	A,B,C	0-255	0
117	(SANL/DRZ) Speed for soft start stitches (00010000)	B,C	30-640	500
138	(PR) Stitches for seam section 10	A,B,C	0-255	30
161	(LS/START) Start delay for start of photocell	B,C	0-2550	100
203	(PR/DRZ) Speed for seam program I variable (treadle-controlled) II constant (corresponding to <221> or <222>)	B,C		I
320	(SAUG/VERZ) Vacuum head delay	A,B,C	0-255	3
321	(EINZ/KEBLA/NE) Duration of chain blowing 2 at seam end	B,C	0-2550	450
521	(NAPO) Needle position at stop before seam end I position 2 (up) II position 1 (down) (01111000)	B,C		II
539	(VERZ) Delay (ms)	B,C	0-400	40
540	(FSL/START) Number of stitches from start to thread tension release off	A,B,C	0-255	3
542	(FSL) Number of stitches from photocell clear to thread tension release on	A,B,C	0-255	2
545	(SAUG/VERZ) Delay (ms) from stop to vacuum off	B,C	0-2550	50
548	(EINZ/KEBLA/NE) Duration (ms) of chain blowing at seam end	B,C	0-2550	270
570	(STVD) Number of stitches for stitch condensation at seam start	A,B,C	0-255	12
581	(FK/FZ/VERZ) Delay in start-up time (ms) for thread clamp or thread puller	B,C	0-2550	150
582	(EINZ/FK/FZ) Duration (ms) of thread clamp or thread puller	B,C	0-2550	150
594	(FK/SAUG/VERZ) Time (T7) from thread clamp off to vacuum off	B,C	0-2550	150

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595	(SAUG/VERZ) Time (T8) from vacuum off to vacuum head off	B,C	0-2550	150
596	(FK/SAUG/VERZ) Time (T3) from thread clamp shutdown to vacuum shutdown	B,C	0-2550	250
597	(SAUG/VERZ) Time (T4) for vacuum off	B,C	0-2550	400
598	(SAUG/PF/VERZ) Time (T11) from presser foot off to vacuum head off	B,C	0-2550	160
599	(FK/VERZ) Delay in start-up time (stitches) of thread clamp	A,B,C	0-255	50
603	(START) Start after seam end I after treadle 0 only II immediate start of operation	A,B,C		II
605	(DRZ) Actual speed in display I yes II no	B,C		II
606	(DRZ) Speed: level 1 (min.) (10001000)	B,C	30-640	200
607	(DRZ) Speed: level 12 (max.) (01001000)	B,C	100-10000	5500
608	(DRZ) Speed level curve (treadle characteristic) I linear II not linear	B,C		I
609	(SN/DRZ) Trimming speed 1 (11001000)	B,C	30-300	200
618	(RDR) Inverse rotation after seam end I yes II no (00101000)	C		II
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	C	0-2550	10
651	(PF) Presser foot with automatic descent on machine stop I yes II no	C		II
665	(ANLSP/STOP) Run locking/stop I contact closed II contact open	B,C		I
668	(BLA/WI) Thread wiper/thread clearer I yes II no (10101000)	C		I
676	(DRZ) Speed adjustment via potentiometer possible I yes II no	B,C		I
679	(ZRIE/VERZ) Fancy tack: time from positioning to switch-on of reverse feed	B,C		II
700	(NAPO) Needle position 0 (reference position of the needle) (01101000)	B,C	0-239	0 *

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701	(NAPO) Angular adjustment I with handwheel (teach-in) II by keys (+/-)	B,C		I
702	(NAPO) Needle position 1 (needle down) (11101000)	B,C	0-239	174
703	(NAPO) Needle position 2 (thread take-up lever up) (00011000)	B,C	0-239	133
718	(STBR) Timing of residual brake (0 = brake off) (00111000)	B,C	0-100	0
719	(PF/TA) Timing output A4 (0 = 100% switching on)	B,C	0-100	40
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	1-50	45
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	1-50	31
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0-2550	130
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0-400	30
790	(MAKL) Program selection for machine classes by operators box	B,C		II
797	(HWT) Hardware test I yes II no	B,C		II
798	(EBC) Programming level C I yes II no	B,C		II
799	(MAKL) Machine class which has been selected (10111000)	B,C	1-1	1
800	(DRR) Direction of motor rotation viewed from belt pulley I left-hand rotation II right-hand rotation (01111000)	B,C		II *
801	(RDR) Reverse rotation angle after seam end	C	5-200	18
802	(SONST) I Hardware test II Normal service (01111000)	C		II *
850	(DRZ) Maximum motor speed	C	2000-6000	4500
851	(PR/DRZAB) Brake ramp for stitch-count seams I steep II gradual	C		I
884	(REG) Proportional amplification of the speed control (in general)	B,C	4-50	13
885	(REG) Integral amplification of the speed control	C	0-100	30
886	(REG) Proportional amplification of the order controllers	C	1-50	20
887	(REG) Differential amplification of the order controllers	C	1-100	30

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889	(EINZ/REG) Time required for order controlling (0 = always)	C	0-1000	400
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	1-50	25
891	(REG) Proportional amplification of the lower speed controllers for the residual brake	C	1-50	20
892	(REG/ZUSAN) Proportional amplification of speed control for auxiliary drive	B	0-50	1
893	(REG/ZUSAN) Integral amplification of speed control for auxiliary drive	C	0-100	4
894	(REG) Rotational direction of motor and synchronizer I different II same	C		I
897	(SONST) Commutation transmitter I ABB II QR	C		II
898	(SONST) Number of motor poles I 4 poles II 6 poles	C		II

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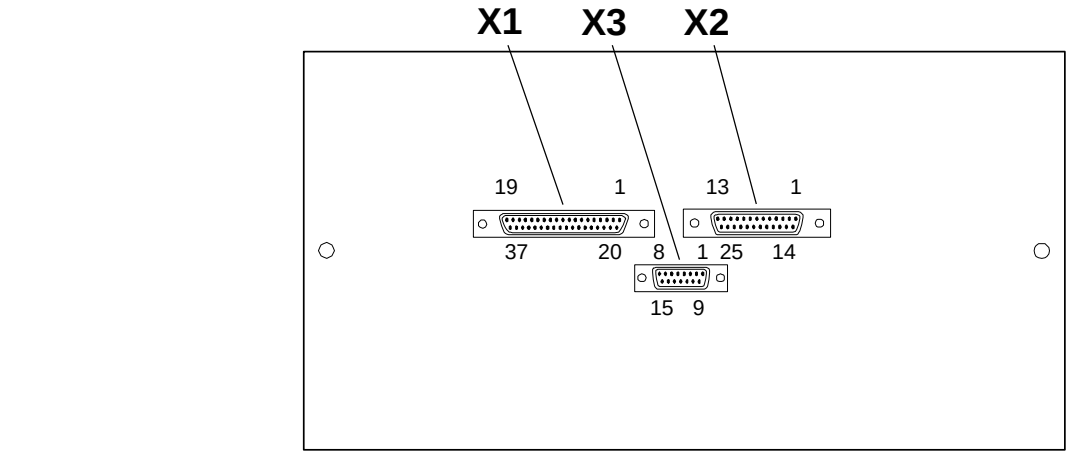
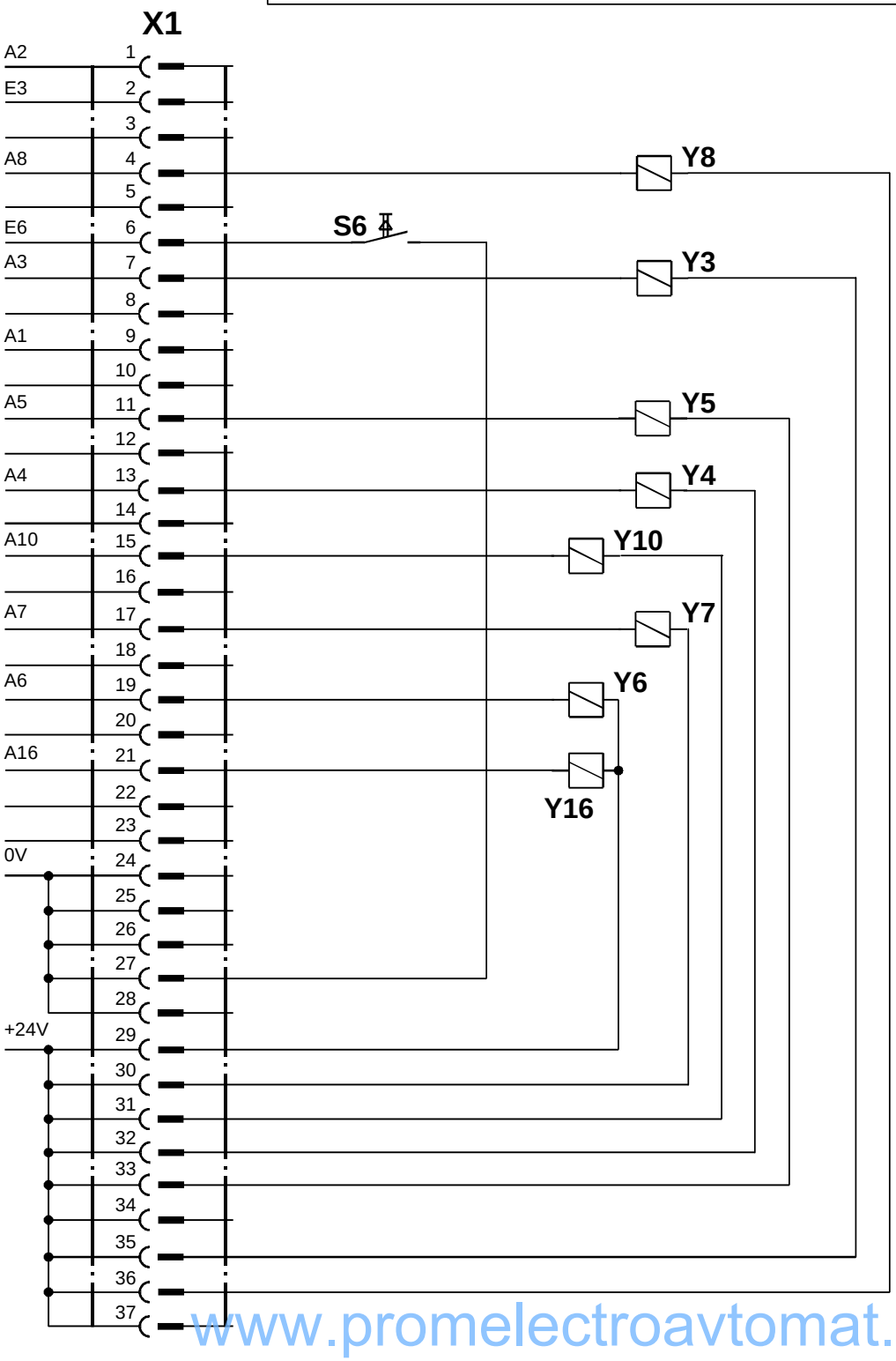
12. Electrical Connections Diagram Q61SE





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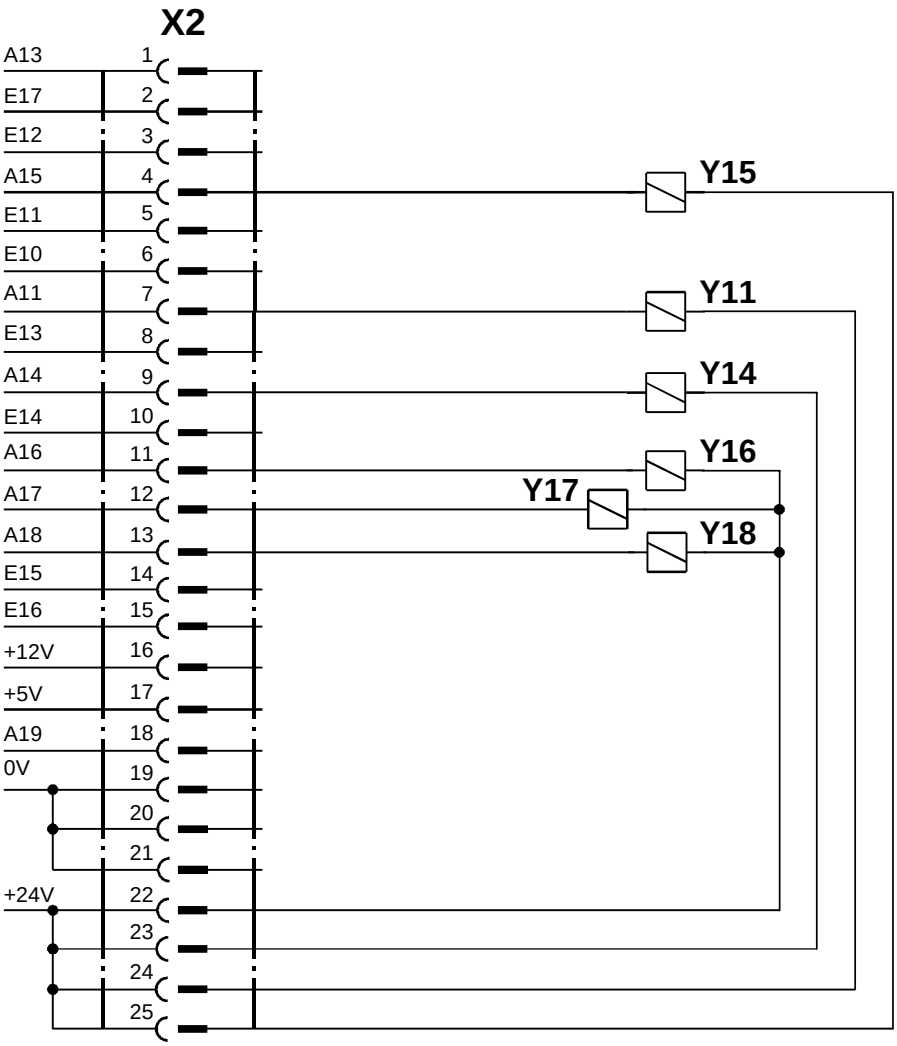

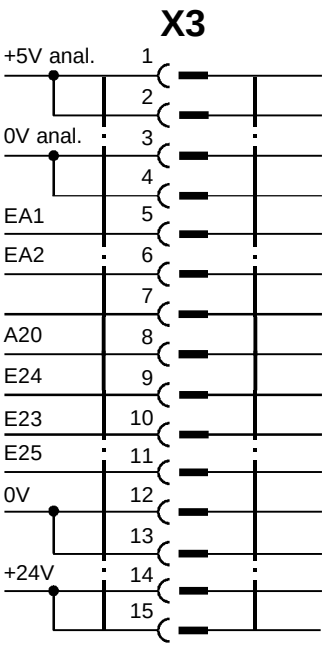

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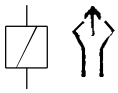
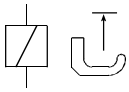
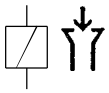
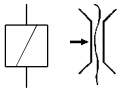
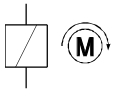
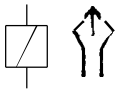
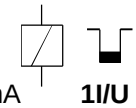
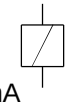
Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significação dos imaõs e/ou as solenoidas e teclas
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

S6	Stopp - Anlaufsperre / stop - safety switch no run / stop - verrouillage de remise en marche / paragem - bloqueio de arranque / stop - blocco avviamento / parada - bloqueo de repuesta en marcha / stop - startblokkering
Y3 I max 8 A ✱ 	Kette blasen 1 / chain blowing 1 / soufflage de chaînette 1 / soprar de cadeia 1 / soffiatura catenella 1 / soplar cadeneta 1 / blazen van een ketting 1
Y4 I max 8 A ✱ 	Presserfuß heben / presser foot up / pied presseur en haut / calcador em cima / alzapiedino su / prensatelas arriba / drukvoet optillen
Y5 I max 8 A ✱ 	Kette saugen / chain vacuuming / aspiration de chaînette / aspirar de cadeia / aspirare catenella / aspirar cadeneta / zuigen van een ketting
Y6 I max 8 A ✱ <799> = 2 	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y7 I max 8 A ✱	Kettenschieber / chain push / pousser de chaînette / impelir de cadeia / spingere catenella / empujar cadeneta / schuiven van een ketting
Y8 I max 8 A ✱ 	Motor läuft / motor run / moteur en marche / máquina en marcha / funzionamento motore / máquina en marcha / lopende motor
Y10 I max 8 A ✱	Fadenklemme / thread clamp / serre-fil / pinça fixar a linha / serrafilo / garra de hilo / draadklem
Y11 I max 8 A ✱	Saugkopf heben / lifting of vacuum head / relevage de la tête d'aspirateur / levantar do cabeçote aspirador / sollevamento della testa di aspirazione / elevación del cabezal de aspiración / optillen van de zuigkop
Y14 I max 8 A ✱	Saugkopf saugen / vacuum head vacuuming / aspiration de la tête d'aspirateur / aspirar do cabeçote aspirador / aspirare della testa di aspirazione / aspirar del cabezal de aspiración / zuigen van de zuigkop
Y15 I max 8 A ✱ 	Kette blasen 2 / chain blowing 2 / soufflage de chaînette 2 / soprar de cadeia 2 / soffiatura catenella 2 / soplar cadeneta 2 / blazen van een ketting 2
Y16 I max 100 mA  **1I/U**	Zählsignal / count signal / signal de comptage / sinal de contagem / segnale conteggio / señal del contador / telsignaal
Y17 I max 100 mA **FA** 	480 Impulse pro Umdrehung / 480 pulses per revolution / 480 impulsions/révolution / 480 impulsos/rotação / 480 impulsi/giro / 480 impulsos/revolución / 480 pulsen per omwenteling

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Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

Y18 I max 100 mA **FB**	480 Impulse pro Umdrehung / 480 pulses per revolution / 480 impulsions/révolution / 480 impulsos/rotação / 480 impulsi/giro / 480 impulsos/revolución / 480 pulsen per omwenteling

- ✱ Die Summe der Lastströme aller gleichzeitig eingeschalteten Stellglieder (Magnete, Magnetventile) darf den Wert von 4A nicht überschreiten (siehe hierzu Kapitel 2. Technische Daten).
- ✱ The total of load currents of all servos activated simultaneously (solenoids, solenoid valves) is not allowed to exceed 4 amps (see also section 2. Technical Specifications).
- ✱ Le total des courants de charge de tous les vérins (aimants, électro-vannes) activés simultanément ne doit pas dépasser 4 A (voir aussi le chapitre 2. "caractéristiques techniques").
- ✱ A soma das correntes sob carga de todos os actuadores ligados ao mesmo tempo (ímans, solenóides) não pode ultrapassar o valor de 4A (ver também capítulo 2. Dados Técnicos).
- ✱ La somma delle correnti di carico di tutti gli attuatori inseriti contemporaneamente (magneti, elettrovalvole) non deve essere superiore a 4 A (vedere il capitolo 2. Dati Tecnici).
- ✱ La suma de las corrientes bajo carga de todos los elementos de todos los componentes de regulación conectados simultáneamente (imanes, válvula magnética) no podrá sobrepasar el valor de 4A (véase también el capítulo 2. de datos técnicos).
- ✱ De belastingsstroom van alle tegelijkertijd ingeschakelde bedieningsschakels (magneten, magneetventielen) mag in totaal niet meer dan 4 A bedragen (zie hiervoor hoofdstuk 2. Technische gegevens).

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13. Maintenance and Repair

!! Before starting maintenance or repair work, switch off the SERVO-TOP,
separate the drive system from mains power (for instance by pulling out the mains plug)
and wait for the motor to come to a complete stop.

General maintenance work must only be done by specially trained personnel paying close attention to the operating instructions.

The SERVO-TOP ist largely maintenance-free.
However, make sure to perform the following maintenance work:

Depending on the operating conditions, clean the drive system regularly, at least once a week, from any dust or lint. Make sure in particular that the ventilation louvres and cooling fins of the motor, especially the cooling fins between the motor and the control box, are perfectly clean (Fig. 13).

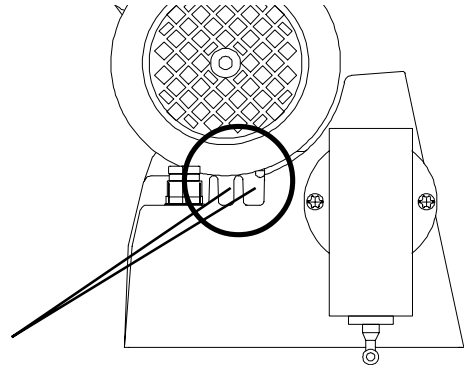

Fig. 13

Remove any threads caught on the synchronizer shaft or on the belt pulley and/or motor shaft.

Check if the drive system is perfectly secured to the stand and that the accessories (synchronizer on machine shaft, speed control unit on control box) are safely mounted in their respective positions.

Check the drive belt for any wear and for correct tension.
Incorrect belt tension can increase noise and vibrations.

When opening covers or removing parts, apart from those removable by hand,
live elements can be exposed.
Connections can also be electrically live.

If you require to open the drive system before starting maintenance or repair work or before replacing any parts, disconnect the drive system from any and all power sources.

If maintenance or repair work on the open unit is unavoidable, this may only be done by qualified personnel familiar with the risks involved. Observe all regulations as per EN 50110.

There can still be capacitors carrying a charge in the power electronics system, even when the drive system has been disconnected from all power sources. To avoid injury by electrical shock, it is therefore essential to wait at least 10 minutes between mains power shutoff and opening the control box.

In order to protect semi-conductor components from overvoltage, use only high-resistivity measuring equipment when making checks on the control system.

Any repair or servicing work requiring skilled knowhow may only be done by qualified personnel authorized by Quick-Rotan.

We emphasize that in accordance with the product liability law we are under no responsibility for damages caused by our products if these are due to

- unqualified repair
- the use of components not authorized by us
- actions made by any persons not authorized by us.

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