SERVO-TOP

QE5542

CE

Type

Q60SE

Instruction Manual

Part 3

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Part 3

Technical updatings reserved!

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.

11.3 Parameter survey Q60SE (2A_951_Q.ENO)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Affichage	ANZ	605		
Backtack	RIE	105/110		
Brake	DRZAB	723/851		
Chain blowing	KEBLA	548		
Chopper	MESSER	105/110/532 537	E3	X1:2
Control	REG	884/885/886 887/889/890 891/894		
Defect search	HWT	797		
Delay	VERZ	174/527/545 623/730		
Direction of rotation	DRR	800		
Display	ANZ	605		
Edge trimmer	KS	416		
End backtack	ER	110		
Engine	MOT	897		
Extra width	MW	398/399		
Flip-Flop	FF	414/415	E9	X2:6
Front backtack	AR	105		
Hardware test	HWT	797		
Holder	TUPF	398/526/527		
Inverse rotation	RDR	623/801		
Machine class	MAKL	790/799		
Needle position	NAPO	521/700/701 702/703		
Number of pieces	STUZ	907		
Number of stitches	STZA	111/112/174 526/540/541 543/549/564 565		
ON period	EINZ	175/528/537 548/889		
Operator panel	BDF	681		
Photocell	LS	111/112/161 399/543/549 564/565		

Piece counter	STUZ	907		
Presser foot	PF	416/651/719 729/730		
Program	PR	203/206/543 563/851		
Programming level C	EBC	798		
Residual brake	STBR	718		
Seam end	NE	110/206/543 548/549/690		
Seam start	NA	105		
Soft start	SANL	116/117		
Speed	DRZ	105/110/117 203/462/605 606/607/608 609/676/850		
Speed decrease	DRZAB	723/851		
Speed increase	DRZAN	722		
Speed limitation	DB	676		
Stacker	STAP	527/528		
Start	START	161/540/541 603		
Start delay	STVERZ	729		
Starting block	ANLSP	619/665		
Stitch condensation	STVD	105/110		
Stitchcounter	STZ	399		
Stop	STOP	206/564/565 619/665	E6	X1:6
Stroke adjustment	HV	416		
Thread monitor	FW	905		
Thread tension release	FSL	540		
Thread trimming	SN	609/619		
Time needed to switch on	EINZ	175/528/537 548/889		
Timing output	TA	719		
Units	STUZ	907		
Unlocking of chain	ENTKET	425		
Vacuum	SAUG	105/110/541 543/545/549 690		

11.4 List of Parameters Q60SE (2A_951_Q.EN)

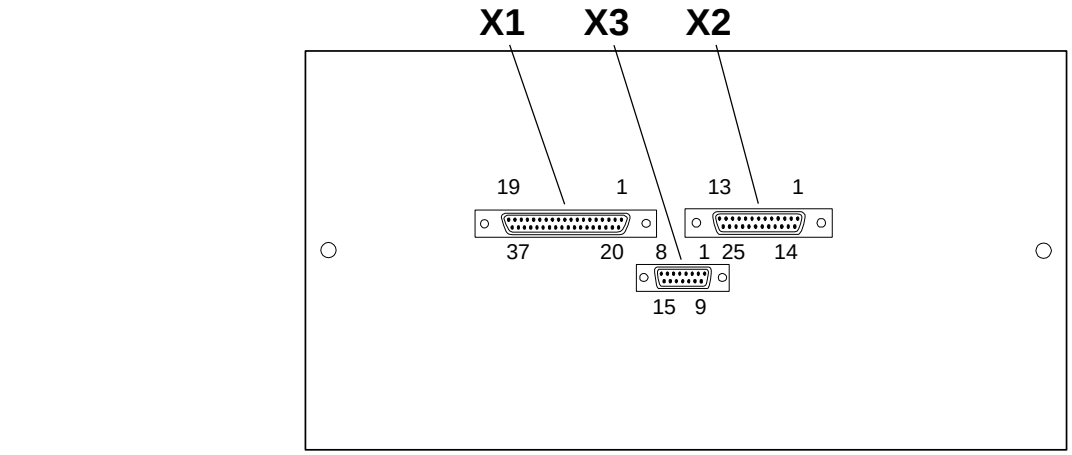
No.	Function (Meaning)	Level	Range Values	of Value	Standard
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack/ stitch condensation	B,C	100 - 9900	1500 1200	Kl. 1 Kl. 2, 3
110	(ER/RIE/DRZ/MESSER/NE/SAUG/STVD) Speed for end backtack/ stitch condensation	B,C	100 - 9900	1500 1200 -	Kl. 1 Kl. 3 Kl. 2
111	(LS/STZA) Light barrier compensation stitches 1 (stitches from light barrier clear to seam end)	A,B,C	1 - 255	6 -	Kl. 3 Kl. 1, 2
112	(LS/STZA) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	A,B,C	0 - 255	0	Kl. 1, 2, 3
116	(SANL) Soft start stitches	A,B,C	0 - 255	0	Kl. 1, 2, 3
117	(SANL/DRZ) Speed for soft start stitches	B,C	30 - 640	500 400	Kl. 1 Kl. 2, 3
161	(LS/START) Start delay for start of photocell	B,C	0 - 2550	100 70	Kl. 1 Kl. 2, 3
174	(VERZ/STZA) Stitches until output Ax on	A,B,C	0 - 255	20	Kl. 1, 2, 3
175	(EINZ) Time needed to switch on for output Ax	A,B,C	0 - 255	15 12	Kl. 1 Kl. 2, 3
203	(PR/DRZ) Speed for seam program I variable (treadle-controlled) II constant (corresponding to <221> or <222>)	B,C		I	Kl. 1, 2, 3
206	(NE/PR/STOP) Interrupt/discontinue seam sections at speed = constant (<203> = II) I with treadle -2 II with treadle 0	B,C		II -	Kl. 1 Kl. 2, 3
398	(TUPF/MW) Output A13 is I Extra width II Swab	B,C		I	Kl. 1, 2, 3
399	(MW/STZ/LS) start stitch counting for overwidth by I light barrier II input E13	A,B,C		I	Kl. 1, 2, 3
414	(FF) Number of stitches with flip-flop (<411> = II)	B,C	0 - 255	0 -	Kl. 1, 3 Kl. 2
415	(FF) Flip-flop reset after seam end I yes II no	B,C		I -	Kl. 1, 3 Kl. 2
416	(HV/KS/PF) 1 = Stroke adjustment 2 = Edge trimmer 3 = Foot pressure	B,C	0 - 255	10 -	Kl. 1, 3 Kl. 2
425	(ENTKET) Unlocking of chain at seam end I yes II no	B,C		II -	Kl. 1, 3 Kl. 2
462	(DRZ) Function of speed control unit I 2 speeds only n-min (to position +7) and n-max (from position +8) and one needle position II 12 speed levels and two needle positions	B,C		II	Kl. 1, 2, 3
521	(NAPO) Needle position at stop before seam end I position 2 (up) II position 1 (down) (01111000)	B,C		II	Kl. 1, 2, 3 *
526	(TUPF/STZA) Number of stitches from photocell clear to holder/stopper on	B,C	0 - 255	2 10 -	Kl. 1 Kl. 3 Kl. 2
527	(STAP/TUPF/VERZ) Delay (ms) from stacker on to holder / stopper off	B,C	0 - 2550	200 -	Kl. 1, 3 Kl. 2
528	(EINZ/STAP) Duration (ms) of stacker function	B,C	0 - 2550	50 -	Kl. 1, 3 Kl. 2

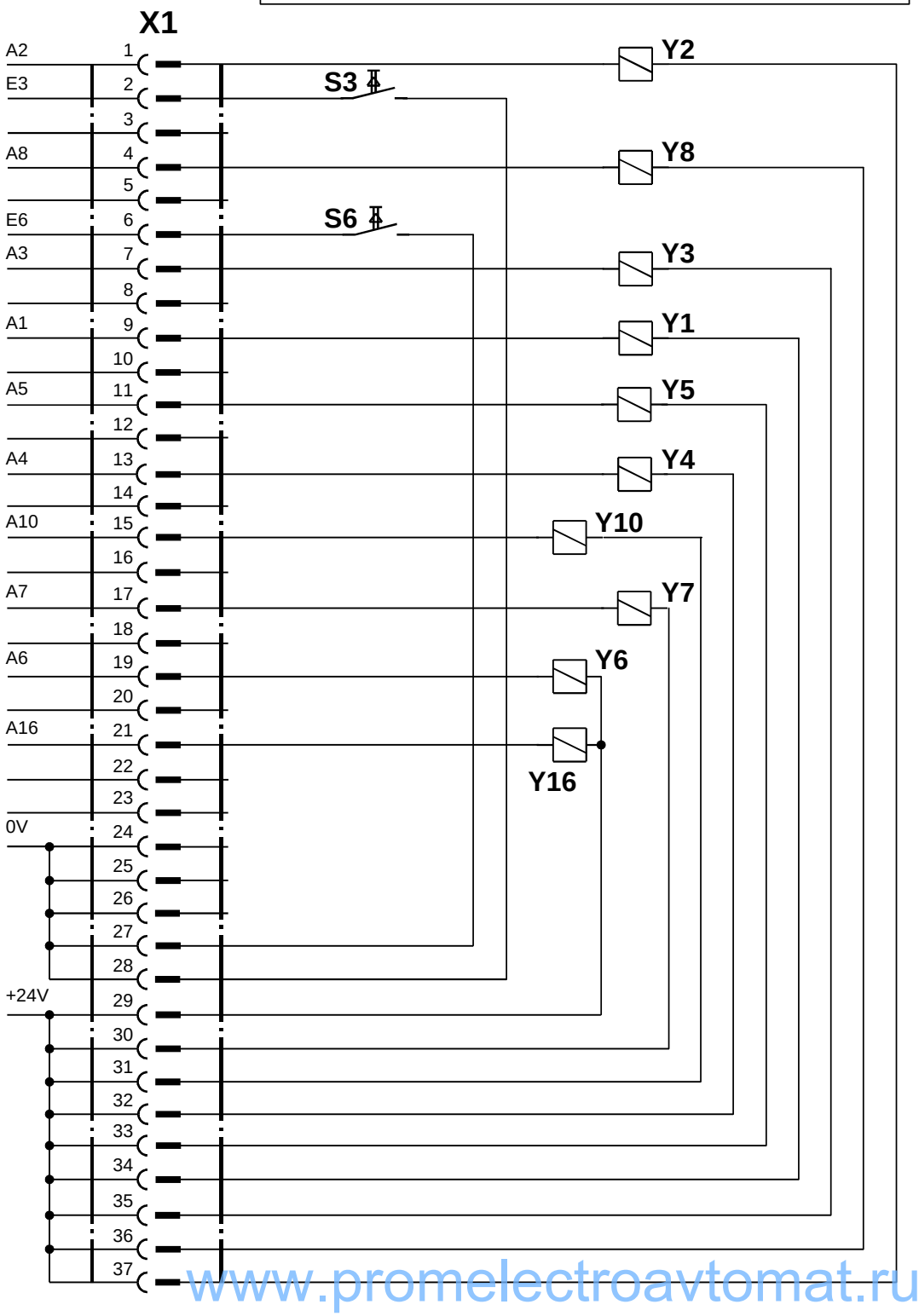
532	(MESSER) Stop during chopper on I yes II no	B,C		II -	Kl. 1, 3 Kl. 2
537	(EINZ/MESSER) Chopper duty cycle (ms)	B,C	0 - 2550	200 100	Kl. 1 Kl. 2, 3
540	(FSL/START/STZA) Number of stitches from start to thread tension release off	A,B,C	0 - 255	2 10 -	Kl. 1 Kl. 3 Kl. 2
541	(SAUG/START/STZA) Number of stitches from start to vacuum off	A,B,C	0 - 255	5 10 -	Kl. 1 Kl. 3 Kl. 2
543	(LS/NE/SAUG/STZA/PR) Number of stitches from light barrier clear to vacuum on at programmed sewing	A,B,C	0 - 255	3 10 -	Kl. 1 Kl. 3 Kl. 2
543	(LS/NE/SAUG/STZA/PR) Number of stitches from light barrier clear to vacuum on at programmed sewing	A,B	0 - 255	10	Kl. 1, 2, 3
545	(SAUG/VERZ) Delay (ms) to vacuum off	B,C	0 - 2550	50 100 -	Kl. 1 Kl. 3 Kl. 2
548	(EINZ/KEBLA/NE) Duration (ms) of chain blowing at seam end	B,C	0 - 2550	300 150 -	Kl. 1 Kl. 3 Kl. 2
549	(LS/NE/SAUG/STZA) Number of stitches from light barrier clear to vacuum on at manual sewing	A,B	0 - 255	10	Kl. 1, 2, 3
563	(PR) Switch on of the output A14 in second sewing cycle I yes II no	B,C		II -	Kl. 1 Kl. 2, 3
564	(LS/STOP/STZA) Number of stitches from photocell clear to stop	B,C	0 - 255	0 -	Kl. 1, 3 Kl. 2
565	(LS/STOP/STZA) Seam start: number of stitches from photocell dark to stop	A,B,C	0 - 255	0 -	Kl. 1, 3 Kl. 2
603	(START) Start after seam end I after treadle 0 only II immediate start of operation	B,C		I	Kl. 1, 2, 3
605	(DRZ/ANZ) Actual speed in display I yes II no	B,C		II	Kl. 1, 2, 3
606	(DRZ) Speed: level 1 (min.)	B,C	30 - 640	200 180	Kl. 1 Kl. 2, 3
607	(DRZ) Speed: level 12 (max.)	B,C	100 - 8800	4000 1500	Kl. 1, 2 Kl. 3
608	(DRZ) Speed level curve (treadle characteristic) I linear II not linear	B,C		I	Kl. 1, 2, 3
609	(SN/DRZ) Trimming speed 1	B,C	30 - 300	200 180	Kl. 1 Kl. 2, 3
619	(SN/ANLSP/STOP) Control of thread trimming (safety switch no run) I yes II no	B,C		II	Kl. 1, 2, 3
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	B,C	0 - 2550	10 -	Kl. 1, 3 Kl. 2
651	(PF) Presser foot with automatic descent on machine stop I yes II no	B,C		II	Kl. 1, 2, 3
665	(ANLSP/STOP) Run locking/stop I contact closed II contact open	C		I	Kl. 1, 2, 3

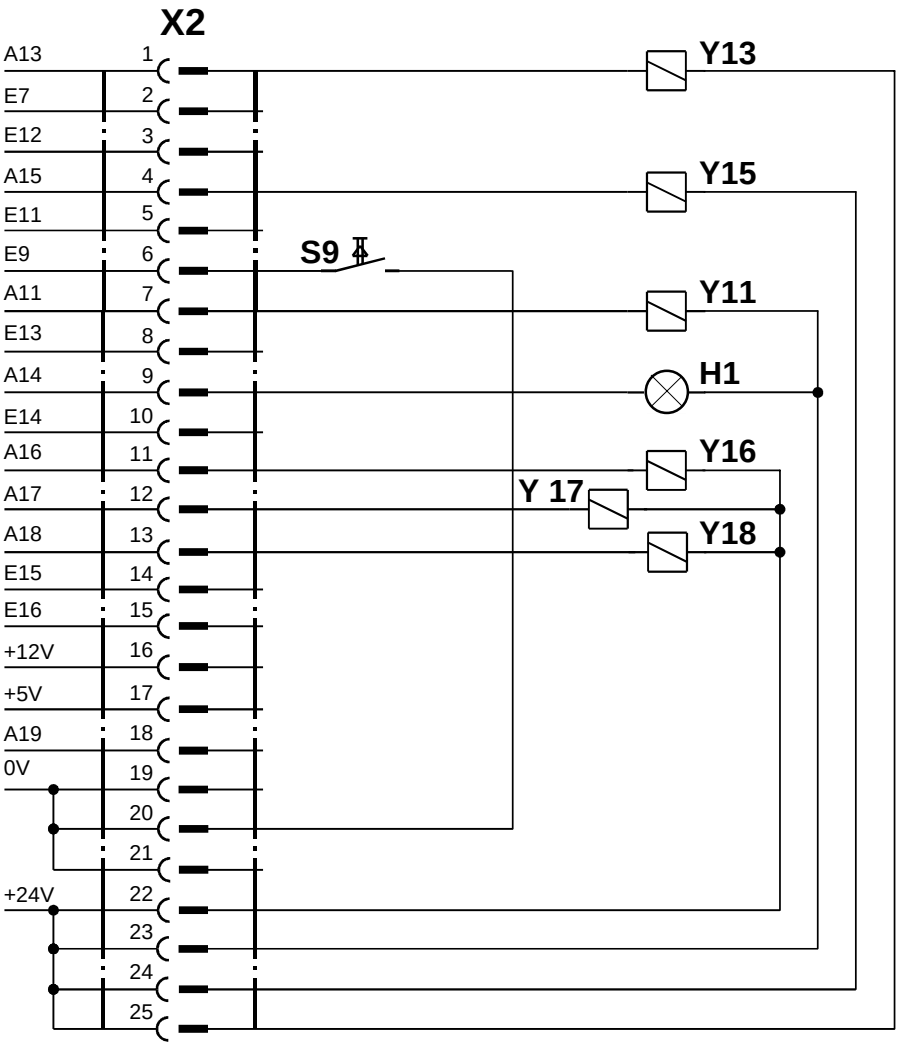
676	(DRZ/DB) Speed limitation via potentiometer at the SERVO-TOP control or via the keys V+ / V- at the MINI-STOP control I yes II no	B,C		I	Kl. 1, 2, 3
681	(BDF) Operator panel push-button locked I yes II no	B,C		II	Kl. 1, 2, 3
690	(NE/SAUG) Chain vacuuming at seam end I yes II no	B,C		I -	Kl. 1, 3 Kl. 2
700	(NAPO) Needle position 0 (reference position of the needle) (01101000)	B,C	0 - 239	0	Kl. 1, 2, 3 *
701	(NAPO) Angular adjustment I with handwheel (teach-in) II by keys (+/-)	B,C		I	Kl. 1, 2, 3
702	(NAPO) Needle position 1 (needle down)	B,C	0 - 239	75	Kl. 1, 2, 3
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0 - 239	211	Kl. 1, 2, 3
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0 - 100	0	Kl. 1, 2, 3
719	(PF/TA) Timing output A4 (lifting presser foot) (0 = 100% switched on)	B,C	0 - 100	40	Kl. 1, 2, 3
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	1 - 50	45	Kl. 1, 2, 3
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	1 - 50	31	Kl. 1, 2, 3
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0 - 2550	130 120	Kl. 1 Kl. 2, 3
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0 - 2550	30 20 50	Kl. 1 Kl. 2 Kl. 3
790	(MAKL) Program selection for machine classes by operators box	B,C	1 - 2	1 -	Kl. 3 Kl. 1, 2
797	(HWT) Hardware test I yes II no	B,C		II	Kl. 1, 2, 3
798	(EBC) Programming level C I yes II no	B,C		II	Kl. 1, 2, 3
799	(MAKL) Machine class which has been selected	B,C	1 - 3	1 2 3	Kl. 1 Kl. 2 Kl. 3
800	(DRR) Direction of motor rotation viewed from belt pulley I left-hand rotation II right-hand rotation (01111000)	B,C		II	Kl. 1, 2, 3 *
801	(RDR) Reverse rotation angle after seam end	B,C	5 - 200	120	Kl. 1, 2, 3
850	(DRZ) Maximum motor speed	C		4500	Kl. 1, 2, 3
851	(PR/DRZAB) Brake ramp for stitch-count seams I steep II gradual	C		I	Kl. 1, 2, 3
884	(REG) Proportional amplification of the speed control (in general)	B,C	4 - 50	13	Kl. 1, 2, 3
885	(REG) Integral amplification of the speed control	C	0 - 100	30	Kl. 1, 2, 3
886	(REG) Proportional amplification of the order controllers	C	1 - 50	20	Kl. 1, 2, 3
887	(REG) Differential amplification of the order controllers	C	1 - 100	30	Kl. 1, 2, 3
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0 - 1000	400	Kl. 1, 2, 3

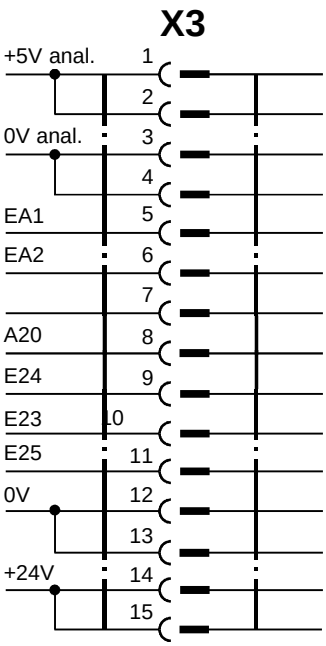
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	1 - 50	25	Kl. 1, 2, 3
891	(REG) Proportional amplification of the lower speed controllers for the residual brake	C	1 - 50	20	Kl. 1, 2, 3
894	(REG) Rotational direction of motor and synchronizer I different II same	C		I	Kl. 1, 2, 3
905	(FW) bobbin thread monitor - cycle I time optimised II normal	B,C	0 - 255	0	Kl. 1, 2, 3
907	(STUZ) Start for stitch counter monitoring I in the last section II in the first section	B,C		II	Kl. 1, 2, 3

12. Electrical Connections Diagram Q60SE

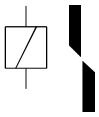
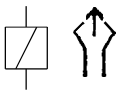
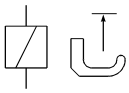
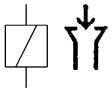
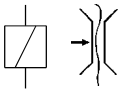
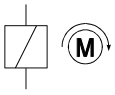




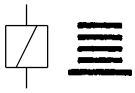
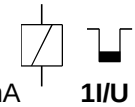
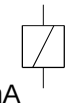




Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significação dos imaõs e/ou as solenoidas e teclas
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los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

S3 	Abhacker / chopper / chopper / cortar / coltello / guillotina / mes
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
S9 	Flip-Flop
Y1 I max 8 A ✱ 	Abhacker / chopper / chopper / cortar / coltello / guillotina / mes
Y2 I max 8 A ✱ 	Schnelle Schere rückwärts / fast scissors backward / ciseaux rapide en arrière / tesoura rápida para trás / forbici rapida indietro / tijeras rapida atrás / snelle schaar achterwaarts
Y3 I max 8 A ✱ 	Kette blasen / chain blowing / Soufflage de chaînette / soprar cadeia / soffiatura catenella / soplar cadeneta / blazen van een ketting
Y4 I max 8 A ✱ 	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / 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 ✱ 	Schnelle Schere vorwärts / fast scissors forward / ciseaux rapide en avant / tesoura rápida para a frente / forbici rapida avanti / tijeras rapida adelante / snelle schaar voorwaarts
Y8 I max 8 A ✱ 	Motor läuft / motor runs / moteur en marche / motor em movimento / motore in moto / motor en marcha / loop van de machine
Y10 I max 8 A ✱ 	Reserve / reserve supply / réserve / reserva / riserva / reserva / reserve
Y11 I max 8 A ✱ 	Flip-Flop

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

Y13 I max 8 A ✱ 	Tupfer / holder / déteneur / toques / tampone / retenedora / stip
H1 I max 8 A ✱  <563> = I	Anzeige H1 / display H1 / affichage H1 / indicação H1 / visualizzazione H1 / indicador H1 / indicatie H1
Y15 I max 8 A ✱ 	Stapler / stacker / empileur / empilhadeira / impilatore / apiladora / hefinstrument
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
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).

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).

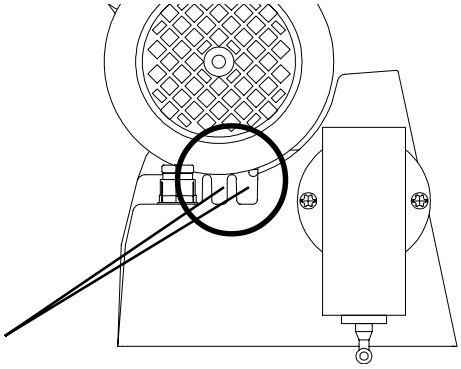


Fig. 13

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.