EcoDrive

QE3760/QE5540

CE

Type

Q340EDx

Instruction Manual

Part 3

QUICK-ROTAN Elektromotoren GmbH
Königstraße 154
67655 Kaiserslautern
Tel: 0631 / 200 38 80
Fax: 0631 / 200 38 62
E-Mail: tech.supp@Quick-Rotan.com
www.quick-rotan.com

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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, 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.
Parameter numbers in acute brackets; e.g. <105>, mean the value (content) set for the parameter in question.

Example:
107 Speed for front backtack when <106> = I
I limited by <105>
II limited by <607>

Explanation:
Parameter 107 is valid only the the value (content) of parameter <106> = I.
If parameter 107 is set to I (<107> = I), then the speed for the front backtack is limited by parameter 105, e.g. <105> = 1500. If parameter 107 is set to II (<107> = II), then the speed for the front backtack is limited by the value of parameter 607, e.g. <607> = 4000.

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Backtack	RIE	105/110/305 364/523/584		
Blower	BLA	668		
Brake	DRZAB	723		
Catcher	FANG	707		
Chopper	MESSE	105/110/427 537/714		
Control	REG	880/884/885 886/887/889 890		
Decorative backtack	ZRIE	522/523/530 775		
Defect search	HWT	797		
Delay	VERZ	198/403/545 623/642/643 716/717/730 761/770		
Direction of rotation	DRR	800		
Display	ANZ	389/390/605 933		
Edge trimmer	KS	512/513/514		
End backtack	ER	110/305		
Engine	MOT	897		
Feed reverse	TUM	301/364/643 721		
Flip-Flop	FF	510/512/513 514/515/516		
Front backtack	AR	105/106/305		
Hardware test	HWT	797		
Increments	INKR	902		
Inverse rotation	RDR	618/623/801		
Linear motor	LINMOT	668		
Machine class	MAKL	790/799		

Machine run	ML	904
Needle position	NAPO	521/522/700 702/703/704 705/707/710
Needle position change-over	NPW	616
Needle up without trimming	NHOS	616/710
Number of stitches	STZA	111/112/145 404/445/513 514/540/541 542/543/760
ON period	EINZ	198/389/537 714/715/743 889
Output „A“	AUSGA	510/515/516
Output „B“	AUSGB	512/513/514
Photocell	LS	111/112/113 161/188/199 543/615
Presser foot	PF	427/642/651 668/719/729 730/770
Program	PR	206/313/510 512/513/514 515/516/543
Programming level C	EBC	798
Puller	PULL	427/445
Residual brake	STBR	718
Seam end	NE	110/145/206 543
Seam start	NA	105
Soft start	SANL	116/117
Speed	DRZ	105/106/110 117/199/402 403/530/586 605/606/607 608/609/901
Speed decrease	DRZAB	723
Speed increase	DRZAN	722
Speed limitation	DB	402/586
Start	START	113/161/188 540/541/603

Start delay	STVERZ	729
Starting block	ANLSP	619/665
Stepper motor	SMOT	1000/1001/1002 1003/1004/1100 1101/1102/1103 1104/1105/1106 1107/1108/1109 1200/1201/1202 1203/1204/1205 1206/1207/1208 1209/1300/1301 1302/1303/1304 1305/1306/1307 1308/1309/1400 1401/1402/1403 1404/1405/1406 1407
Stitch condensation	STVD	105/106/110 364
Stitchcounter	STZ	760
Stop	STOP	206/427/619 665
Stop time	STOPZ	712/775
Stroke adjustment	HV	401/402/403 404/427/720
Target stitch	PEIPO	653/789
Thread monitor	FW	660/760
Thread puller	FZ	743/761
Thread tension	FS	673
Thread tension release	FSL	540/542/673 707/761
Thread trimming	SN	609/619/704 705/714/717 901
Thread wiper	WI	668/715/716
Time needed to switch on	EINZ	198/389/537 714/715/743 889
Timing output	TA	642/643/705 719/720/721
Vacuum	SAUG	105/110/541 543/545

No.	Function (Meaning)	Level	Range of Values	Value	Standard
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack/ stitch condensation	B,C	0100 - 3500 0100 - 6400	1400 1200	Kl. 1 Kl. 2, 3
106	(AR/DRZ/STVD) Speed for front backtack / stitch condensation 1 variable (treadle-controlled) 0 constant (corresponding to <105>)	B,C		0 -	Kl. 1, 2 Kl. 3
110	(ER/RIE/DRZ/MESSER/NE/SAUG/STVD) Speed for end backtack/ stitch condensation	B,C	0100 - 3500 0100 - 6400	1400 1200	Kl. 1 Kl. 2, 3
111	(LS/STZA) Light barrier compensation stitches 1 (stitches from light barrier clear to seam end)	A,B,C	0001 - 0100 0001 - 0030	8 6 -	Kl. 1 Kl. 2 Kl. 3
112	(LS/STZA) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	A,B,C	0000 - 0100	0	Kl. 1, 2, 3
113	(LS/START) Start with light barrier 1 when light barrier is dark only 0 also when light barrier is clear	B,C		0	Kl. 1, 2, 3
116	(SANL) Soft start stitches	A,B,C	0000 - 0030 0000 - 0030	2 0	Kl. 1 Kl. 2, 3
117	(SANL/DRZ) Speed for soft start stitches	B,C	0030 - 1000 0030 - 0640	800 400	Kl. 1 Kl. 2, 3
145	(NE/STZA) Number of stitches for seam end	A,B,C	0000 - 0030	2 -	Kl. 2 Kl. 1, 3
161	(LS/START) Start delay for start of photocell	B,C	0000 - 2000 0000 - 2000	100 50	Kl. 1 Kl. 2, 3
188	(LS/START) Start by light barrier 1 even when light barrier is light 2 only when light barrier is dark 3 without pedal when light barrier is dark 4 drive start over input	C	0001 - 0005	1	Kl. 1, 2, 3
198	(VERZ/EINZ) Delay/on time t10	B,C	0000 - 0200	30 -	Kl. 1 Kl. 2, 3
199	(DRZ/LS) Speed for light barrier compensation stitches	B,C	0300 - 3500	1200 -	Kl. 1, 2 Kl. 3
206	(NE/PR/STOP) Interrupt/discontinue seam sections at speed = constant (<203> = II) 1 with treadle -2 0 with treadle 0	B,C		1 0	Kl. 1 Kl. 2, 3
301	(TUM) Switch-on voltage of the magnet for transport change-over 1 24V 0 32V	C		0	Kl. 1, 2, 3
305	(RIE/AR/ER) Front-backtack and end-backtack with interruption at pedal zero position 1 yes 0 no	B,C		0 -	Kl. 1, 2 Kl. 3
313	(PR) Programs are backtack programs (darning programs) 1 yes 0 no	B,C		0 -	Kl. 1 Kl. 2, 3
364	(RIE/STVD/TUM) Transport change-over means for 1 Back-tack 0 Stitch condensation	B,C		1 0	Kl. 1 Kl. 2, 3
389	(LFZ/EINZ/ANZ) Display of data 0 = None 1 = Switch-time of the drive 2 = Run time of the motor (the machine)	C	0000 - 0002	0	Kl. 1, 2, 3

390	(FANZ/ANZ) Display of max. 10 stored malfunctions 0 = None 1 = Last malfunction (x) 2 = Last but one malfunction (x-1) 3 = Previous malfunction (x-2) 4 = Previous malfunction (x-3) 5 = Previous malfunction (x-4) 6 = Previous malfunction (x-5) 7 = Previous malfunction (x-6) 8 = Previous malfunction (x-7) 9 = Previous malfunction (x-8) 10 = Previous malfunction (x-9)	C	0000 - 0010	0	Kl. 1, 2, 3
401	(HV) Input „stroke adjustment“ 1 switch operation 0 push-button operation	B,C	0000 - 0002	0 -	Kl. 1, 2 Kl. 3
402	(HV/DRZ/DB) Speed at stroke adjustment	B,C	0300 - 3500	2000 -	Kl. 1, 2 Kl. 3
403	(HV/DRZ/VERZ) Delay (ms) of the speed variation at end of stroke adjustment	B,C	0000 - 2000	150 -	Kl. 1, 2 Kl. 3
404	(HV/STZA) Number of stitches with stroke adjustment	A,B,C	0000 - 0020 0000 - 0200	2 0 -	Kl. 1 Kl. 2 Kl. 3
427	(PF/HV/PULL/STOP/MESSER) Operating mode of the input 1 = presser foot 2 = stroke adjustment 3 = control of puller 4 = stop 5 = chopper 6-9 without function	A,B,C	0000 - 0004	1 -	Kl. 1, 2 Kl. 3
445	(PULL/STZA) Stitches for puller delay	A,B,C	0000 - 0100	10 -	Kl. 1, 2 Kl. 3
510	(FF/PR//AUSGA) function module for output „A“ Condition: <501> /= <511> 0 no function 1 stitch length changeover 2 overwidth control with speed limit 3 overwidth control without speed limit 4 single stitch with shortened stitch length 5 raise / lower carrier roller 6 raise / lower fabric stop 7 second thread tension 8 selvage cutter manual 9 selvage cutter automatic 10 „Triflex“ function 11 presser foot stroke adjustment	B,C	0000 - 0011	0 -	Kl. 1, 2 Kl. 3
512	(FF/PR/AUSGB/KS) Switch-off of output „B“ (edge trimmer) after thread trim 1 yes 0 no	B,C		0 -	Kl. 1, 2 Kl. 3
513	(FF/PR/AUSGB/KS/STZA) Stitches before beginning of seam to edge trimmer on	B,C	0000 - 0255 0000 - 0255	0 1 -	Kl. 1 Kl. 2 Kl. 3
514	(FF/PR/AUSGB/KS/STZA) Stitches from edge trimmer on till edge trimmer off	B,C	0000 - 0255 0000 - 0255	0 1 -	Kl. 1 Kl. 2 Kl. 3
515	(FF/PR/AUSGA) Outputs „A“ and „LED A“ after thread trimmer 1 as after „mains on“ 0 unchanged	B,C		1 0 -	Kl. 1 Kl. 2 Kl. 3

516	(FF/PR/AUSGA) output „A“ after „mains on“ when <510> = 1 / 6 / 7 1 on 0 off	B,C		0 -	Kl. 1, 2 Kl. 3
521	(NAPO) Needle position at stop before seam end 1 position 2 (up) 0 position 1 (down)	B,C		0 -	Kl. 3 Kl. 1, 2
522	(NAPO/ZRIE) Needle position when stop occurs during decorative backtack (stitch in stitch) 1 position 2 (up) 0 position 1 (down)	B,C		0 -	Kl. 1 Kl. 2, 3
523	(RIE/ZRIE) Backtack 1 decorative backtack (stitch in stitch) 0 standard backtack	A,B,C		0 -	Kl. 1 Kl. 2, 3
530	(DRZ/ZRIE) Speed (max.) for decorative backtack	B,C	0100 - 3000	1000 -	Kl. 1 Kl. 2, 3
537	(EINZ/MESSER) Chopper duty cycle (ms)	B,C	0000 - 2000	120 -	Kl. 3 Kl. 1, 2
540	(FSL/START/STZA) Number of stitches from start to thread tension release off	A,B,C	0001 - 0100	6 -	Kl. 3 Kl. 1, 2
541	(SAUG/START/STZA) Number of stitches from start to vacuum off	A,B,C	0001 - 0100	6 -	Kl. 3 Kl. 1, 2
542	(FSL/STZA) Number of stitches from photocell clear to thread tension release on	A,B,C	0001 - 0100	6 -	Kl. 3 Kl. 1, 2
543	(LS/NE/SAUG/STZA/PR) Number of stitches from light barrier clear to vacuum on at programmed sewing	A,B,C	0001 - 0100	6 -	Kl. 3 Kl. 1, 2
545	(SAUG/VERZ) Delay (ms) to vacuum off	A,B,C	0000 - 2000	100 -	Kl. 3 Kl. 1, 2
584	(RIE) Backtack 1 four times 0 double	B,C		0 -	Kl. 1 Kl. 2, 3
586	(DRZ/DB) Speed limitation	B,C	0300 - 4800	3000 -	Kl. 1 Kl. 2, 3
603	(START) Start after seam end 1 after treadle 0 only 0 immediate start of operation	B,C		0	Kl. 1, 2, 3
605	(DRZ/ANZ) Actual speed in display (<725>) 1 yes 0 no	B,C		0	Kl. 1, 2, 3
606	(DRZ) Speed: level 1 (min.)	B,C	0030 - 0600	180	Kl. 1, 2, 3
607	(DRZ) Speed: level 12 (max.)	B,C	0100 - 7500 0100 - 7500	4000 2000	Kl. 1 Kl. 2, 3
608	(DRZ) Accelleration curve (Pedal characteristic) 1 = linear 0 = non linear	B,C		1	Kl. 1, 2, 3
609	(SN/DRZ) Trimming speed 1	B,C	0060 - 0300	180	Kl. 1, 2, 3
615	(LS) End recognition when photocell goes 1 from light to dark 0 from dark to light	B,C		0	Kl. 1, 2, 3
616	(NPW/NHOS) Function of external key (input) 1 needle position change-over (NPW) 0 needle up without trimming (NHOS)	B,C		0	Kl. 1, 2, 3
618	(RDR) Inverse rotation after seam end 1 yes 0 no	B,C		0 -	Kl. 1, 3 Kl. 2
619	(SN/ANLSP/STOP) Control of thread trimming (safety switch no run) 1 yes 0 no	B,C		0 -	Kl. 1, 2 Kl. 3
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	B,C	0000 - 2000	50 -	Kl. 1, 3 Kl. 2

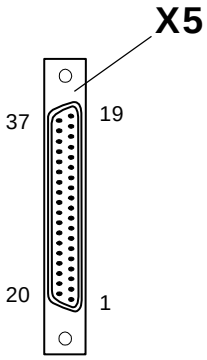
642	(PF/VERZ/TA) preser foot time from switch-on to voltage reduction (cycling)	B,C	0010 - 0200 0010 - 0100	200 100	Kl. 1 Kl. 2, 3
643	(TUM/VERZ/TA) feed reverse time from switch-on to voltage reduction (cycling)	B,C	0010 - 0200 0010 - 0100	200 100	Kl. 1 Kl. 2, 3
651	(PF) Presser foot with automatic descent on machine stop 1 yes 0 no	B,C		1	Kl. 1, 2, 3
653	(PEIPO) Target stitch before sewing 1 yes 0 no	B,C		0 -	Kl. 1, 2 Kl. 3
660	(FW) Bobbin thread monitoring 0 without (= *II*) 1 via a sensor (= **I*) 2 by a stitch count	B,C	0000 - 0002	0	Kl. 1, 2, 3
665	(ANLSP/STOP) Run locking/stop 1 contact closed 0 contact open	B,C		1 0	Kl. 1 Kl. 2, 3
668	(BLA/LINMOT/PF/WI) Thread wiper/thread clearer 1 yes 0 no	A,B,C		1 -	Kl. 1, 2 Kl. 3
673	(FS/FSL) Output is at 1 thread tension release 0 thread tension on	B,C		1	Kl. 1, 2, 3
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0000 - 0255	0	Kl. 1, 2, 3 *
702	(NAPO) Needle position 1 (needle down)	B,C	0000 - 0255 0000 - 0255	53 90	Kl. 1 Kl. 2, 3
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0000 - 0255 0000 - 0255	222 238	Kl. 1 Kl. 2, 3
704	(NAPO/SN) Needle position 4 (start of trimming signal 1 (magnetic thread trimmer))	B,C	0000 - 0255	200 -	Kl. 1 Kl. 2, 3
705	(NAPO/SN/TA) Needle position 5 (end of trimming signal 1 (magnetic thread trimmer) / clock pulses start of the trimming signal 1)	B,C	0000 - 0255	120 -	Kl. 1 Kl. 2, 3
707	(NAPO/FSL/FANG) Needle position 9 (thread tension release or thread catcher start)	B,C	0000 - 0255	140 -	Kl. 1 Kl. 2, 3
710	(NAPO/NHOS) Needle position 3 (needle up)	B,C	0000 - 0255 0000 - 0255	232 212 -	Kl. 1 Kl. 2 Kl. 3
712	(STOPZ) Time for stop in needle position 1	B,C	0000 - 1000	0 -	Kl. 1 Kl. 2, 3
714	(EINZ/SN/MESSER) Duration (ms) for chainstitch trimming or chopper	B,C	0000 - 2000	120 -	Kl. 2 Kl. 1, 3
715	(EINZ/WI) Duration (ms) of thread wiper	B,C	0000 - 2000 0000 - 2000	100 120 -	Kl. 1 Kl. 2 Kl. 3
716	(VERZ/WI) Delay in start-up time (ms) for thread wiper	B,C	0000 - 2000	120 -	Kl. 2 Kl. 1, 3
717	(SN/VERZ) Delay in start-up time (ms) for trimming method when the machine is not activated by the treadle	B,C	0000 - 2000	120 -	Kl. 2 Kl. 1, 3
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0000 - 0100	0	Kl. 1, 2, 3
719	(PF/TA) Timing output (lifting presser foot) (0 = 100% switched on)	B,C	0000 - 0090	40	Kl. 1, 2, 3
720	(HV/TA) Timing output (stroke adjustment) (0 = 100% switched on)	B,C	0010 - 0090	10	Kl. 1, 2, 3
721	(TUM/TA) Timing output (feed reverse) (0 = 100% switched on)	B,C	0010 - 0090	40	Kl. 1, 2, 3

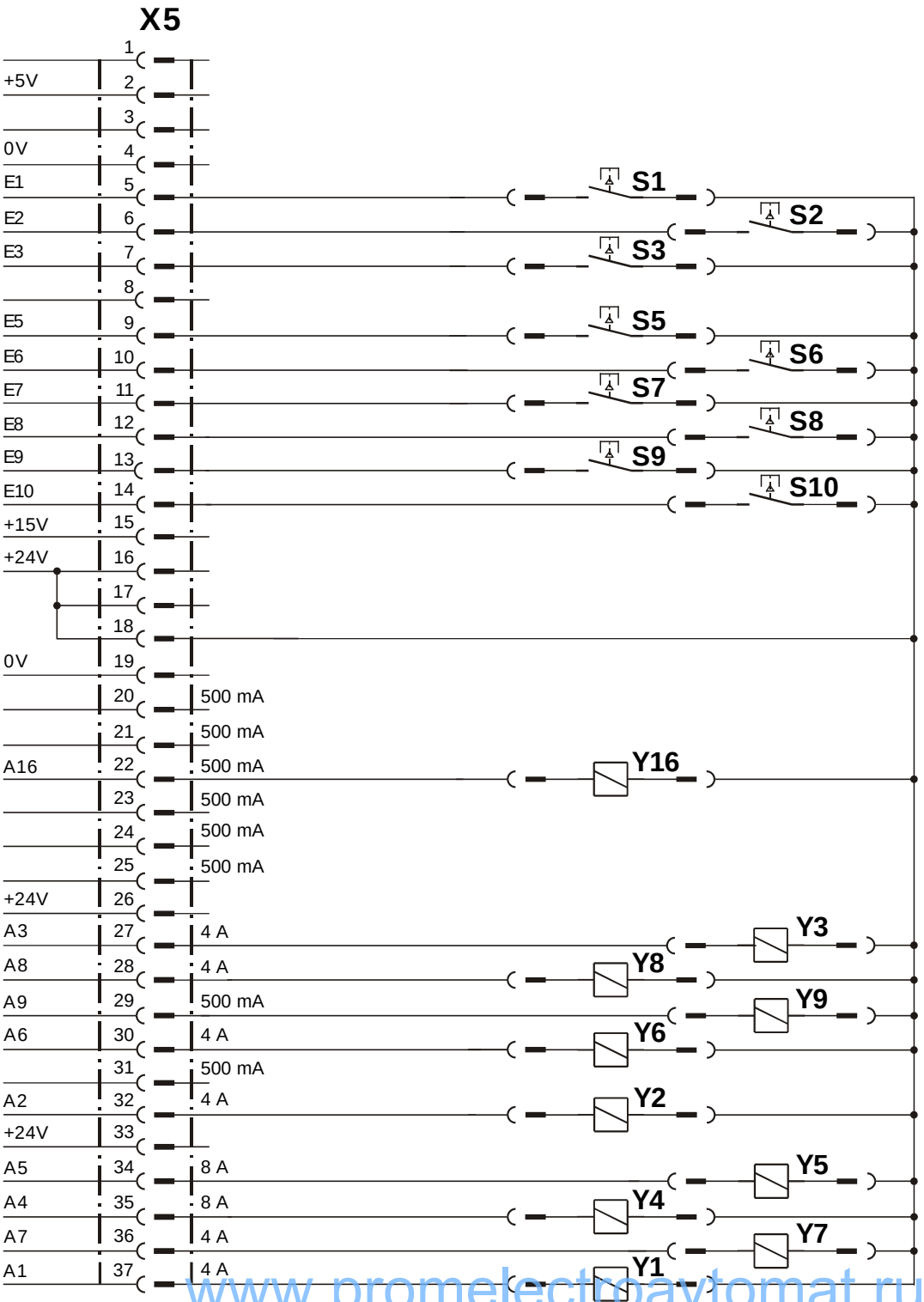
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	0001 - 0060	50	Kl. 1, 2, 3
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	0001 - 0050	35	Kl. 1, 2, 3
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0010 - 2000 0010 - 2000	80 120	Kl. 1 Kl. 2, 3
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0010 - 2000 0010 - 2000	50 120	Kl. 1 Kl. 2, 3
743	(FZ/EINZ) Duration (ms) of thread puller	B,C	0000 - 2000 -	120 -	Kl. 2 Kl. 1, 3
760	(FW/SPFW/STZ/STZA) - Stitch count for the remnant thread after the bobbin thread monitor responds with direct bobbin thread monitoring - Multiplicator for the fixed value (200) for determining the start value of the stitch counter with indirect bobbin thread monitoring	B,C	0000 - 0250	5	Kl. 1, 2, 3
761	(FSL/FZ/VERZ) Prolongation thread tension release/ thread puller	B,C	0000 - 2000 0000 - 2000 -	50 0 -	Kl. 1 Kl. 2 Kl. 3
770	(PF/VERZ) Lifting delay of presser foot at threadle- position „-1“	B,C	0010 - 0250	60	Kl. 1, 2, 3
775	(ZRIE/STOPZ) Stop time (ms) with stitch in stitch backtack (decorative backtack)	B,C	0010 - 1000 -	100 -	Kl. 1 Kl. 2, 3
789	(PEIPO) Needle position 10 (target stitch)	B,C	0000 - 0255 0000 - 0255 -	220 248 -	Kl. 1 Kl. 2 Kl. 3
790	(MAKL) Program selection for machine classes by operators box	B,C	0000 - 0004 0000 - 0002	0 2	Kl. 1, 2 Kl. 3
797	(HWT) Hardware test 1 yes 0 no	C		0	Kl. 1, 2, 3
798	(EBC) Programming level C 1 yes 0 no	B,C		0	Kl. 1, 2, 3
799	(MAKL) Machine class which has been selected	C	0001 - 0003 0001 - 0003 0001 - 0003	1 2 3	Kl. 1 Kl. 2 Kl. 3
800	(DRR) Direction of motor rotation viewed from belt pulley 1 left-hand rotation 0 right-hand rotation	C		0	Kl. 1, 2, 3
801	(RDR) Reverse rotation angle after seam end	B,C	0010 - 0212 -	32 -	Kl. 1, 3 Kl. 2
880	(REG) Starting current max. [A]	C	0001 - 0050 0001 - 0050	7 5	Kl. 1 Kl. 2, 3
884	(REG) Proportional amplification of the speed control (in general)	C	0003 - 0030	7	Kl. 1, 2, 3
885	(REG) Integral amplification of the speed control	C	0001 - 0255	35	Kl. 1, 2, 3
886	(REG) Proportional amplification of the order controllers	C	0001 - 0025	15	Kl. 1, 2, 3
887	(REG) Differential amplification of the order controllers	C	0001 - 0025	10	Kl. 1, 2, 3
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0000 - 2500	400	Kl. 1, 2, 3
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	0001 - 0025	15	Kl. 1, 2, 3
897	(MOT) MINI motor version 1 long 0 short	C		0	Kl. 1, 2, 3 *

901	(DRZ/SN) Trimming release speed	C	0030 - 0500	350	Kl. 1
			0030 - 0500	300	Kl. 2
				-	Kl. 3
904	(ML) Output (motor operation) is active 1 with motor running 0 with motor stationary	B,C		0	Kl. 1, 2, 3
933	(ANZ) Display change-over 1 diagnosis 0 normal display	C		0	Kl. 1, 2, 3
1000	(SMOT) Count of stepping motors	B,C	0000 - 0004	1	Kl. 1, 2, 3
1001	(SMOT) Starting angle stepper	B,C	0000 - 0255	100	Kl. 1, 2, 3
1002	(SMOT) Operating mode 0 = Socket 1 = SM1, Socket 2 = SM2 1 = parallel mode (socket 1 - winder 1 - SM1, socket 2 -winder 2 - SM1)	B,C		0	Kl. 1, 3
				-	Kl. 2
1003	(SMOT) Transport roller radius	B,C	0005 - 0050	15	Kl. 1, 2, 3
1004	(SMOT) Puller rpm limit intermittent electric shaft	B,C	0100 - 6000	4000	Kl. 1, 2, 3
1100	(SMOT) Incremental motor 1 operating mode (puller, differential adjustment, etc.) 1 = Puller intermittent with transport at seam end 2 = Differential feed 3 = Electric shaft 4 = Electric shaft with transport at seam end	B,C	0000 - 0004	1	Kl. 1, 2, 3
1101	(SMOT) Rotational direction SM1 0 = anticlockwise 1 = clockwise	B,C		1	Kl. 1 *
				0	Kl. 2, 3
1102	(SMOT) SM1 increment mode 1 = Full increment 2 = Half-increment 3 = Quarter-increment 4 = Eighth-increment	B,C	0001 - 0004	2	Kl. 1, 2, 3
1103	(SMOT) SM1 % maximum current	B,C	0001 - 0100	50	Kl. 1, 2
			0001 - 0100	40	Kl. 3
1104	(SMOT) SM1 % power reduction	B,C	0000 - 0030	10	Kl. 1, 2, 3
1105	(SMOT) SM1 start/stop time (time for 1 increment at start / stop rpm)	B,C	0010 - 4000	500	Kl. 1, 2, 3
1106	(SMOT) Roof time (time for 1 increment in roof) SM1	B,C	0010 - 2000	150	Kl. 1
			0010 - 0212	32	Kl. 2, 3
1107	(SMOT) SM1 acceleration (% increase from start / stop up to roof) SM1	B,C	0001 - 0100	5	Kl. 1, 2, 3
1108	(SMOT) SM1 braking increments (number of braking increments)	B,C	0001 - 0200	5	Kl. 1
			0001 - 0100	10	Kl. 2, 3
1109	(SMOT) SM1 reduction ration (with electrical shaft and tape tensioning)	B,C	0006 - 0200	100	Kl. 1
			0001 - 0200	40	Kl. 2
			0001 - 0200	400	Kl. 3
1200	(SMOT) Incremental motor 2 operating mode (puller, differential adjustment, etc.) 1 = Puller intermittent with transport at seam end 2 = Differential feed 3 = Electric shaft 4 = Electric shaft with transport at seam end	B,C	0000 - 0003	1	Kl. 1, 2, 3
1201	(SMOT) Rotational direction SM2 0 = anticlockwise 1 = clockwise	B,C		1	Kl. 1
				0	Kl. 2, 3
1202	(SMOT) SM2 increment mode 1 = Full increment 2 = Half-increment 3 = Quarter-increment 4 = Eighth-increment	B,C	0001 - 0004	2	Kl. 1, 2, 3
1203	(SMOT) SM2 % maximum current	B,C	0001 - 0100	50	Kl. 1
			0001 - 0100	40	Kl. 2, 3
1204	(SMOT) SM2 % power reduction	B,C	0000 - 0030	10	Kl. 1, 2, 3

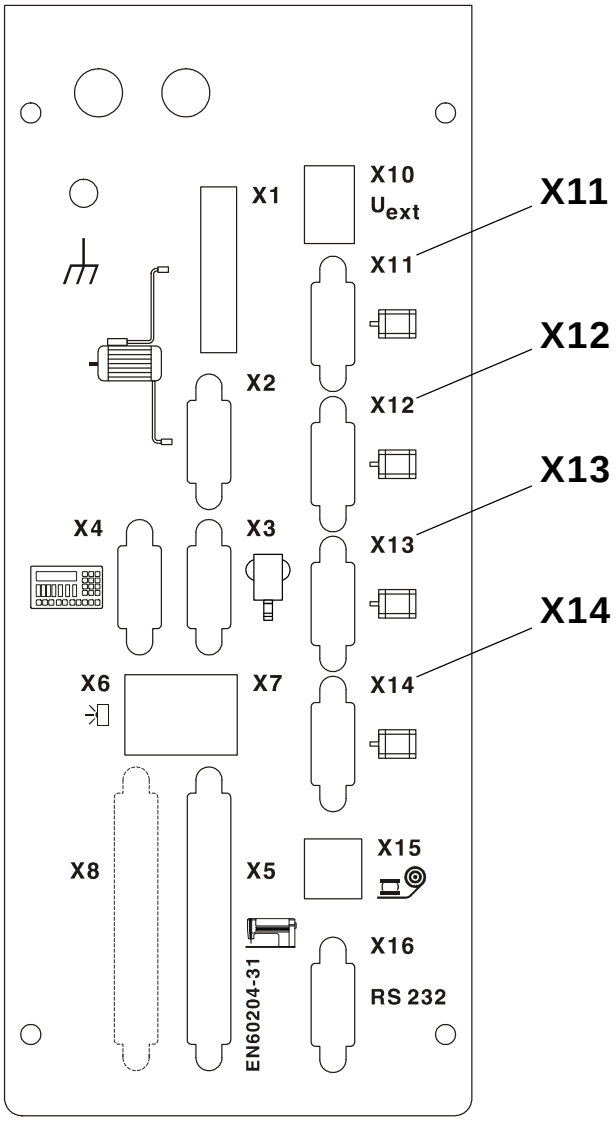
1205	(SMOT) SM2 start/stop time (time for 1 increment at start / stop rpm)	B,C	0010 - 4000	500	Kl. 1, 2, 3
1206	(SMOT) Roof time (time for 1 increment in roof) SM2	B,C	0010 - 2000	150	Kl. 1, 2, 3
1207	(SMOT) acceleration (% increase from start/stop up to roof) SM2	B,C	0001 - 0100	5	Kl. 1, 2, 3
1208	(SMOT) SM2 braking increments (number of braking increments)	B,C	0001 - 0200	5	Kl. 1, 2, 3
1209	(SMOT) SM2 reduction ration (with electrical shaft and tape tensioning)	B,C	0006 - 0250 0006 - 0250	100 40	Kl. 1 Kl. 2, 3
1300	(SMOT) Incremental motor 3 operating mode (puller, differential adjustment, etc.) 1 = Puller intermittent with transport at seam end 2 = Differential feed 3 = Electric shaft 4 = Electric shaft with transport at seam end	B,C	0000 - 0003 0000 - 0003	0 1	Kl. 1 Kl. 2, 3
1301	(SMOT) Rotational direction SM3 0 = anticlockwise 1 = clockwise	B,C		1 0	Kl. 1 Kl. 2, 3
1302	(SMOT) SM3 increment mode 1 = Full increment 2 = Half-increment 3 = Quarter-increment 4 = Eighth-increment	B,C	0001 - 0004	2	Kl. 1, 2, 3
1303	(SMOT) SM3 % maximum current	B,C	0001 - 0100	40	Kl. 1, 2, 3
1304	(SMOT) SM3 % power reduction	B,C	0000 - 0030	10	Kl. 1, 2, 3
1305	(SMOT) SM3 start/stop time (time for 1 increment at start / stop rpm)	B,C	0010 - 4000	500	Kl. 1, 2, 3
1306	(SMOT) Roof time (time for 1 increment in roof) SM3	B,C	0010 - 2000	150	Kl. 1, 2, 3
1307	(SMOT) acceleration (% increase from start/stop up to roof) SM3	B,C	0001 - 0100	5	Kl. 1, 2, 3
1308	(SMOT) SM3 braking increments (number of braking increments)	B,C	0001 - 0100 0001 - 0100	5 1	Kl. 1, 3 Kl. 2
1309	(SMOT) SM3 reduction ration (with electrical shaft and tape tensioning)	B,C	0006 - 0200 0001 - 0200	100 40	Kl. 1 Kl. 2, 3
1400	(SMOT) Incremental motor 4 operating mode (puller, differential adjustment, etc.) 1 = Puller intermittent with transport at seam end 2 = Differential feed 3 = Electric shaft 4 = Electric shaft with transport at seam end	B,C	0000 - 0002	0	Kl. 1, 2, 3
1401	(SMOT) Rotational direction SM4 0 = anticlockwise 1 = clockwise	B,C		1 0	Kl. 1 Kl. 2, 3
1402	(SMOT) SM4 increment mode 1 = Full increment 2 = Half-increment 3 = Quarter-increment 4 = Eighth-increment	B,C	0001 - 0004 0001 - 0004	2 1	Kl. 1, 3 Kl. 2
1403	(SMOT) SM4 % maximum current	B,C	0010 - 0100	40	Kl. 1, 2, 3
1404	(SMOT) SM4 % power reduction	B,C	0000 - 0030	10	Kl. 1, 2, 3
1405	(SMOT) SM4 start/stop time (time for 1 increment at start / stop rpm)	B,C	0010 - 2000	500	Kl. 1, 2, 3
1406	(SMOT) Roof time (time for 1 increment in roof) SM4	B,C	0010 - 2000	150	Kl. 1, 2, 3
1407	(SMOT) acceleration (% increase from start/stop up to roof) SM4	B,C	0001 - 0100	5	Kl. 1, 2, 3
1408	(SMOT) SM4 braking increments (number of braking increments)	B,C	0001 - 0100	5	Kl. 1, 2, 3
1409	(SMOT) SM4 reduction ration (with electrical shaft and tape tensioning)	B,C	0006 - 0200 0006 - 0200	100 40	Kl. 1 Kl. 2, 3

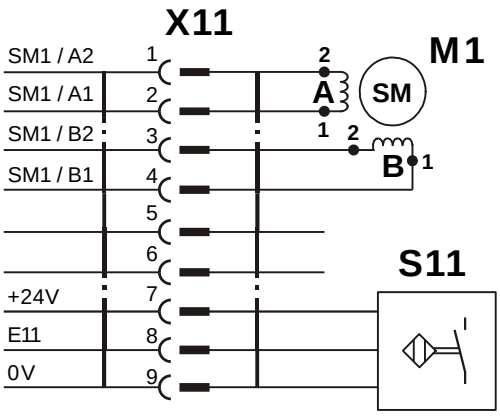
12. Electrical Connections Diagram X5 Q340ED

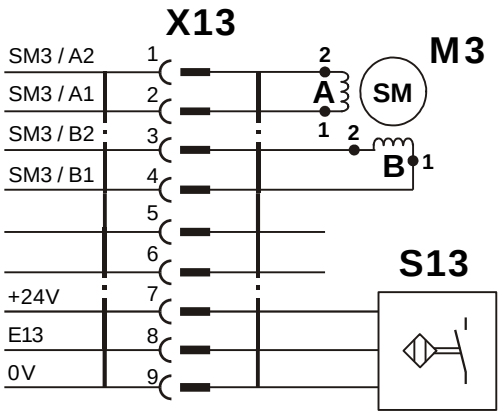


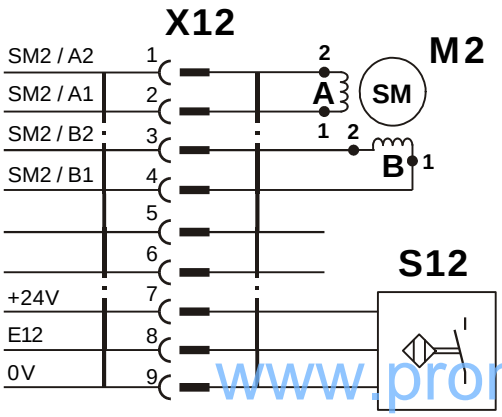


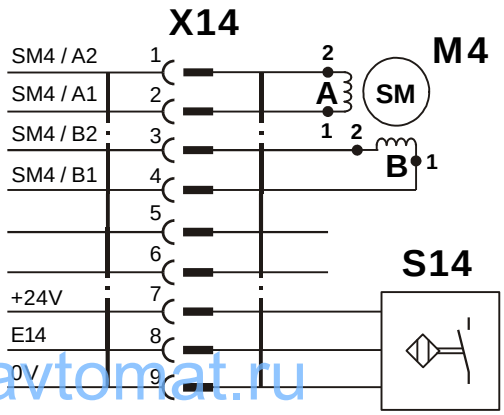
Backside of the control box



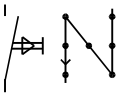
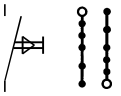
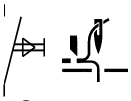
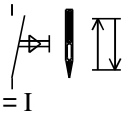
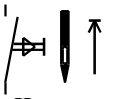
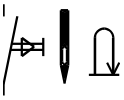
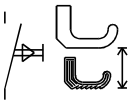
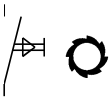








Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significação dos imaõs e/ou as solenoidas e teclas
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los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

S1  <799> = 1	Transportumstellung von Hand / manual feed reverse / renversement de marche manuel / mudança do transporte manual / commutazione trasporto a mano / inversión de transporte manual / handmatige transportomschakeling
S1  <799> = 2	Stichverdichtung / stitch condensation / rétrécissement des points / condensação dos pontos / addensamento punti / condensación de puntadas / steekverdichting
S1  <799> = 3	Abhacker / chopper / chopper / guilhotina / taglio / guillotina / afhakker
S2  <616> = I	Nadelpositionswechsel / needle position change-over / changement de position d´aiguille / troça de posição da agulha / cambio di posizione dell´ago / cambio de posición de aguja / naaldpositie-verwisseling
S2  <616> = II	Nadel hoch ohne Schneiden / needle up without thread trimming / aiguille en haut sans coupe / agulha para cima sem corte de linhas / ago su senza taglio / aguja arriba sin corte / naald omhoog zonder snijden
S3 	Einzelstich / single stitch / point unique / ponto individual / punto singolo / puntada individual / enkele steek
S5  <427> = 2	Hubverstellung / stroke adjustment / variation de course / alteração do curso / regolazione della corsa / ajuste de carrera / hefhoogteverstelling
S5  <427> = 3	Puller / puller / puller / puller / puller / estirar / puller
S5 **STOP**  <427> = 1	STOP / Anlaufsperre
S6  <799> = 1, 2, 3	Drehzahlbegrenzung / speed limitation / limitation de vitesse / limitação das rotações / limitazione velocità / limitación de velocidad / beperking van het toerental
S7 **STOP**  <799> = 1, 2, 3	STOP
S8  <188> = 4	START / AUTOSTART

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
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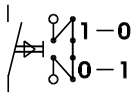
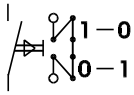
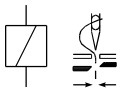
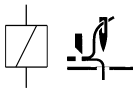
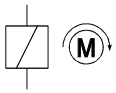
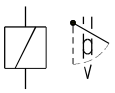
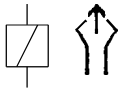
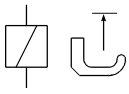
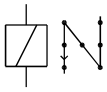
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

S9  <799> = 1, 2, 3	FLIP-FLOP
S10  <799> = 1, 3	Nachfolgende Riegelfunktion invertieren / invert subsequent backtack function / inverser la prochaine fonction de bridage / inverter o próximo remate / invertire la funzione d'affr. successiva / invertir la próxima función de remate / inverteren op elkaar volgende hechtfunctie
S10  <799> = 2	Stichverdichtung invertieren / invert stitch condensation / inverser la rétrécissement des points / inverter o condensação dos pontos / invertire la addensamento punti / invertir la condensación de puntadas / inverteren op steekverdichting
Y1 I max 4 A ✱  <799> = 1, 2	Fadenschneider vorwärts / thread trimmer forward / coupe-fil en avant / corte de linhas para a frente / rasafilo avanti / cortahilos adelante / draadsnijder voorwaarts
Y1 I max 4 A ✱  <799> = 3	Abhacker / chopper / chopper / guilhotina / taglio / guillotina / afhakker
Y2 I max 4 A ✱  <799> = 1, 2, 3	Motor läuft / motor runs / moteur en marche / motor em movimento / motore in moto / motor en marcha / loop van de machine
Y3 I max 4 A ✱  <799> = 1, 2	Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwisser
Y3 I max 4 A ✱  <799> = 3	Kette blasen / chain blowing / soufflage de chaînette / soprar de cadeia / soffiatura catenella / soplar cadeneta / blazen van een ketting
Y4 I max 8 A ✱  <799> = 1, 2, 3	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 ✱  <799> = 1	Transportumsteller / feed reverse / renversement de marche / mudança do transporte / commutazione trasporto / inversión de transporte / transportomschakeling

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
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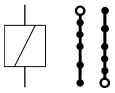
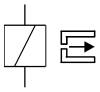
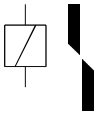
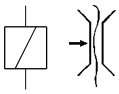
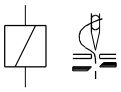
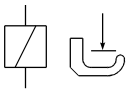
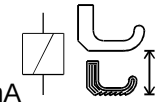
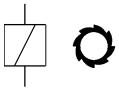
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

Y5 I max 8 A ✱ <799> = 2 	Stichverdichtung / stitch condensation / rétrécissement des points / condensação dos pontos / addensamento punti / condensación de puntadas / steekverdichting
Y5 I max 4 A ✱ <799> = 3 	Kette saugen / chain vacuum / aspiration de chaînette / aspirar de cadeia / aspirazione catenella / aspiración cadeneta / zuigen van een ketting
Y6 I max 4 A ✱ <799> = 1, 2 	Flip-Flop
Y6 I max 4 A ✱ <799> = 3 	Schnelle Schere rückwärts / fast scissors backward / ciseaux rapide en arrière / tesoura rápida para trás / forbici rapida indietro / tijeras rapida atrás / snelle schaar achterwaarts
Y7 I max 4 A ✱ <799> = 1, 2, 3 	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y8 I max 4 A ✱ <799> = 1, 2 	Fadenschneider magnet. / magn. thread trimmer / coupe-fil magnétique / corte de linhas magnético / rasafilo magnetico / cortahilos magnético / draadsnijder magnetisch
Y9 I max 500 mA <799> = 1, 2 <427> = 1 	Presserfuß senken / presser foot down / pied presseur en bas / calcador em baixo / alzapiedino giù / prensatelas abajo / drukvoet laten zakken
Y9 I max 500 mA <799> = 1, 2 <427> = 2 	Hubverstellung / stroke adjustment / variation de course / alteração do curso / regolazione della corsa / ajuste de carrera / hefhoogteverstelling
Y9 I max 500 mA <799> = 1, 2 <427> = 3 	Puller / puller / puller / puller / puller / estirar / puller

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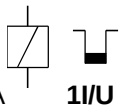
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

Y16  I max 500 mA **1I/U**	Zählsignal / count signal / signal de comptage / sinal de contagem / segnale conteggio / señal del contador / telsignaal

* 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).

Important Notice!

Your newly purchased **EcoDrive** control system is designed to be connected to a sewing machine/system via connector X5. This connector X5 is a 37 pole sub-d jack as shown in the wiring diagram.

> *The connections/wiring of X5* ***is not identical nor compatible*** *with the connections of the same type of jack X5 of the* ***Ministop control box****, nor with the same type of 37 pole sub-d jack of a* ***Servo control box****!*

In order to avoid damage to the control box, you may only connect the **EcoDrive** to machines wired according to VDMA Regulations

EN 60204-31

If you wish to replace a Ministop or Servotop control box with an EcoDrive, you must either use the appropriate adapter cable or rewire your machine!

We offer following adapter cables:

Replacement for Q40MS:	Q40ED with adapter	Art.-No. 55.591
Replacement for P40/51/52/47 MS	P40ED with adapter	Art.-No. 55.592
Replacement for PE40MS	PE40ED with adapter	Art.-No. 55.580
Y-Adapter for synchronizer (position control unit)		Art.-No. 55.570
Extension cable for synchronizer (position control unit) 1,5m		Art.-No. 55.506
Extension cable for speed control unit 1,5m		Art.-No. 55.507
Extension cable for operator panel EcoTop 5m		Art.-No. 55.573
Serial data cable for Q-Prog		Art.-No. 55.577