MINI-STOP

QE3760

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Type

DA40MS

Instruction Manual

Part 3

Contents

Page

Part 3

Technical updatings reserved!

Part 3

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.

11.3 Parameter survey (7A_101_2.EN)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Backtack	RIE	104/110/140 305/523/585		
Backtack inversion	RIV	419	E5	X5:14
Backtack suppression	RIUNT	419		
Blower	BLA	668		
Brake	DRZAB	723/758/851		
Catcher	FANG	707		
Control	REG	758/880/881 884/885/886 887/889/890 891/990		
Decorative backtack	ZRIE	522/523/530 775		
Delay	VERZ	403/623/642 643/730/731 732/733/739 740/770/791		
Direction of rotation	DRR	800		
End backtack	ER	110/149/305 604/731/732 740		
Edge trimmer	KS	512/513/514		
Feed reverse	TUM	643/721/733	E1 A3	X5:5 X5:34
Flip-Flop	FF	510/511/512 513/514/515 516/517		
Front backtack	AR	104/105/140 148/305/739 791		
Hardware test	HWT	797		
Inverse rotation	RDR	618/623/801		
Machine class	MAKL	799		
Needle position	NAPO	522/700/701 702/703/705 707/710		

Needle position change-over	NPW	446	E2	X5:6
Needle up without trimming	NHOS	446/710	E2	X5:6
Operator panel	BDF	681		
Output „A"	AUSGA	510/515/516		
Output „B"	AUSGB	511/512/513 514/517		
Photocell	LS	111/112/113 199/450/451 615		
Presser foot	PF	554/642/651 719/729/730 770		
Program	PR	114/206/221 304/313/510 511/512/513 514/515/516 554/851		
Programming level C	EBC	798		
Puller	PULL	445		
Repeat backtack	WRIE	731/740		
Residual brake	STBR	718		
Seam end	NE	114/206/602		
Single stitch	EST	446		
Soft start	SANL	116/117		
Speed	DRZ	105/110/117 199/221/402 403/530/585 586/605/606 607/608/609 676/901		
Speed decrease	DRZAB	723/758/851		
Speed increase	DRZAN	722		
Speed limitation	DB	221/402/585 586		
Start	START	113/454/603		
Start delay	STVERZ	729		
Starting block	ANLSP	452/453/454 665		

Stitch condensation	STVD	105/110/419 739		
Stitchlength	STL	450		
Stop	STOP	114/206/452 453/665	E6	X5:11
Stop time	STOPZ	712/775		
Stroke adjustment	HV	401/402/403 404		
Target stitch	PEIPO	653/789		
Thread puller	FZ	761		
Thread tension release	FSL	707/761		
Thread trimming	SN	601/604/609 705/732/901	A1	X5:37
Thread wiper	WI	668/715	A4	X5:27
Time needed to switch on	EINZ	715/889		
Timing output	TA	719/721		

11.4 List of Parameters (7A_101_2.EN)

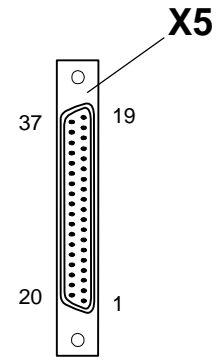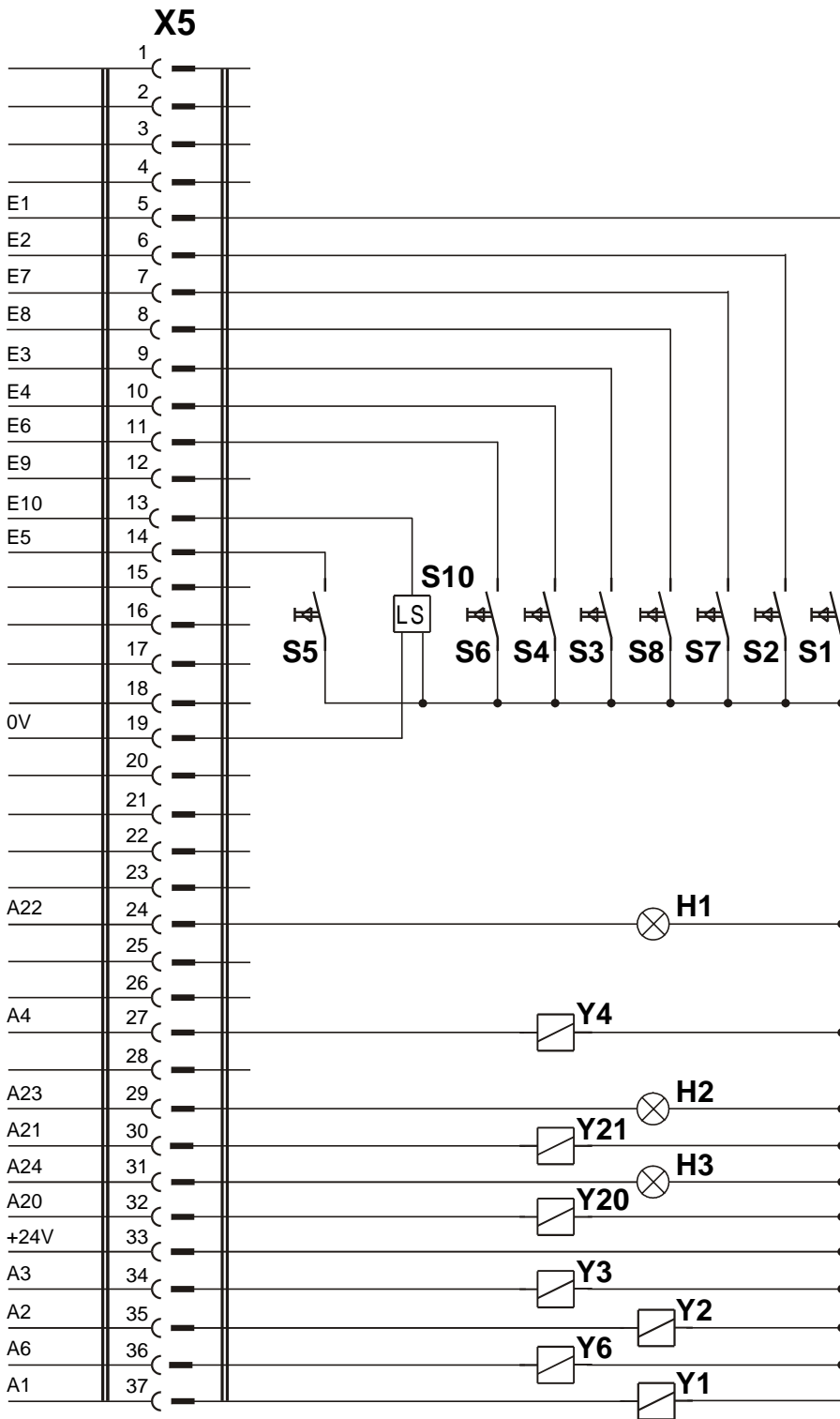| No.	Function (Meaning)	Level	Range of Values	Standard Value	
104	(AR/RIE) Front backtack correction (delayed disabling of feed reverse)	B,C	0 - 15	15	Kl. 1
105	(AR/DRZ/STVD) Speed for front backtack/stitch condensation	B,C	100 - 6400	1400	Kl. 1
110	(ER/RIE/DRZ/STVD) Speed for end backtack / stitch condensation	B,C	100 - 6400	1400	Kl. 1
111	(LS) Photocell compensation stitches 1 (stitches from photocell clear to seam end)	A,B,C	1 - 255	6	Kl. 1
112	(LS) Number of stitches for photocell fade-out on knit fabrics (according to stitch size)	A,B,C	0 - 255	0	Kl. 1
113	(LS/START) Start with photocell I when photocell is dark only II also when photocell is clear	B,C		II	Kl. 1
114	(PR/STOP/NE) Stop before seam end after stitch count (last seam section) I yes II no	B,C		II	Kl. 1
116	(SANL) Soft start stitches	A,B,C	0 - 255	2	Kl. 1
117	(SANL/DRZ) Speed for soft start stitches	B,C	30 - 800	800	Kl. 1
140	(AR/RIE) Front backtack correction (delayed enabling of feed reverse)	B,C	0 - 2550	0	Kl. 1
148	(AR) Front backtack I double II single	A,B,C		I	Kl. 1
149	(ER) End backtack I double II single	A,B,C		I	Kl. 1
199	(DRZ/LS) Speed for photocell compensation stitches	B,C	300 - 6400	1200	Kl. 1
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
221	(PR/DB/DRZ) Speed limitation for sewing programs (or sewing program 1)	B,C	300 - 6400	3000	Kl. 1
304	(PR) Stitch compensation at feed reverse for a seam section	B,C	0 - 2550	0	Kl. 1
305	(RIE/AR/ER) Front-backtack and end-backtack with interruption at pedal zero position I yes II no	B,C		II	Kl. 1
313	(PR) Programs are backtack programs (darning programs) I yes II no	B,C		II	Kl. 1
401	(HV) Input „stroke adjustment" I switch operation II push-button operation	B,C		II	Kl. 1
402	(HV/DRZ/DB) Speed at stroke adjustment	B,C	300 - 6400	2000	Kl. 1
403	(HV/DRZ/VERZ) Delay (ms) of the speed variation at end of stroke adjustment	B,C	0 - 2550	150	Kl. 1
404	(HV) Number of stitches with stroke adjustment	B,C	0 - 255	3	Kl. 1
419	(RIV/RIUNT/STVD) Function of external key I backtack / stitch condensation inversion II backtack / stitch condensation suppression (flip-flop function)	B,C		I	Kl. 1
445	(PULL) Stitches for puller delay	B,C	0 - 255	10	Kl. 1

446	(NHOS/NPW/EST) Input E2 is 1 = needle up without trimming 2 = needle position change-over 3 = single stitch 4 = single stitch with reduced length	B,C	0 - 4	1	Kl. 1
450	(LS/STL) Photocell compensation stitches at reduced stitchlength	A,B,C	1 - 255	6	Kl. 1
451	(LS) Light barrier connection I directed to the control system II via the external operator panel	B,C		I	Kl. 1
452	(ANLSP/STOP) Input „run locking" I yes II no (without function)	B,C		II	Kl. 1
453	(ANLSP/STOP) Action of the „run lock" input I drive system not functional II seam end can be performed	B,C		I	Kl. 1
454	(ANLSP/START) Start after „run lock" signal cancellation I after treadle 0 only II immediate (by any treadle position >+1)	B,C		I	Kl. 1
510	(FF/PR/AUSGA) function module for output „A"	B,C	0 - 7	0	Kl. 1
511	(FF/PR/AUSGB) function module for output „B"	B,C	0 - 4	0	Kl. 1
512	(FF/PR/AUSGB/KS) Switch-off of output „B" (edge trimmer) after thread trim I yes II no	B,C		II	Kl. 1
513	(FF/PR/AUSGB/KS) stitches before beginning of seam to edge trimmer on	B,C	0 - 255	5	Kl. 1
514	(FF/PR/AUSGB/KS) Stitches from edge trimmer on till edge trimmer off	B,C	0 - 255	0	Kl. 1
515	(FF/PR/AUSGA) outputs „A" and „LED A" after thread trimmer I as after „mains on" II unchanged	B,C		I	Kl. 1
516	(FF/PR/AUSGA) output „A" after „mains on" when <510> = 1 / 6 / 7 I on II off	B,C		II	Kl. 1
517	(FF/AUSGB) output „B" after „mains on" when <511> = 3 I on II off	B,C		II	Kl. 1
522	(NAPO/ZRIE) Needle position when stop occurs during decorative backtack (stitch in stitch) I position 2 (up) II position 1 (down)	B,C		II	Kl. 1
523	(RIE/ZRIE) Backtack I decorative backtack (stitch in stitch) II standard backtack	A,B,C		II	Kl. 1
530	(DRZ/ZRIE) Speed (max.) for decorative backtack	B,C	100 - 6400	1200	Kl. 1
554	(PF/PR) Presser foot position after seam section stitch count and treadle position > +1 I up II down	B,C		I	Kl. 1
585	(DRZ/DB/RIE) Speed limitation	B,C	100 - 6400	2000	Kl. 1
586	(DRZ/DB) Speed limitation	B,C	100 - 6400	3000	Kl. 1
601	(SN) Trimming I yes II no	B,C		I	Kl. 1
602	(NE) Seam end at treadle position I slightly heeled (-1) II fully heeled (-2)	B,C		II	Kl. 1

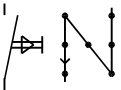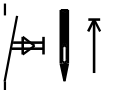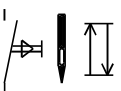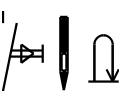| No.	Description		Range	Default	
603	(START) Start after seam end	B,C		I	Kl. 1
	I after treadle 0 only				
	II immediate start of operation				
604	(SN/ER) Trimming after single end backtack	B,C		I	Kl. 1
	I forward				
	II backward				
605	(DRZ) Actual speed in display	B,C		II	Kl. 1
	I yes				
	II no				
606	(DRZ) Speed: level 1 (min.)	B,C	30 - 640	180	Kl. 1
607	(DRZ) Speed: level 12 (max.)	B,C	100 - 5500	4800	Kl. 1
	(00001001)				
608	(DRZ) Speed level curve (treadle characteristic)	B,C		II	Kl. 1
	I linear				
	II not linear				
609	(SN/DRZ) Trimming speed 1	B,C	60 - 300	180	Kl. 1
615	(LS) End recognition when photocell goes	B,C		II	Kl. 1
	I from light to dark				
	II from dark to light				
618	(RDR) Inverse rotation after seam end	B,C		II	Kl. 1
	I yes				
	II no				
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	B,C	0 - 2550	0	Kl. 1
642	(PF/VERZ) preser foot time from switch-on to voltage reduction (cycling)	C	10 - 200	200	Kl. 1
643	(TUM/VERZ) feed reverse time from switch-on to voltage reduction (cycling)	C	10 - 200	200	Kl. 1
651	(PF) Presser foot with automatic descent on machine stop	B,C		I	Kl. 1
	I yes				
	II no				
653	(PEIPO) Target stitch before sewing	B,C		II	Kl. 1
	I yes				
	II no				
665	(ANLSP/STOP) Run locking/stop	B,C		I	Kl. 1
	I contact closed				
	II contact open				
668	(BLA/WI) Thread wiper/thread clearer	B,C		II	Kl. 1
	I yes				
	II no				
676	(DRZ) Speed adjustment via potentiometer possible	B,C		II	Kl. 1
	I yes				
	II no				
681	(BDF) Operator panel push-button locked	B,C		II	Kl. 1
	I yes				
	II no				
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0 - 127	0	Kl. 1
701	(NAPO) Angular adjustment	B,C		I	Kl. 1
	I with handwheel (teach-in)				
	II by keys (+/-)				
702	(NAPO) Needle position 1 (needle down)	B,C	0 - 127	0	Kl. 1
703	(NAPO) Needle position 2 (thread take-up lever up) (00000011)	B,C	0 - 127	95	Kl. 1
705	(NAPO/SN) Needle position 5 (end of trimming signal 1) (00000101)	B,C	0 - 127	92	Kl. 1
707	(NAPO/FSL/FANG) Needle position 9 (thread tension release or thread catcher start) (00000111)	B,C	0 - 127	0	Kl. 1
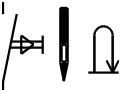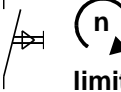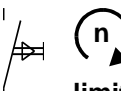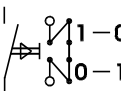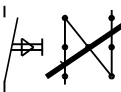
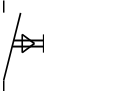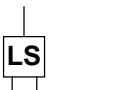|					
710	(NAPO/NHOS) Needle position 3 (needle up)	B,C	0 - 127	75	Kl. 1
712	(STOPZ) Time for stop in needle position 1	B,C	0 - 2550	0	Kl. 1
715	(EINZ/WI) Duration (ms) of thread wiper	B,C	0 - 2550	100	Kl. 1
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0 - 100	6	Kl. 1
719	(PF/TA) Timing output A4 (0 = 100% switching on)	B,C	0 - 100	40	Kl. 1
721	(TUM/TA) Timing output A5 (0 = 100% switching on)	B,C	0 - 100	40	Kl. 1
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	1 - 50	50	Kl. 1
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	4 - 50	22	Kl. 1
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0 - 2550	120	Kl. 1
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0 - 2550	50	Kl. 1
731	(ER/WRIE/VERZ) Delay before stitch counting for end backtack (ERV)	B,C	0 - 2550	100	Kl. 1
732	(SN/ER/VERZ) Delay (ms) for trimming after single end backtack	B,C	0 - 2550	30	Kl. 1
733	(TUM/VERZ) Verzögerungszeit von Einschaltung Transportumstellung bis Drehzahlstart	B,C	0 - 200	30	Kl. 1
739	(AR/STVD/VERZ) Delay (ms) for speed after front backtack / stitch condensation	B,C	0 - 2550	120	Kl. 1
740	(ER/WRIE/VERZ) Delay before stitch counting for end backtack (ERR)	B,C	0 - 2550	50	Kl. 1
758	(REG/DRZAB) Deceleration ramp I braking as per <723> II braking with maximal moment	C		II	Kl. 1
761	(FSL/FZ) Prolongation Thread tension release/ Thread puller	B,C	0 - 2550	0	Kl. 1
770	(PF/VERZ) Lifting delay of presser foot at threadle- position „-1"	B,C	0 - 250	60	Kl. 1
775	(ZRIE/STOPZ) Stop time (ms) with stitch in stitch backtack (decorative backtack)	B,C	0 - 2550	100	Kl. 1
789	(PEIPO) Needle position 10 (target stitch)	B,C	0 - 127	91	Kl. 1
791	(AR/VERZ) Delay before stitch counting (ms) for front backtack	B,C	0 - 2550	30	Kl. 1
797	(HWT) Hardware test I yes II no	B,C		II	Kl. 1
798	(EBC) Programming level C I yes II no	B,C		II	Kl. 1
799	(MAKL) Machine class which has been selected	C	1 - 1	1	Kl. 1
800	(DRR) Direction of motor rotation viewed from belt pulley I left-hand rotation II right-hand rotation (00000001)	C		I	Kl. 1
801	(RDR) Reverse rotation angle after seam end	B,C	5 - 106	26	Kl. 1
851	(PR/DRZAB) Brake ramp for stitch-count seams I steep II gradual	C		I	Kl. 1
880	(REG) Starting current max. [A]	C	1 - 10	5	Kl. 1
881	(REG) adaption of positioning characteristics of motor to machine to avoid vibration	B,C	1 - 12	5	Kl. 1
884	(REG) Proportional amplification of the speed control (in general)	B,C	1 - 255	15	Kl. 1

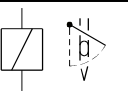|					
885	(REG) Integral amplification of the speed control	C	0 - 255	35	Kl. 1
886	(REG) Proportional amplification of the order controllers	C	1 - 255	64	Kl. 1
887	(REG) Differential amplification of the order controllers	C	1 - 255	64	Kl. 1
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0 - 2550	150	Kl. 1
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	1 - 255	25	Kl. 1
891	(REG) Proportional amplification of the lower speed controllers for the residual brake	C	1 - 255	20	Kl. 1
901	(DRZ/SN) Trimming release speed	C	30 - 500	350	Kl. 1
990	(REG) Distance to position at switch over from speed control to position control	C	1 - 127	16	Kl. 1
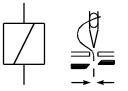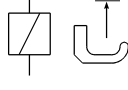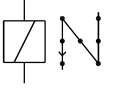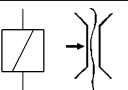
12. Electrical Connections Diagram X5 DA40MS

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	Transportumstellung / feed reverse / renversement de marche / mudança do transporte / commutazione trasporto / inversión de transporte / transportomschakeling
S2 <446> = 1	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
S2 <446> = 2	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 <446> = 3	Einzelstich / single stitch / point unique / ponto individual / punto singolo / puntada individual / enkele steek
S2 <446> = 4	Einzelstich verkürzt / single stitch reduced length / point unique longueur réduite / ponto individual encurtado / punto singolo accorciato / puntada individual reducida / enkele steek verkort
S3 <585>	Drehzahlbegrenzung 2 / speed limitation 2 / limitation de vitesse 2 / limitação das rotações 2 / limitazione velocità 2 / limitación de velocidad 2 / beperking van het toerental 2
S4 <586>	Drehzahlbegrenzung 3 / speed limitation 3 / limitation de vitesse 3 / limitação das rotações 3 / limitazione velocità 3 / limitación de velocidad 3 / beperking van het toerental 3
S5 <419> = I	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
S5 <419> = II	Riegelunterdrückung / backtack suppression / suppression de bridage / supressão do remate / soppressione dell'afrancatura / supresion del remate / onderdrukking van het strookje
S6	STOP
S7	Flip-Flop 2: Eingang „B" / Input „B" / entrée „B" / entrada „B" / entrata „B" / entrada „B" / ingang „B"
S8	Flip-Flop 1: Eingang "A" / Input "A" / entrée „A" / entrada „A" / entrata „A" / entrada „A" / ingang „A"
S10 LS	Lichtschranke / light barrier / barrièr lumineuse / barreira luminosa / cellula fotoelecttrica / fotocélula / foto-elektrische beveiliging

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

Y1 I max 8 A *	Fadenschneider / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y2 I max 8 A *	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / drukvoet optillen
Y3 I max 8 A *	Transportumsteller / feed reverse / renversement de marche / mudança do transporte / commutazione trasporto / inversión de transporte / transportomschakeling
Y4 I max 8 A *	Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwisser
Y6 I max 8 A *	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y20 I max 8 A *	Flip-Flop 2: Ausgang „B" / output „B" / sortie „B" / saida „B" / salida „B" / uscita „B" / uitgang „B"
Y21 I max 8 A *	Flip-Flop 1: Ausgang „A" / output „A" / sortie „A" / saida „A" / salida „A" / uscita „A" / uitgang „A"
H1 (A22) I max 20 mA	Anzeige S5 / display S5 / affichage S5 / indicação S5 / visualizzazione S5 / indicador S5 / indicatie S5
H2 (A23) I max 20 mA	Anzeige S8 / display S8 / affichage S8 / indicação S8 / visualizzazione S8 / indicador S8 / indicatie S8
H3 (A24) I max 20mA	Anzeige S7/ display S7/ affichage S7/ indicação S7/ visualizzazione S7/ indicador S7/ indicatie S7

* 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).