PFAFF® Industrial

EcoDrive P70 ED

INSTRUCTION MANUAL

Part 3

Parameter list and connection plan

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List of Contents 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, 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 P70ED 1_023_09 (PARAM.ENO)

Reference!

All parameters signed with „✱“ are retained unchanged after a **Master Reset 1** or **Master Reset 2** has been performed!

Attention! After a **Master Reset 3 all parameters** are set back to there default values!

With the **control box P70EDx,** following machine classes are available:
Maschine class 1 = Pfaff 1422 light version
Maschine class 2 = Pfaff 1422 heavy version
Maschine class 3 = Pfaff 1525

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Automatic corners	ECKE	458		
Backtack	RIE	105/107/110 153/154/157 364/523/585		
Backtack inversion	RIV	419/456		
Backtack suppression	RIUNT	419		
Band supply	BZUF	468		
Blower	BLA	668		
Brake	DRZAB	723		
Catcher	FANG	707		
Chopper	MESSE	105/110		
Clean-cut	CC	793		
Control	REG	815/880/884 885/886/887 889/890/898 900		
Counter	ZAE	769		
Decorative backtack	ZRIE	153/154/157 368/369/522 523/530/775		
Defect search	HWT	797		
Delay	VERZ	174/189/190 307/403/623 716/730/761 770/793		
Direction of rotation	DRR	800		

Display	ANZ	605/725
Edge trimmer	KS	356
End backtack	ER	110/369/604
Engine	MOT	897
Feed reverse	TUM	364/634/721 793
Front backtack	AR	105/106/107 368
Hardware test	HWT	797
Inverse rotation	RDR	618/623/801
Knotting	VERK	657
Linear motor	LINMOT	668
Machine class	MAKL	790/799
Machine run	ML	118
Needle bar	NASTA	418/459
Needle cooling	NAKU	118/307
Needle position	NAPO	303/522/700 702/703/705 706/707/710 774/810
Needle position change-over	NPW	446/634
Needle up without trimming	NHOS	446/696/710
Number of stitches	STZA	111/112/174 404/445/459 760/769
ON period	EINZ	175/189/190 528/715/889
Operator panel	BDF	101/386
Photocell	LS	111/112/113 199/615
Presser foot	PF	356/554/636 651/668/688 729/730/770
Program	PR	114/206/221 304/311/313 468/554
Programming level C	EBC	798
Puller	PULL	400/420/445 456

Residual brake	STBR	718
Seam end	NE	110/114/206
Seam start	NA	105
Single stitch	EST	446
Soft start	SANL	116/117
Speed	DRZ	105/106/107 110/117/199 221/402/403 530/573/574 585/605/606 607/608/609 725
Speed decrease	DRZAB	723
Speed increase	DRZAN	722
Speed limitation	DB	221/402/573 574/585
Stacker	STAP	528
Start	START	113/603
Start delay	STVERZ	429/729
Starting block	ANLSP	665/680
Stitch condensation	STVD	105/106/107 110/364/419
Stitchcounter	STZ	725/726/727 760/769
Stitch security	STISI	657
Stitchlength	STL	386
Stop	STOP	114/206/665 680/774
Stop time	STOPZ	775
Stroke adjustment	HV	401/402/403 404
Target stitch	PEIPO	147/653/789
Thread clamp	FK	747
Thread monitor	FW	382/660/725 726/727/760 769/777/778
Thread puller	FZ	761
Thread tension	FS	386/689

Thread tension release	FSL	538/636/688 689/707/761
Thread trimming	SN	311/601/604 609/705/706 772
Thread wiper	WI	668/689/715 716
Time needed to switch on	EINZ	175/189/190 528/715/889
Timing output	TA	538/705/721
Two-needle machine	ZWN	418/458/459
Vacuum	SAUG	105/110/356

No.	Function (Meaning)	Level	Range Values	of Value	Standard
101	(BDF) Audible signal of the control panel pushbutton 1 = on 0 = off	A,B,C		ON	Kl. 1, 2, 3
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack/ stitch condensation	B,C	0100 - 6400 0100 - 6400	1200 1000	Kl. 1, 2 Kl. 3
106	(AR/DRZ/STVD) Speed for front backtack / stitch condensation ON variable (treadle-controlled) OFF constant (corresponding to <105>)	B,C		OFF	Kl. 1, 2, 3
107	(AR/RIE/DRZ/STVD) Speed for front backtack / stitch condensation when <106> = I ON limited by <105> OFF limited by <607>	B,C		OFF	Kl. 1, 2, 3
110	(ER/RIE/DRZ/MESSER/NE/SAUG/STVD) Speed for end backtack/ stitch condensation	B,C	0100 - 6400 0100 - 6400	1200 1000	Kl. 1, 2 Kl. 3
111	(LS/STZA) Light barrier compensation stitches 1 (stitches from light barrier clear to seam end)	A,B,C	0001 - 0255	8	Kl. 1, 2, 3
112	(LS/STZA) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	A,B,C	0000 - 0255	0	Kl. 1, 2, 3
113	(LS/START) Start with light barrier ON when light barrier is dark only OFF also when light barrier is clear	B,C		OFF	Kl. 1, 2, 3
116	(SANL) Soft start stitches	A,B,C	0000 - 0255	0	Kl. 1, 2, 3
117	(SANL/DRZ) Speed for soft start stitches	B,C	0030 - 0640	400	Kl. 1, 2, 3
118	(NAKU/ML) Signal on output is 1 = needle cooling 2 = motor run (sewing cycle) 3 = Edge trimmer 4 = blower on at treadle -1 and during sewing off 5 = blower on at treadle -1 and during sewing on	B,C		ON	Kl. 1, 2, 3
147	(PEIPO) Move to bearing position ON reverse OFF forward	B,C		ON -	Kl. 3 Kl. 1, 2
153	(ZRIE/RIE) Start backtack at <523> = I ON Start tack is fancy bartack OFF Start tack is normal tack	B,C		ON	Kl. 1, 2, 3
154	(ZRIE/RIE) End backtack at <523> = I ON Finish tack is fancy bartack OFF Finish tack is normal tack	B,C		ON	Kl. 1, 2, 3
157	(ZRIE/RIE) Start-decorative backtack with third seam section ON yes OFF no	B,C		ON	Kl. 1, 2, 3
174	(VERZ/STZA) Stitches until output on	B,C	0001 - 0255	4 -	Kl. 3 Kl. 1, 2
175	(EINZ) Time needed to switch on for output	B,C	0000 - 2550	50 -	Kl. 3 Kl. 1, 2
189	(VERZ/EINZ) Delay/on time t1	B,C	0000 - 2550	50 -	Kl. 3 Kl. 1, 2
190	(VERZ/EINZ) Delay/on time t2	B,C	0000 - 2550	50 -	Kl. 3 Kl. 1, 2
199	(DRZ/LS) Speed for light barrier compensation stitches	B,C	0300 - 6400	1200	Kl. 1, 2, 3
206	(NE/PR/STOP) Interrupt/discontinue seam sections at speed = constant (<203> = II) ON with treadle -2 OFF with treadle 0	B,C		OFF	Kl. 1, 2, 3

221	(PR/DB/DRZ) Speed limitation for sewing program 1 (or for all sewing programs)	B,C	0300 - 6400	1200	Kl. 1, 2, 3
303	(NAPO) Needle position at the end of a sewing route with end locking without cutting ON position 1 (below) OFF position 2 (above)	B,C		OFF -	Kl. 3 Kl. 1, 2
304	(PR) Stitch compensation at feed reverse for a seam section	B,C	0000 - 2550	30	Kl. 1, 2, 3
307	(NAKU/VERZ) time lag for automatic disable of output after machine stops	B,C	0000 - 2000	50	Kl. 1, 2, 3
311	(PR/SN) Cancellation of stitch count ON with thread cutting OFF without thread cutting	B,C		OFF	Kl. 1, 2, 3
313	(PR) Programs are backtack programs (darning programs) ON yes OFF no	A,B,C		OFF	Kl. 1, 2, 3
368	(AR/RIR/ZRIE) Start bar / decorative start bar is ON quadruple ON double	B,C		OFF	Kl. 1, 2, 3
369	(ER/RIR/ZRIE) End bar / decorative end bar is quadruple with I double with II	B,C		OFF	Kl. 1, 2, 3
386	(FS/STL/BDF) Key combination T5 and T2 in OC-TOP operating field means switching on ON Second stitch length OFF Second thread tension	B,C		ON -	Kl. 3 Kl. 1, 2
400	(PULL) Input „Puller“ ON switch operation (flip-flop) OFF pushbutton operation	B,C		OFF -	Kl. 1, 2 Kl. 3
401	(HV) Input „stroke adjustment“ ON switch operation OFF push-button operation	B,C		OFF	Kl. 1, 2 Kl. 3
402	(HV/DRZ/DB) Speed at stroke adjustment	B,C	0300 - 6400	1800	Kl. 1, 2, 3
403	(HV/DRZ/VERZ) Delay (ms) of the speed variation at end of stroke adjustment	B,C	0000 - 2500	150	Kl. 1, 2, 3
404	(HV/STZA) Number of stitches with stroke adjustment	B,C	0000 - 0255 0000 - 0255	5 1	Kl. 1, 2 Kl. 3
418	(NASTA/ZWN) Needle bar shutdown after seam end ON both, regardless of inputs OFF conforming to inputs	B,C		OFF -	Kl. 1, 2 Kl. 3
419	(RIV/RIUNT/STVD) Function of external key ON backtack / stitch condensation inversion OFF backtack / stitch condensation suppression (flip-flop function)	B,C		ON	Kl. 1, 2, 3
420	(PULL) Puller function ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
445	(PULL/STZA) Stitches for puller delay	B,C	0001 - 0255	5	Kl. 1, 2, 3
446	(NHOS/NPW/EST) Input is 1 = needle up without trimming 2 = needle position change-over 3 = single stitch 4 = single stitch with reduced length 5 = backtack inversion 6 = backtack suppression 7 = change-over position 8 = puller lift switched off 9 = change-over needle position step by step, forward 10 = change-over needle position step by step, backward	B,C	0001 - 0004 0001 - 0004	2 1	Kl. 1, 2 Kl. 3

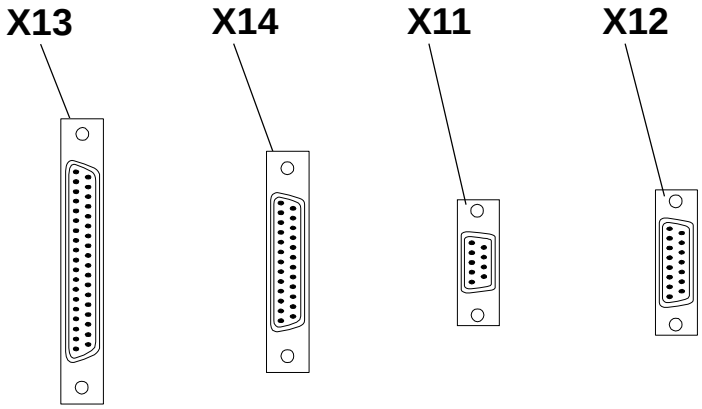
456	(RIV/PULL) Input „Eb“ is 0 puller 1 backtack inversion 2 change-over needle position step by step backwards	B,C	0000 - 0002	1	Kl. 1, 2, 3
468	(PR/BZUF) Program „tape supply“ ON yes OFF no	B,C		OFF -	Kl. 3 Kl. 1, 2
522	(NAPO/ZRIE) Needle position when stop occurs during decorative backtack (stitch in stitch) ON position 2 (up) OFF position 1 (down)	B,C		OFF	Kl. 1, 2, 3
523	(RIE/ZRIE) Backtack ON decorative backtack (stitch in stitch) OFF standard backtack	A,B,C		OFF	Kl. 1, 3 Kl. 2
530	(DRZ/ZRIE) Speed (max.) for decorative backtack	B,C	0100 - 2000	1000	Kl. 1, 2, 3
538	(FSL/TA) Timing of output (thread tension release)	B,C	0010 - 0090	40	Kl. 1, 2, 3
554	(PF/PR) Presser foot position after seam section stitch count and treadle position > +1 ON up OFF down	B,C		ON	Kl. 1, 2, 3
573	(DRZ/DB) Speed limitation	B,C	0300 - 6400	2800 -	Kl. 3 Kl. 1, 2
574	(DRZ/DB) Speed limitation	B,C	0300 - 6400	2200 -	Kl. 3 Kl. 1, 2
585	(DRZ/DB/RIE) Speed limitation	B,C	0300 - 6400	3000	Kl. 1, 2, 3
601	(SN) Trimming ON yes OFF no	B,C		ON	Kl. 1, 2, 3
605	(DRZ/ANZ) Actual speed in display (<725>) ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
606	(DRZ) Speed: level 1 (min.)	B,C	0030 - 0650	180	Kl. 1, 2, 3
607	(DRZ) Speed: level 12 (max.)	B,C	0300 - 6000 0300 - 6000	1200 3200	Kl. 1, 2 Kl. 3
608	(DRZ) Accelleration curve (Pedal characteristic) ON = linear OFF = non linear	B,C		ON	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 ON from light to dark OFF from dark to light	B,C		OFF	Kl. 1, 2, 3
618	(RDR) Inverse rotation after seam end ON yes OFF no	B,C		ON	Kl. 1, 2, 3
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	B,C	0000 - 2550	50	Kl. 1, 2, 3
634	(NPW/TUM) Function of external key (input) ON TUM while the machine is stopped and while motor is running OFF NPW while the machine is stopped TUM while motor is running	B,C		OFF	Kl. 1, 2 Kl. 3
636	(FSL/PF) thread tension release in conjunction with presser foot ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
651	(PF) Presser foot with automatic descent on machine stop ON yes OFF no	B,C		ON	Kl. 1, 2, 3

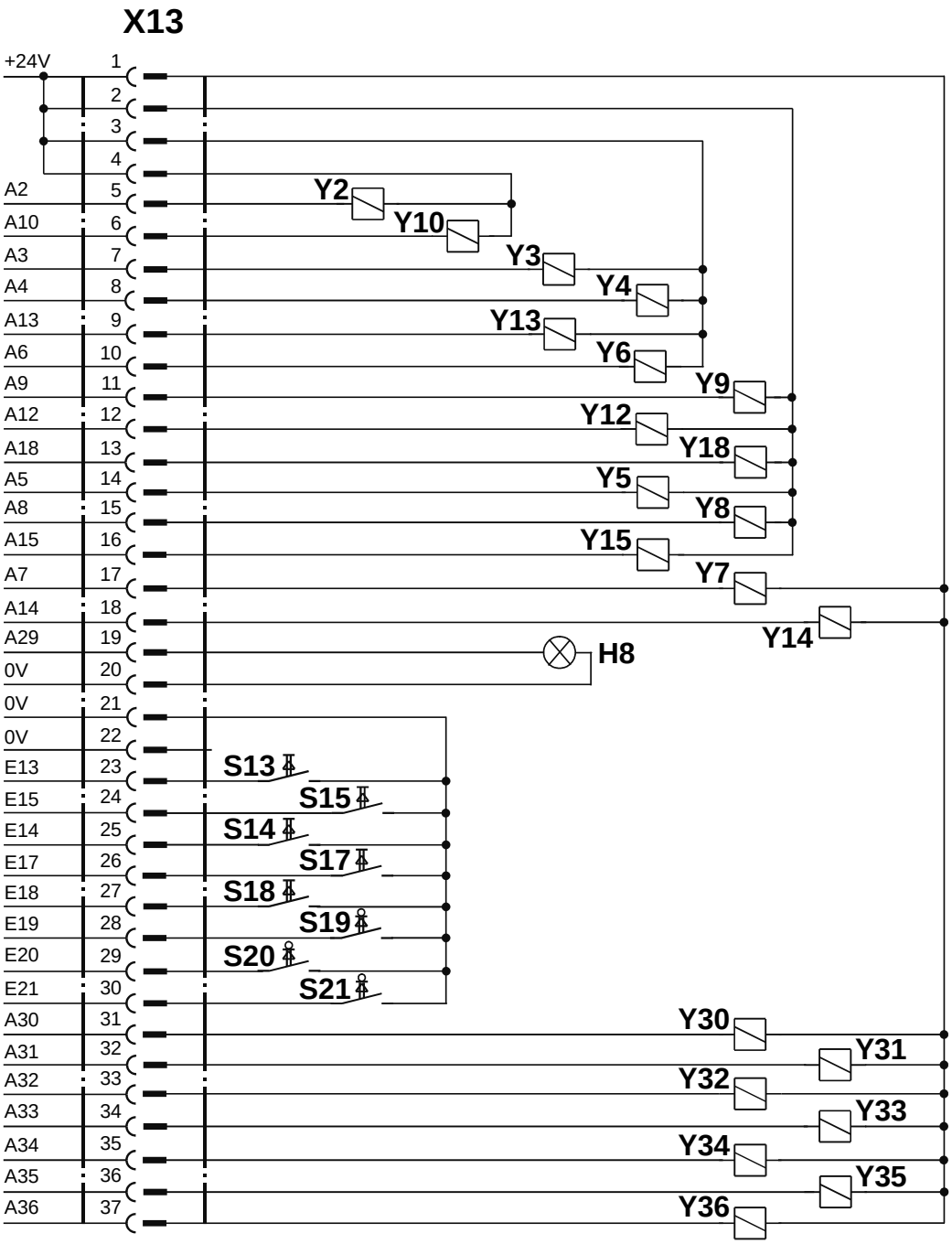
653	(PEIPO) Target stitch before sewing ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
657	(STISI/VERK) Stitch security (knotting) ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
660	(FW) Bobbin thread monitoring 0 without (= *II*) 1 via a sensor (= **I*) 2 by a stitch count	A,B,C	0000 - 0002	0	Kl. 1, 2, 3
665	(ANLSP/STOP) Run locking/stop ON contact closed OFF contact open	B,C		OFF	Kl. 1, 2, 3
668	(BLA/LINMOT/PF/WI) Thread wiper/thread clearer ON yes OFF no	B,C		OFF	Kl. 1, 2, 3
680	(STOP/ANLSP) Signal at input stop/run locking causes (in case of <669> = I) ON discontinuation of the functional sequence OFF interruption of the functional sequence	B,C		ON	Kl. 1, 2, 3
688	(FSL/PF) thread tension release in conjunction with the presser foot at stop in the seam, when <636> = I ON yes OFF no	B,C		ON	Kl. 1, 2, 3
689	(WI/FS/FSL) wiper output used for ON wiper OFF thread tension	B,C		ON	Kl. 1, 2, 3
696	(NHOS) Function for key needle up without trimming 1 = Seam end, after pressing key needle up without trimming 0 = Machine is sewing in manual mode	B,C		OFF	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	75	Kl. 1, 2, 3
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0000 - 0255 0000 - 0255	213 225	Kl. 1, 2 Kl. 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	175	Kl. 1, 2, 3
706	(NAPO/SN) Needle position 6 (start trimming signal 2 (pneumatic thread trimmer))	B,C	0000 - 0255	80	Kl. 1, 2, 3
707	(NAPO/FSL/FANG) Needle position 9 (thread tension release or thread catcher start)	B,C	0000 - 0255 0000 - 0255	180 185	Kl. 1, 2 Kl. 3
710	(NAPO/NHOS) Needle position 3 (needle up)	B,C	0000 - 0255	200	Kl. 1, 2, 3
715	(EINZ/WI) Duration (ms) of thread wiper	B,C	0000 - 2550	40	Kl. 1, 2, 3
716	(VERZ/WI) Delay in start-up time (ms) for thread wiper	B,C	0000 - 2550	120	Kl. 1, 2, 3
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0000 - 0040 0000 - 0040	0 20	Kl. 1, 2 Kl. 3
721	(TUM/TA) Timing output (feed reverse)	B,C	0010 - 0090	40	Kl. 1, 2, 3
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	0001 - 0050	40	Kl. 1, 2, 3
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	0006 - 0060	45	Kl. 1, 2, 3
725	(STZ/DRZ/FW/ANZ) Display on operator panel ON actual speed OFF remaining stitches for bobbin thread	B,C		ON	Kl. 1, 2, 3

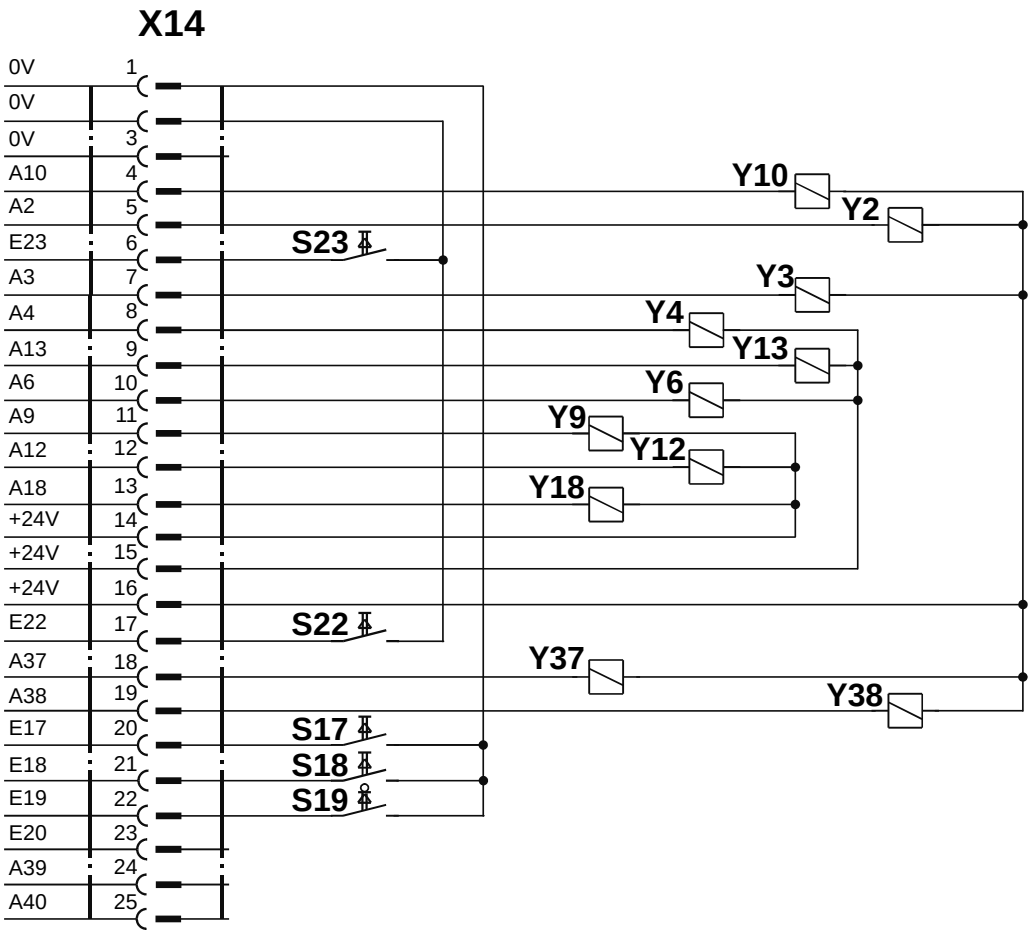
726	(STZ/FW) counter for bobbin thread monitoring is ON activated OFF deactivated	B,C		OFF	Kl. 1, 2, 3
727	(STZ/FW) counter for bobbin thread monitoring lead to ON Stop and signal at output OFF Signal at output without stop	B,C		OFF	Kl. 1, 2, 3
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0010 - 2550	140	Kl. 1, 2, 3
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0000 - 2000	50	Kl. 1, 2, 3
747	(FK) Operating mode from the thread clamp 1 = pneumatically 0 = electrically	B,C		OFF	Kl. 1, 2, 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	A,B,C	0000 - 0250	10	Kl. 1, 2, 3
761	(FSL/FZ/VERZ) Prolongation thread tension release / thread puller	B,C	0000 - 3000	0	Kl. 1, 2, 3
769	(FW/ZAE/STZ/STZA) Stitches (remaining thread length) for the stitchcounter for the indirect bobbinthreadmonitoring	B,C	0001 - 2550	100	Kl. 1, 2, 3
770	(PF/VERZ) Lifting delay of presser foot at threadle- position „-1“	B,C	0010 - 2550 0010 - 2550	50 100	Kl. 1, 2 Kl. 3
772	(SN) Operation mode for trimming 1 = when shortened cut stitch is on (988=on) trimming is always with short stitch lenght. Is long stitch active, than during trimming its changes automatically to short stitch. 0 = Standard trimming	B,C		OFF	Kl. 1, 2, 3
774	(NAPO/STOP) Upper needle position with thick material 1 = needle OT according to <710> 0 = thread take up lever according to <703>	B,C		OFF	Kl. 1, 2, 3
775	(ZRIE/STOPZ) Stop time (ms) with stitch in stitch backtack (decorative backtack)	B,C	0010 - 2550	200	Kl. 1, 2, 3
777	(FW) Reset duration for bobbin monitor MK 1420	B,C	0010 - 0500	100	Kl. 1, 2, 3
778	(FW) Blow time for thread monitor cleaning	B,C	0010 - 5000	100	Kl. 1, 2, 3
789	(PEIPO) Needle position 10 (target stitch)	B,C	0000 - 0255	225	Kl. 1, 2, 3
790	(MAKL) Program selection for machine classes by operators box	B,C	0001 - 0004 0001 - 0004	2 3	Kl. 1, 2 Kl. 3
793	(VERZ/TUM/CC) delay (ms) between feeder change enable and cutting for shortened cutting stitch	B,C	0000 - 2550	140	Kl. 1, 2, 3
797	(HWT) Hardware test ON yes OFF no	C		OFF	Kl. 1, 2, 3
798	(EBC) Programming level C ON yes OFF no	A,B,C	0000 - 0020	1	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 ON left-hand rotation OFF right-hand rotation	C	0000 - 0001	1	Kl. 1, 2, 3 *

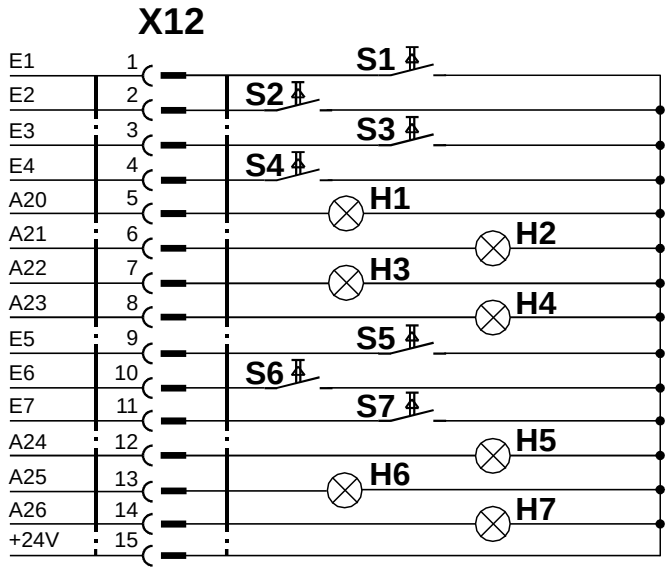
801	(RDR) Reverse rotation angle after seam end	B,C	0010 - 0200 30	Kl. 1, 2, 3
814	(SONST) Positioning change-over 1 = deceleration ramp in target position 2 = Max. braking at positioning speed and waiting until target position is reached.	C	0001 - 0002 1	Kl. 1, 2, 3
815	(REG) Control behavior 1 = control behavior A 2 = control behavior B	C	0001 - 0002 1	Kl. 1, 2, 3
880	(REG) Starting current max. [A]	C	0001 - 0020 10	Kl. 1, 2, 3
884	(REG) Proportional amplification of the speed control (in general)	B,C	0001 - 0024 18	Kl. 1, 2, 3
885	(REG) Integral amplification of the speed control	C	0010 - 0080 50	Kl. 1, 2, 3
886	(REG) Proportional amplification of the order controllers	C	0001 - 0015 8	Kl. 1, 2, 3
887	(REG) Differential amplification of the order controllers	C	0001 - 0015 8	Kl. 1, 2, 3
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0000 - 2500 200	Kl. 1, 2, 3
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	0001 - 0010 5	Kl. 1, 2, 3
897	(MOT) MINI motor version ON long OFF short	C	0000 - 0001 1	Kl. 1, 2, 3 *
898	(REG) Current limiting for the motor 1 = 15A 0 = 10A	C	OFF	Kl. 1, 2, 3
900	(REG) Additional P-Amplification of the speed control	B,C	0001 - 0030 18	Kl. 1, 2, 3
901	(DRZ/SN) Trimming release speed	B,C	0030 - 0500 300	Kl. 1, 2, 3
909	(FZ) Thread puller on/off ON on OFF off	B,C	OFF	Kl. 1, 2, 3
910	(FZ) Thread puller delay	B,C	0010 - 2550 100	Kl. 1, 2, 3
933	(ANZ) Display change-over ON diagnosis OFF normal display	C	OFF	Kl. 1, 2, 3
939	(VERZ/TUM) Rate time (premature change-over) for the transport changer when switching on	B,C	0010 - 0200 46	Kl. 1, 2, 3
968	(VERZ/TUM) Rate time for feed reverse during switching off	B,C	0010 - 0200 64	Kl. 1, 2, 3
969	(VERZ/TUM) Switching off angel for presserfoot during thread wiping at seam start	B,C	0000 - 0255 100	Kl. 1, 2, 3
985	(FK) Switch on angle for thread clamp	B,C	0000 - 0255 78	Kl. 1, 2, 3
986	(FK) Switch off angle for thread clamp	B,C	0000 - 0255 213	Kl. 1, 2, 3
988	(SN) Shortened cut stitch ON yes OFF no	B,C	OFF	Kl. 1, 2, 3
989	(FK/FZ/NA) Thread clamp at seam start 0 = Thread clamp off 1 = Thread clamp on 2 = Presserfoot lifting with thread clamp	B,C	0000 - 0002 0	Kl. 1, 2, 3
996	(FK) Timer thread clamp	B,C	0001 - 0600 100	Kl. 1, 2, 3

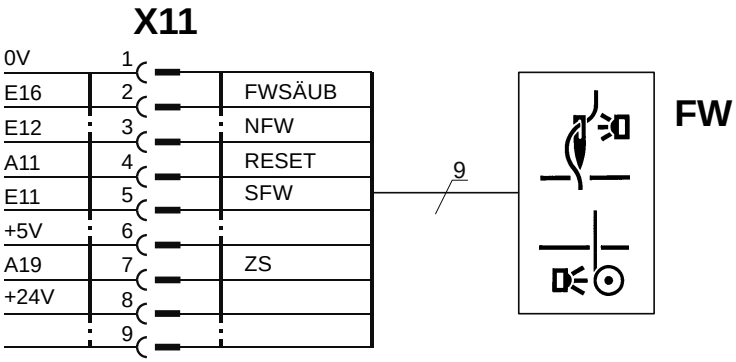
12. Electrical Connections Diagramm P70EDx











Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
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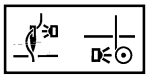
FW  E11, E12, E16, A11, A19	Fadenwächter / thread monitor / garde-fil / guarda da linha / controllafilo / guardahilos / draadcontrole
S1 <799> = 1/2 <790> = 1/2	Zwei Nadeln eingeschaltet / two needles on / deux aiguilles en fonction / ligar dois agulhas / inserire due aghi / conectar dos agujas / twee naalden inschakelen
S1 <799> = 1/2 <790> = 3 <634>	Transportumstellung von Hand / manual feed reverse / renversement de marche manuel / mudança do transporte manual / commutazione trasporto a mano / inversión de transporte manual / handmatige transportomschakeling
S2 <799> = 1/2 <790> = 1/2	Linke Nadel ausgeschaltet / left needle off / aiguille à gauche éliminée / agulha esquerda desligada / disinserire l'ago sinistro / aguja izquierda apagada / links naald uit
S2 <799> = 3 <634>	Transportumstellung von Hand / manual feed reverse / renversement de marche manuel / mudança do transporte manual / commutazione trasporto a mano / inversión de transporte manual / handmatige transportomschakeling
S3 <799> = 1/2	Rechte Nadel ausgeschaltet / right needle off / aiguille à droite éliminée / agulha direita desligada / disinserire l'ago destro / aguja derecha apagada / rechtse naald uit
S3 <446> = 1 <799> = 3	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 <446> = 2 <799> = 3	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
S3 <446> = 3 <799> = 3	Einzelstich / single stitch / point unique / ponto individual / punto singolo / puntada individual / enkele steek
S4 <799> = 1/2	Peilposition / target stitch / point cible / posição correto da penetração da agulha / rilevamento / posición "poil" / peilstand
S4 <799> = 3 <790> = 3/4/5/7	Hubverstellung / stroke adjustment / variation de course / alteração do curso / regolazione della corsa / ajuste de carrera / hefhoogteverstelling

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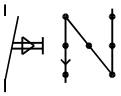
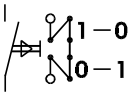
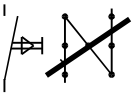
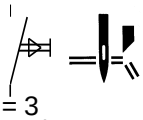
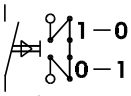
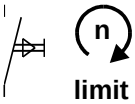
S5  <799> = 1/2 <634>	Transportumstellung von Hand / manual feed reverse / renversement de marche manuel / mudança do transporte manual / commutazione trasporto a mano / inversión de transporte manual / handmatige transportomschakeling
S5  <799> = 3 <790> = 1/2/3 <419> = I	Nachfolgende Riegelfunktion 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  <799> = 3 <790> = 1/2/3 <419> = II	Riegelunterdrückung / backtack suppression / suppression de bridage / supressão do remate / soppresione dell' affrancatura / supresión del remate / onderdrukking van het strookje
S5  <799> = 3 <790> = 4/5	Zweite Stichlänge Obertransport / second stitch length top feed / 2e longueur de point transport supérieur / segundo comprimento de ponto transporte superior / seconda lunghezza punti trasporto superiore / la segunda longitud de puntada del transporte superior / tweede steeklengte boventransport
S5  <799> = 3 <790> = 6/7	Kantenschneider / edge trimmer / coupe de bord / corte cantos / rasa bordi / corta bordes / zoomsnijder
S6  <799> = 1/2	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
S6  <799> = 3 <790> = 2/3/5/7	Zweite Stichlänge Unter- bzw. Haupttransport / second stitch length bottom or main feed / 2e longueur de point transport inférieur ou principal / segundo comprimento de ponto transporte inferior ou principal / seconda lunghezza punti trasporto principale o inferiore / la segunda longitud de puntada del transporte inferior o principal / tweede steeklengte onder- resp. hoofdtransport
S7  <799> = 1/2 <790> = 2	Zweite Stichlänge Unter- bzw. Haupttransport / second stitch length bottom or main feed / 2e longueur de point transport inférieur ou principal / segundo comprimento de ponto transporte inferior ou principal / seconda lunghezza punti trasporto principale o inferiore / la segunda longitud de puntada del transporte inferior o principal / tweede steeklengte onder- resp. hoofdtransport
S7  <799> = 3	Presserfuß und Nadel hoch, Antrieb gesperrt / presser foot and needle up, drive system locked / pied presseur et aiguille en haut, système bloqué / calcador e agulha para cima, accionamento bloqueado / alzapiedino e ago su, motore disabilitato / prensatelas y aguja arriba, accionamiento bloqueado / drukvoet en naald omhoog, aandrijving geblokkeerd
S13  <573> **limit**	Drehzahlbegrenzung 1 / speed limitation 1 / limitation de vitesse 1 / limitação das rotações 1 / limitazione velocità 1 / limitación de velocidad 1 / beperking van het toerental 1
S14  **STOP**	STOP

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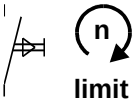
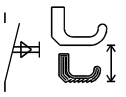
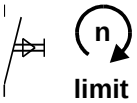
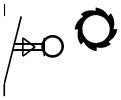
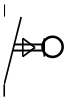
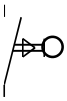
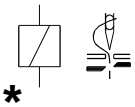
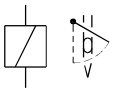
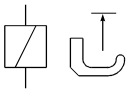
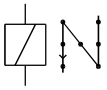
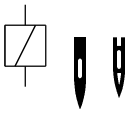
S15  <574>	Drehzahlbegrenzung 2 / speed limitation 2 / limitation de vitesse 2 / limitação das rotações 2 / limitazione velocità 2 / limitación de velocidad 2 / beperking van het toerental 2
S17 	Hubverstellung / stroke adjustment / variation de course / alteração do curso / regolazione della corsa / ajuste de carrera / hefhoogteverstelling
S18  <585>	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
S19 	Puller / puller / puller / puller / puller / estirar / puller
S20  <468> = I	Bandschieber vorn / tape slide in front
S21  <468> = I	Bandschieber hinten / tape slide in the back
S22  <468> = I	Bandschieber / tape slide
S23  <468> = I	Bandschneider / tape cutter
Y2 I max 8 A * 	Fadenschneider / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y3 I max 0,35 A 	Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwisser
Y4 I max 0,35 A 	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / drukvoet optillen
Y5 I max 0,35 A 	Transportumsteller / feed reverse / renversement de marche / mudança do transporte / commutazione trasporto / inversión de transporte / transportomschakeling
Y6 I max 0,35 A  <799> = 1/2	Rechte Nadel ausgeschaltet / right needle off / aiguille à droite éliminée / agulha direita desligada / disinserire l'ago destro / aguja derecha apagada / rechtse naald uit

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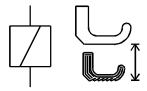
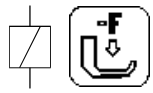
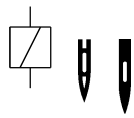
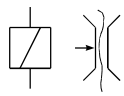
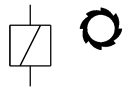
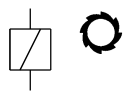
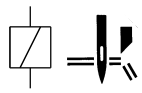
Y6 I max 0,35 A <799> = 3 <790> = 3/4/5/7 	Hubverstellung / stroke adjustment / variation de course / alteração do curso / regolazione della corsa / ajuste de carrera / hefhoogteverstelling
Y7 I max 0,35 A 	Presserfußdruck / presser foot pressure / pression du pied presseur / pressão do calcador / pressione alzapiedino / presión del prensatelas / naaivoetdruk
Y8 I max 0,35A <468> = I 	Bandklemme lösen / tape clamp release
Y9 I max 0,35 A <799> = 1/2 	Linke Nadel ausgeschaltet / left needle off / aiguille à gauche éliminée / agulha esquerda desligada / disinserire l'ago sinistro / aguja izquierda apagada / links naald uit
Y9 I max 0,35 A <799> = 3 	Stichlängenumschaltung oben / stitch length change-over up / commutation longueur de point en haut / mudança de comprimento dos pontos em cima / commutazione lunghezza punti su / cambio de longitud de la puntada arriba / steeklengteomschakeling boven
Y10 I max 8 A* 	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y12 I max 0,35 A <799> = 3 	Stichlängenumschaltung unten / stitch length change-over down / commutation longueur de point en bas / mudança de comprimento dos pontos em baixo / commutazione lunghezza punti giù / cambio de longitud de la puntada abajo / steeklengteomschakeling beneden
Y13 I max 0,35 A 	Puller / puller / puller / puller / puller / estirar / puller
Y14 I max 0,35 A 	Fadenspannungsumschaltung / thread tension change-over / commutation de tension du fil / mudança da tensão da linha / commutazione tenditura del filo / cambio de la tensión del hilo / draadspanningsomschakeling
Y15 I max 0,35 A 	Puller 2 / puller 2 / puller 2 / puller 2 / puller 2 / estirar 2 / puller 2
Y18 I max 0,35 A 	Kantenschneider / edge trimmer / coupe de bord / corte cantos / rasa bordi / corta bordes / zoomsnijder

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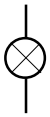
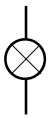
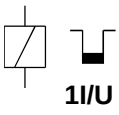
H1 A20 I max 20 mA 	Anzeige H1 (S1) / display H1 (S1) / affichage H1 (S1) / indicação H1 (S1) / visualizzazione H1 (S1) / indicador H1 (S1) / indicatie H1 (S1)
H2 A21 I max 20 mA 	Anzeige H2 (S2) / display H2 (S2) / affichage H2 (S2) / indicação H2 (S2) / visualizzazione H2 (S2) / indicador H2 (S2) / indicatie H2 (S2)
H3 A22 I max 20 mA 	Anzeige H3 (S3) / display H3 (S3) / affichage H3 (S3) / indicação H3 (S3) / visualizzazione H3 (S3) / indicador H3 (S3) / indicatie H3 (S3)
H4 A23 I max 20 mA 	Anzeige H4 (S4) / display H4 (S4) / affichage H4 (S4) / indicação H4 (S4) / visualizzazione H4 (S4) / indicador H4 (S4) / indicatie H4 (S4)
H5 A24 I max 20 mA 	Anzeige H5 (S5) / display H5 (S5) / affichage H5 (S5) / indicação H5 (S5) / visualizzazione H5 (S5) / indicador H5 (S5) / indicatie H5 (S5)
H6 A25 I max 20 mA 	Anzeige H6 (S6) / display H6 (S6) / affichage H6 (S6) / indicação H6 (S6) / visualizzazione H6 (S6) / indicador H6 (S6) / indicatie H6 (S6)
H7 A26 I max 20 mA 	Anzeige H7 (S7) / display H7 (S7) / affichage H7 (S7) / indicação H7 (S7) / visualizzazione H7 (S7) / indicador H7 (S7) / indicatie H7 (S7)
H8 A29 I max 20 mA 	Anzeige H8 (Spulenfadenwächter) / display H8 (bobbin thread monitor) / affichage H8 (garde-fil) / indicação H8 (guarda da linha) / visualizzazione H8 (controllafilo) / indicador H8 (guardahilos) / indicatie H8 (draadcontrole)
Y30 I max 0,35 A  **1I/U**	Zählsignal / count signal / signal de comptage / sinal de contagem / segnale conteggio / señal del contador / telsignaal
Y31 I max 0,35A  **256I/U**	256 Impulse pro Umdrehung (FA) / 256 pulses per revolution (FA) / 256 impulsions / révolution (FA) / 256 impulsos/rotação (FA) / 256 impulsi / giro / 256 impulsos / revolución (FA) / 256 pulsen per omwenteling (FA)
Y32 I max 0,35A  **256I/U**	256 Impulse pro Umdrehung (FB) / 256 pulses per revolution (FB) / 256 impulsions / révolution (FB) / 256 impulsos/rotação (FB) / 256 impulsi / giro (FB) / 256 impulsos / revolución (FB) / 256 pulsen per omwenteling (FB)
Y33 I max 0,35A 	Fadenklemme / thread clamp / serre-fil / pinça fixa a linha / serrafilo / garra de hilo / draadklem

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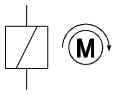
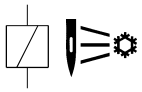
Y34  I max 0,35A <468> = I	Bandschieber / tape slide
Y35  I max 0,35A <468> = I	Bandschneider / tape cutter
Y36  I max 0,35A	Signal nach Stichzählung / signal after stitch count
Y37  I max 0,35 A <118> = II	Maschinenlauf / motor runs / moteur en marche / motor em movimento / funzionamento motore / motor en marcha / loop van de machine
Y37  I max 0,35 A <118> = I <307>	Nadelkühlung / needle cooling / refroidissement d'aiguille / refrigeração da agulha / rafreddamento ago / refrigeración de aguja / naaldkoeling
Y38  I max 0,35A	Reinigung Fadenwächter / cleaning thread monitor

* 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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