

PicoDrive

QE3760/QE5540

CE

Type

QK40PD

Instruction Manual

Part 3

Software 4_902_01

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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.

11.3 Parameter survey QK40PD (4_902_01)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Backtack	RIE	105/110/126		
Brake	DRZAB	723		
Chopper	MESSE	105/110/126 466/532/537 714		
Control	REG	880/881/884 885/886/887 889/890		
Defect search	HWT	797		
Delay	VERZ	545/642/643 716/717/730 770		
Direction of rotation	DRR	800		
Display	ANZ	605		
End backtack	ER	110/126		
Engine	MOT	897		
Feed reverse	TUM	643/721		
Front backtack	AR	105/106		
Hardware test	HWT	797		
Inverse rotation	RDR	801		
Machine class	MAKL	799		
Needle position	NAPO	521/700/702 703		
Number of stitches	STZA	112/540/541 542/543		
ON period	EINZ	537/714/715 889		
Photocell	LS	112/161/188 543/615		
Presser foot	PF	642/719/729 730/770		
Program	PR	206/543		
Programming level C	EBC	798		

Residual brake	STBR	718
Scissors	SCHER	466
Seam end	NE	110/126/206 543
Seam start	NA	105
Soft start	SANL	116/117
Speed	DRZ	105/106/110 117/126/605 606/607/608 609/802
Speed decrease	DRZAB	723
Speed increase	DRZAN	722
Start	START	161/188/540 541/603
Start delay	STVERZ	729
Stitch condensation	STVD	105/106/110 126
Stop	STOP	206
Thread tension release	FSL	538/540/542
Thread trimming	SN	609/714/717
Thread wiper	WI	715/716
Time needed to switch on	EINZ	537/714/715 889
Timing output	TA	538/642/643 719/721
Vacuum	SAUG	105/110/126 541/543/545

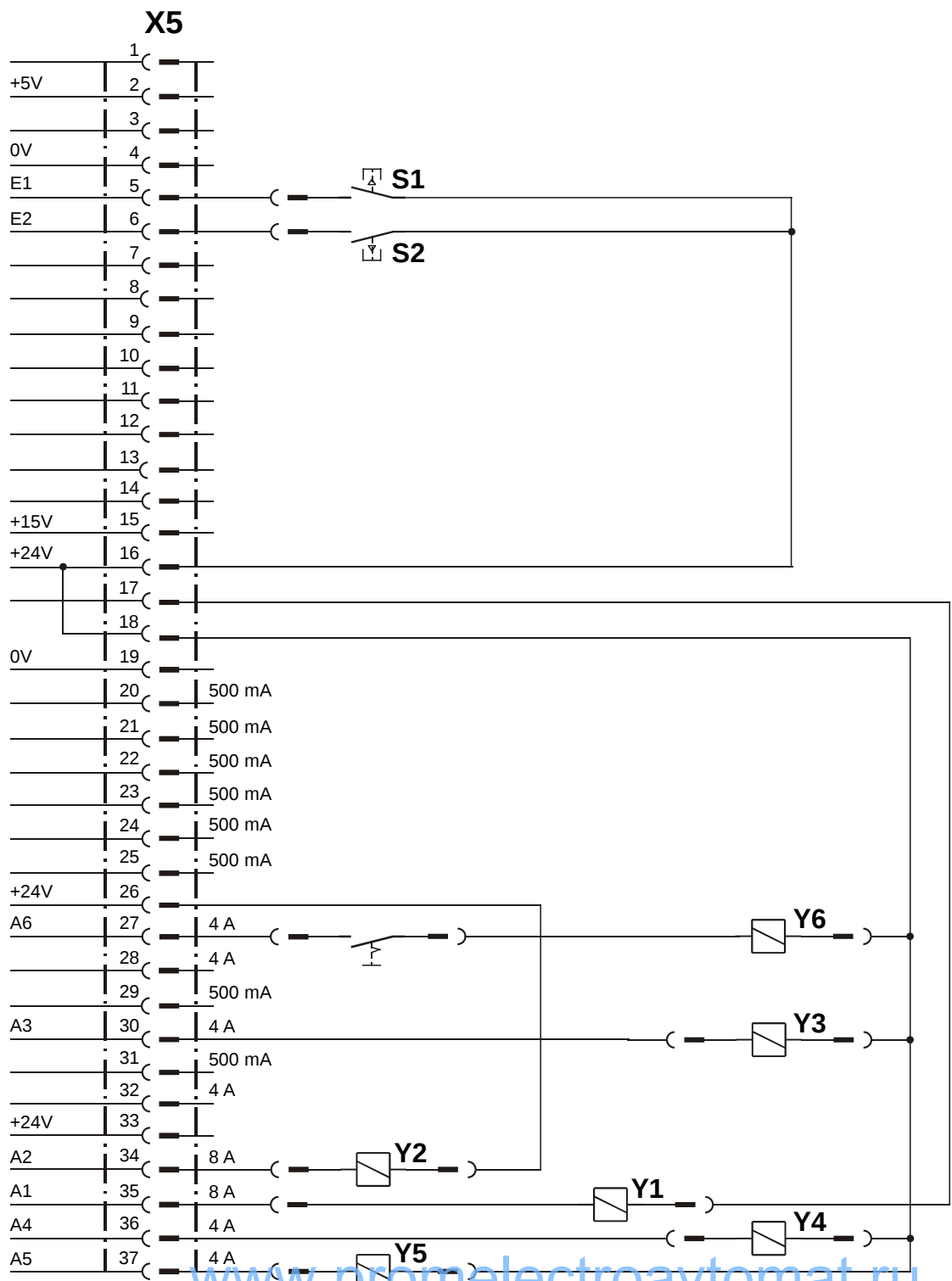
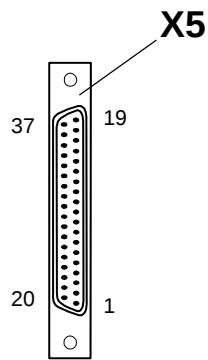
11.4 List of Parameters QK40PD (4_902_01)

No.	Function (Meaning)	Level	Range Values	of Value	Standard
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack / stitch condensation	B,C	0300 - 6500	1500	Kl. 1, 2
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
110	(ER/RIE/DRZ/MESSER/NE/SAUG/STVD) Speed for end backtack / stitch condensation	B,C	0300 - 6500	1500	Kl. 1, 2
112	(LS/STZA) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	B,C	0000 - 0100	0	Kl. 1, 2
116	(SANL) Soft start stitches	A,B,C	0000 - 0030	0	Kl. 1, 2
117	(SANL/DRZ) Speed for soft start stitches	B,C	0120 - 1000	400	Kl. 1, 2
126	(ER/DRZ/MESSER/NE/RIE/SAUG/STVD) Speed for End backtack / stitch condensation 1 variable (treadle-controlled) 0 constant (corresponding to <110>)	B,C		0	Kl. 1, 2
161	(LS/START) Start delay for start of photocell	A,B,C	0010 - 2000	200	Kl. 1, 2
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	C	0001 - 0004	1	Kl. 1, 2
206	(NE/PR/STOP) Interrupt/discontinue seam sections at speed = constant (<203> = II) 1 with treadle -2 0 with treadle 0	B,C		0 -	Kl. 1 Kl. 2
466	(SCHERE/MESSER) Function of exit „Ax“ 1 fast scissors 0 cutter	B,C		0 -	Kl. 1 Kl. 2
521	(NAPO) Needle position at stop before seam end 1 position 2 (up) 0 position 1 (down)	A,B,C		0	Kl. 1 Kl. 2
532	(MESSER) Stop during chopper on 1 yes 0 no	A,B,C		0 -	Kl. 1 Kl. 2
537	(EINZ/MESSER) Chopper duty cycle (ms)	B,C	0010 - 1000	80	Kl. 1 Kl. 2
538	(FSL/TA) Timing of output Ax (thread tension release) (0 = 100%)	B,C	0010 - 0090	10	Kl. 1, 2
540	(FSL/START/STZA) Number of stitches from start to thread tension release off	B,C	0000 - 0250	3	Kl. 1, 2
541	(SAUG/START/STZA) Number of stitches from start to vacuum off	B,C	0000 - 0250	10	Kl. 1 Kl. 2
542	(FSL/STZA) Number of stitches from photocell clear to thread tension release on	B,C	0000 - 0250	3	Kl. 1, 2
543	(LS/NE/SAUG/STZA/PR) Number of stitches from light barrier clear to vacuum on at programmed sewing	B,C	0000 - 0250	15 -	Kl. 1 Kl. 2
545	(SAUG/VERZ) Delay (ms) to vacuum off	B,C	0000 - 1000	200 -	Kl. 1 Kl. 2
603	(START) Start after seam end 1 after treadle 0 only 0 immediate start of operation	A,B,C		1	Kl. 1, 2
605	(DRZ/ANZ) Actual speed in display 1 yes 0 no	A,B,C		0	Kl. 1, 2
606	(DRZ) Speed: level 1 (min.)	B,C	0120 - 0800	200	Kl. 1, 2

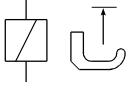
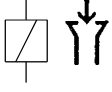
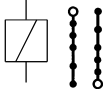
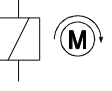
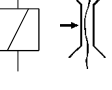
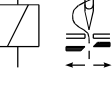
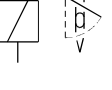
607	(DRZ) Speed: level 12 (max.)	B,C	0300 - 9900 4000	Kl. 1
			0300 - 9900 4500	Kl. 2
608	(DRZ) Speed level curve (treadle characteristic)	B,C	0000 - 0004 1	Kl. 1, 2
	1 linear			
	0 not linear			
609	(SN/DRZ) Trimming speed 1	B,C	0100 - 0300 200	Kl. 1, 2
615	(LS) End recognition when photocell goes	B,C	0	Kl. 1, 2
	1 from light to dark			
	0 from dark to light			
642	(PF/VERZ/TA) presser foot time from switch-on to voltage reduction (cycling)	B,C	0010 - 0150 100	Kl. 1, 2
643	(TUM/VERZ/TA) feed reverse time from switch-on to voltage reduction (cycling)	B,C	0010 - 0150 100	Kl. 1, 2
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0000 - 0255 0	Kl. 1, 2 *
702	(NAPO) Needle position 1 (needle down)	B,C	0000 - 0255 80	Kl. 1, 2
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0000 - 0255 216	Kl. 1, 2
714	(EINZ/SN/MESSER) Duration (ms) for chainstitch trimming or chopper	B,C	0000 - 2000 100	Kl. 2
			-	Kl. 1
715	(EINZ/WI) Duration (ms) of thread wiper	B,C	0000 - 2000 120	Kl. 2
			-	Kl. 1
716	(VERZ/WI) Delay in start-up time (ms) for thread wiper	B,C	0000 - 2000 150	Kl. 2
			-	Kl. 1
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 50	Kl. 2
			-	Kl. 1
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0000 - 0050 0	Kl. 1, 2
719	(PF/TA) Timing output A4 (lifting presser foot) (0 = 100% switched on)	B,C	0010 - 0060 40	Kl. 1, 2
721	(TUM/TA) Timing output A5 (feed reverse) (0 = 100% switched on)	B,C	0010 - 0090 70	Kl. 1, 2
722	(DRZAN) Acceleration ramp	B,C	0001 - 0040 22	Kl. 1, 2
	1 gradual			
	50 steep			
723	(DRZAB) Brake ramp	B,C	0001 - 0040 20	Kl. 1, 2
	1 gradual			
	50 steep			
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0010 - 2000 130	Kl. 1, 2
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0000 - 2000 50	Kl. 1, 2
770	(PF/VERZ) Lifting delay of presser foot at threadle- position „1“	B,C	0010 - 0250 80	Kl. 1, 2
797	(HWT) Hardware test	C	0	Kl. 1, 2
	1 yes			
	0 no			
798	(EBC) Programming level C	A,B,C	0000 - 0020 0	Kl. 1, 2
	1 yes			
	0 no			
799	(MAKL) Machine class which has been selected	C	0001 - 0002 1	Kl. 1 *
			0001 - 0002 2	Kl. 2
800	(DRR) Direction of motor rotation viewed from belt pulley	C	0000 - 0001 1	Kl. 1, 2 *
	1 left-hand rotation			
	0 right-hand rotation			
801	(RDR) Reverse rotation angle after seam end	B,C	0010 - 0212 32	Kl. 1
			-	Kl. 2
802	(DRZ) Speed reduction from main drive	C	0000 - 0001 0	Kl. 1, 2 *
	1 = variable			
	0 = 1:1			

881	(REG) adaption of positioning characteristics of motor to machine to avoid vibration	C	0010 - 0200 100	Kl. 1, 2
884	(REG) Proportional amplification of the speed control (in general)	B,C	0005 - 0040 20	Kl. 1, 2
885	(REG) Integral amplification of the speed control	C	0010 - 0100 50	Kl. 1, 2
886	(REG) Proportional amplification of the order controllers	C	0001 - 0080 50 0001 - 0080 8	Kl. 1 Kl. 2
887	(REG) Differential amplification of the order controllers	C	0000 - 0050 5	Kl. 1, 2
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0000 - 2500 300	Kl. 1, 2
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	0001 - 0050 25	Kl. 1, 2
897	(MOT) MINI motor version 1 long 0 short	C	0000 - 0001 0	Kl. 1, 2 *
933	(ANZ) Display change-over 1 diagnosis 0 normal display	C	0000 - 0005 0	Kl. 1, 2

12. Electrical Connections Diagram X5 QK40PD



Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
 Signification des aimants resp. solenoides et touches / Significação dos imãs 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  	Abhacker / chopper / chopper / cortar / coltello / guillotina / mes
S2  <188> = 4	Start / Start Start / Start Start / Start
Y1 I max 8 A * <799> = 1, 2 	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / drukvoet optillen
Y2 I max 8 A * <799> = 1 	Saugen / vacuum / aspiration / aspirar / aspirazione / aspiración / zuigen
Y2 I max 8 A * <799> = 2 	Stichverdichtung / stitch condensation / rétrécissement de points / condensação dos pontos / addensamento punti / condensación de puntadas / steekverdichting
Y3 I max 4 A * <799> = 1, 2 	Motor läuft / motor runs / moteur en marche / motor em movimento / motore in moto / motor en marcha / loop van de machine
Y4 I max 4 A * <799> = 1, 2 	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y5 I max 4 A * <799> = 1 	Abhacker / chopper / chopper / cortar / coltello / guillotina / mes
Y5 I max 4 A * <799> = 2 	Fadenschneiden / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y6 I max 4 A * <799> = 1 	Abhacker invertieren / invert chopper / inverser chopper / inverter ocortar / invertire la coltello / invertir la guillotina / inverteren op mes
Y6 I max 4 A * <799> = 2 	Fadenwischer / thread wiper / écarteur de fil / retira-linhas / scartafilo / retirahilos / draadwischer

- * 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).