

# EcoDrive

QE3760/QE5540

CE

Type

# DA104ED

Instruction Manual

Part 3

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## 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 1 or 0. 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> = 1

1 limited by <105>

0 limited by <607>

Explanation:

Parameter 107 is valid only the the value (content) of parameter <106> = 1.

If parameter 107 is set to 1 (<107> = 1), then the speed for the front backtack is limited by parameter 105, e.g. <105> = 1500. If parameter 107 is set to 0 (<107> = 0), then the speed for the front backtack is limited by the value of parameter 607, e.g. <607> = 4000.

## 11.3 Parameter survey D104ED

1\_L04\_22 (PARAM.ENO)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Bobbin turn monitor	SONST	141/660/665		
Brake	DRZAB	723		
Burner / Heater	BREN	641/913/914/915 925/947		
Control	REG	814/815/880/884 885/886/887 889/890/898		
Defect search	HWT	797		
Delay	VERZ	380/581/730 913/915/925 931/932		
Direction of rotation	DRR	800		
Engine	MOT	897		
Hardware test	HWT	797		
Machine class	MAKL	799		
Needle cooling	NAKU	119		
Needle position	NAPO	700/702/703		
Number of stitches	STZA	102/141		
ON period	EINZ	119/190/191 198/582/749 889/914/927		
Presser foot / Clamp	PF	423/424/729 730		
Programming level C	EBC	798		
Residual brake	STBR	718		
Plunger	SONST	927/929		
Seam end	NE	143		
Soft start	SANL	116/117		
Speed	DRZ	117/143/605 606/607/609/928		
Speed decrease	DRZAB	723		
Speed increase	DRZAN	722		

Start mode	SONST	423
Start delay after clamp	STVERZ	729
Stop	STOP	665
Thread clamp	FK	935/941/942 949
Thread monitor	FW	141/380/620 660/665
Thread puller	FZ	581/582
Thread tension release	FSL	749
Thread trimming	SN	609
Thread wiper	WI	932
Time needed to switch on	EINZ	119/582/749 889/914/918 927
Cam	SONST	821
Vacuum	SAUG	918/919/931 948

## 11.4 List of Parameters D104ED

1\_L04\_22 (PARAM.EN)

No.	Function (Meaning)	Level	Range Values	of Value	Standard
102	(STZA) Stitches for seam interruption	A,B,C	0004 - 0160	4	Kl. 1
116	(SANL) Soft start stitches	A,B,C	0000 - 0010	3	Kl. 1
117	(SANL/DRZ) Speed for soft start stitches	A,B,C	0030 - 0400	300	Kl. 1
119	(EINZ/NAKU) Time for needle cooling including time after stop	A,B,C	0000 - 2500	500	Kl. 1
141	(FW/STZA) Number of stitches until bobbin thread monitor signal becomes active (signal suppression on bobbin thread monitor)	B,C	0000 - 0025	0	Kl. 1
143	(DRZ/NE) Speed for seam end	B,C	0100 - 1000	300	Kl. 1
380	(VERZ) Wait time until deleting „bobbin thread error 8" is possible	B,C	0000 - 6000	0	Kl. 1
423	(SONST) Operating mode for DA104ED 1 = Mode 1 2 = Mode 2 3 = Mode 3	A,B,C	0001 - 0003	1	Kl. 1
424	(SONST) cramp lifting at seam interruption for DA104ED 1 = cramp left and right 2 = cramp left 3 = cramp right 4 = no cramp	A,B,C	0001 - 0004	1	Kl. 1
581	(FK/FZ/VERZ) Delay in start-up time (ms) for thread clamp or thread puller	B,C	0000 - 3000	150	Kl. 1
582	(EINZ/FK/FZ) Duration (ms) of thread clamp or thread puller	B,C	0000 - 3000	200	Kl. 1
605	(DRZ/ANZ) Actual speed in display (<725>) 1 yes 0 no	B,C		0	Kl. 1
606	(DRZ) Speed: level 1 (min.)	C	0030 - 0600	200	Kl. 1
607	(DRZ) Speed: level 12 (max.)	C	0100 - 1100	1000	Kl. 1
609	(SN/DRZ) Trimming speed 1	C	0060 - 0300	180	Kl. 1
620	(FW) Thread monitor function 1 yes 0 no	B,C		1	Kl. 1
641	(SONST) Timing for burner preheating	B,C	0001 - 0010	5	Kl. 1
660	(FW) Bobbin thread monitoring 0 without (= *II*) 1 via a sensor (= **I*) 2 by a stitch count	B,C	0000 - 0001	0	Kl. 1
665	(ANLSP/STOP) Run locking/stop 1 contact closed 0 contact open	C		0	Kl. 1
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0000 - 0255	0	Kl. 1 *
702	(NAPO) Needle position 1 (needle down)	B,C	0000 - 0255	53	Kl. 1
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0000 - 0255	217	Kl. 1
718	(STBR) Timing of residual brake (0 = brake off)	C	0000 - 0100	0	Kl. 1
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	C	0001 - 0060	50	Kl. 1
723	(DRZAB) Brake ramp 1 gradual 50 steep	C	0001 - 0060	40	Kl. 1
729	(STVERZ/PF) Start delay after lowering presser foot	C	0010 - 2000	200	Kl. 1
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0010 - 2000	100	Kl. 1

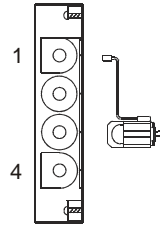
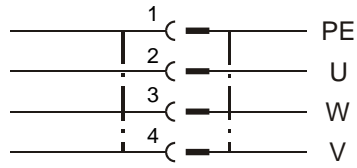
749	(EINZ/FSL) Duration (ms) of thread tension release	B,C	0000 - 3000	300	Kl. 1
797	(HWT) Hardware test 1 yes 0 no	A,B,C		0	Kl. 1
798	(EBC) Programming level C 1 yes 0 no	B,C		0	Kl. 1
799	(MAKL) Machine class which has been selected	C	0001 - 0001	1	Kl. 1
800	(DRR) Direction of motor rotation viewed from belt pulley 1 left-hand rotation 0 right-hand rotation	C		1	Kl. 1 *
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
815	(REG) Control behavior 1 = control behavior A 2 = control behavior B	C	0001 - 0002	1	Kl. 1
821	(SONST) Cam disk selection	C	0001 - 0012	9	Kl. 1
880	(REG) Starting current max. [A]	C	0001 - 0020	10	Kl. 1
884	(REG) Proportional amplification of the speed control (in general)	C	0003 - 0050	14	Kl. 1
885	(REG) Integral amplification of the speed control	C	0001 - 0255	35	Kl. 1
886	(REG) Proportional amplification of the order controllers	C	0001 - 0025	15	Kl. 1
887	(REG) Differential amplification of the order controllers	C	0001 - 0025	10	Kl. 1
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0000 - 2500	400	Kl. 1
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	0001 - 0025	15	Kl. 1
897	(MOT) MINI motor version 1 long 0 short	C		1	Kl. 1
898	(REG) Current limiting for the motor 1 = 15A 0 = 10A	C		1	Kl. 1
913	(VERZ/BREN) time until burner advances	B,C	0000 - 3000	300	Kl. 1
914	(EINZ/VERZ/BREN) enable time for burner advance	B,C	0000 - 3000	1000	Kl. 1
915	(VERZ/BREN) time between burner return and thread deflector return	B,C	0000 - 3000	200	Kl. 1
918	(UINZ/SAUG) Enable time for thread suction	B,C	0000 - 3000	1000	Kl. 1
925	(VERZ/BREN) time lag for burner heating on	B,C	0000 - 3000	20	Kl. 1
927	(EINZ) enable time for punch	B,C	0000 - 3000	500	Kl. 1
928	(DRZ/DB) speed reduction at seam end 1 yes 0 no	B,C		1	Kl. 1
929	(NE/IMPNE) punch pulse at seam end 1 yes 0 no	B,C		0	Kl. 1
931	(VERZ/SAUG) time lag for thread suction off	B,C	0000 - 3000	1000	Kl. 1
932	(VERZ) time lag for thread deflector on	B,C	0000 - 3000	50	Kl. 1
933	(ANZ) Display change-over 1 diagnosis 0 normal display	C		0	Kl. 1
935	(FK) operation with bottom thread gripper 1 yes 0 no	B,C		1	Kl. 1

941	(VERZ/FK) time lag for bottom thread clamp	B,C	0000 - 3000	100	Kl. 1
942	(FK/NAPO) disable position for bottom thread clamp	A,B,C	0000 - 0255	180	Kl. 1
947	(BREN/VERZ) time lag for enabling basic heater	B,C	0000 - 0060	20	Kl. 1
948	(SAUG/EINZ) enable time for thread suction at start	B,C	0000 - 0020	0	Kl. 1
949	(STZ/NE/FK/STZA) stitches to seam end for enabling gripper	B,C	0000 - 0030	3	Kl. 1

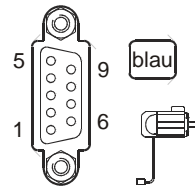
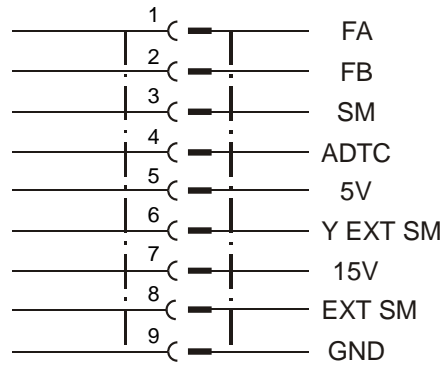


# 12. Electrical Connections Diagram DA104ED

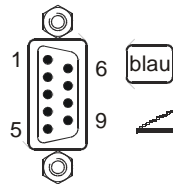
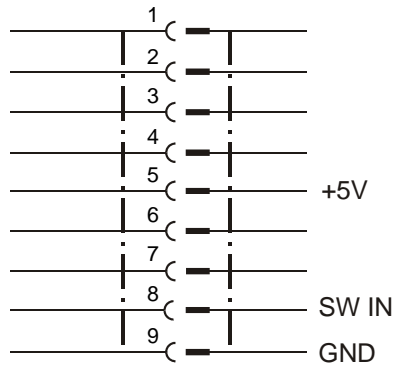
## X1 = Motor / Wicklung



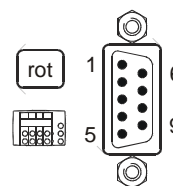
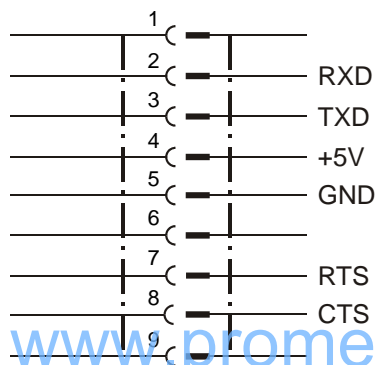
## X2 = Motor / Signalgeber



## X3 = Sollwertgeber



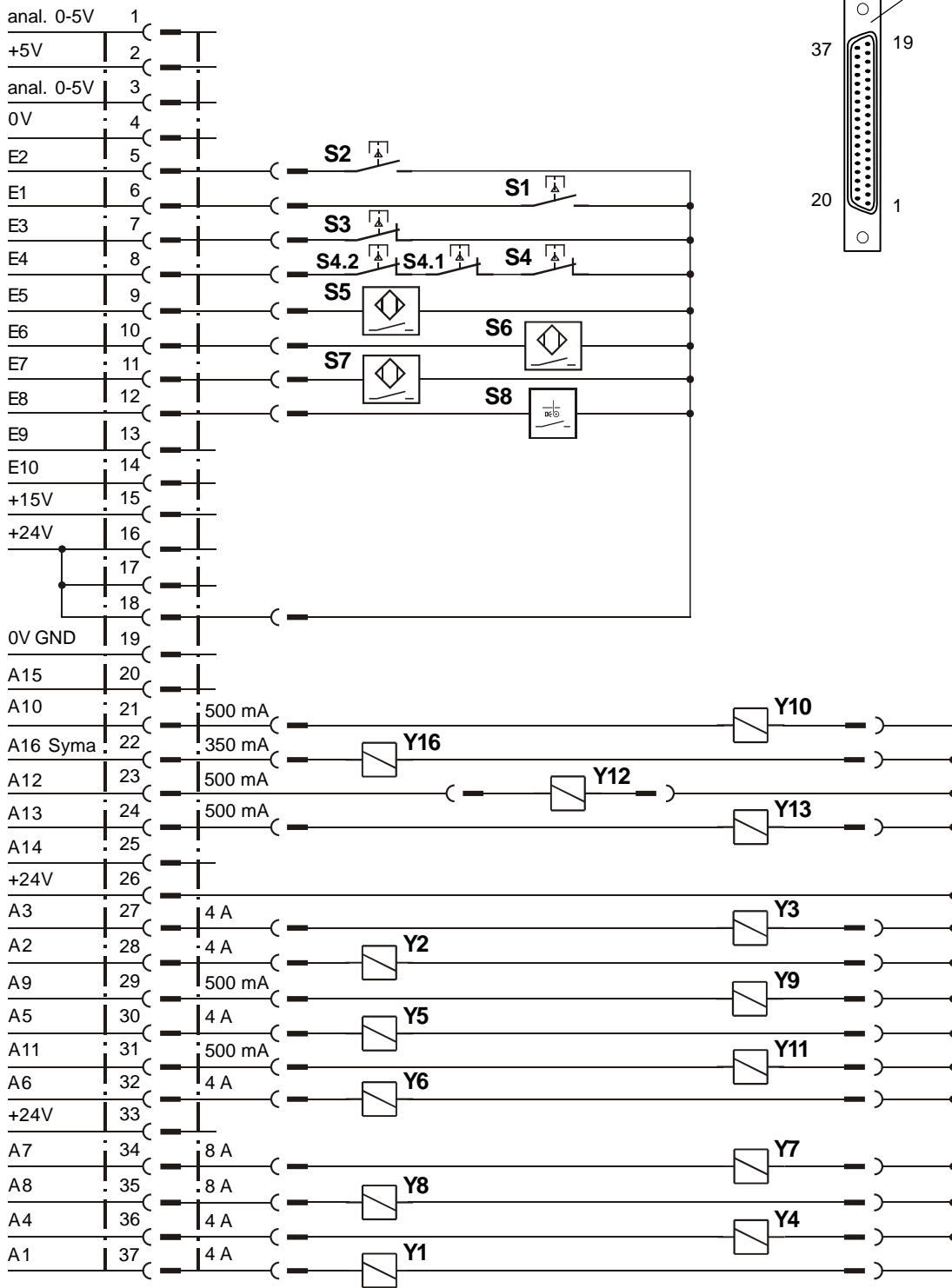
## X4 = Bedienfeld











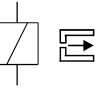
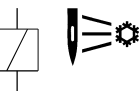
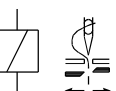
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# X5






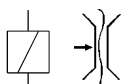




# X5




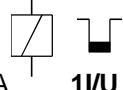
Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys  
 Signification des aimants resp. solenoides et touches / Significação dos imãs e/ou as solenoidas e teclas  
 Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o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

<b>S1</b> 	Fußschalter links / foot actuated switch left
<b>S2</b> 	Fußschalter rechts / foot actuated switch right
<b>S3</b> 	Spulenwechsel / bobbin change
<b>S4</b> <b>S4.1</b> <b>S4.2</b> 	STOP/Oberteil- und Greiferklappe/Kopfdeckel / STOP/machine- and hook cover/machine head cover
<b>S5</b> 	Linke Klammer oben / left retainer clip up  Induktivgeber
<b>S6</b> 	Rechte Klammer oben / right retainer clip up  Induktivgeber
<b>S7</b> 	Grundstellung / home position  Induktivgeber
<b>S8</b> 	Spulen-Drehüberwachung / reel-turning control
<b>Y1</b> I max 4 A * 	Faden ansaugen / thread vacuum / aspiration de fil / aspirar da linha / aspirazione filo / aspiración del hilo / zuigen van de draad
<b>Y2</b> I max 4 A * 	Nadelkühlung + Greiferschmierung / needle cooling + hook lubrication/ refroidissement d'aiguille / refrigeração da agulha / raffreddamento ago / refrigeración de aguja / naaldkoeling
<b>Y3</b> I max 4 A * 	Oberfadenklemme / upper thread clamp / serre-fil / pinça fixar a linha / serrafilo / garra de hilo / draadklem

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys  
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<p><b>Y4</b>                  I max                  4 A *</p> 	<p>Unterfadenklemme / under thread clamp /                  serre-fil / pinça fixar a linha /                  serrafilo / garra de hilo / draadklem</p>
<p><b>Y5</b>                  I max                  4 A *</p> 	<p>Faden ziehen / thread puller / tire-fil /                  tirar de linhas / tirafilo / tirahilos /                  draadtrekker</p>
<p><b>Y6</b>                  I max                  4 A *</p> 	<p>Klammer rechts / right retainer clip</p>
<p><b>Y7</b>                  I max                  8 A *</p> 	<p>Klammer links / left retainer clip</p>
<p><b>Y8</b>                  I max                  8 A *</p> 	<p>Brennerheizung ein / burner-heater on</p>
<p><b>Y9</b>                  I max                  500 mA *</p> 	<p>Fadenspannungslösen / thread tension release /                  détenteur de fil / soltar tensão da linha /                  sbloccaggio tendifilo / detensión del hilo /                  verbreken van de draadspanning</p>
<p><b>Y10</b>                  I max                  500 mA *</p> 	<p>Stempel / punch</p>
<p><b>Y11</b>                  I max                  500 mA *</p> 	<p>Brenner absenken / burner lowering</p>
<p><b>Y12</b>                  I max                  500 mA *</p> 	<p>Fadenwischer / thread wiper /                  écarteur de fil / retira-linhas /                  scartafilo / retirahilos /                  draadwisser</p>
<p><b>Y13</b>                  I max                  500 mA *</p> 	<p>Brenner vor / burner forward</p>

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys  
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 y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

<p><b>Y14</b>  <b>Y15</b>                  I max                  500 mA *</p> 	<p>Reserve / reserve</p>
<p><b>Y16</b>                  I max                  500 mA</p>  <p><b>1/U</b></p>	<p>Zählsignal / count signal / signal de comptage /                  sinal de contagem / segnale conteggio / señal del contador /                  telsignaal</p>

- \* 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 atuadores 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).