Efka euramot

CONTROL   **AB60D1472**

KL2279a
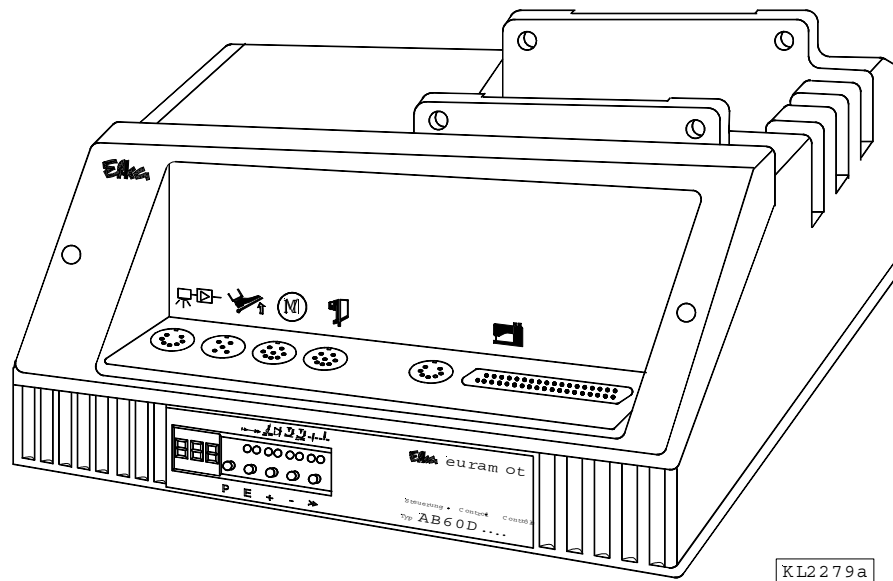
LIST OF PARAMETERS

CONNECTION DIAGRAM
TIMING DIAGRAMS

No. 402290   **English**

CONTENTS   **Page**

1 Table of Adapter Cords

ATTENTION!
Before switching functional sequences, detach cables from the inputs and outputs! Please ensure that the machine installed provides the functional sequence to be set! **Then proceed with the setting using parameter 290!**

Setting the functional sequence using parameter 290

Mode	Designation	Adapter	Outputs					Inputs		
	Power transistors ➜		**FL** ST2/35	**M1** ST2/37	**M2** ST2/28	**M3** ST2/27	**ML** ST2/32	**in1** ST2/7	**in3** ST2/6	**in4** ST2/8
0	**Lockstitch; e. g.**									
	Brother (737-113, 737-913)	1112814	FL	FA1 +	FA2	FW	-	-	NHT	-
	Aisin (AD3XX, AD158, 3310; EK1)	1112815	FL	FA1 +	FA2	FW	-	-	NHT	-
	Pfaff (563, 953, 1050, 1180)	1112841	FL	FA1	FA2	FW	ML	-	-	FLEX
	Dürkopp Adler (210, 270)	1112845	FL	FA1 +	FA2	FW	-	-	NHT	EST
1	**Lockstitch; e. g.** Singer (591, 211U, 212U)	1112824	FL	-	FA2	FW	-	NHT	-	-
2	**Lockstitch; e. g.** Singer (212 UTT)	1112824	FL	-	FA	FSPL	-	NHT	-	-
3	**Lockstitch;** e. g. Dürkopp Adler (467)		FL	FA	FSPL	FW	ML	NHT	-	-
4	**Chainstitch;** Union Special									
	(34000 and 36200 replacement for US80A)	1112865	FL	-	FA-V	FW	ML	LSP	LSP	ENTK
	(CS100 and FS100)	1112905	FL	-	FA-V	FW	ML	LSP	LSP	-
5	**Chainstitch; parallel sequence**									
	Yamato (VC series)	1112818	FL	FA	-	FW	-	LSP	-	-
	Yamato (VG series)	1113178	FL	FA	-	FW	-	LSP	-	-
	Kansai (RX 9803)	1113130	FL	FA	-	FW	ML	LSP	-	-
	Pegasus (W500/UT)	1112821	FL	FA	FA	FW	-	LSP	-	-
	Brother (FD3-B257)	1112822	FL	FA	FA	FW	-	LSP	ENTK	-
	Global (CB2803-56)	1112866	FL	-	-	FA	-	LSP	-	-
	Rimoldi (F27)	1113096	FL	FW	FAO	FAU	ML	-	-	-
6	**Chainstitch;** tape cutter/fast scissors		FL	M1	AH1	AH2	ML	-	-	-
7	**Overlock**		FL	M1	M2	AH	ML	-	-	-
8	**Backlatch;** Pegasus	1113234	-	PD≤-1	PD≥1	-	-	LSP	N.AUTO	-
9	**Backlatch;** Yamato (ABT3)	1112826	-	PD≤-1	PD≥1	-	-	LSP	N.AUTO	-
	Backlatch; Yamato (ABT13, ABT17)	1113205	-	PD≤-1	PD≥1	-	-	LSP	N12.AU	N9.AU
10	**Lockstitch; e. g.** Union Special (63900AMZ replacement for US80A)	1113199	FL	-	FA-V	FW	ML	-	-	-
11	**Reversal of motor rotation with pedal in pos.–2**		FL	DR-UK	PD=-2	ML	ML	N.POS	-	-
12	**Reversal of motor rotation with input in3**		FL	DR-UK	PD=0	ML	ML	N.POS	DR-UK	-
13	**Lockstitch;** Pfaff (1425)	1113072	FL	FA	FSPL	FW	ML	NH	POS2	DB
14	**Lockstitch; e. g.**									
	Juki (5550-6)	1112816	FL	FA1+2	-	FW	-	-	-	-
	Juki (5550-7)	1113132	FL	FA1+2	FZ	FW	-	-	-	-
17	**Chainstitch;** Pegasus		FL	M1	M2	M3	ML	-	-	-
18	**Overlock;** Bottoms		FL	M1	AH	M3	ML	-	-	-
19	**Lockstitch;** Macofrey		FL	FA-R	FA-V	FW	ML	-	-	-
20	**Lockstitch;** Juki (LU1510-7)	1113200	FL	FA	FSPL	-	-	-	BIT0	BIT1
22	**Lockstitch;** Brother (B-891)		FL	FA	FSPL	FW	ML	-	-	-

Explanation of letter symbols of the previous page and chapter "Timing Diagrams"

| Outputs:		Inputs:	
FL	= Sewing foot lifting	NHT	= Needle up/down
FA1	= Thread trimmer pos. 1...1A	EST	= Single stitch
FA2	= Thread trimmer pos. 1A...2	FLEX	= External sewing foot lifting
FA1+2	= Thread trimmer pos. 1...2	N.POS	= Positioning speed
FSPL	= Thread tension release	N.AUTO	= Automatic speed
FA-R/FA-V	= Thread trimmer backward/forward	N9.AU	= Automatic speed n9
ML	= Machine running	N12.AU	= Automatic speed n12
FW	= Thread wiper	LSP	= Machine run blockage
AH/AH1/AH2	= Tape cutter / Tape cutter 1/ Tape cutter 2	DR-UK	= Reversal of motor rotation
DR-UK	= Reversal of motor rotation	NH	= Needle up
PD=0	= Pedal step 0	POS2	= Run to position 2
PD-2	= Pedal step -2	DB	= Speed limitation n12
FAO	= Needle thread trimmer	ENTK	= Unlocking the chain
FAU	= Bobbin thread trimmer	BIT0	= Speed limitation bit 0
FZ	= Thread puller	BIT1	= Speed limitation bit 1
PD≥1	= Pedal steps 1...12		
PD≤-1	= Pedal steps –1 / -2		

2 Putting into Service

Before putting the control into service, the following must be ensured, checked and/or adjusted:

- **The correct installation of the drive, position transmitter and accompanying devices, if necessary**

- **The correct selection of the trimming operation using parameter 290**

- **If necessary, the correct adjustment of the direction of motor rotation using parameter 161**

- **The correct selection of functions of the keys (inputs) using parameters 240...249**

- **The correct positioning speed using parameter 110**

- **The correct maximum speed compatible with the sewing machine using parameter 111**

- **The setting of the positions**

- **The setting of the remaining relevant parameters**

- **Start sewing in order to save the set values**

See instruction manual for details!
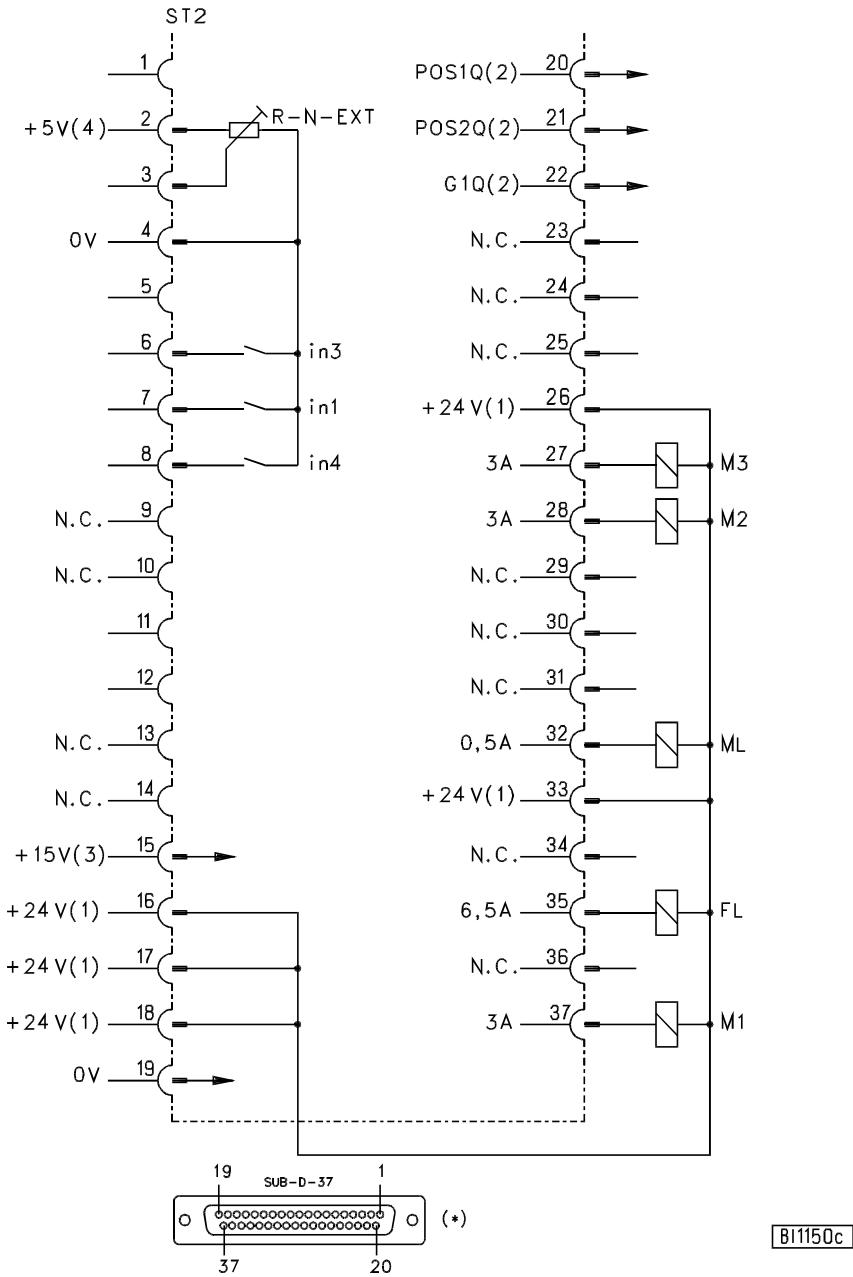
3   Operating Elements and Connectors

3.1   Position of the Operating Elements, Displays and Connectors

KL2280a
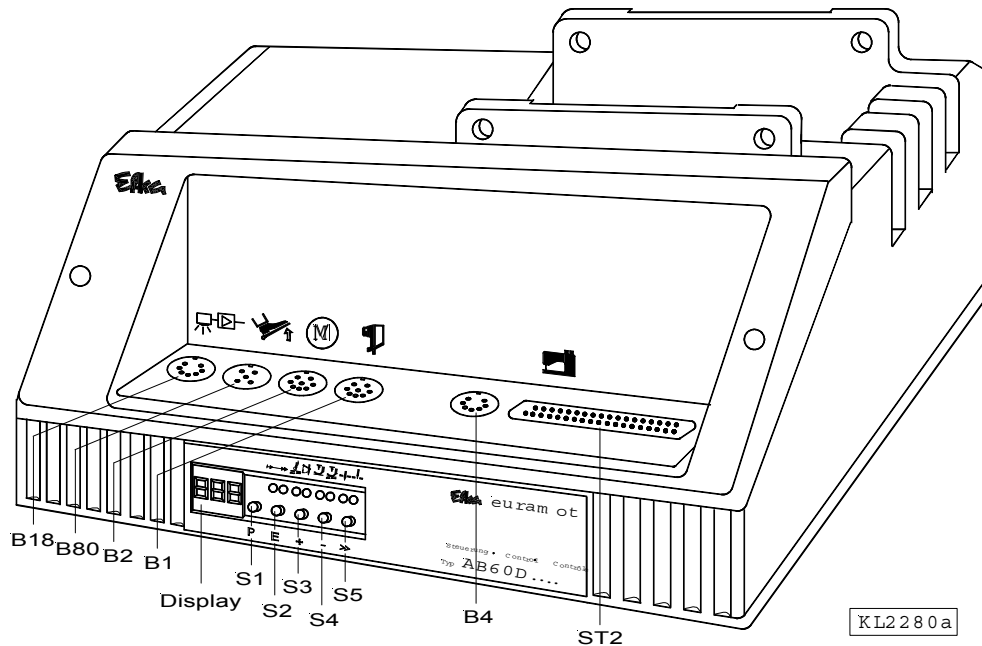
S1 P key	Call or exit programming mode	
S2 E key	Softstart on / off	
	Enter key for modifications in the programming mode	
S3 + key	Thread trimmer/thread wiper on / off	
	Increase of the value indicated in the programming mode	
S4 – key	Automatic sewing foot lift at stop in the seam On/Off	
	Automatic sewing foot lift after trimming On/Off	
	Decrease of the value indicated in the programming mode	
S5 >> key	Basic position 1 or 2	
	Shift key in the programming mode	
Display	3 digits	
B1	Connection of position transmitter	
B2	Connection of commutation transmitter for d.c. motor	
B4	Inputs of keys or switches	
B18	Connection of light barrier module or stepping motor control	
B80	Connection of actuator	
ST2	Inputs and outputs for solenoids, solenoid valves, displays, keys or switches	

3.2 Connection Diagram

Inputs switched to 0V

ST2

1		POS1Q(2)	20
+5V(4)	2	POS2Q(2)	21
	3	G1Q(2)	22
0V	4	N.C.	23
	5	N.C.	24
	6 in3	N.C.	25
	7 in1	+24V(1)	26
	8 in4	3A	27 M3
N.C.	9	3A	28 M2
N.C.	10	N.C.	29
	11	N.C.	30
	12	N.C.	31
N.C.	13	0,5A	32 ML
N.C.	14	+24V(1)	33
+15V(3)	15	N.C.	34
+24V(1)	16	6,5A	35 FL
+24V(1)	17	N.C.	36
+24V(1)	18	3A	37 M1
0V	19		

R-N-EXT

SUB-D-37

19   1
37   20

(*)

BI1150c
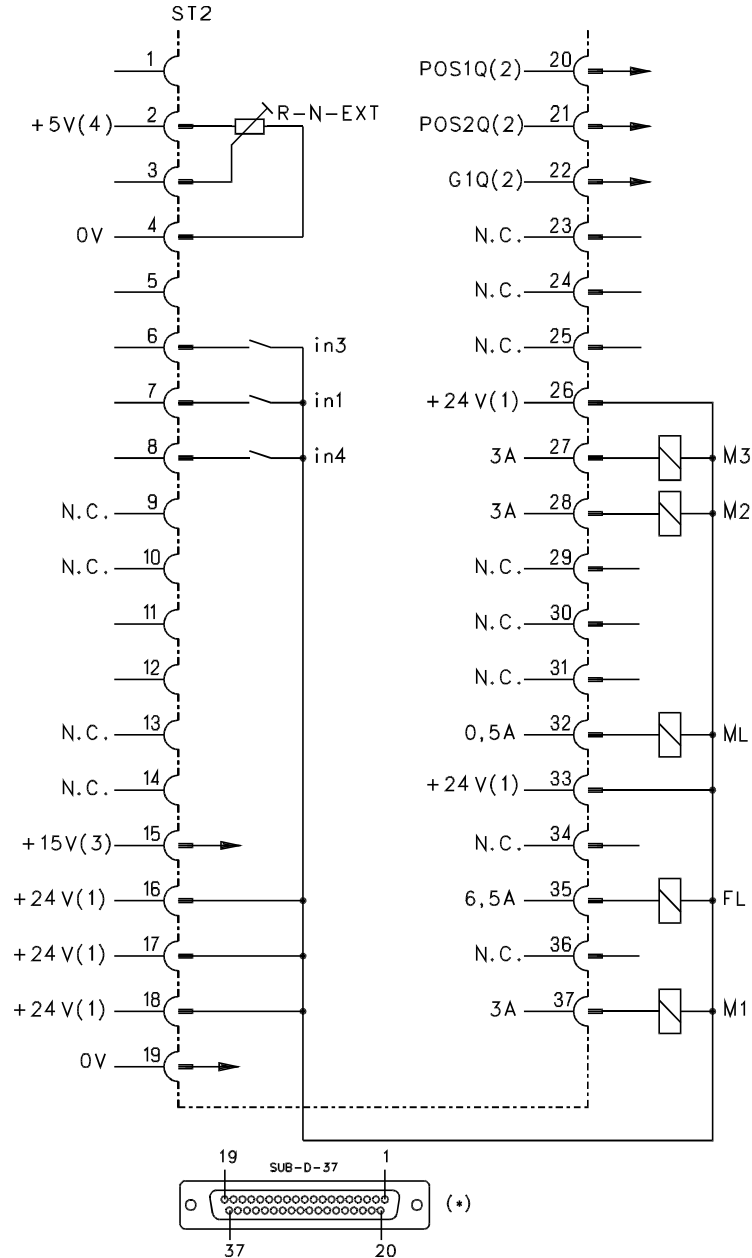
⚠

ATTENTION!
When connecting the outputs, ensure that a total power of 70VA constant load will not be exceeded!

|						
in1	- Input 1	M1	- Output 1	POS1	- Position 1
in3	- Input 3	M2	- Output 2	POS2	- Position 2
in4	- Input 4	M3	- Output 3	GEN	- Generator impulses
R-N-EXT	- External potentiometer	FL	- Sewing foot lifting		
	for speed limitation	ML	- Machine running		
	(50kΩ)				

Inputs switched to +24V

ST2

1		POS1Q(2)	20	
+5V(4)	2	R-N-EXT	POS2Q(2)	21
	3		G1Q(2)	22
0V	4		N.C.	23
	5		N.C.	24
	6	in3	N.C.	25
	7	in1	+24V(1)	26
	8	in4	3A	27 M3
N.C.	9		3A	28 M2
N.C.	10		N.C.	29
	11		N.C.	30
	12		N.C.	31
N.C.	13		0,5A	32 ML
N.C.	14		+24V(1)	33
+15V(3)	15		N.C.	34
+24V(1)	16		6,5A	35 FL
+24V(1)	17		N.C.	36
+24V(1)	18		3A	37 M1
0V	19			

19   SUB-D-37   1

(*)

37   20

BI1167

⚠️

ATTENTION!
When connecting the outputs, ensure that a total power of 70VA constant load will not
be exceeded!

1)   Nominal voltage 24V, no-load voltage max. 36V
2)   Transistor output with open collector max. 40V, 10mA
3)   Nominal voltage 15V, I_{max} = 30mA
4)   Nominal voltage 5V, I_{max} = 20mA
*)   Front view of the socket (component side) and/or rear view of the plug (soldering side)

Inputs switched to 0V   **Inputs switched to +24V**

in1	-	Input 1
in3	-	Input 3
in4	-	Input 4
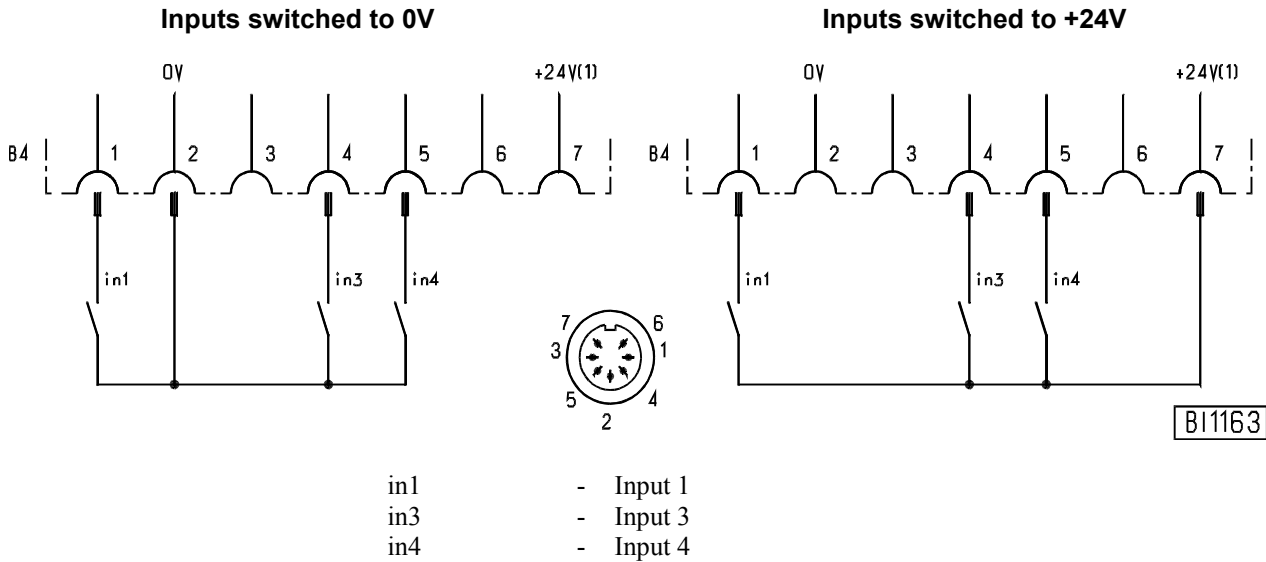
Functions of the keys can be selected for all inputs in1, in3 and in4 of the sockets ST2 and B4 using parameters 240, 242 and 243.
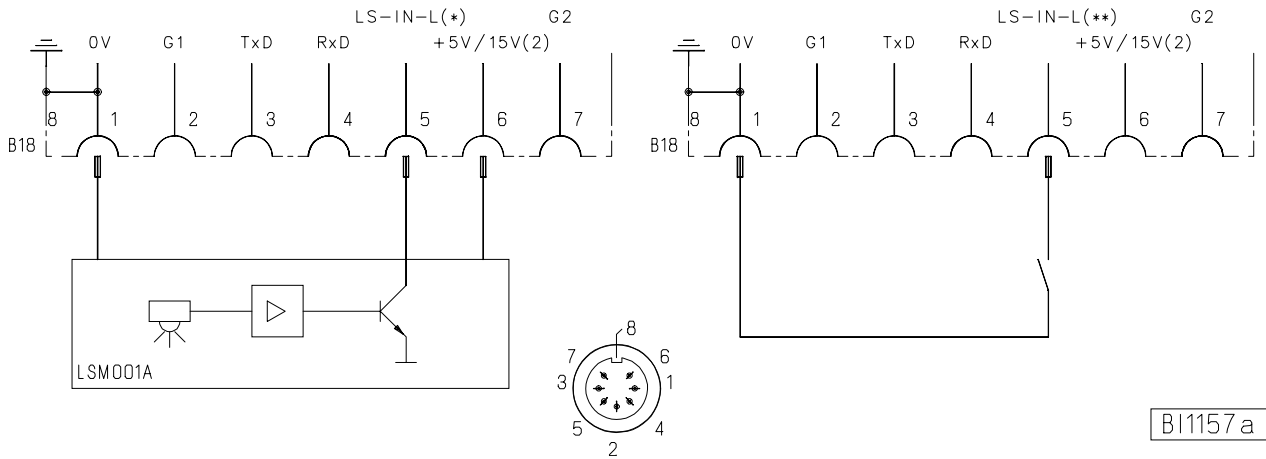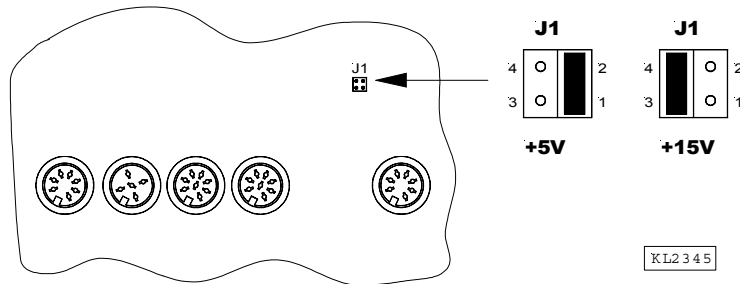

LSM001A	- Reflection light barrier module
*	- Parameter 239 = 0 ➔ The light barrier function has been selected. (Identified when switched to 0V)
**	- Parameter 239 = 1...44 ➔ Various input functions are possible on socket B18/5

| +5V	=	Connect pins1 and 2 on the right with jumper (factory setting)
+15V	=	Connect pins 3 and 4 on the left with jumper

1)   Nominal voltage +24V, no-load voltage max. 36V
2)   Nominal voltage +5V, 100mA (repluggable to +15V, 100mA)

Table: Coding of the Pedal Steps

Pedal step	D	C	B	A		
-2	H	H	L	L	Full heelback	(e. g. initiating the seam end)
-1	H	H	H	L	Slight heelback	(e. g. sewing foot lifting)
0	H	H	H	H	Pedal in pos. 0 (neutral)	
½	H	H	L	H	Pedal slightly forward	(e. g. sewing foot lowering)
1	H	L	L	H	Speed stage 1	(n1)
2	H	L	L	L	Speed stage 2	
3	H	L	H	L	Speed stage 3	
4	H	L	H	H	Speed stage 4	
5	L	L	H	H	Speed stage 5	
6	L	L	H	L	Speed stage 6	
7	L	L	L	L	Speed stage 7	
8	L	L	L	H	Speed stage 8	
9	L	H	L	H	Speed stage 9	
10	L	H	L	L	Speed stage 10	
11	L	H	H	L	Speed stage 11	
12	L	H	H	H	Speed stage 12	(n2) Pedal fully forward
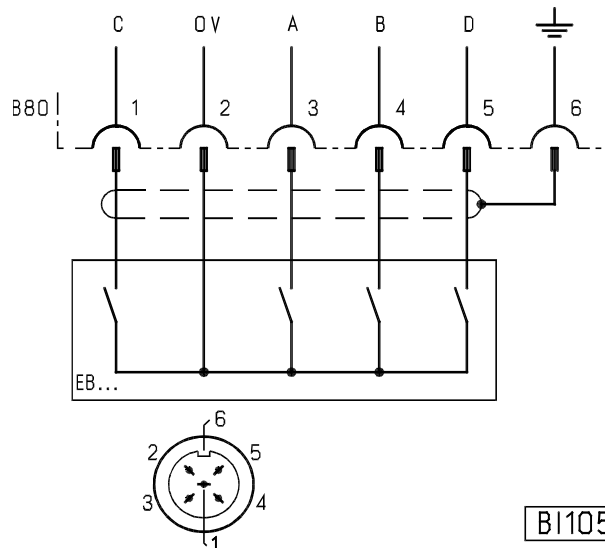
EB..   Actuator

4   Connection Scheme of an SM210A Stepping Motor Control

mot   V810/V820   DC1600

KL2510
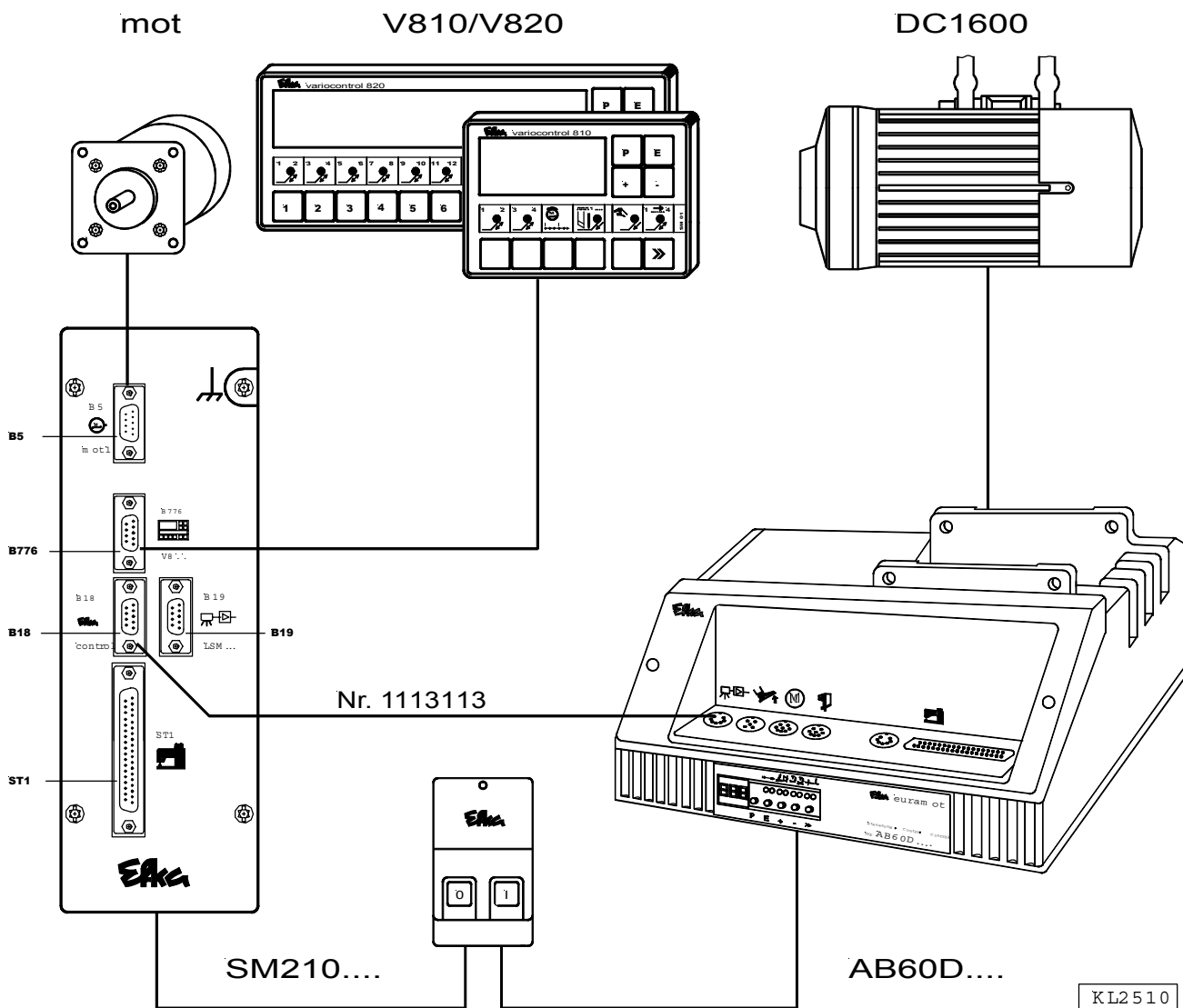
The AB60D.... control (B18) and the SM210A....stepping motor control (B18) are connected by means of adapter cord no. 1113113.

If a light barrier is required for the sewing process, it must be connected to socket B9 on the stepping motor control. The light barrier signal is transmitted via the connecting cable from the SM210A to the sewing drive.
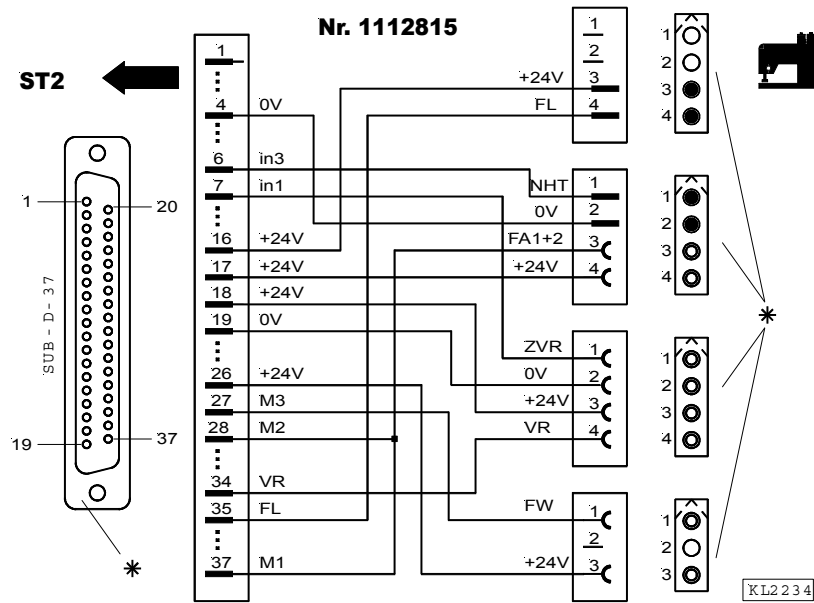
4.1 Adapter Cords

> **Note**
> The following adapter cords contain connections that are not used by the AB60D control.
> See chapter **Connection Diagram** of the ST2 and B4 sockets and compare inputs and outputs.

Adapter cord for AISIN models AD3XX, AD158, 3310 and EK1

| Setting the functional sequence | Thread trimming mode | ➜ | Set parameter 290 | = | 0 |
| Setting the functions of the keys | Input in3 | ➜ | Set parameter 242 | = | 1 |

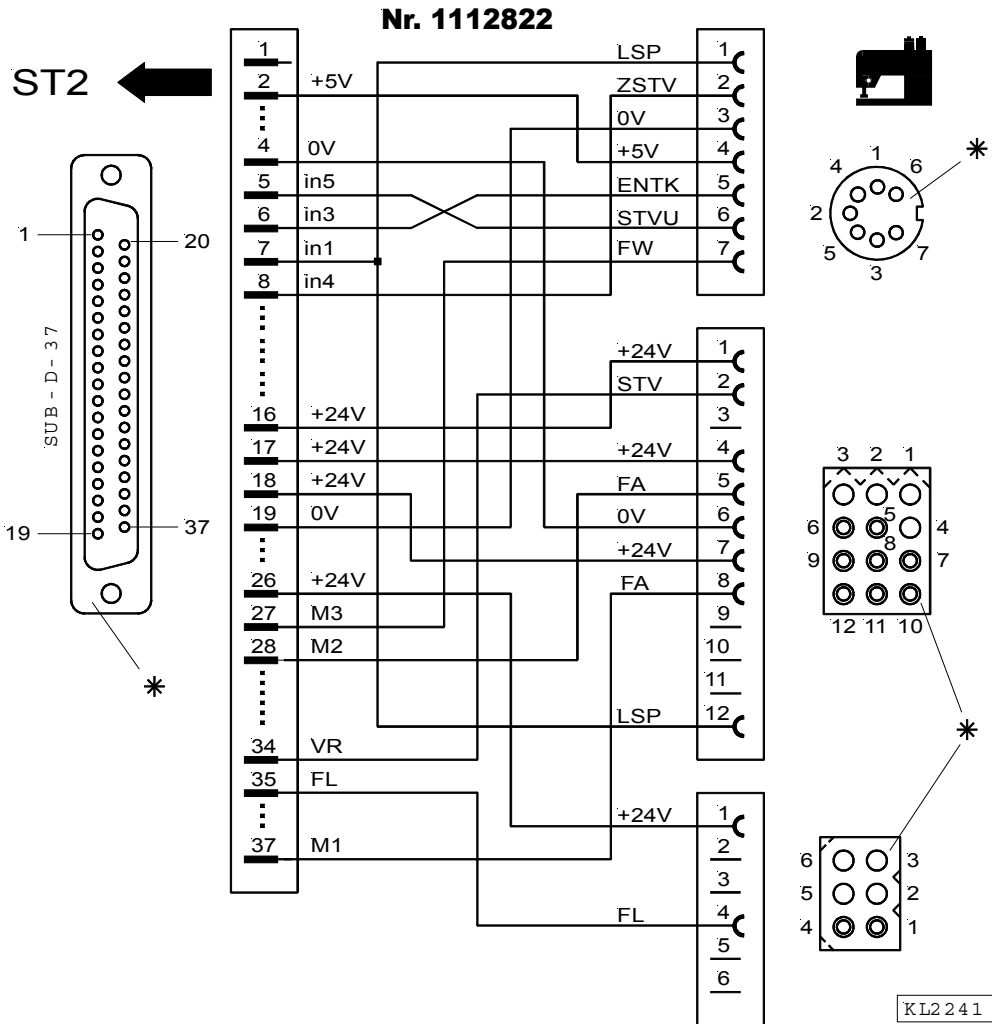**Adapter cord for BROTHER models 737-113 and 737-913**

| Setting the functional sequence | Thread trimming mode | ➜ | Set parameter 290 | = | 0 |
| Setting the functions of the keys | Input in3 | ➜ | Set parameter 242 | = | 1 |
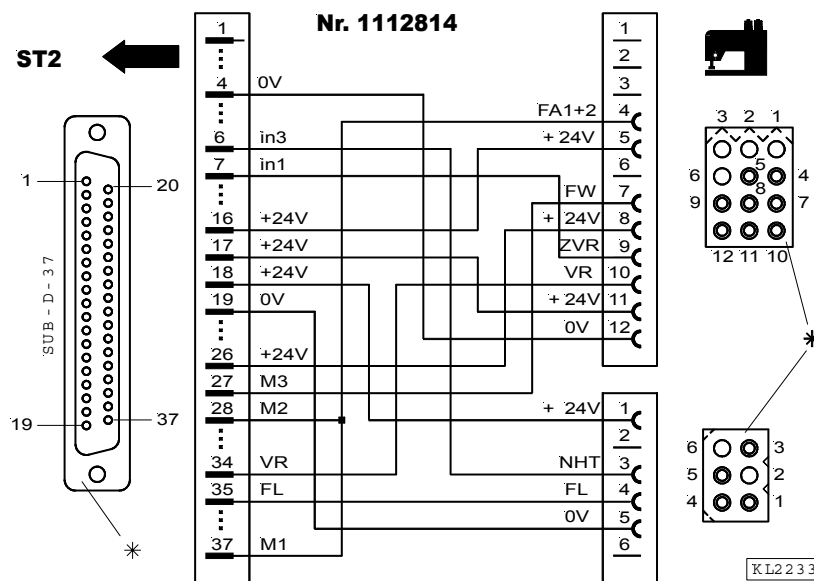
*) Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.
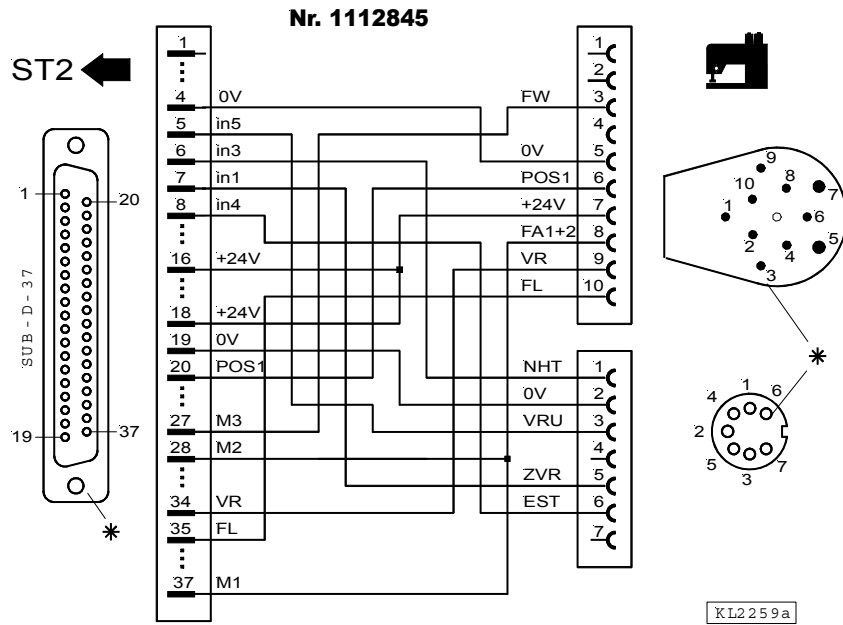
Adapter cord for BROTHER model FD3 B257

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	= 5
Setting the functions of the keys	Input in1	➔	Set parameter 240	= 7
	Input in3	➔	Set parameter 242	= 18

Nr. 1112822

ST2

SUB-D-37

KL2241

*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.
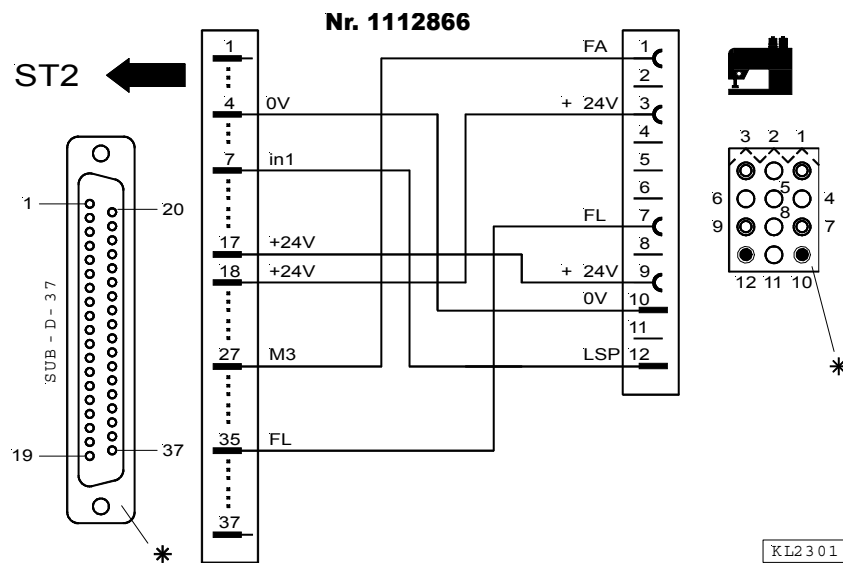
Adapter cord for DÜRKOPP ADLER models 210, 270

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	0
Setting the functions of the keys	Input in3	➜	Set parameter 242	=	1
	Input in4	➜	Set parameter 243	=	3

Nr. 1112845

KL2259a

Note: The Dürkopp Adler set of keys can be directly connected to control socket B4, and the corresponding input functions can be selected with parameter 240/242/243!

Adapter cord for GLOBAL model CB2803-56

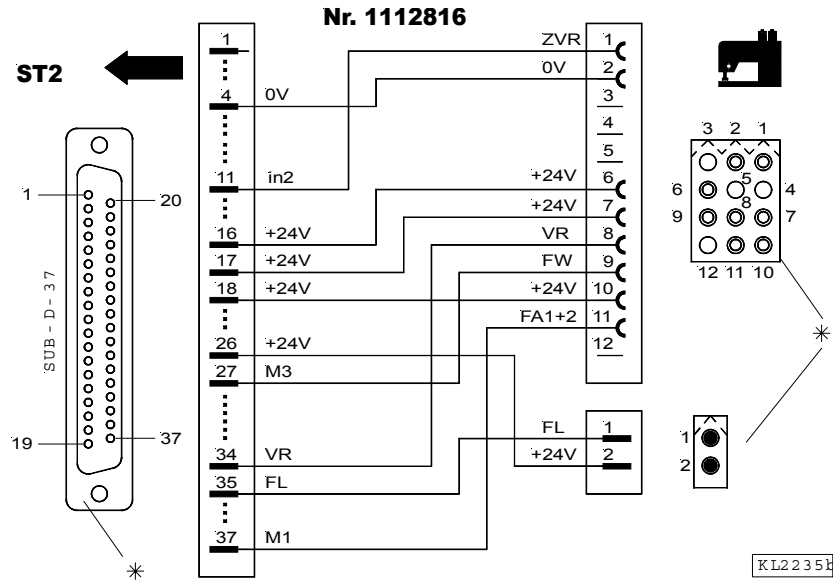| Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	5
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	6

Nr. 1112866

KL2301

*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

> **Note**
> Adapter cords nos. 1112816 and 1113132 can only be used for signals with sewing foot lifting and thread trimmer.
> A manual backtack is possible only if one of the outputs M1...M3 is switched to a different function using the
> corresponding parameter, and the key is connected to one of the inputs in1, in3 or in4 directly on the 37-pin plug.
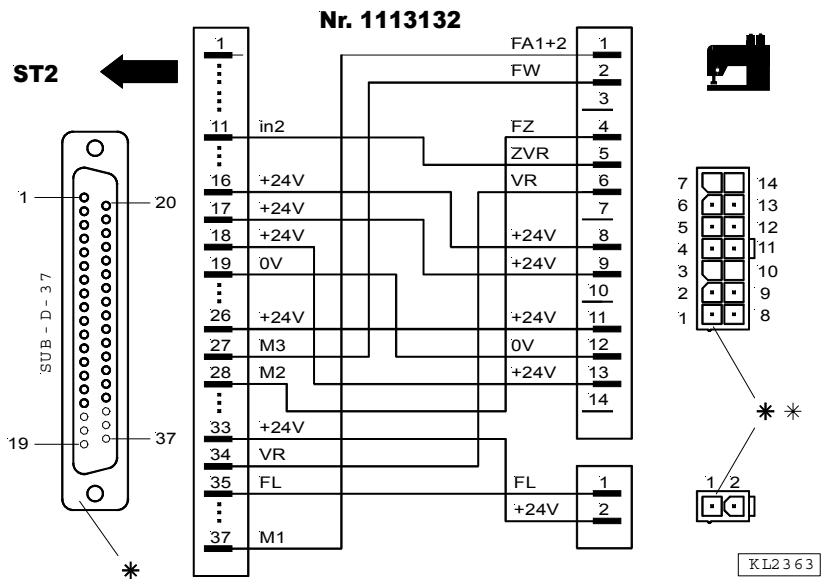> **Input in 2 is not connected!**

Adapter cord for JUKI model 5550-6

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	= 14

Nr. 1112816

KL2235b

Adapter cord for JUKI model 5550-7

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	= 14

Nr. 1113132

KL2363

*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

**)   Front view (component side) of the Molex Minifit plugs.

Adapter cord for JUKI model LU1510-7

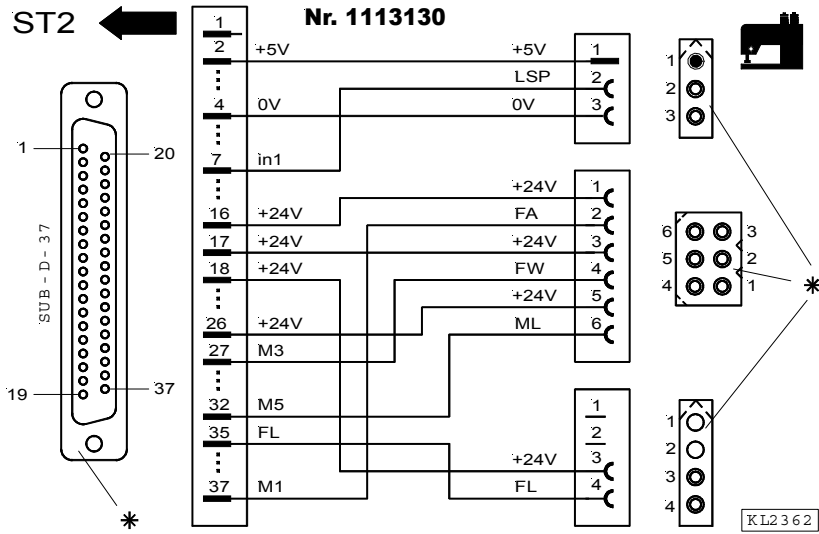| Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	= 20
Setting the functions of the keys	Input in3	➜	Set parameter 242	= 31
(Automatic setting)	Input in4	➜	Set parameter 243	= 32
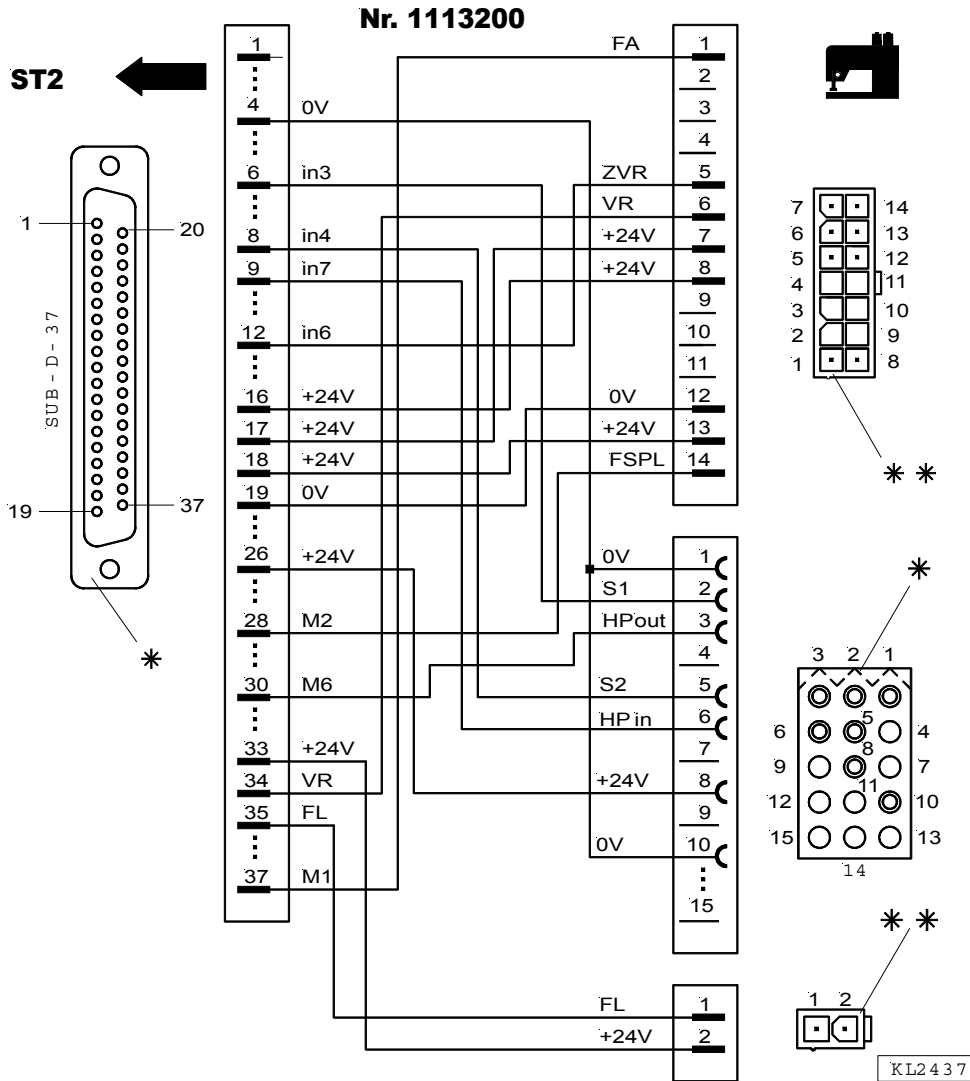
in3 = Input **speed limitation bit 0** (S1)
in4 = Input **speed limitation bit 1** (S2)

*) Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

**) Front view (component side) of the Molex Minifit plugs.

Adapter cord for KANSAI model RX9803

| Setting the functional sequence | Thread trimming mode | ➜ | Set parameter 290 | = 5 |
| Setting the functions of the keys | Input in1 | ➜ | Set parameter 240 | = 7 |

*) Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

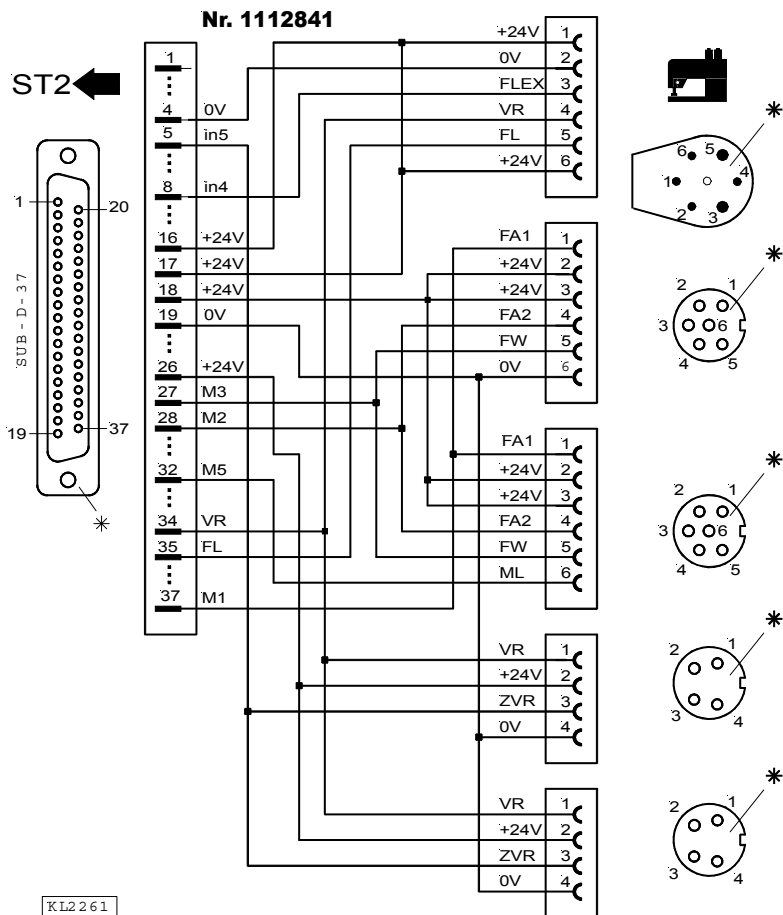**Adapter cord for PFAFF models 563, 953, 1050, 1180 without thread monitor**

| Setting the functional sequence | Thread trimming mode | ➜ | Set parameter 290 | = 0 |
| Setting the functions of the keys | Input in4 | ➜ | Set parameter 243 | = 12 |

*) Rear view (soldering side) of 37-pin plug (ST2) and of the remaining sockets.

Adapter cord for PFAFF model 1425

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	= 13
Setting the functions of the keys	Input in1	➜	Set parameter 240	= 2
(Automatic setting)	Input in3	➜	Set parameter 242	= 24
	Input in4	➜	Set parameter 243	= 11
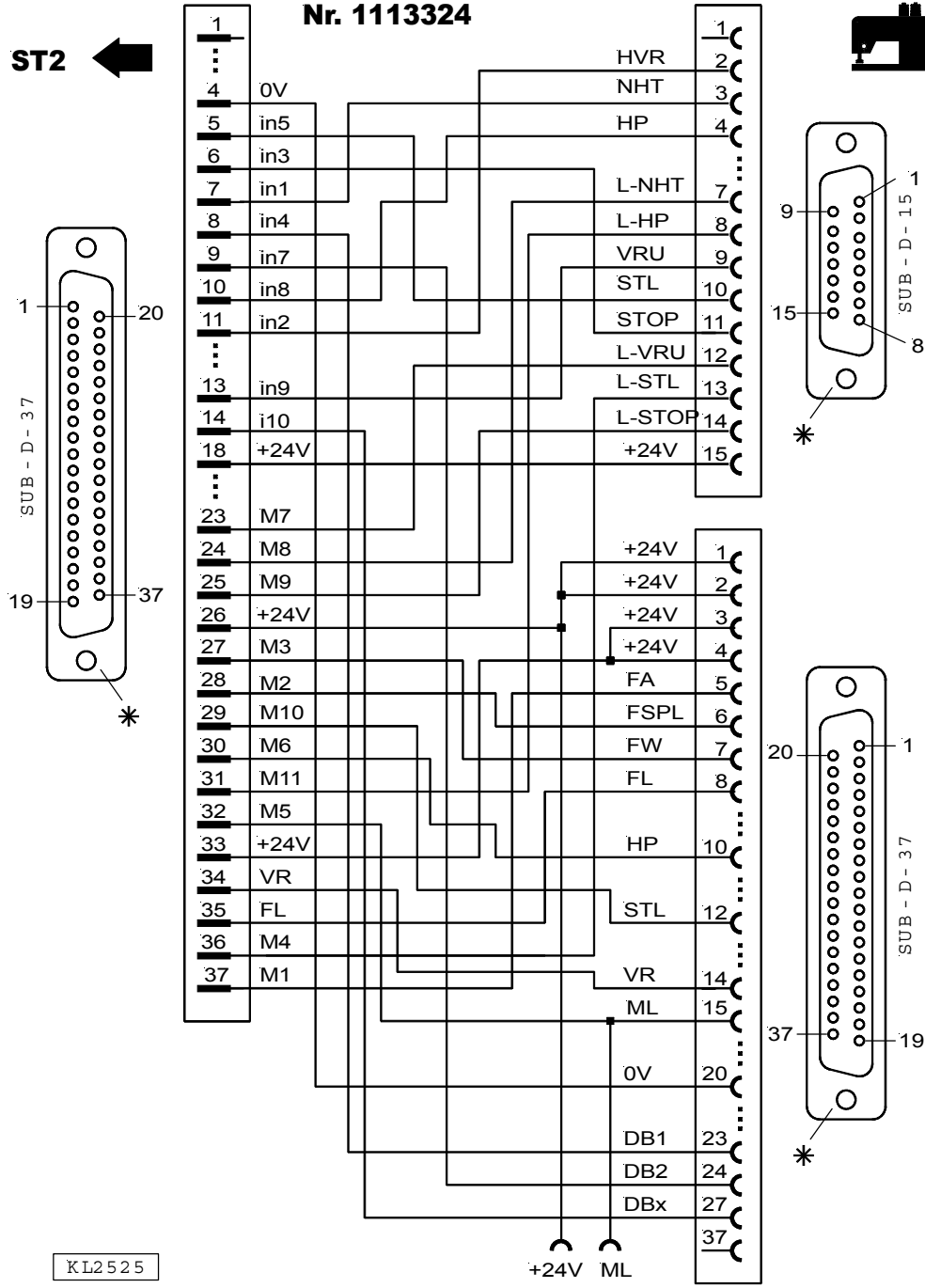
KL2525

in1 = Input **needle up**
in3 = Input **needle moves from position 1 to position 2**
in4 = Input **speed limitation n12 with pedal**

*) Rear view (soldering side) of 37-pin plug (ST2) and of the remaining sockets.

Adapter cord for PEGASUS model W500/UT

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	5
	Thread trimming mode	➜	Set parameter 290	=	17
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	7

Attention! If parameters 290 = 17, the lead of socket ST2/34 of the adapter cord below must be resoldered to ST2/37. Cut the lead which was soldered to socket ST2/37. **(M1 = Top cover thread cutter, M3 = Stitchlock signal)**.

Nr. 1112821

Attention! **When using this adapter cord on a Pegasus machine, the 9-core cable no. 742373-91 must be removed from the machine!**

Adapter cord for PEGASUS backlatch machines

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	8
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	6
(Automatic setting)	Input in3	➜	Set parameter 242	=	10

Nr. 1113234
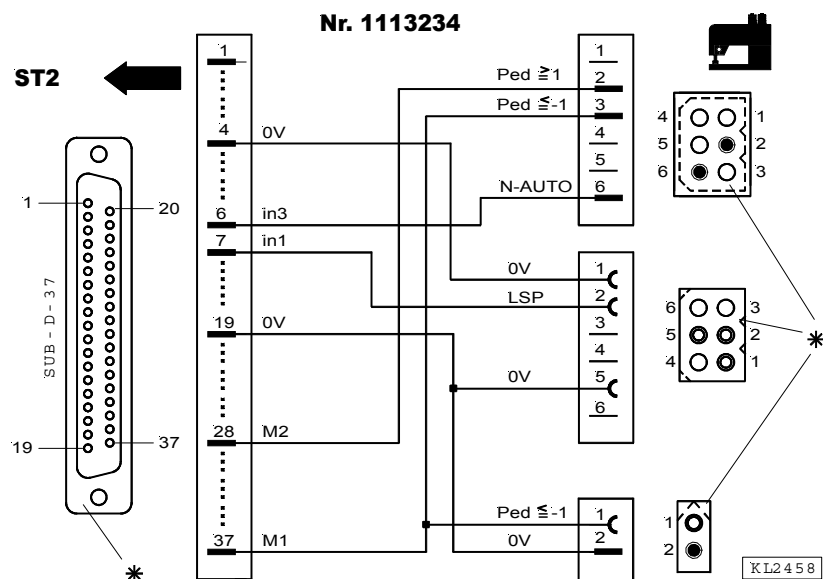
*) Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

Adapter cord for RIMOLDI model F27

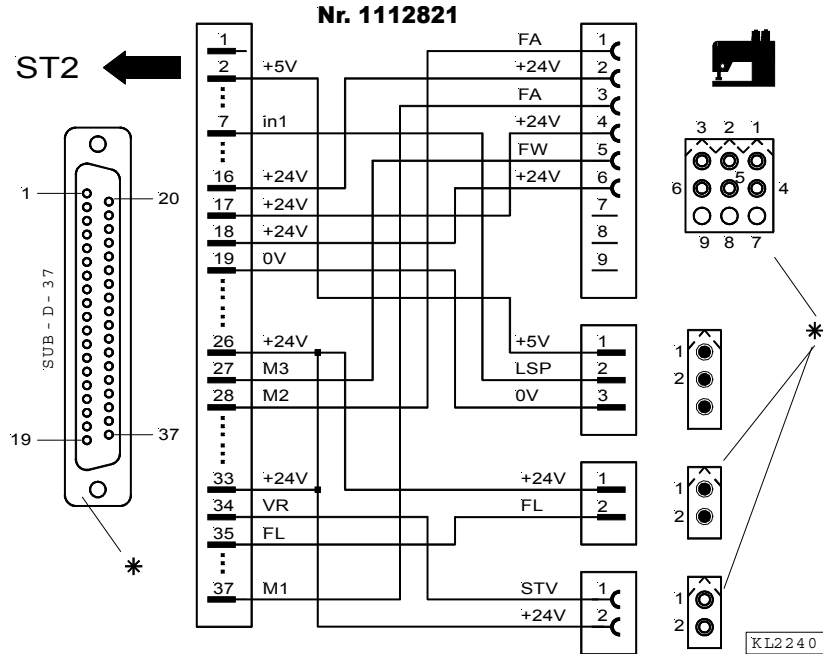| Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	=	5

Nr. 1113096

*)   Rear view (soldering side) of 37-pin plug (ST2) and of the remaining sockets.

Adapter cord for SINGER models 211, 212 and 591

Setting the functional sequence (Singer models 591, 211U, 212U)	Thread trimming mode	➔	Set parameter 290	=	1
Setting the functional sequence (Singer model 212UTT)	Thread trimming mode	➔	Set parameter 290	=	2
Setting the functions of the keys	Input in1	➔	Set parameter 240	=	1

Nr. 1112824

*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

Adapter cord for UNION SPECIAL models CS100 and FS100
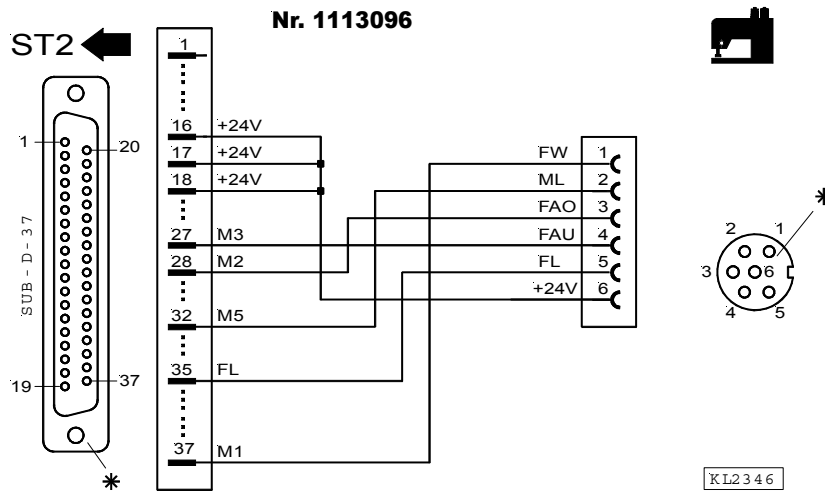
Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	=	4
Setting the functions of the keys	Input in1	➔	Set parameter 240	=	6
	Input in3	➔	Set parameter 242	=	6

Nr. 1112905
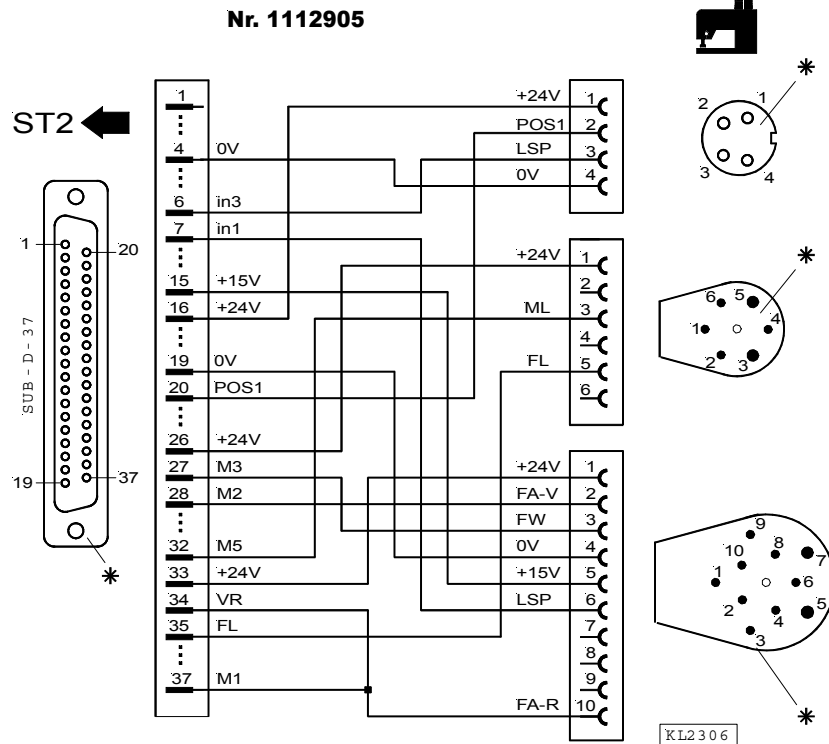
in1 = Input **machine run blockage** for thread trimming control proximity switch
in3 = Input **machine run blockage** for thread monitor

Adapter cord for UNION SPECIAL model 63900AMZ

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	=	10

Nr. 1113199

*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.
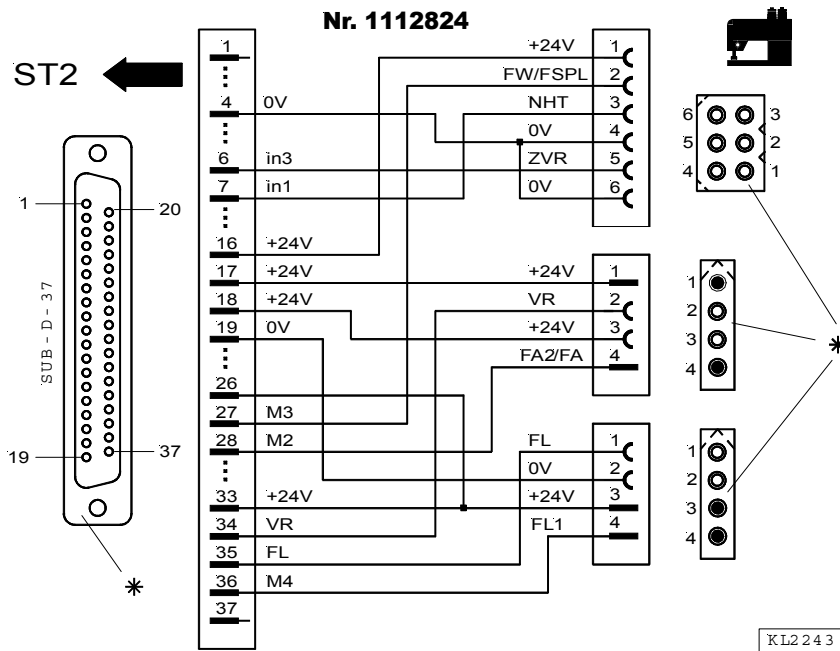
Adapter cord for UNION SPECIAL models 34000 and 36200

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	4
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	6
	Input in3	➜	Set parameter 242	=	6
	Input in4	➜	Set parameter 243	=	18
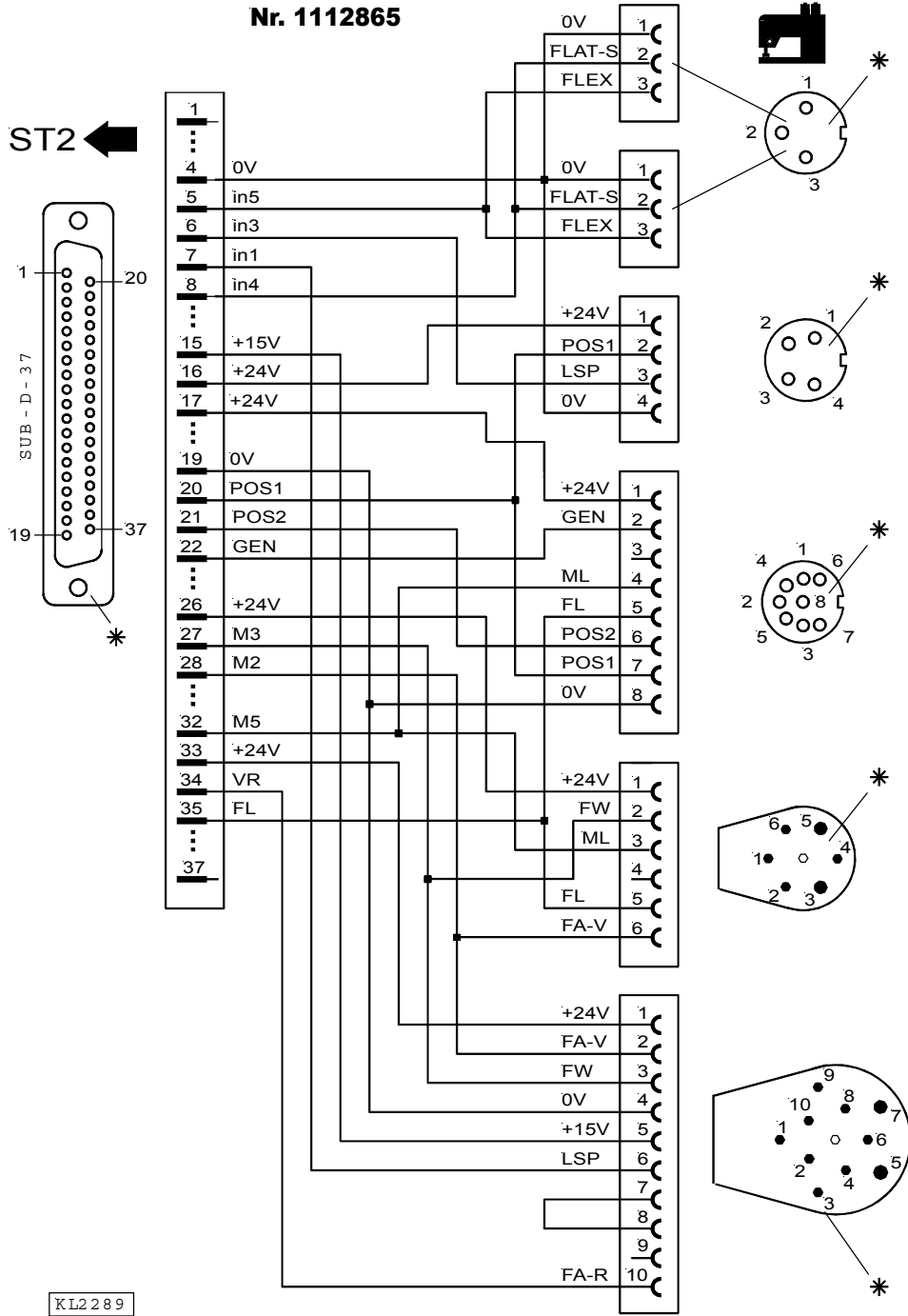
Nr. 1112865

in1 = Input **machine run blockage** for thread trimming control proximity switch
in3 = Input **machine run blockage** for thread monitor
in4 = Input **unlocking the chain** corresponds to function **flatseamer (FLAT-S)**

*)   Rear view (soldering side) of 37-pin plug (ST2) and of the remaining sockets.

Adapter cord for YAMATO chainstitch machines VC series

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	= 5
Setting the functions of the keys	Input in1	➔	Set parameter 240	= 7

Nr. 1112818

KL2237
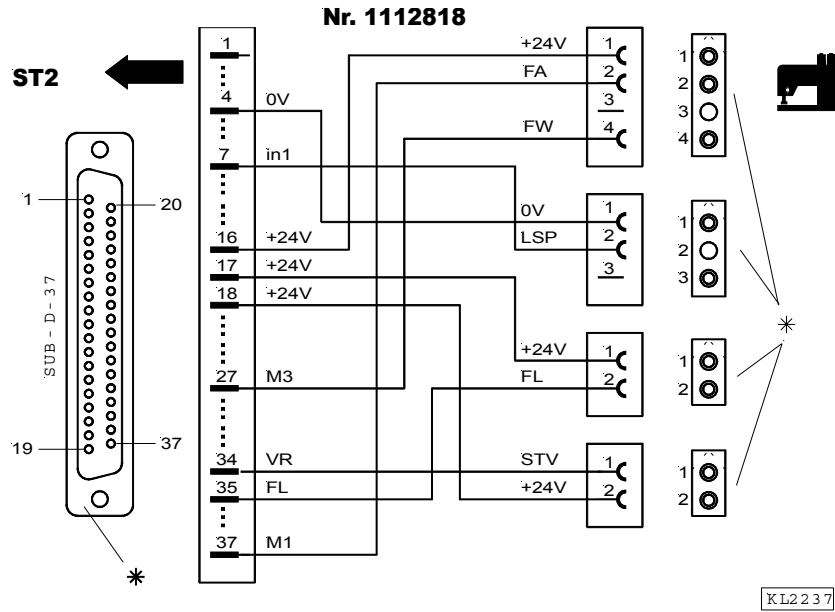
Adapter cord for YAMATO chainstitch machines VG series

Setting the functional sequence	Thread trimming mode	➔	Set parameter 290	= 5
Setting the functions of the keys	Input in1	➔	Set parameter 240	= 7

Nr. 1113178

KL2405
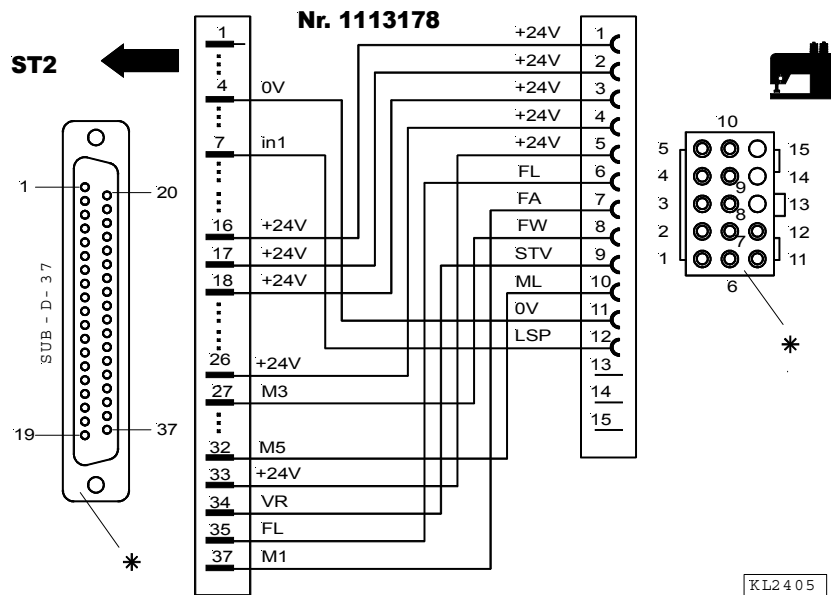
*)   Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.
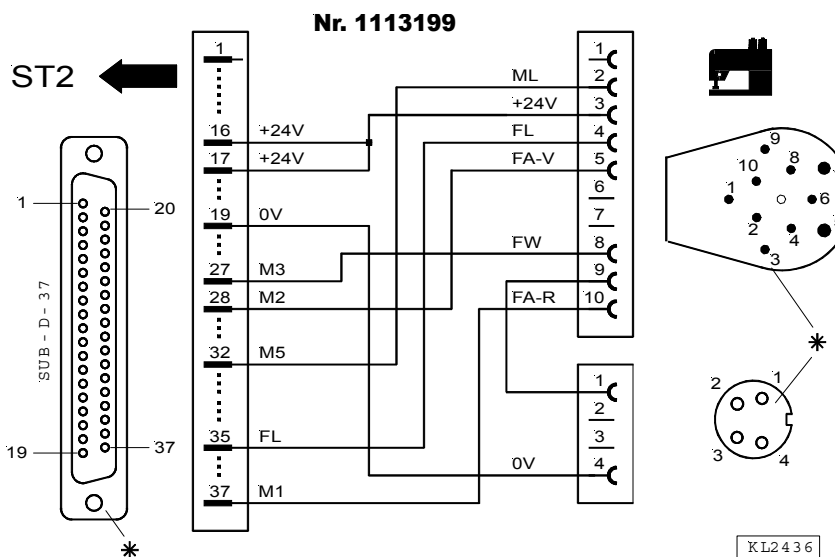
Adapter cord for YAMATO backlatch machine model ABT3

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	9
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	6
(Automatic setting)	Input in3	➜	Set parameter 242	=	10
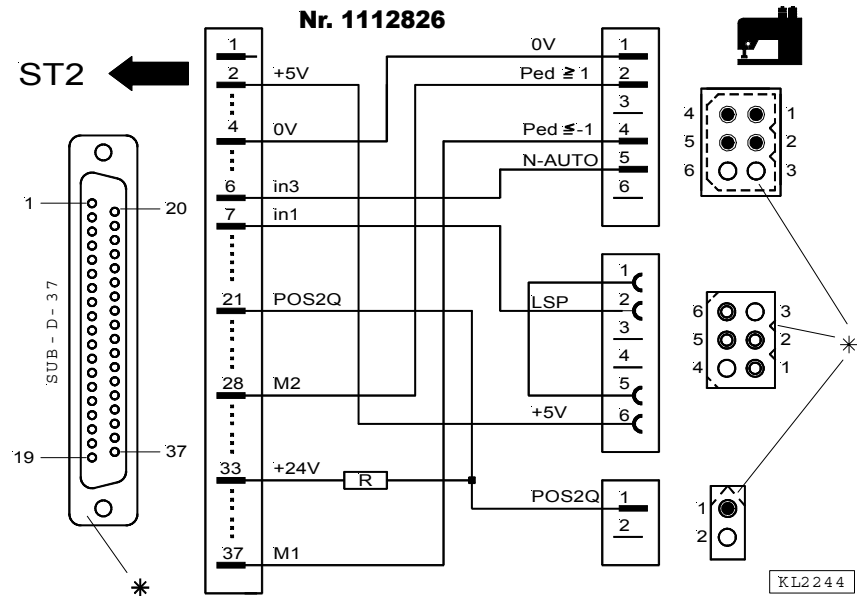
Adapter cord for YAMATO backlatch machine models ABT13 and ABT17

Setting the functional sequence	Thread trimming mode	➜	Set parameter 290	=	9
Setting the functions of the keys	Input in1	➜	Set parameter 240	=	6
(Automatic setting)	Input in3	➜	Set parameter 242	=	10
	Input in4	➜	Set parameter 243	=	34
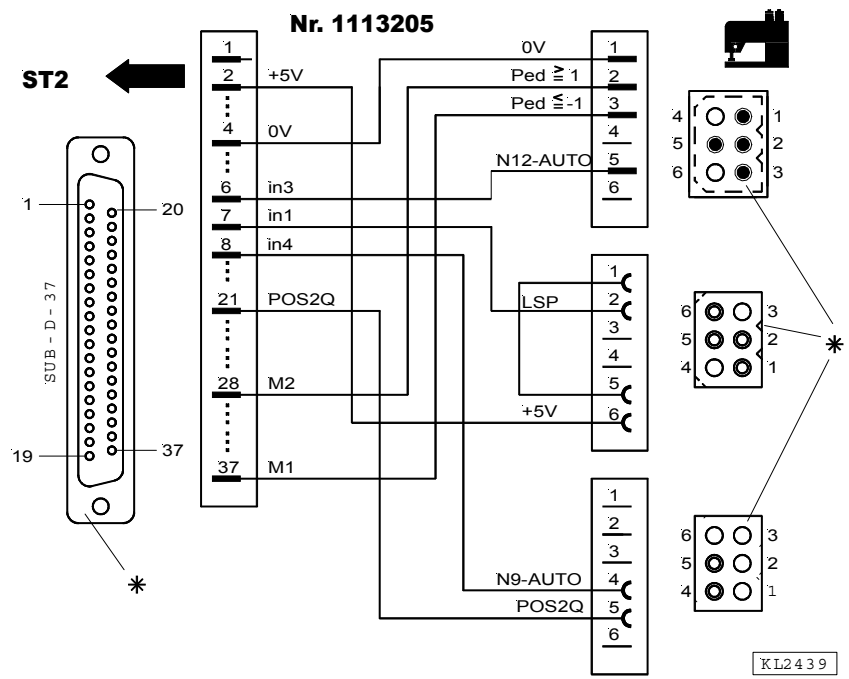
*) Rear view (soldering side) of 37-pin plug (ST2). Front view (component side) of the remaining plugs/sockets.

5 Timing Diagrams

Mode 0 (lockstitch)
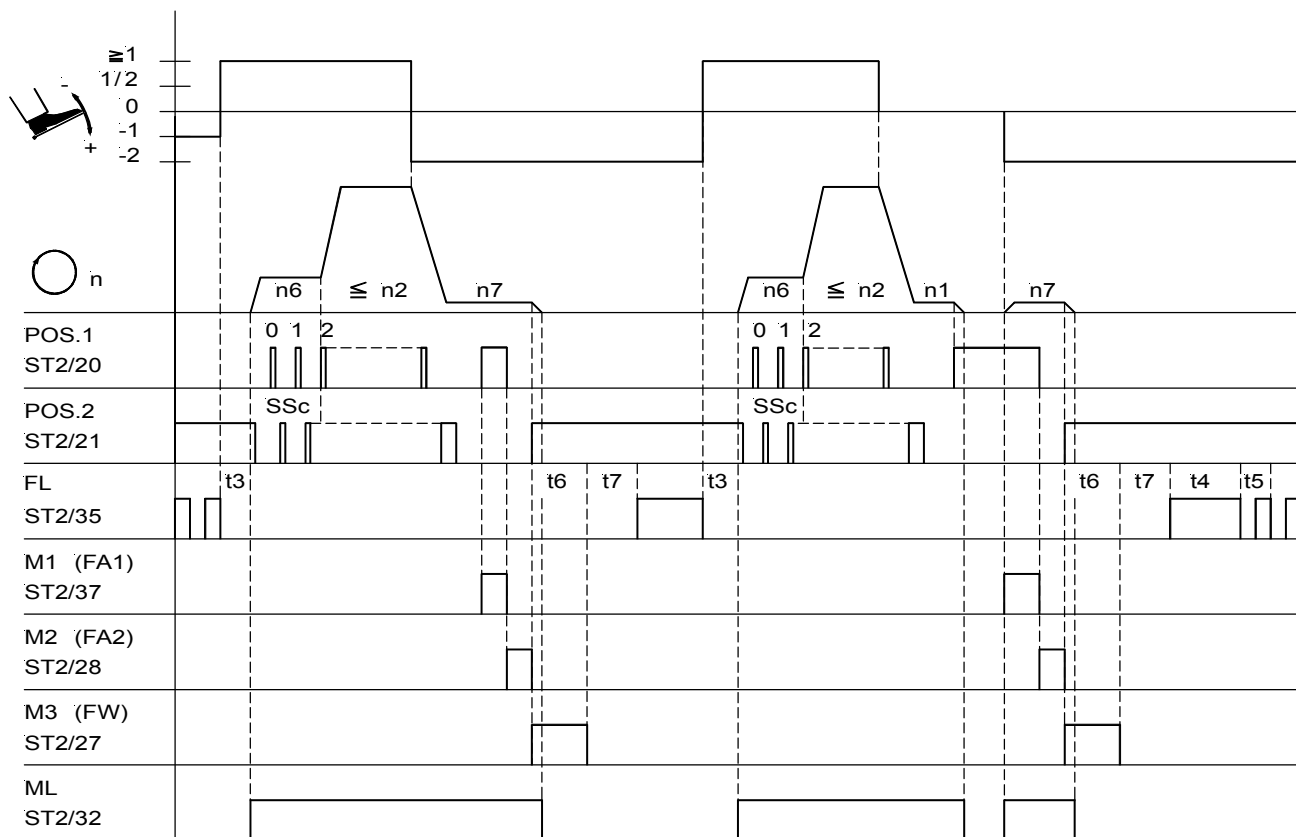

```
0251/MODE- 0
```

Mark	Function	Parameter	Control
	Mode 0 Softstart On Thread trimmer and thread wiper On Signal M1 thread trimmer pos. 1...pos. 1A	290 = 0 145 = OFF	Key S2 Key S3
n1 n2 n6 n7	Positioning speed Maximum speed Softstart speed Trimming speed	110 111 115 116	
SSc t3 t4 t5 t6 t7	Softstart stitches Start delay from lifted sewing foot Full power of sewing foot lifting Pulsing of sewing foot lifting Thread wiper ON period Sewing foot switch-on delay after thread wiper	100 202 203 204 205 206	

Mode 1 (lockstitch)


```
0251/MODE-1
```

Mark	Function	Parameter	Control
	Mode 1	290 = 1	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	

Mode 2 (lockstitch)
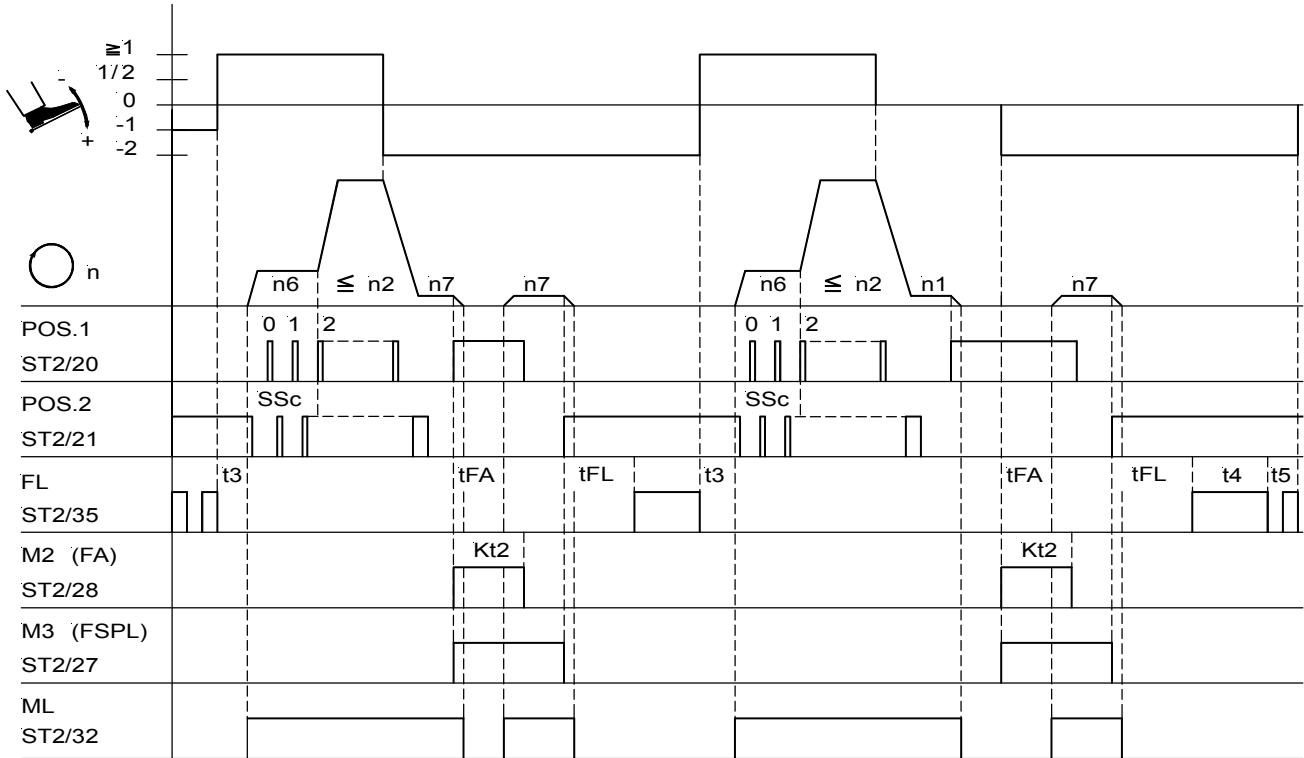

```
0251/MODE-2
```

Mark	Function	Parameter	Control
	Mode 2	290 = 2	
	Softstart On		Key S2
	Thread trimmer On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	
tFL	Sewing foot switch-on delay when the thread wiper is off	211	
tFA	Stop time for thread trimmer	253	
kt2	ON period output M2	283	

Mode 3 (lockstitch)
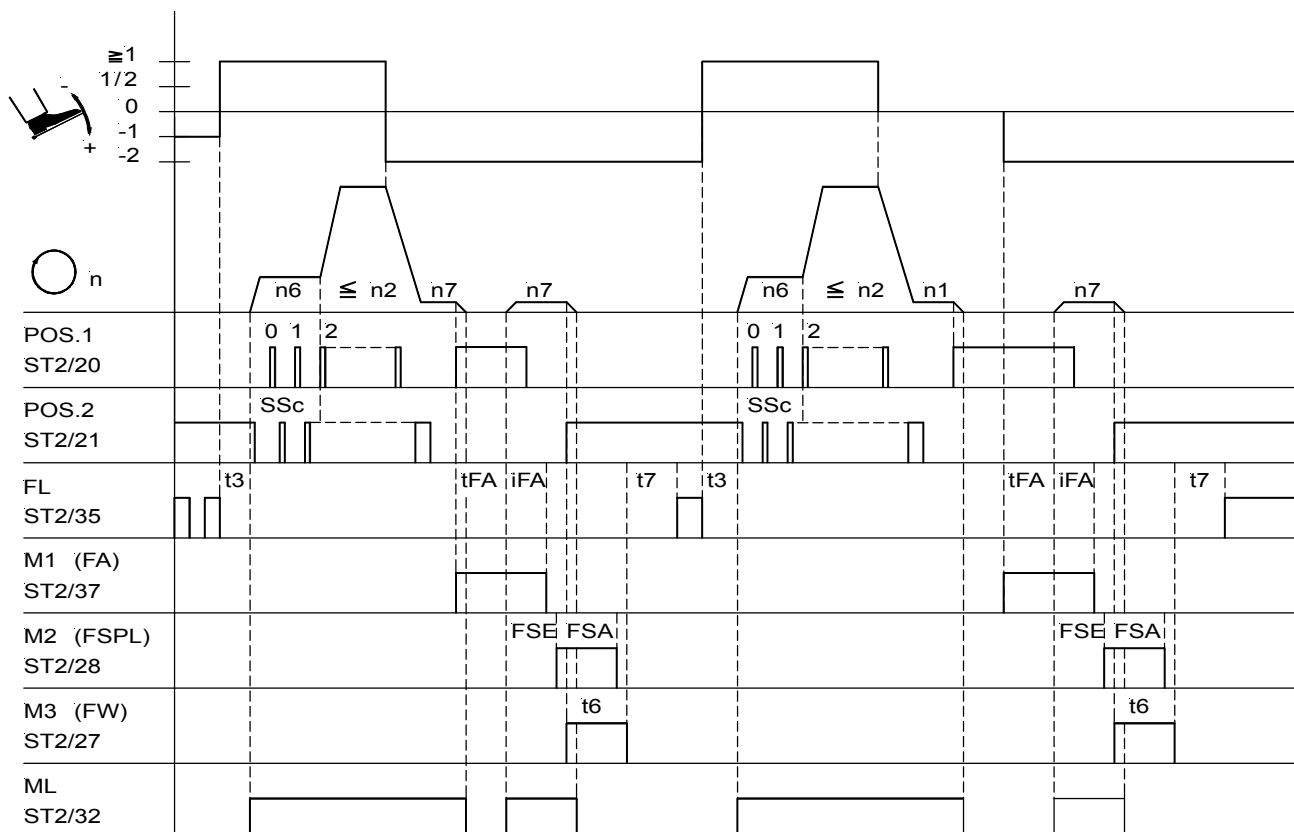
0251/MODE-3

Mark	Function	Parameter	Control
	Mode 3	290 = 3	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	
iFA	Thread trimmer activation angle	250	
FSA	Thread tension release ON period	251	
FSE	Thread tension release delay depending on angle	252	
tFA	Stop time for thread trimmer	253	

Mode 4 (chainstitch)
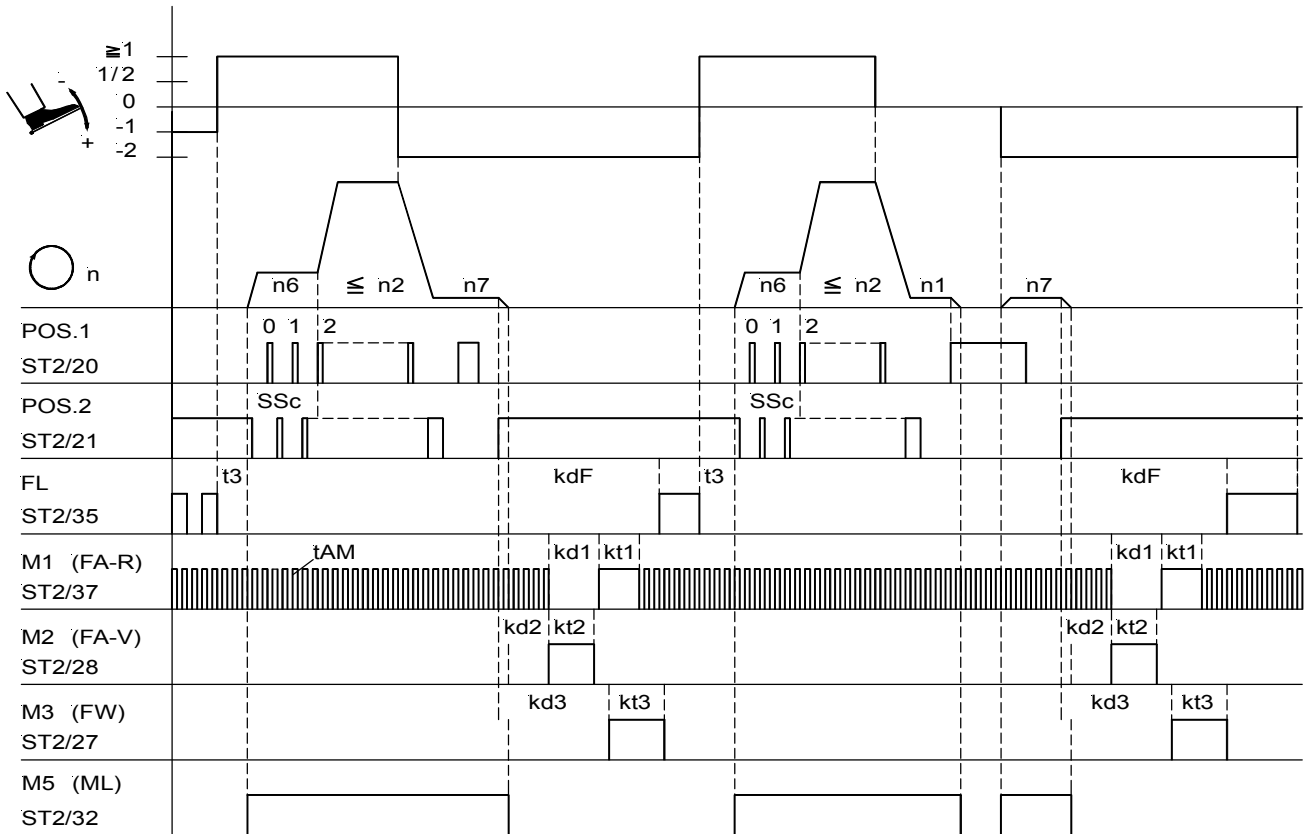
`0251/MODE-4`

Mark	Function	Parameter	Control
	Mode 4	290 = 4	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
	Signal "machine running" M1, M2, M3 Off	147 = 0	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
tAM	Holding power output M1 of the thread trimmer	254	
kd1	Delay time of the thread trimmer backward M1	280	
kt1	ON period of the thread trimmer backward M1	281	
kd2	Delay time of the thread trimmer forward M2	282	
kt2	ON period of the thread trimmer forward M2	283	
kd3	Delay time of the thread wiper M3	284	
kt3	ON period of the thread wiper M3	285	
kdF	Delay time until sewing foot On	288	

Mode 5 (chainstitch) parameter 196 = 0
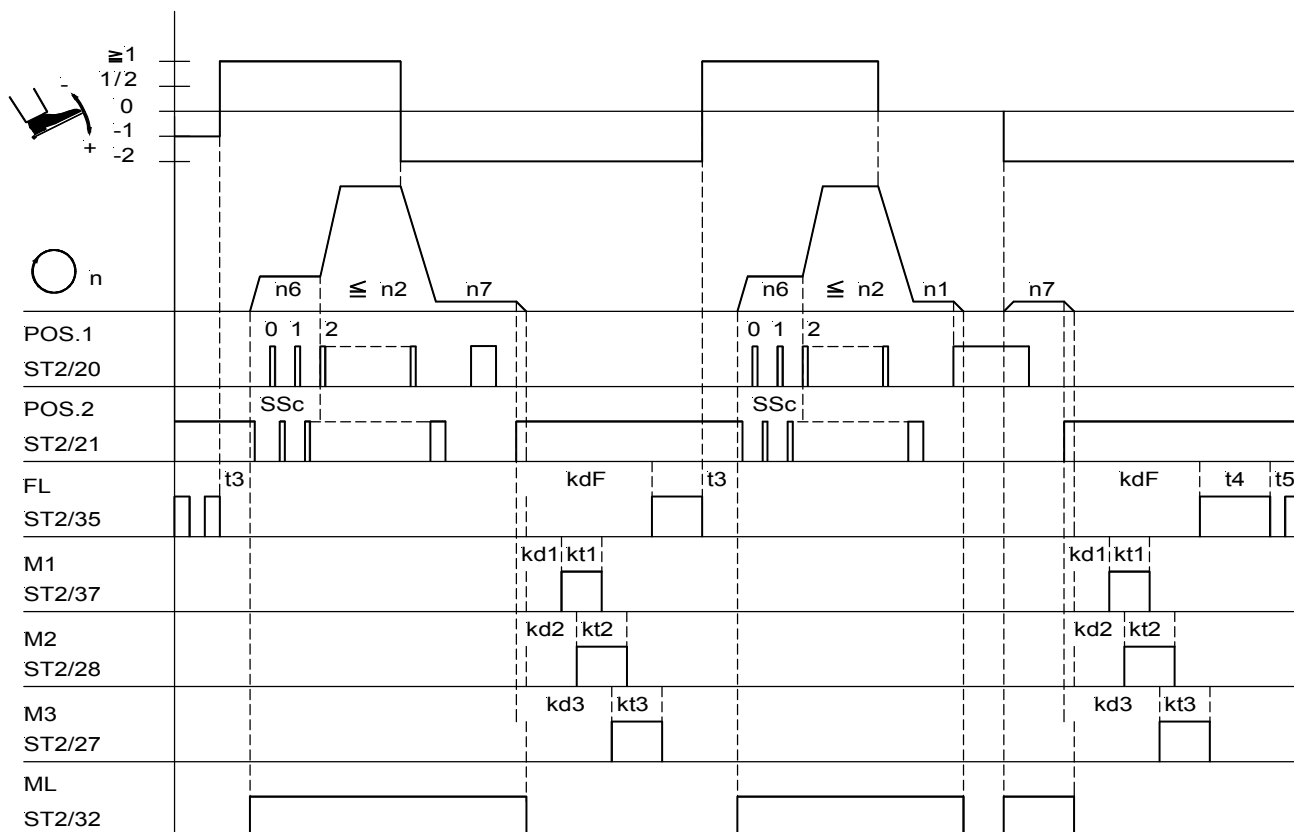
0251/MODE-5a

Mark	Function	Parameter	Control
	Mode 5	290 = 5	
	Chainstitch in general	196 = 0	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1	Delay time of the thread trimmer M1	280	
kt1	ON period of the thread trimmer M1	281	
kd2	Delay time of the thread trimmer M2	282	
kt2	ON period of the thread trimmer M2	283	
kd3	Delay time of the thread wiper M3	284	
kt3	ON period of the thread wiper M3	285	
kdF	Delay time until sewing foot On	288	

Mode 5 (chainstitch) parameter 196 = 1

0251/MODE-5b

Mark	Function	Parameter	Control
	Mode 5	290 = 5	
	Chainstitch Pegasus	196 = 1	
	Thread trimmer and thread wiper On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n7	Trimming speed	116	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t7	Delay time until sewing foot On	206	
kd1	Delay time output M1	280	
kt1	ON period output M1	281	
kd2	Delay time output M2 for thread trimmer	282	
kt2	ON period output M2 for thread trimmer	283	
kd3	Delay time output M3 for thread wiper	284	
kt3	ON period output M3 for thread wiper	285	

Mode 5 (chainstitch) parameter 273 = ON
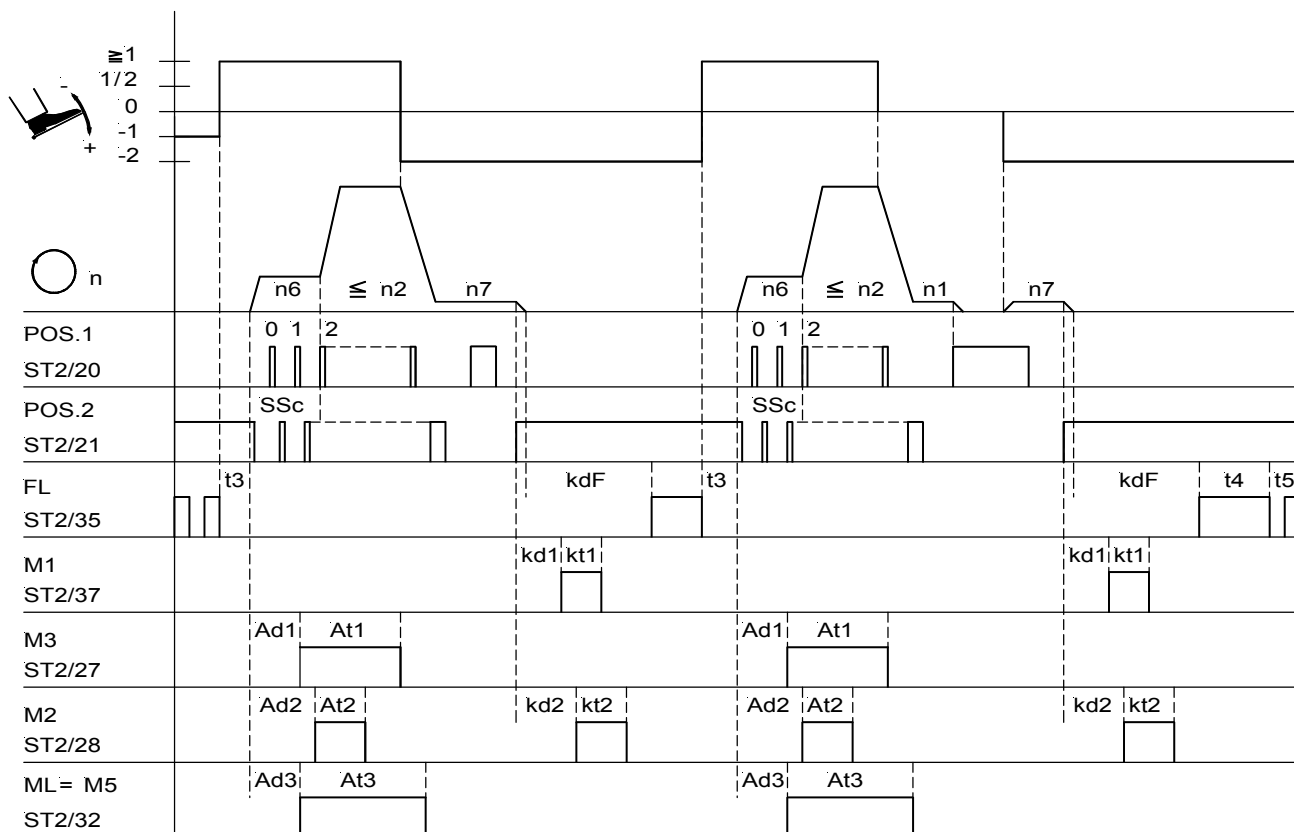
`0251/MODE-5c`

Mark	Function	Parameter	Control
	Mode 5	290 = 5	
	Function "initial trimming" On	273 = ON	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
Ad1	Delay time signal M3 at the start of the seam	274	
At1	ON period signal M3 at the start of the seam	275	
Ad2	Delay time signal M2 at the start of the seam	276	
At2	ON period signal M3 at the start of the seam	277	
Ad3	Delay time signal M5 at the start of the seam	278	
At3	ON period signal M5 at the start of the seam	279	
kd1	Delay time of the thread trimmer M1	280	
kt1	ON period of the thread trimmer M1	281	
kd2	Delay time of the thread trimmer M2	282	
kt2	ON period of the thread trimmer M2	283	
kdF	Delay time until sewing foot On	288	

Mode 4, 5, 6 or 7 (function "unlocking the chain" with light barrier)
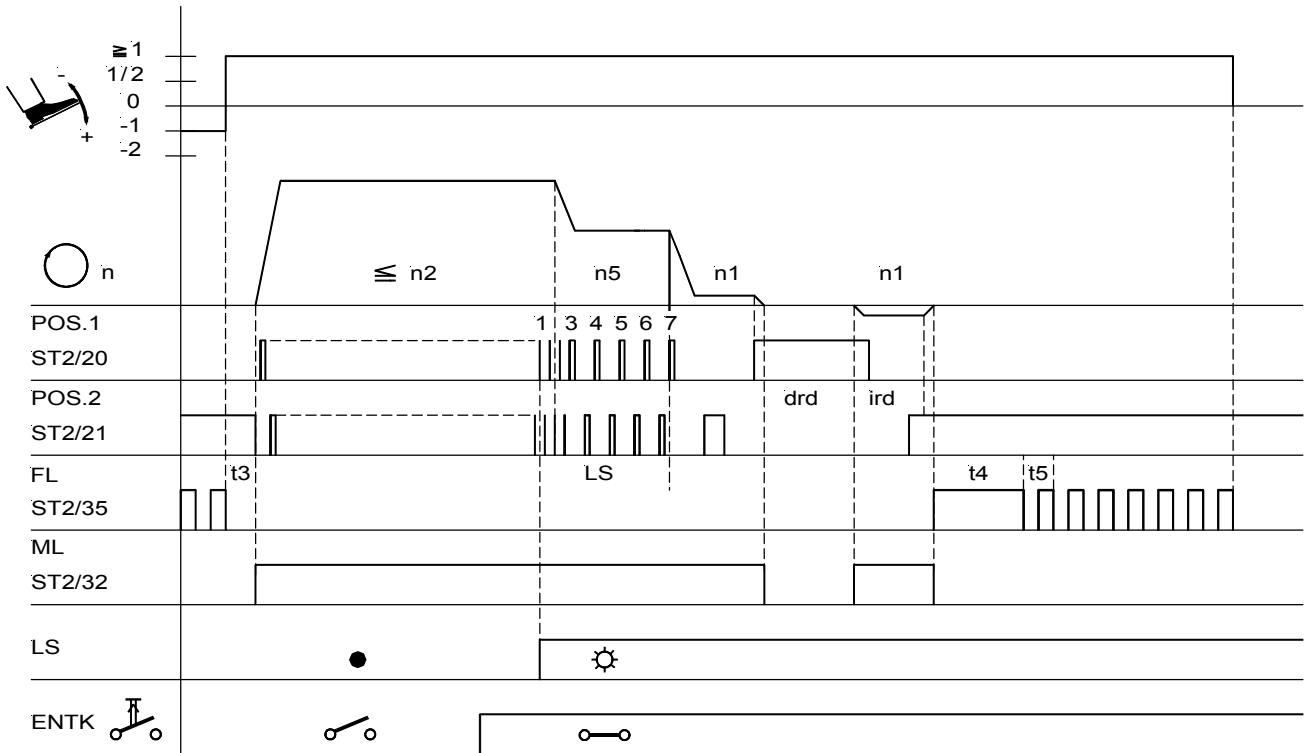

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0251/ENTK-1
```

Mark	Function	Parameter	Control
	Mode 5 Basic position 2 Thread trimmer On or Off *)	290 = 5	Key S5 Key S3
	Light barrier On	009 = ON	
	Unlocking the chain with pedal in pos. –2 without tape cutting at the seam end	019 = 3	
	Clockwise direction of motor rotation	161 = 0	
	Reverse motor rotation On	182 = ON	
	Unlocking the chain automatically with light barrier	190 = 2	
in..	Assign the function "unlocking the chain" to one of the inputs in1/in3/in4	2.. = 18	
n1 n2 n5	Positioning speed Maximum speed Speed after light barrier sensing	110 111 114	
LS ird drd t3 t4 t5	Light barrier compensating stitches Number of reversing increments Switch-on delay of reverse motor rotation Start delay from lifted sewing foot Full power of sewing foot lifting Pulsing of sewing foot lifting	004 180 181 202 203 204	

*) When unlocking the chain, the "thread trimming" function is suppressed!

Mode 4, 5, 6 or 7 (function "unlocking the chain")
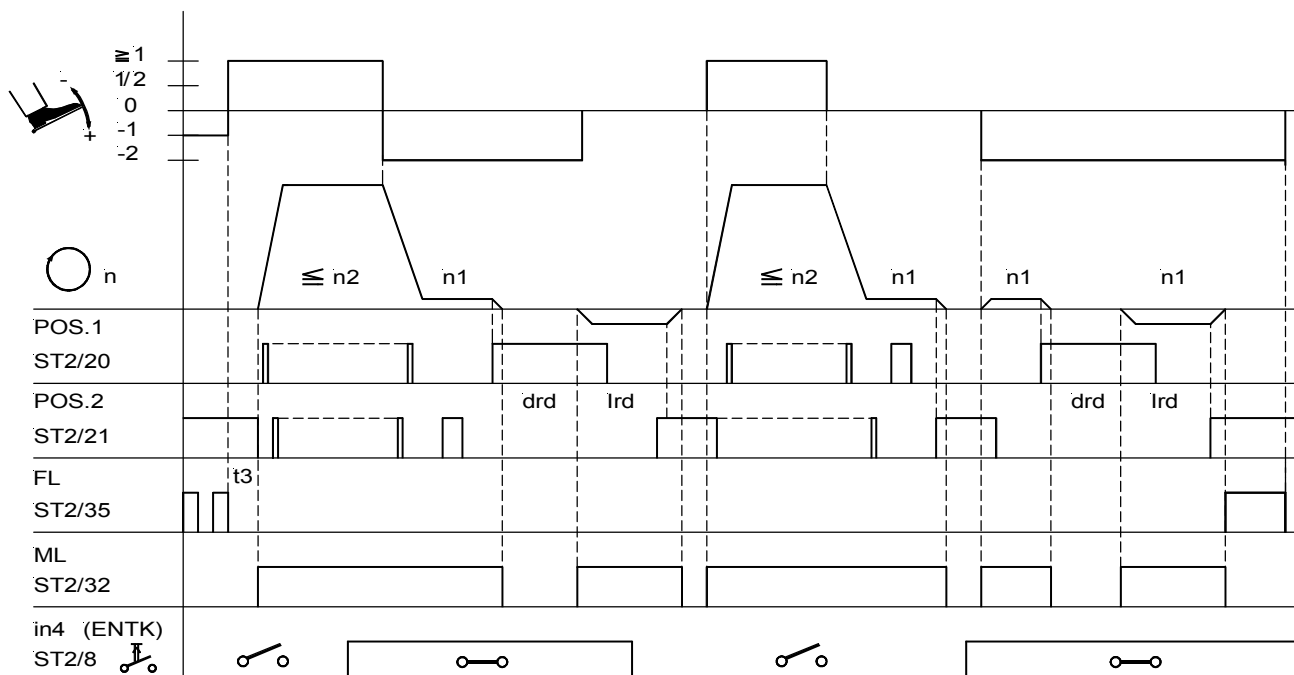
`0251/ENTK-2`

Mark	Function	Parameter	Control
	Mode 5	290 = 5	
	Thread trimmer On or Off *)		Key S3
	Basic position 2		Key S5
	Clockwise direction of motor rotation	161 = 0	
	Reverse motor rotation On	182 = ON	
	Light barrier On	009 = ON	
	Unlocking the chain manually with pedal in pos. -2	190 = 1	
in1	Machine run blockage effective with open contact	240 = 6	
in3	Automatic speed (n12) without pedal	242 = 10	
in4	Function "unlocking the chain"	243 = 18	
n1	Positioning speed	110	
n2	Maximum speed	111	
ird	Number of reversing increments	180	
drd	Switch-on delay of reverse motor rotation	181	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	

*)   When unlocking the chain, the "thread trimming" function is suppressed!

Mode 6 (chainstitch with tape cutter) parameter 232 = OFF / with clamp parameter 020 = ON
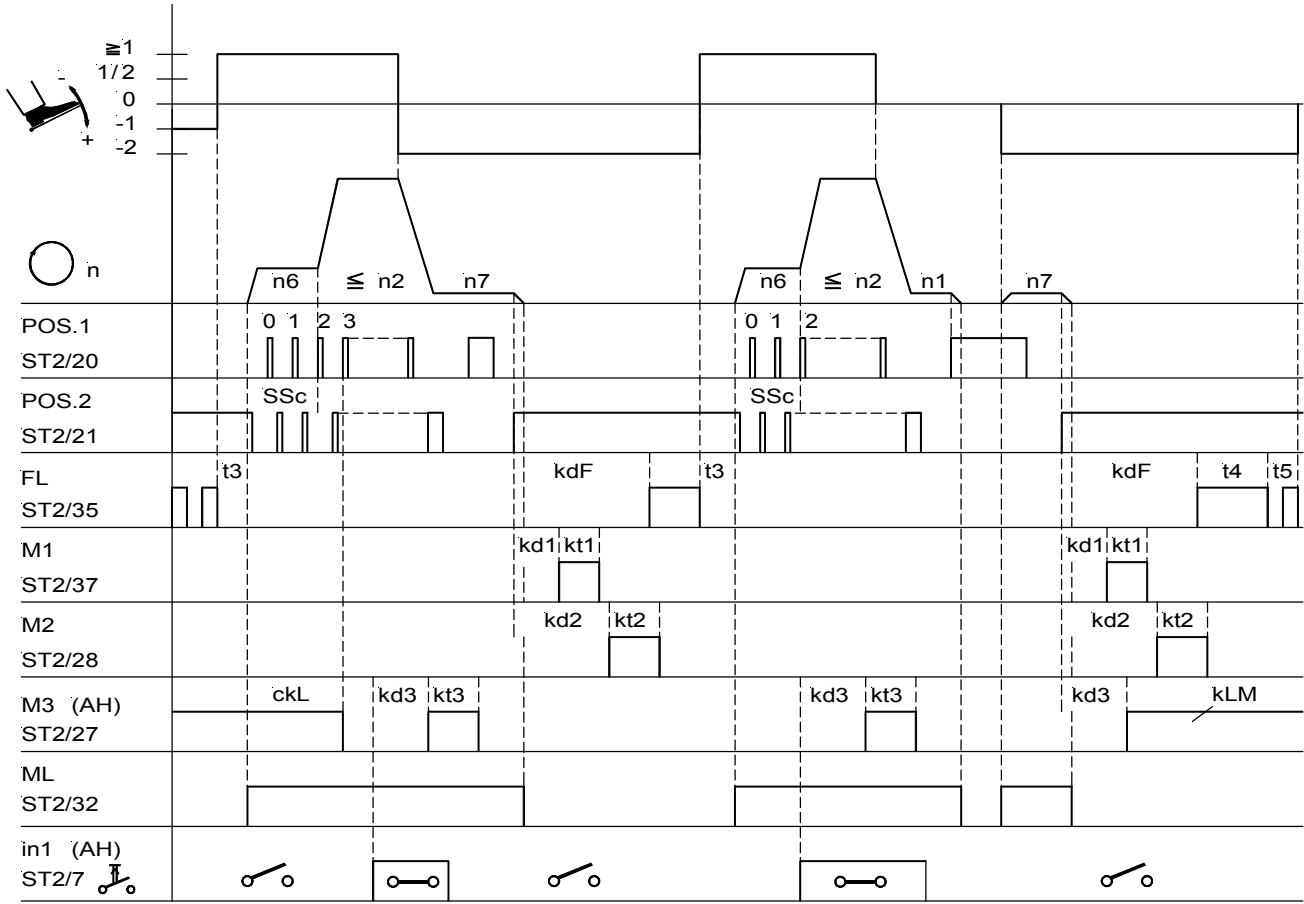
0251/MODE-6a

Mark	Function	Parameter	Control
	Mode 6	290 = 6	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
kLm	Clamp at the seam end On	020 = ON	
ckL	Run-out stitches for clamp at the start of the seam	021	
	Chainstitch with tape cutter M3	232 = OFF	
in1	Tape cutter / fast scissors in the chainstitch and overlock mode	240 = 15	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1	Delay time of the thread trimmer M1	280	
kt1	ON period of the thread trimmer M1	281	
kd2	Delay time of the thread wiper M2	282	
kt2	ON period of the thread wiper M2	283	
kd3	Delay time of the tape cutter M3	284	
kt3	ON period of the tape cutter M3	285	
kdF	Delay time until sewing foot On	288	

Mode 6 (chainstitch with fast scissors) parameter 232 = ON
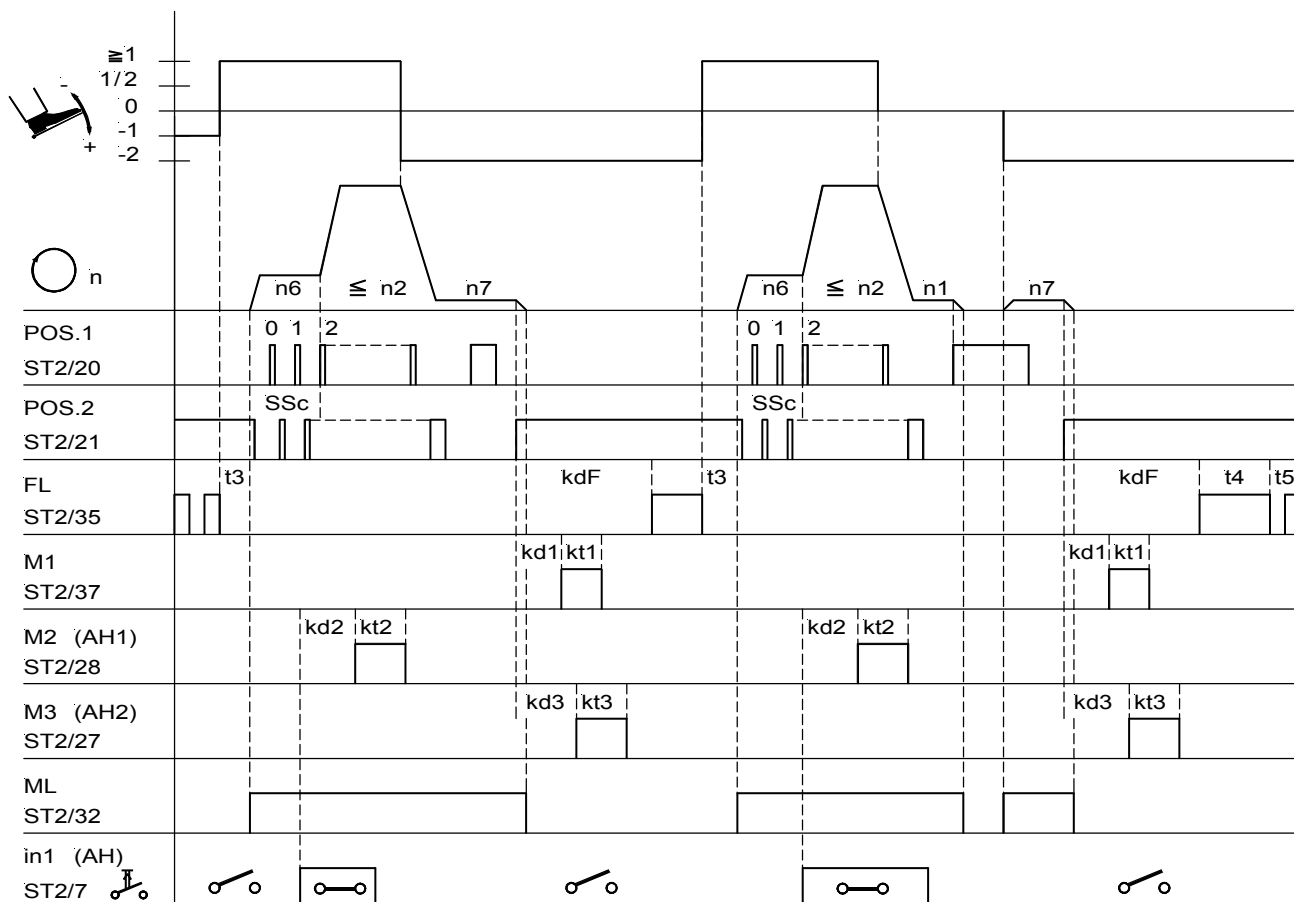
`0251/MODE-6b`

Mark	Function	Parameter	Control
in1	Mode 6 Softstart On Thread trimmer and thread wiper On Chainstitch with fast scissors M2/M3 Tape cutter / fast scissors in the chainstitch and overlock mode	290 = 6 232 = ON 240 = 15	Key S2 Key S3
n1 n2 n6 n7	Positioning speed Maximum speed Softstart speed Trimming speed	110 111 115 116	
SSc t3 t4 t5 kd1 kt1 kd2 kt2 kd3 kt3 kdF	Softstart stitches Start delay from lifted sewing foot Full power of sewing foot lifting Pulsing of sewing foot lifting Delay time of the thread trimmer M1 ON period of the thread trimmer M1 Delay time of output M2 (fast scissors AH1) ON period of output M2 (fast scissors AH1) Delay time of output M3 (fast scissors AH2) ON period of output M3 (fast scissors AH2) Delay time until sewing foot On	100 202 203 204 280 281 282 283 284 285 288	

Mode 7 (overlock) parameter 232 = OFF (tape cutter) / parameter 018 = OFF (seam end with stop)


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0251/MODE-7a
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Mark	Function	Parameter	Control
*)	Mode 7	290 = 7	
	Thread trimmer On		Key S3
	Sewing foot lifting at the seam end On		Key S4
	Counts c1, c2, c3 and c4 On	000...003	
	Light barrier On	009 = ON	
	Sequence "overlock mode with stop"	018 = OFF	
	Function "pedal in pos. –1 and –2" active in the seam	019 = 3	
kLM	Clamp at the seam end On	020 = ON	
	Start blockage with light barrier uncovered	132 = OFF	
	Stitch counting at the start of the seam at fixed speed n3	143 = 1	
	Stitch counting at the seam end at fixed speed n4	144 = 1	
	Seam end after count c2	191 = 1	
	Speed n5 effective after light barrier sensing	192 = OFF	
	Chainstitch with tape cutter M3	232 = OFF	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting	112	
n4	Speed for end counting	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c3	Start counting tape cutter	002	
c4	End counting tape cutter	003	
LS	Light barrier compensating stitches	004	
ckL	Run-out stitches clamp at the start of the seam	021	
t2	Switch-on delay of sewing foot lifting with pedal in pos. -1	201	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1/kd2	Delay times of outputs M1/M2	280/282	
kt1/kt2	ON periods of outputs M1/M2	281/283	
kt3	ON period tape cutter M3	285	
kdF	Delay time until sewing foot On	288	

*)   **If parameters 000...003 are set to "0" , the respective counts are Off!**

Mode 7 (overlock) parameter 232 = ON (fast scissors) / parameter 018 = OFF (seam end with stop)
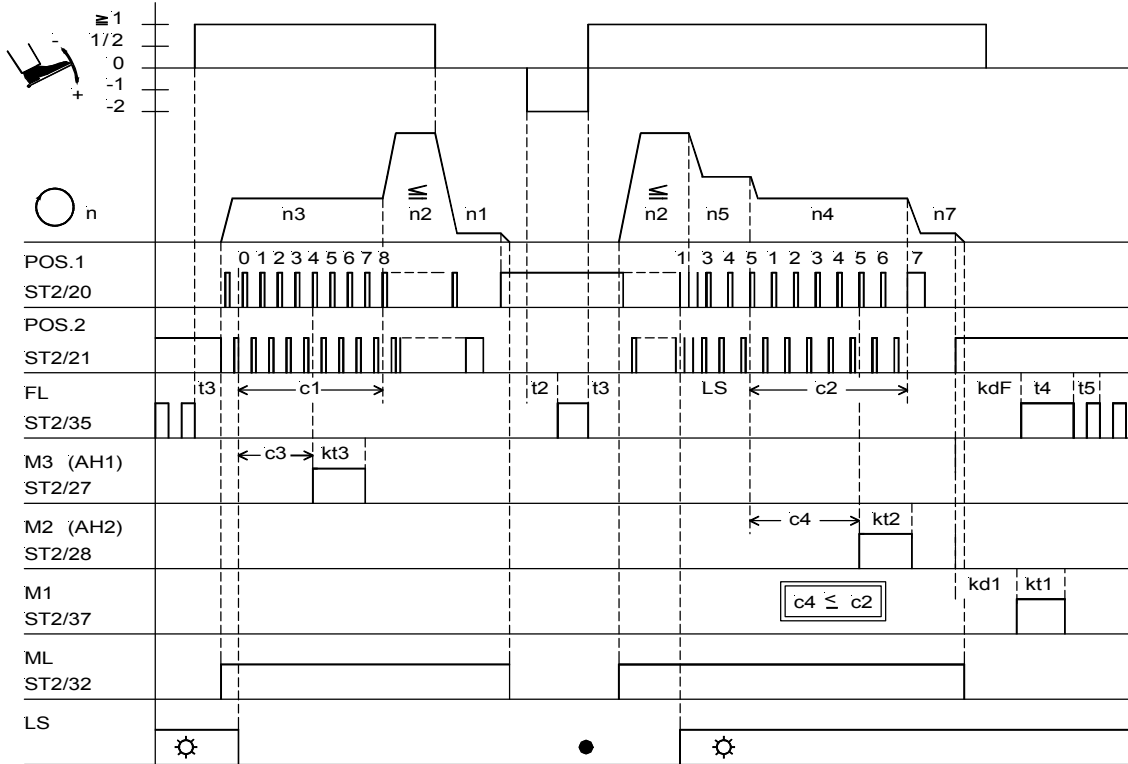
`0251/MODE-7c`

Mark	Function	Parameter	Control
*)	Mode 7	290 = 7	
	Thread trimmer On		Key S3
	Sewing foot lifting at the seam end On		Key S4
	Counts c1, c2, c3 and c4 On	000...003	
	Light barrier On	009 = ON	
	Sequence "overlock mode with stop"	018 = OFF	
	Function "pedal in pos. –2" thread trimming blocked	019 = 2	
kLm	Clamp at the seam end Off	020 = OFF	
	Start blockage with light barrier uncovered	132 = OFF	
	Stitch counting at the start of the seam at fixed speed n3	143 = 2	
	Stitch counting at the seam end at fixed speed n4	144 = 2	
	Seam end after count c2	191 = 1	
	Speed n5 after light barrier sensing	192 = OFF	
	Chainstitch with fast scissors M2/M3	232 = ON	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting	112	
n4	Speed for end counting	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c3	Start counting tape cutter	002	
c4	End counting tape cutter	003	
LS	Light barrier compensating stitches	004	
ckL	Run-out stitches clamp at the start of the seam	021	
t2	Switch-on delay of sewing foot lifting with pedal in pos. -1	201	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1	Delay time thread trimmer M1	280	
kt1	ON period thread trimmer M1	281	
kd2	Delay time fast scissors M2	282 = 0	
kd3	Delay time fast scissors M3	284 = 0	
kt2/kt3	ON periods of fast scissors M2/M3	283/285	
kdF	Delay time until sewing foot On	288	

*)   **If parameters 000...003 are set to "0" , the respective counts are Off!**

Mode 7 (overlock) parameter 232 = OFF (tape cutter) / parameter 018 = ON (seam end without stop)
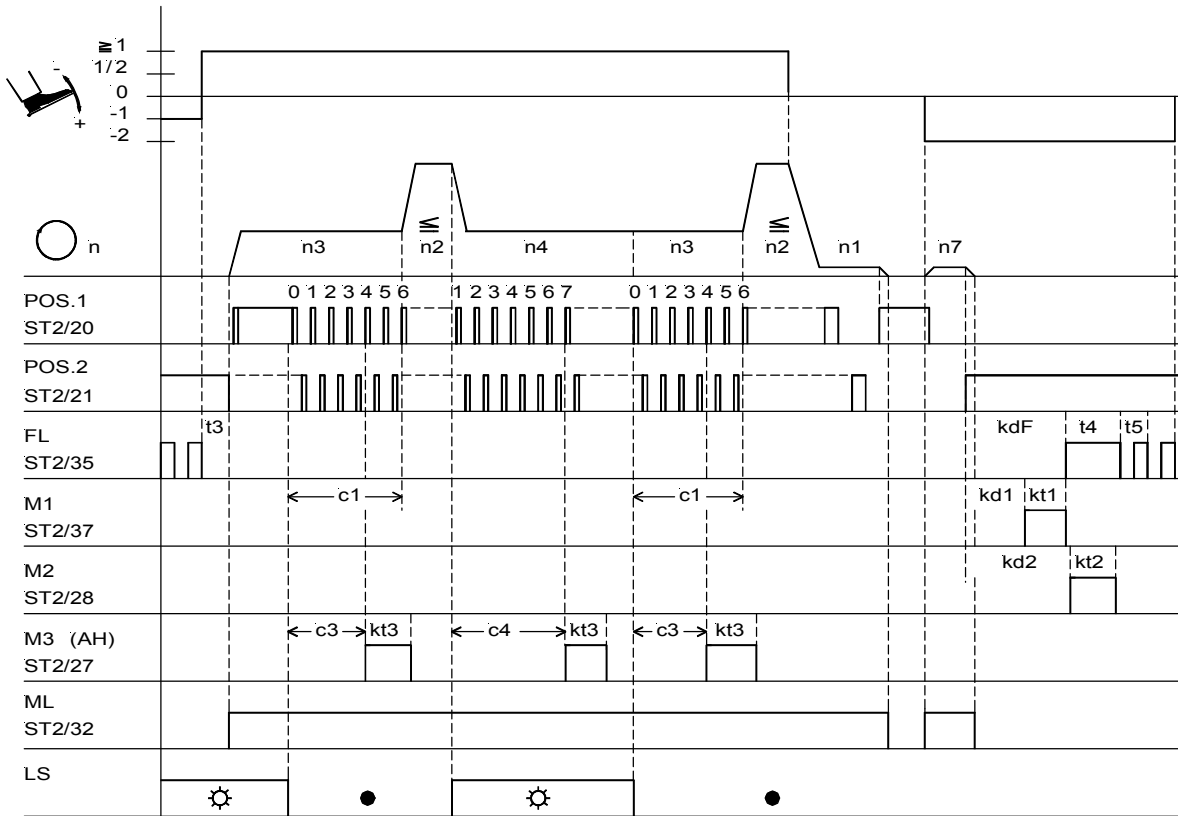
`0251/MODE-7b`

Mark	Function	Parameter	Control
*)	Mode 7	290 = 7	Key S3
	Thread trimmer On		
	Counts c1, c2, c3 and c4 On	000...003	
	Light barrier On	009 = ON	
	Sequence without stop at the seam end	018 = ON	
	Function "pedal in pos. –1 and –2" active in the seam	019 = 3	
	Start blockage with light barrier uncovered	132 = OFF	
	Stitch counting at the start of the seam at fixed speed n3	143 = 4	
	Stitch counting at the seam end at fixed speed n4	144 = 4	
	Chainstitch with tape cutter M3	232 = OFF	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting	112	
n4	Speed for end counting	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c3	Start counting tape cutter	002	
c4	End counting tape cutter	003	
LS	Light barrier compensating stitches	004	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1	Delay time of thread trimmer M1	280	
kt1	ON period of thread trimmer M1	281	
kd2	Delay time of thread trimmer M2	282	
kt2	ON period of thread trimmer M2	283	
kd3	Delay time of tape cutter M3	284	
kt3	ON period of tape cutter M3	285	
kdF	Delay time until sewing foot On	288	

*)   **If parameters 000...003 are set to "0" , the respective counts are Off!**

**Mode 7 (overlock) parameter 232 = OFF (tape cutter) / parameter 018 = OFF / parameter 148 = 1 (sequence with chain suction)**
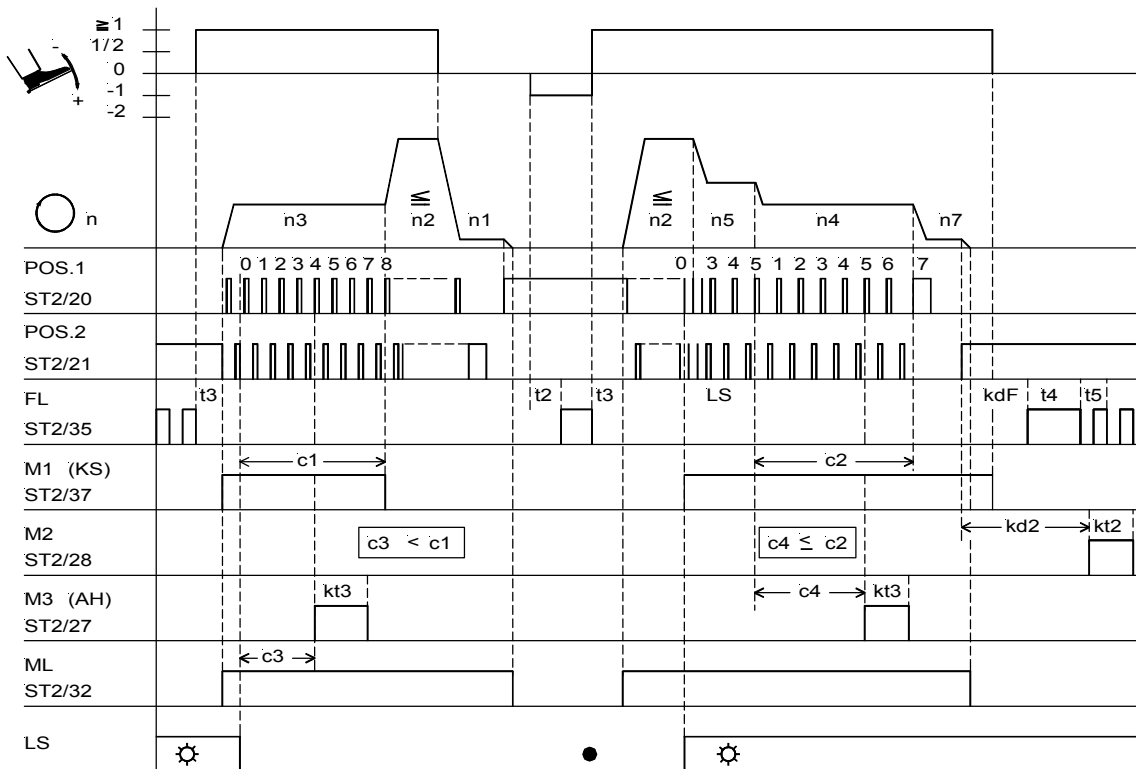
`0251/MODE-7d`

Mark	Function	Parameter	Control
*)	Mode 7	290 = 7	
	Thread trimmer On		Key S3
	Sewing foot lifting at the seam end On		Key S4
	Counts c1, c2, c3 and c4 On	000...003	
	Light barrier On	009 = ON	
	Sequence "overlock mode with stop"	018 = OFF	
	Function "pedal in pos. –1 and –2" active in the seam	019 = 3	
	Chain suction at the seam end until pedal in pos. 0 (neutral)	022 = ON	
	Start blockage with light barrier uncovered	132 = OFF	
	Output M1 chain suction On (only if parameter 290 = 7)	148 = 1	
	Unlocking the chain automatically	190 = 3	
	Seam end after count c2	191 = 1	
	Chain suction signal from light barrier uncovered	193 = ON	
	Chainstitch with tape cutter M3	232 = OFF	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting	112	
n4	Speed for end counting	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c3	Start counting tape cutter	002	
c4	End counting tape cutter	003	
LS	Light barrier compensating stitches	004	
t2	Switch-on delay of sewing foot lifting with pedal in pos. -1	201	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd2	Delay time thread trimmer M2	282	
kt2	ON period thread trimmer M2	283	
kt3	ON period tape cutter M3	285	
kdF	Delay time until sewing foot On	288	

*) **If parameters 000...003 are set to "0" , the respective counts are Off!**

**Mode 7 (overlock) parameter 232 = OFF (tape cutter) / parameter 018 = OFF (seam end with pedal in pos. –2 and stop) without light barrier**
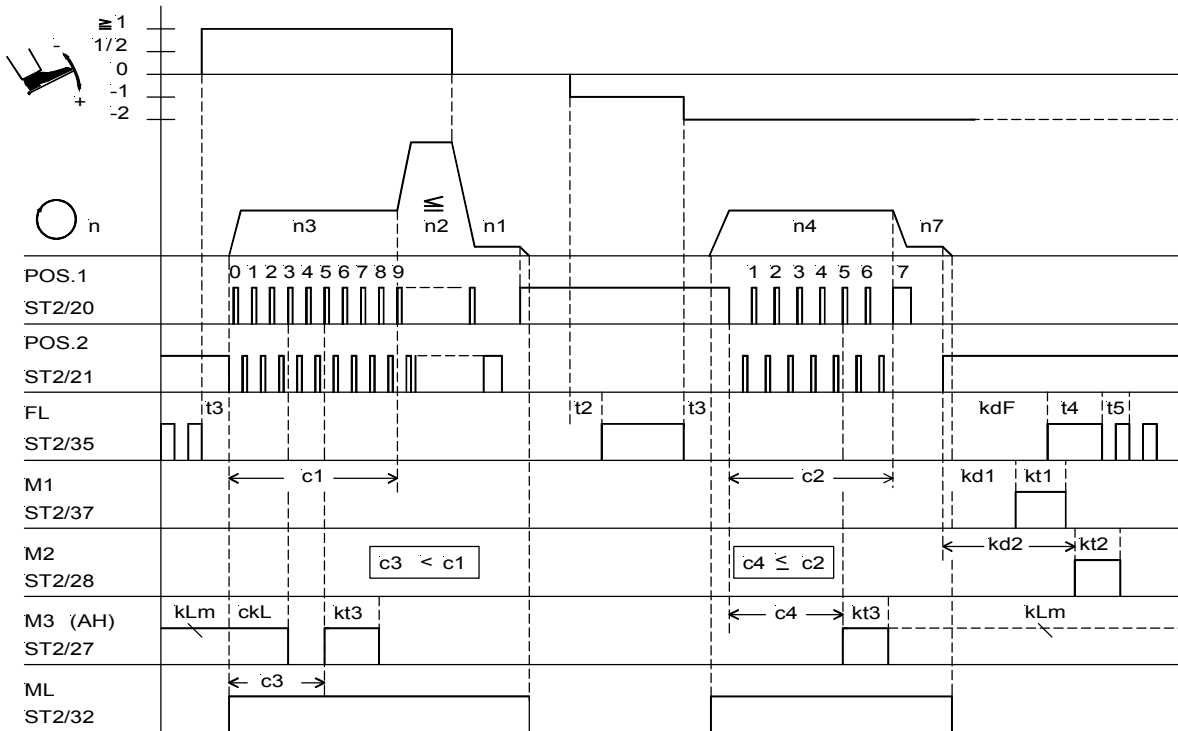

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0251/MODE-7e
```

Mark	Function	Parameter	Control
*)	Mode 7	290 = 7	
	Thread trimmer On		Key S3
	Sewing foot lifting at the seam end On		Key S4
	Counts c1, c2, c3 and c4 On	000...003	
	Light barrier Off	009 = OFF	
	Sequence "overlock mode with stop"	018 = OFF	
	Function "pedal in pos. –1 and –2" active in the seam	019 = 3	
kLM	Clamp at the seam end On	020 = ON	
	Start blockage with light barrier uncovered	132 = OFF	
	Stitch counting at the start of the seam at fixed speed n3	143 = 4	
	Stitch counting at the seam end at fixed speed n4	144 = 4	
	Seam end after count c2	191 = 1	
	Speed n5 effective after light barrier sensing	192 = OFF	
	Chainstitch with tape cutter M3	232 = OFF	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting	112	
n4	Speed for end counting	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c3	Start counting tape cutter	002	
c4	End counting tape cutter	003	
LS	Light barrier compensating stitches	004	
ckL	Run-out stitches clamp at the start of the seam	021	
t2	Switch-on delay of sewing foot lifting with pedal in pos. -1	201	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
kd1/kd2	Delay times of outputs M1/M2	280/282	
kt1/kt2	ON periods of outputs M1/M2	281/283	
kt3	ON period tape cutter M3	285	
kdF	Delay time until sewing foot On	288	

*)   If parameters 000...003 are set to "0" , the respective counts are Off!

Mode 8 (backlatch Pegasus)
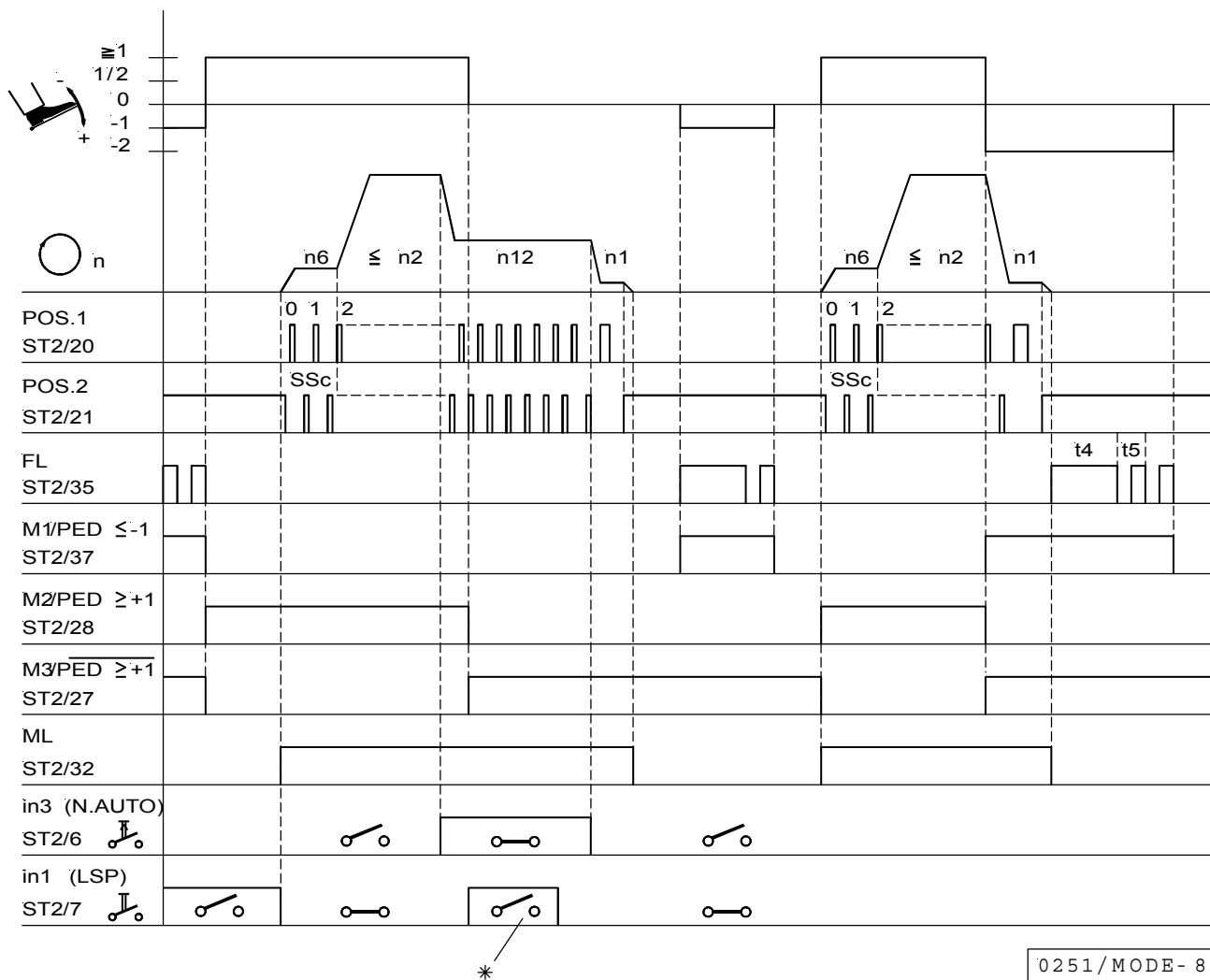

```
0251/MODE-8
```

Mark	Function	Parameter	Control
	Mode 8	290 = 8	
	Basic position 2		Key S5
	Stop in position 2 after the backlatch cycle and speed n12	026 = 0	
	Softstart On	134 = ON	Key S2
in1	Machine run blockage activated with open switch	240 = 6	
in3	Automatic speed n12 with closed switch	242 = 10	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n12	Automatic speed	118	
SSc	Softstart stitches	100	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	

*)   When automatic speed is On, machine run blockage (safety switch) does not work!

Mode 9 (backlatch Yamato) without light barrier

0251/MODE-9
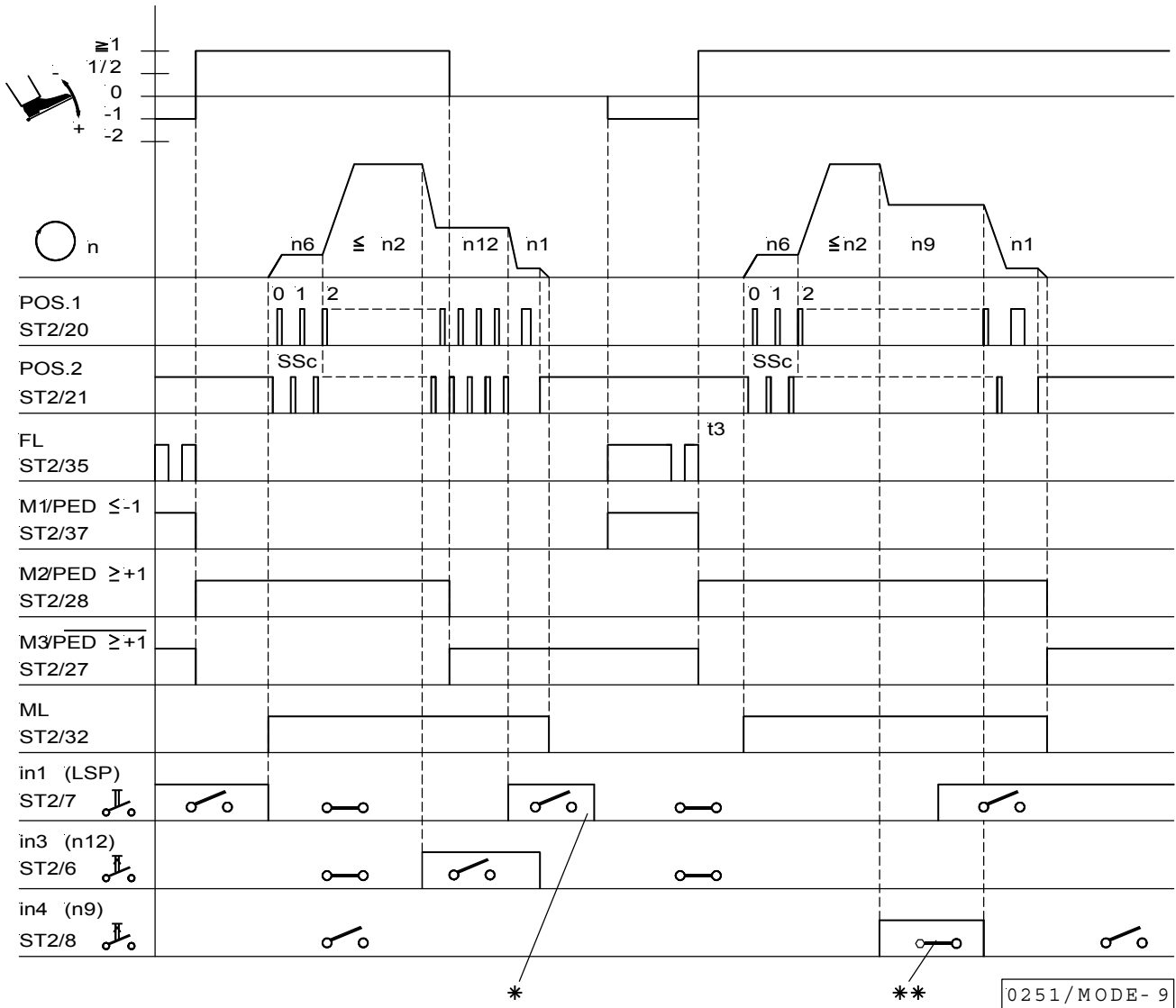
Mark	Function	Parameter	Control
	Mode 9	290 = 9	
	Softstart On		Key S2
	Basic position 2		Key S5
in1	Machine run blockage activated with open switch	240 = 6	
in3	Automatic speed n12 with open switch	242 = 10	
	(the function of input 3 is inverted in mode 9)		
in4	Automatic speed n9	243 = 34	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n9	Automatic speed	122	
n12	Automatic speed	118	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	

*)   With this setting, machine run blockage (safety switch) has priority over automatic speed n12!
**)   Automatic speed n9 has priority over machine run blockage (safety switch)!

Mode 9 (backlatch Yamato) with light barrier
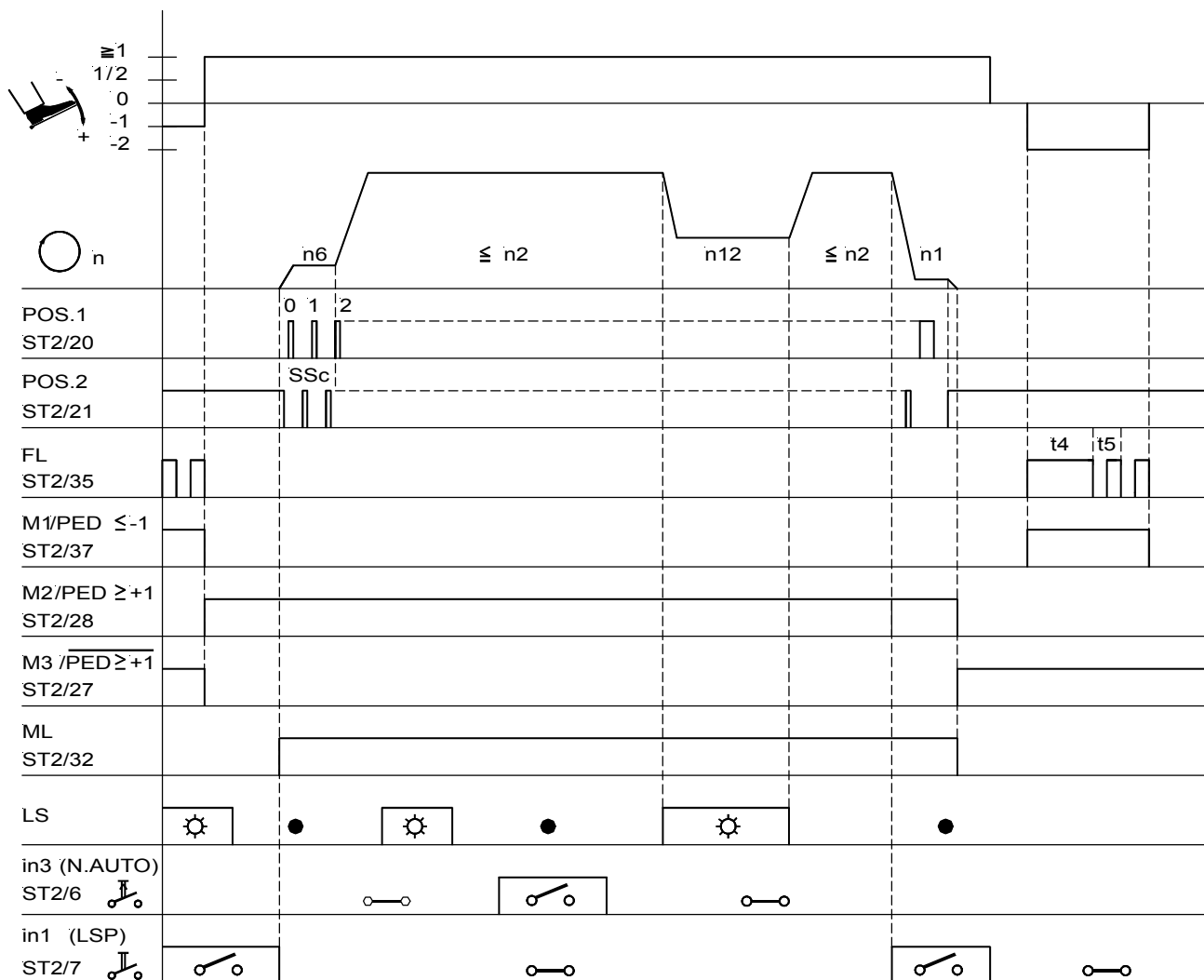
`0251/MODE-9a`

Mark	Function	Parameter	Control
	Mode 9	290 = 9	
	Softstart On		Key S2
	Light barrier On	009 = ON	
	Basic position 2		Key S5
	Fixed speed n12 cannot be interrupted with pedal in pos. 0	141 = 3	
in1	Machine run blockage activated with open switch	240 = 6	
in3	Automatic speed n12 after briefly opening the switch at input 3 and subsequent uncovering of the light barrier	242 = 10	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n12	Automatic speed	118	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	

Mode 10 (lockstitch)

0251/MODE-10

Mark	Function	Parameter	Control
	Mode 10	290 = 10	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
	Reverse motor rotation Off	182 = OFF	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	
kt1	ON period of the thread trimmer backward M1	281	
kd3	Delay time of thread tension release M3	284	
kt3	ON period of thread tension release M3	285	

Time t7 starts only after time kt1 or kt3 has elapsed!

Mode 11 reversal of motor rotation with pedal in pos. -2
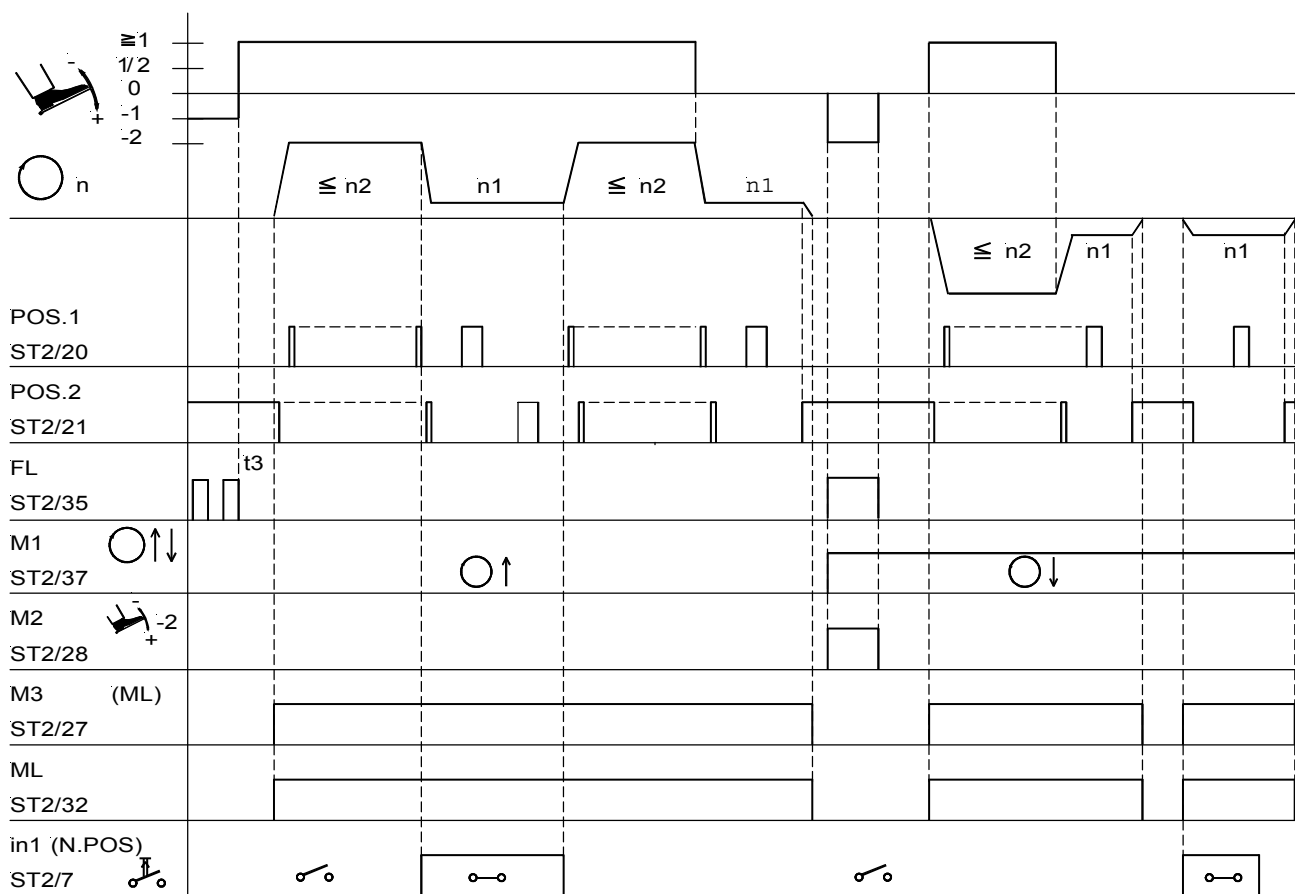
0251/MODE-11

Mark	Function	Parameter	Control
in1	Mode 11 Key for positioning speed	290 = 11 240 = 20	
n1 n2	Positioning speed Maximum speed	110 111	
t3 M1 M2 M3	Start delay from lifted sewing foot Signal "reversal of motor rotation" Signal "pedal in pos. –2" Signal "machine running"	202	

Mode 12 reversal of motor rotation with key in3
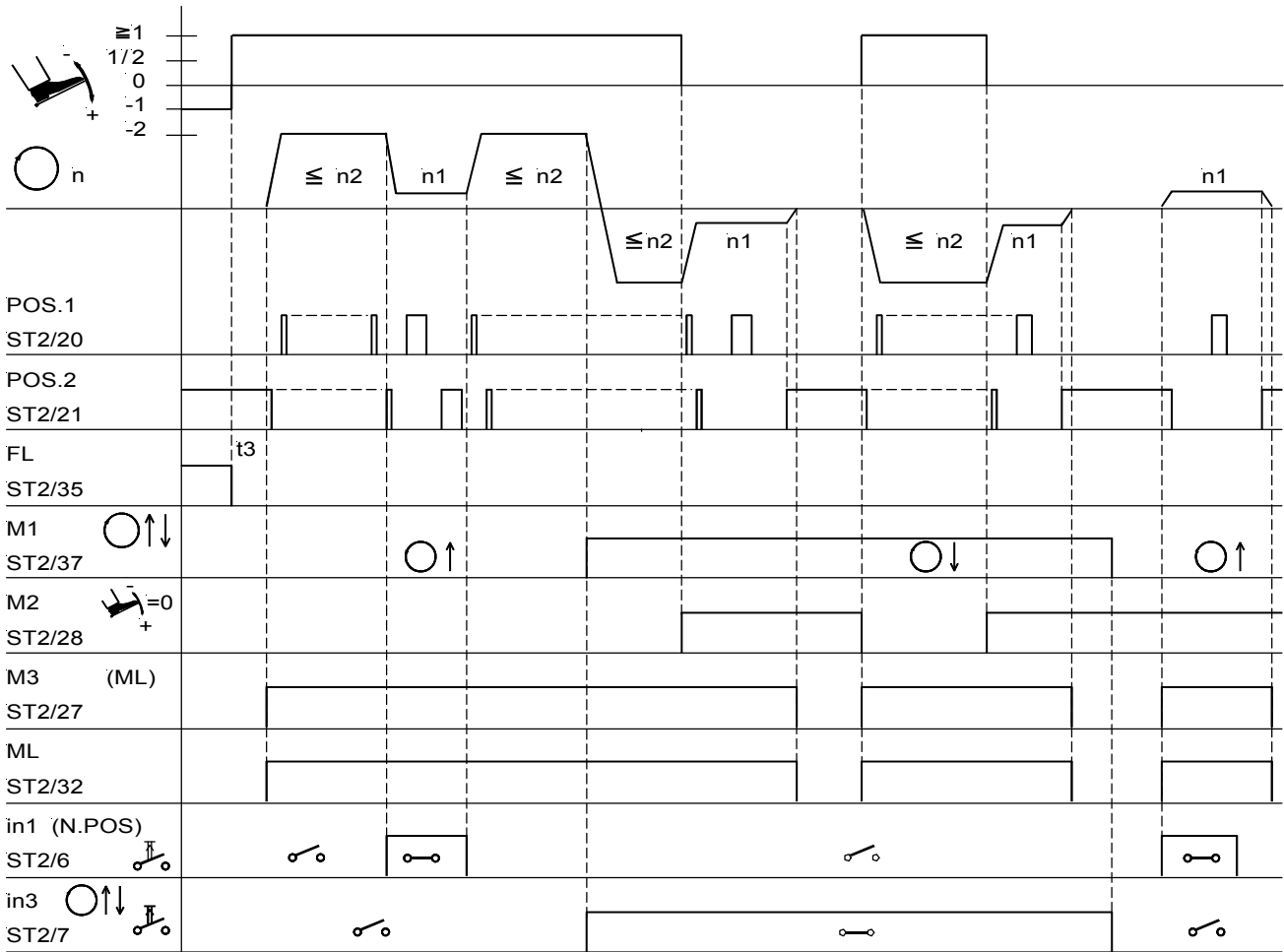

```
0251/MODE-12
```

Mark	Function	Parameter	Control
in1	Mode 12 Key for positioning speed	290 = 12 240 = 20	
in3	Key for reversal of motor rotation	242 = 21	
n1 n2	Positioning speed Maximum speed	110 111	
t3 M1 M2 M3	Start delay from lifted sewing foot Signal "reversal of motor rotation" Signal "pedal in pos. 0 (neutral)" Signal "machine running"	202	

Note

The signal "machine running" is interrupted for approx. 10ms when pressing the pedal and the key **reversal of motor rotation.**

Mode 13 (lockstitch / Pfaff 1425)
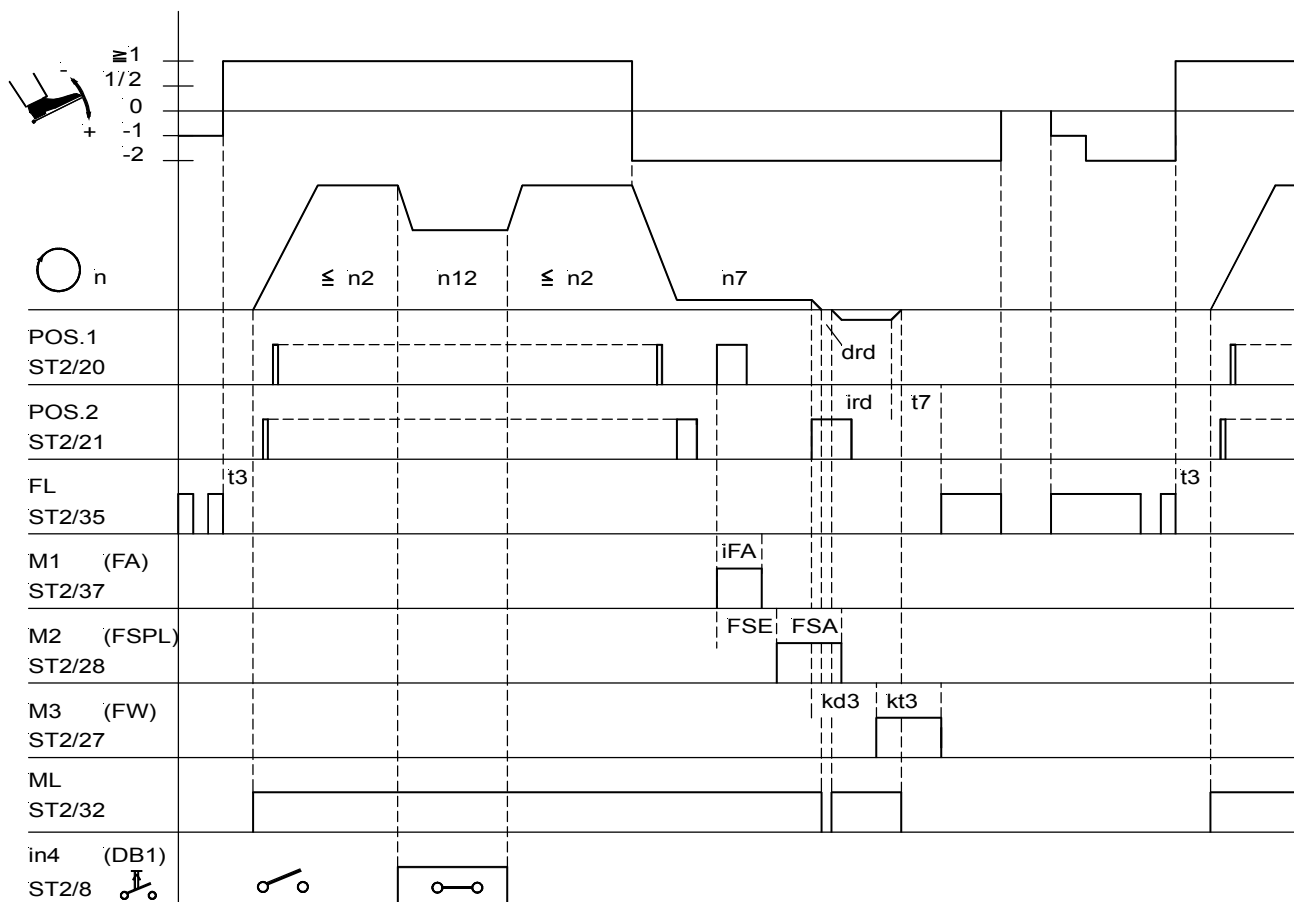
`0251/MODE-13`

Mark	Function	Parameter	Control
in4	Mode 13 Stop for thread trimmer depending on angle Key for limited speed n12	290 = 13 197 = 0 243 = 11	
n2 n7 n12	Maximum speed Trimming speed Limited speed	111 116 118	
ird drd t3 t7 iFA FSA FSE kd3 kt3	Number of reversing increments Switch-on delay of reverse motor rotation Start delay from lifted sewing foot Sewing foot switch-on delay after thread wiper Activation angle of the thread trimmer Thread tension release ON period Thread tension release delay depending on angle Delay time of the thread wiper ON period of the thread wiper	180 181 202 206 250 251 252 284 285	

Mode 13 (lockstitch / Pfaff 1425) special function
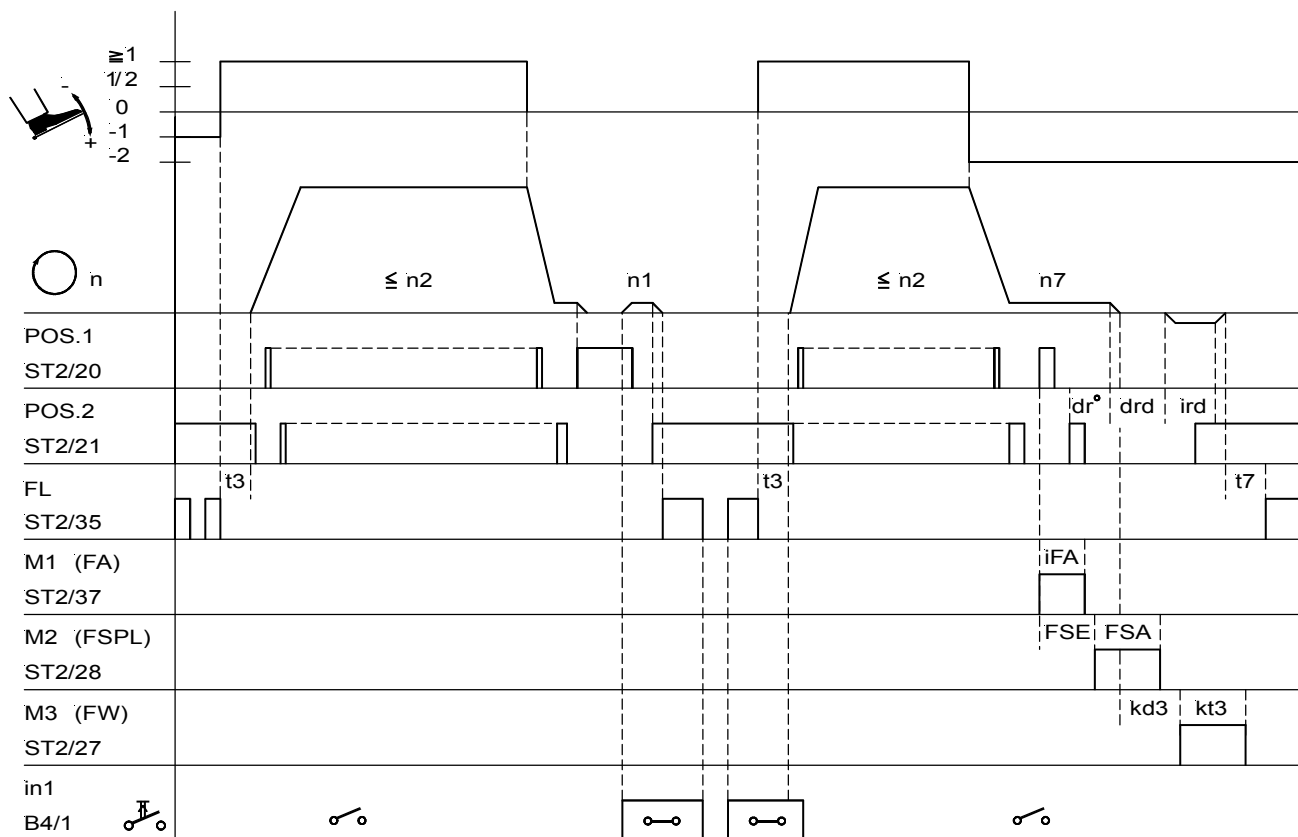
0251/MODE-13a

Mark	Function	Parameter	Control
rd Frd dr° in1	Mode 13 Number of reversing increments Reverse motor rotation On Stop for thread trimmer depending on angle Needle up with subsequent sewing foot lifting with pedal in pos. 0 (neutral) (knee switch at socket B4/1)	290 = 13 180 = 23 182 = ON 197 = 86 240 = 43	
n1 n2 n7	Positioning speed Maximum speed Trimming speed	110 111 116	
ird drd t3 t7 iFA FSA FSE kd3 kt3	Number of reversing increments Switch-on delay of reverse motor rotation Start delay from lifted sewing foot Sewing foot switch-on delay after thread wiper Activation angle of the thread trimmer Thread tension release ON period Thread tension release delay depending on angle Delay time of output M3 ON period of output M3	180 181 202 206 250 251 252 284 285	

Mode 14 (lockstitch)


```
0251/MODE-14
```

Mark	Function	Parameter	Control
	Mode 10 Softstart On Thread trimmer and thread wiper On	290 = 10	 Key S2 Key S3
n1 n2 n6 n7	Positioning speed Maximum speed Softstart speed Trimming speed	110 111 115 116	
SSc t3 t4 t5 t6 t7 kd4 kt4	Softstart stitches Start delay from lifted sewing foot Full power of sewing foot lifting Pulsing of sewing foot lifting Thread wiper ON period Sewing foot switch-on delay after thread wiper Delay time output M2 ON period output M2	100 202 203 204 205 206 286 287	

Mode 17 (stitch lock Pegasus)
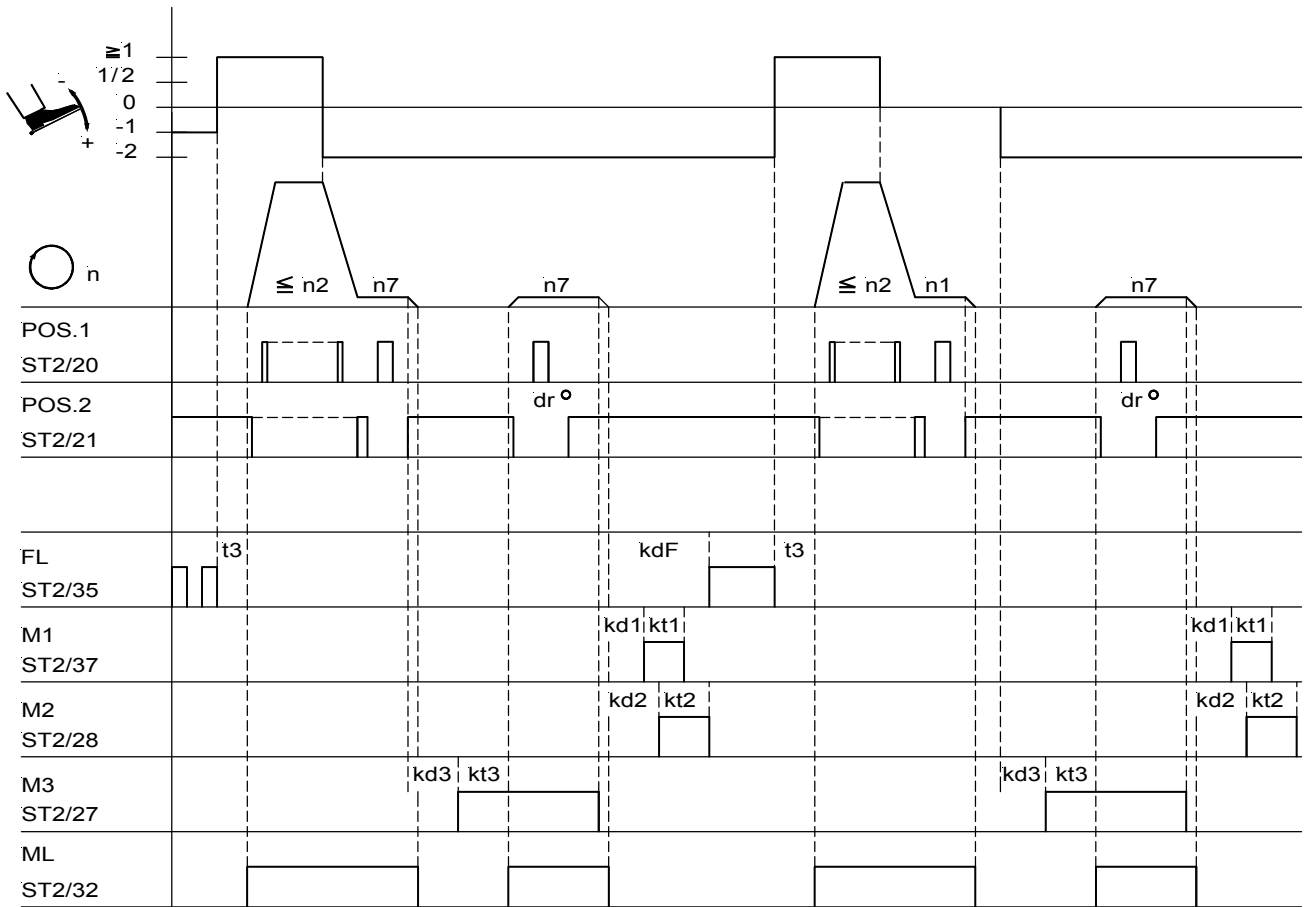
`0251/MODE-17`

Mark	Function	Parameter	Control
	Mode 17 Thread trimmer and thread wiper On	290 = 17	Key S3
n1 n2 n7	Positioning speed Maximum speed Trimming speed	110 111 116	
dr° t3 kd1 kt1 kd2 kt2 kd3 kt3 kdF	Stop for thread trimming depending on angle Start delay from lifted sewing foot Delay time output M1 for top cover thread cutter ON period output M1 for top cover thread cutter Delay time output M2 for thread trimmer ON period output M2 for thread trimmer Delay time output M3 for stitchlock signal ON period output M3 for stitchlock signal Delay time until sewing foot On	197 202 280 281 282 283 284 285 288	

Mode 18 (Bottoms Overlock)

`0251/MODE-18`

Mark	Function	Parameter	Control
	Mode 18 Automatic sewing foot after light barrier sensing with pedal forward On	290 = 18 023 = 1	
n1	Positioning speed	110	
n2	Maximum speed	111	
n3	Speed for start counting (sequence can be selected using parameter 143)	112	
n4	Speed for end counting (sequence can be selected using parameter 144)	113	
n5	Speed after light barrier sensing	114	
n7	Trimming speed	116	
c2	End counting limited speed until stop	000	
c1	Start counting limited speed	001	
c4	End counting for output M1	003	
LS	Light barrier compensating stitches	004	
t3	Start delay from lifted sewing foot	202	
kdF	Delay time until sewing foot On	288	

Further Descriptions of Settings If Parameter 290 Is Set to "18" (Mode 18)!

Functions Before Beginning the Seam:
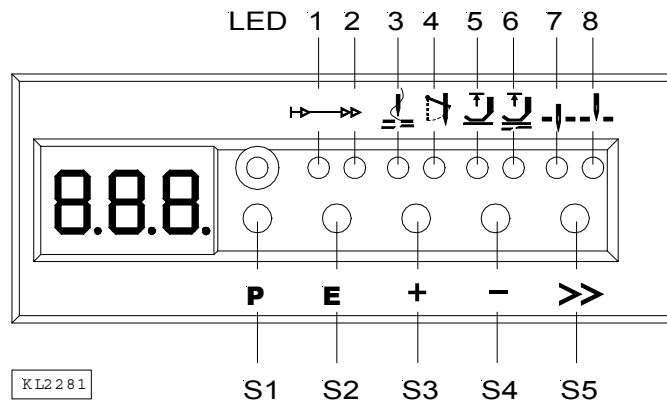
- Key S2 on the control: softstart On/Off.
- Key S3 on the control does not have any effect.
- Key S4 on the control: sewing foot lifting in the seam or after the seam end On/Off.
- Key S5 on the control: basic position needle up/down.
- With pedal in pos. –2, output M1 is switched off, and with pedal in pos. –1 / 0, switched on again.

Functions When Beginning the Seam:
- When starting the drive, output M2 is switched on immediately and remains on according to the setting of parameter 001 (count c1).
- The speed is limited during the c1 count according to the setting of parameter 112 (speed n3).
- The speed function during the c1 count can be selected using parameter 143.
  -Parameter 143 = 0: Pedal controlled and limited to speed n3.
  -Parameter 143 = 1: Automatic speed n3 without influence by the pedal. The drive stops when the pedal is in pos. 0.
  -Parameter 143 = 2: Limited speed n3; controllable by the pedal up to the set speed.
  -Parameter 143 = 3: Automatic speed n3; can be suspended or interrupted according to the setting of parameter 019.
  -Parameter 143 = 4: Limited speed n3 until covering the light barrier. Then automatic speed.

Functions in the Seam:
- After the c1 count, the speed is pedal controlled up to the set maximum speed.

Functions at the Seam End:
- When the light barrier senses "uncovered", the seam end is initiated. First the light barrier compensating stitches are executed (parameter 004) at the speed n5 (parameter 114).
- The function of speed n5 can be set using parameter 192.
  -Parameter 192 = OFF: Automatic speed n5 without influence by the pedal. The drive stops when the pedal is in pos. 0.
  -Parameter 192 = ON: Pedal controlled and limited to speed n5.
- After the light barrier compensating stitches, output M1 is switched on and remains on according to the setting of parameter 003 (count c4).
- The speed function during the c4 and c2 counts can be selected using parameter 144.
  -Parameter 144 = 0: Pedal controlled and limited to speed n4.
  -Parameter 144 = 1: Automatic speed n4 without influence by the pedal. The drive stops when the pedal is in pos. 0.
  -Parameter 144 = 2: Limited speed n4; controllable by the pedal up to the set speed.
  -Parameter 144 = 3: Automatic speed n4; can be suspended or interrupted according to the setting of parameter 019.
  -Parameter 144 = 4: At the seam end at light barrier speed without influence by the pedal. Stop with pedal in pos. 0.
- After the c4 count, output M1 is switched off and output M2 switched on. Output M2 remains on according to the setting of parameter 000 (count c2). After switching off output M2, the drive stops in position 2.
- All counts can be suspended with pedal in pos. –2, if parameter 019 is set to "3". All counts are skipped and the drive stops in position 2.

Functions after Drive Standstill:
- After drive standstill, the sewing foot is lifted automatically after a delay kdF (parameter 288) according to the setting of parameter 023 if the pedal is forward, until the pedal is pressed to position 0 (neutral). If key S4 on the control is set accordingly, the sewing foot may also remain lifted after the seam end. The setting with S4 has priority over the setting with parameter 023.

Mode 19 (lockstitch Macofrey)
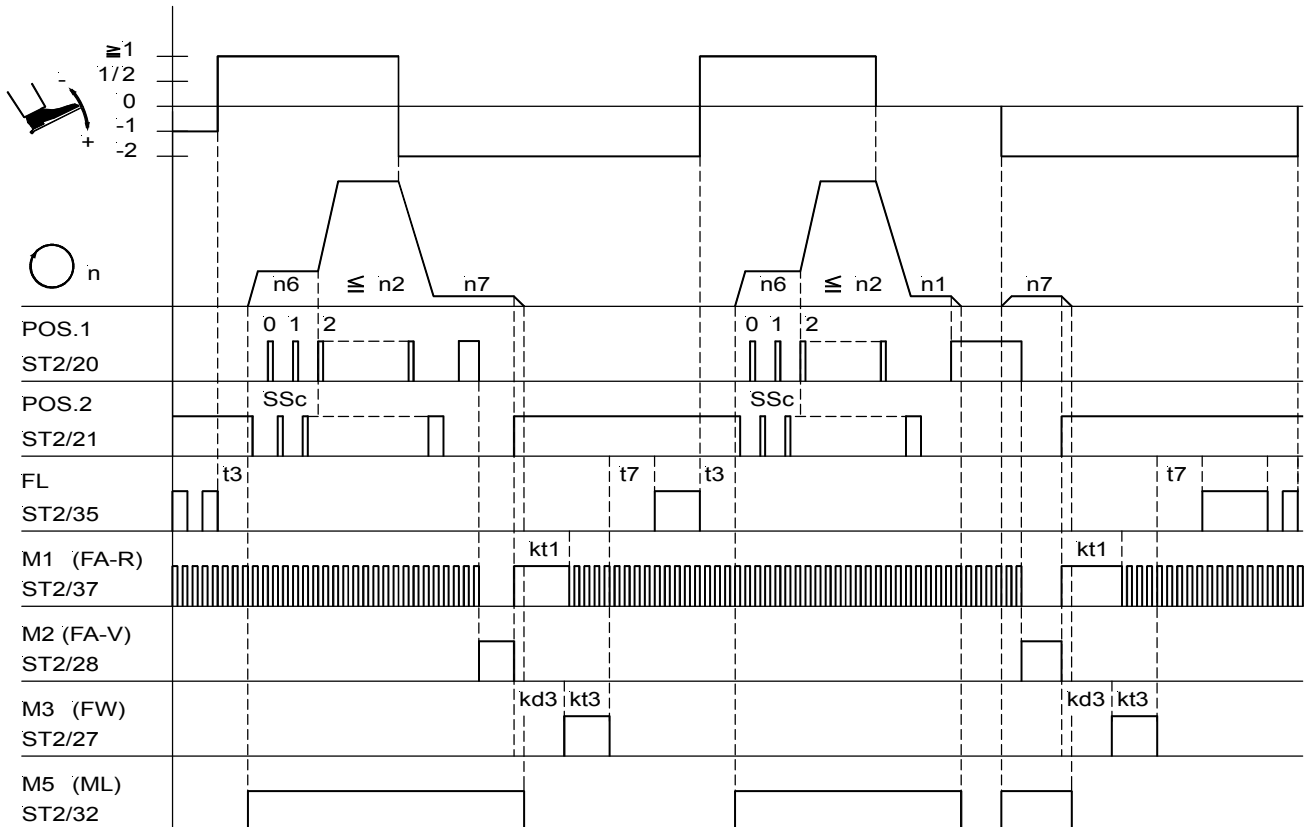
0251/MODE-19

Mark	Function	Parameter	Control
	Mode 19	290 = 19	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
	Signal "backtacking" Off	148 = 0	
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t7	Sewing foot switch-on delay after thread wiper	206	
tAM	Holding power output M1 of the thread trimmer backward	254	
kt1	ON period of the thread trimmer backward M1	281	
kd3	Delay time of the thread wiper M3	284	
kt3	ON period of the thread wiper M3	285	

Time t7 starts only after time kt1 or kt3 has elapsed!

Mode 20 (lockstitch Juki LU1510-7)
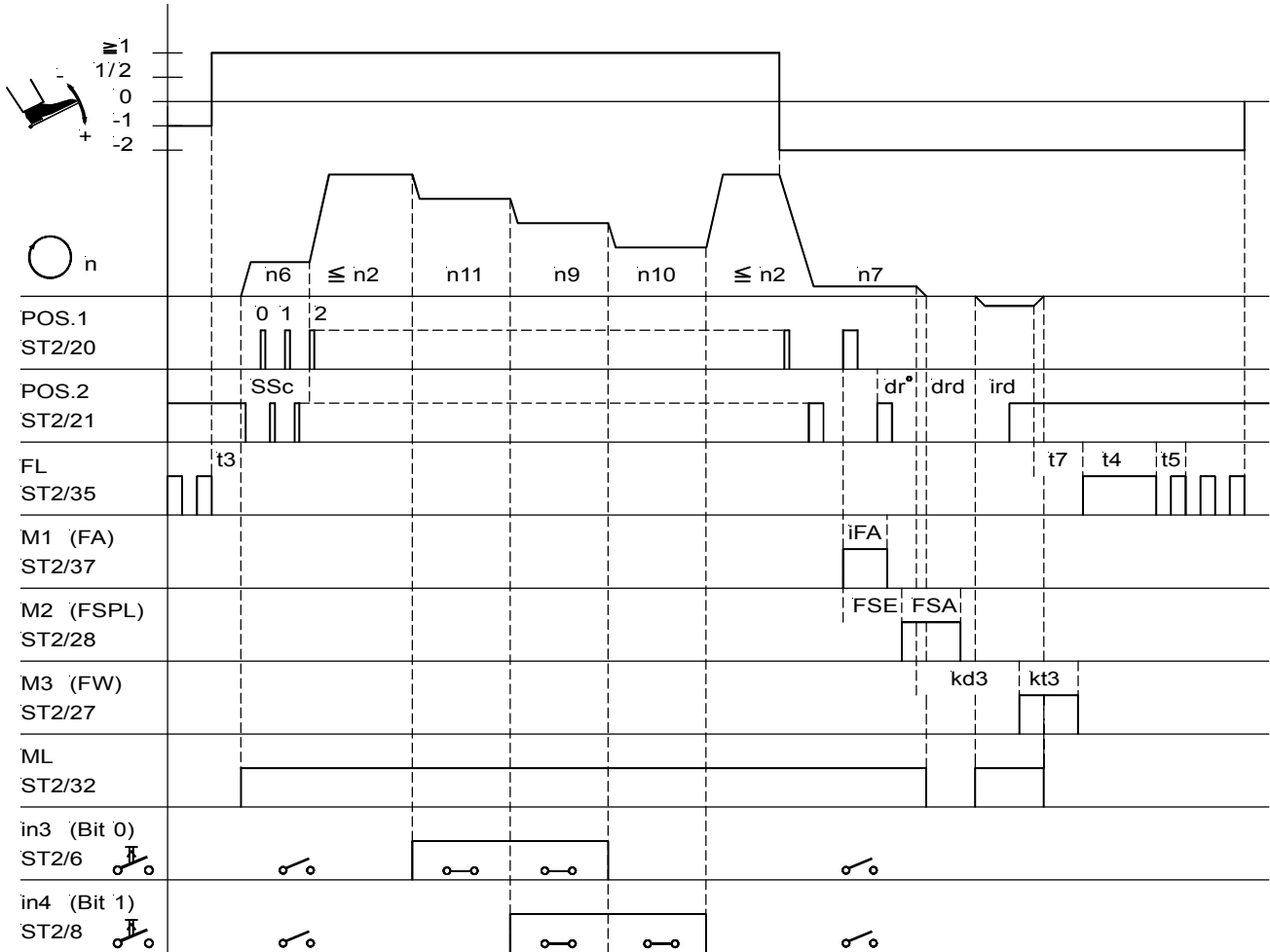
0251/MODE-20

Mark	Function	Parameter	Control
	Mode 20	290 = 20	
	Softstart On		Key S2
	Thread trimmer and thread wiper On		Key S3
in3	Speed limitation bit 0	242 = 31	
in4	Speed limitation bit 1	243 = 32	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
n9	Automatic speed	122	
n10	Automatic speed	117	
n11	Automatic speed	123	
SSc	Softstart stitches	100	
ird	Number of reversing increments	180	
drd	Switch-on delay of reverse motor rotation	181	
dr°	Stop for thread trimming depending on angle	197	
t3	Start delay from lifted sewing foot	202	
t4	Full power of sewing foot lifting	203	
t5	Pulsing of sewing foot lifting	204	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	
iFA	Activation angle of the thread trimmer	250	
FSA	Thread tension release ON period	251	
FSE	Thread tension release delay depending on angle	252	
kd3	Delay time of thread wiper M3	284	
kt3	ON period of thread wiper M3	285	

Mode 22 (lockstitch / Brother model B-891)
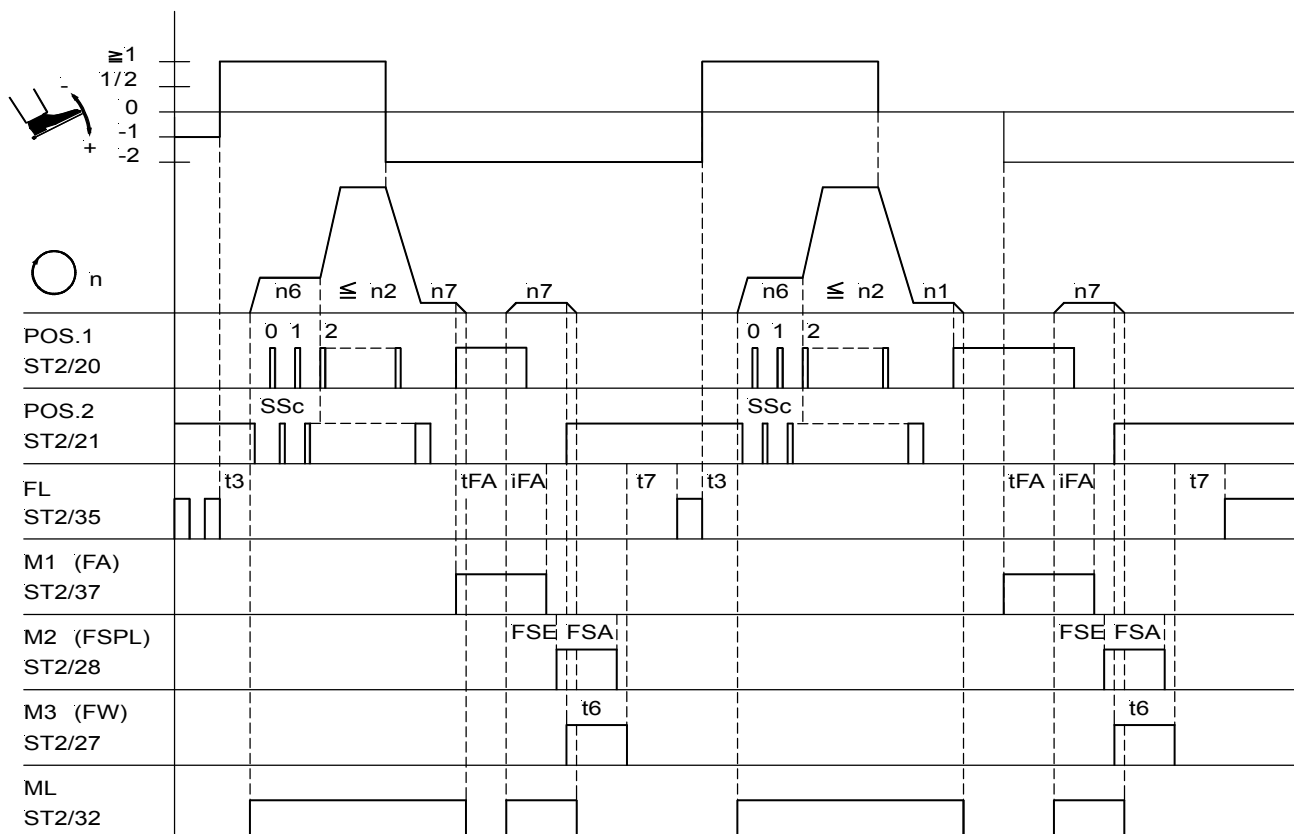

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0251/MODE-22
```

Mark	Function	Parameter	Control
	Mode 22 Softstart On Thread trimmer and thread wiper On	290 = 22	 Key S2 Key S3
n1	Positioning speed	110	
n2	Maximum speed	111	
n6	Softstart speed	115	
n7	Trimming speed	116	
SSc	Softstart stitches	100	
t3	Start delay from lifted sewing foot	202	
t6	Thread wiper ON period	205	
t7	Sewing foot switch-on delay after thread wiper	206	
iFA	Activation angle of the thread trimmer	250	
FSA	Thread tension release ON period	251	
FSE	Thread tension release delay depending on angle	252	
tFA	Stop time for thread trimmer	253	

6   List of Parameters

6.1   Preset Values Depending on Mode

The preset values which are different in the various modes are listed in the table below. When switching the mode using parameter 290, these values change automatically.

Operator Level

Mode → Parameter	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	17	18	19	20	22
000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-
001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-
003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-
004	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	20	-	-	-
005	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
009	-	-	-	-	-	-	-	ON	-	-	-	-	-	-	-	-	ON	-	-	-
013	-	-	-	-	-	-	-	-	OFF	OFF	-	OFF	OFF	-	-	-	OFF	-	-	-
014	-	-	-	-	-	-	-	-	OFF	OFF	-	OFF	OFF	-	-	-	OFF	-	-	-
019	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-

Technician Level

	Mode → Parameter	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	17	18	19	20	22
	100	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-
**	110	-	-	-	-	180	-	-	-	250	250	180	-	-	180	-	-	-	180	-	-
**	111	-	-	-	-	5000	-	-	-	-	-	4500	-	-	3000	-	-	-	4500	2500	3500
**	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4000	-	-	900
**	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1200	-	-	900
**	115	-	-	-	-	-	-	-	-	-	-	600	-	-	-	-	-	-	600	-	-
**	116	-	-	-	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	-	-
**	117	-	-	-	-	-	-	-	-	-	-	-	-	-	2000	-	-	-	-	1800	-
**	118	-	-	-	-	-	-	-	-	-	-	-	-	-	3000	-	-	-	-	2500	-
**	122	-	-	-	-	-	-	-	-	-	6000	-	-	-	2600	-	-	-	-	-	-
**	123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2400	-	-
**	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3500
**	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2000
	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	130	-	-	-	-	-	-	-	ON	-	-	-	-	-	-	-	-	-	-	-	-
	132	-	-	-	-	-	-	-	OFF	-	-	-	-	-	-	-	-	-	-	-	-
	134	-	-	-	-	-	-	-	-	-	-	ON	-	-	-	-	-	-	ON	ON	-
	147	-	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-
	148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
	153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
	161	-	-	-	-	0	0	0	0	0	0	0	-	-	-	-	0	-	-	-	-
	180	-	-	-	-	-	-	-	-	-	-	7	-	-	1	-	-	-	-	10	14
	181	-	-	-	-	-	-	-	-	-	-	230	-	-	-	-	-	-	-	-	-
	182	-	-	-	-	-	-	-	ON	-	-	ON	-	-	ON	-	-	-	-	ON	ON
	190	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	192	-	-	-	-	-	-	-	ON	-	-	-	-	-	-	-	-	-	-	-	-
	197	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	50	-

-   =   For the positions marked with "-" the preset values listed in the List of Parameters are used !

** =   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

	Mode → Parameter	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	17	18	19	20	22
	201	-	-	-	-	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	202	-	-	-	-	-	-	-	-	0	0	10	-	-	-	-	-	-	10	-	-
	203	-	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	204	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-
**	205	-	-	-	-	-	-	-	-	-	240	-	-	-	-	-	-	-	240	-	-
	206	-	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	150	-	-
	211	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-
	231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFF	-	-	-
	239	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-
	240	-	-	-	-	6	-	-	-	6	6	-	20	20	2	-	-	-	16	13	12
	242	-	-	-	-	3	-	-	-	10	10	-	-	21	24	-	-	-	1	31	2
	243	-	-	-	-	-	-	-	-	-	34	-	-	-	11	-	-	-	-	32	14
	250	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	20
	251	-	-	-	-	-	-	-	-	-	-	-	-	-	110	-	-	-	-	-	100
	252	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	60
**	253	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	254	-	-	-	-	-	-	-	-	-	-	4	-	-	0	-	-	-	8	-	-
**	280	x	x	x	x	100	-	-	100	x	x	x	x	x	x	x	100	-	-	-	-
**	281	x	x	x	x	-	-	-	-	x	x	280	x	x	x	x	-	-	280	-	-
**	282	x	x	0	x	0	-	-	200	x	x	x	x	x	x	x	-	-	-	-	-
**	283	-	-	-	-	200	-	-	-	x	x	x	x	x	x	x	-	-	-	-	-
**	284	x	x	x	x	-	-	0	0	x	x	150	100	100	0	x	200	-	150	100	-
**	285	x	x	x	x	200	-	-	-	x	x	70	x	x	120	x	70	-	70	-	-
**	286	x	x	x	x	-	-	0	-	x	x	x	x	x	x	x	-	-	-	-	-
**	288	x	x	x	x	500	-	-	-	x	x	x	x	x	-	-	200	0	-	-	-
	297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	Basic pos.	1	1	1	1	1	2	2	2	2	2	1	2	2	1	1	2	1	1	1	1

Note
The preset values of the following list of parameters refer to the setting of parameter 290 = 0.

x   =   The positions marked with "x" are not used in the functional sequence!

-    =   For the positions marked with "-" the preset values listed in the List of Parameters are used !

** =   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

6.2 Operator Level

The preset values of the following list of parameters refer to the setting of parameter 290 = 0.

Parameter		Designation	Unit	max	min	Preset		Ind.
000	c2	- Stitch counting - End counting limited speed until stop	stitches	254	0	2	*)	A
001	c1	- Stitch counting - Start counting limited speed n3	stitches	254	0	2	*)	A
002	c3	- Stitch counting - Counting tape cutter at the start of the seam	stitches	254	0	2	*)	A
003	c4	- Stitch counting - Counting tape cutter at the seam end	stitches	254	0	2	*)	A
004	LS	Light barrier compensating stitches	stitches	254	0	7	*)	A
005		Number of stitches of the light barrier filter for knitted fabrics	stitches	254	0	1	*)	A
006		Number of light barrier seams		15	1	1		A
007		Number of stitches for the seam with stitch counting	stitches	254	0	20		A
009	LS	Light barrier On/Off	ON/OFF			OFF	*)	A
013		Thread trimmer On/Off	ON/OFF			ON	*)	A
014		Thread wiper On/Off	ON/OFF			ON	*)	A
015		Stitch counting On/Off	ON/OFF			OFF		A
018		OFF = Sequence "overlock mode with stop" ON = Sequence "overlock mode without automatic stop.	ON/OFF			OFF		A
019		0 = Pedal in pos. –1 blocked in the seam; with pedal in pos. –2 in the seam, only sewing foot lifting is possible. (Function only if parameter 009 = ON) 1 = Pedal in pos. –1, sewing foot lifting blocked in the seam. 2 = Pedal in pos. –2, thread trimming blocked. (Function only if parameter 009 = ON) 3 = Pedal in pos. –1 and –2 active in the seam. 4 = Pedal in pos. –1 and –2 blocked in the seam. (Function only if parameter 009 = ON)		4	0	3	*)	A
020	kLM	Clamp at the seam end On/Off	ON/OFF			OFF		A
021	ckL	Run-out stitches clamp at the start of the seam (Parameter 290 = 6 and 7)	stitches	254	0	2	*)	A
022		OFF = Chain suction until the end of count c2 ON = Chain suction at the seam end until pedal in pos. 0 (neutral)	ON/OFF			OFF		A
023		Automatic sewing foot lifting with pedal forward at the seam end, if light barrier or stitch counting is switched on. 0 = Automatic sewing foot Off 1 = Automatic sewing foot On		1	0	1		A
024		Thread tension release with sewing foot lifting, if parameter 290 = 13 and thread trimmer is switched off. 0 = Thread tension release with sewing foot only at the seam end 1= Thread tension release with sewing foot at intermediate stop and at the seam end		1	0	1		A
026		Switchable stop for Pegasus backlatch machines if parameter 290 = 8 0 = Stop in position 2 after the backlatch cycle and speed n12 1 = Stop always in position 1		1	0	0		B
030		0 = Bobbin thread monitor Off 1 = Bobbin thread monitor with stop 2 = Bobbin thread monitor without stop 3 = Bobbin thread monitor with stop and start blockage after thread trimming		3	0	0		A
031		Number of stitches for bobbin thread monitor	stitches	25500 ***)	0	0		A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

***)   When programming the 5-digit (max) parameter values on the control, the 3-digit value displayed must be multiplied by 100.

6.3 Technician Level

Code no.   190 with control operation

Parameter		Designation	Unit	max		min	Preset		Ind.
100	SSc	Number of softstart stitches	stitches	254		0	2	*)	A
110	n1	Positioning speed	RPM	390	**)	70	200	*)	A
111	n2	Upper limit setting range of the maximum speed	RPM	9900	**)	n2_	4000	*)	A
112	n3	Stitch counting speed at the start of the seam	RPM	9900	**)	200	1200	*)	A
113	n4	Stitch counting speed at the seam end	RPM	9900	**)	200	1200	*)	A
114	n5	Speed after light barrier sensing	RPM	9900	**)	200	1200		A
115	n6	Softstart speed	RPM	2550	**)	70	500	*)	A
116	n7	Trimming speed	RPM	500	**)	70	200	*)	A
117	n10	High lift walking speed	RPM	9900	**)	400	1000	*)	A
118	n12	Automatic speed for stitch counting	RPM	9900	**)	400	3500	*)	A
119		Speed stage graduation 1 = linear 2 = slightly progressive 3 = highly progressive		3		1	2	*)	A
121	n2_	Lower limit setting range of the maximum speed	RPM	n2-	**)	400	400		A
122	n9	Limited speed n9	RPM	9900	**)	400	2000	*)	A
123	n11	Limited speed n11	RPM	9900	**)	400	2500	*)	A
124		Speed limitation by means of ext. potentiometer (maximum value)	RPM	9900	**)	Pa.125	4000	*)	A
125		Speed limitation by means of ext. potentiometer (minimum value) **Note:** The lower speed will be reached only if the value of parameter 110 ≤ value of parameter 125.	RPM	Pa.124	**)	100	400	*)	A
126		Function "speed limitation by means of external potentiometer" 0 = Function "external potentiometer" Off 1 = External potentiometer always active 2 = External potentiometer active only if one of inputs in1, in3, in4 has been selected and activated		2		0	0	*)	A
128		Start delay, when command "start" is given by covering the light barrier (see parameter 129)	ms	2000	**)	0	0		A
129		Machine start by covering the light barrier OFF = Function Off ON = Machine start by covering the light barrier (only in conjunction with parameter 132 = ON)	ON/OFF				OFF		A
130		Light barrier filter for knitted fabrics	ON/OFF				OFF	*)	A
131		OFF = Light barrier sensing "covered" ON = Light barrier sensing "uncovered"	ON/OFF				ON	*)	A
132		OFF = Machine start possible with light barrier uncovered or covered. ON = Machine start blocked with light barrier uncovered	ON/OFF				ON	*)	A
133		Thread trimming when completing the seam after light barrier sensing On/Off	ON/OFF				ON	*)	A
134		Softstart On/Off	ON/OFF				OFF	*)	A
137		High lift for walking foot / flip-flop 1 On/Off	ON/OFF				ON	*)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!
**)   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

Technician Level

Code no. 190 with control operation

Parameter	Designation	Unit	max	min	Preset	Ind.

141	Speed status for the seam with stitch counting
	0 = Speed controllable by the pedal up to the set
	    maximum speed (parameter 111)
	1 = Fixed speed (parameter 118) without influence by
	    the pedal. Machine stop by pressing the pedal
	    to the basic position.
	2 = Limited speed controllable by the pedal up to the
	    set speed (parameter 118)
	3 = At fixed speed (parameter 118) can be interrupted
	    by full heelback
			3	0	0	A

142	Speed status for the free seam and for the seam with
	light barrier
	0 = Speed controllable by the pedal up to the set
	    maximum speed (parameter 111)
	1 = Fixed speed (parameter 118) without influence by
	    the pedal. Machine stop by pressing the pedal
	    to the basic position.
	2 = Limited speed controllable by the pedal up to the
	    set limit (parameter 118)
	3 = At fixed speed (parameter 118) can be interrupted
	    by full heelback (only for seams with light barrier).
			3	0	0	A

143	Stitch counting at the start of the seam
	0 = Speed controllable by the pedal up to the set
	    maximum speed (parameter 111)
	1 = Fixed speed (parameter 112) without influence by
	    the pedal. Machine stop by pressing the pedal
	    to the basic position.
	2 = Limited speed controllable by the pedal up to the
	    set limit (parameter 112)
	3 = At fixed speed (parameter 112), can be suspended
	    or interrupted depending on the setting of
	    parameter 019.
	4 = Limited speed controllable by the pedal up to light
	    barrier covered. Then fixed speed (parameter 112).
	    Machine stop by pressing the pedal to the basic
	    position.
			4	0	2 *)	A

144	Stitch counting at the seam end
	0 = Speed controllable by the pedal up to the set
	    maximum speed (parameter 111)
	1 = Fixed speed (parameter 113) without influence by
	    the pedal (machine stop by pressing the pedal
	    to the basic position)
	2 = Limited speed controllable by the pedal up to the
	    set limit (parameter 113)
	3 = At fixed speed (parameter 113), can be suspended
	    or interrupted depending on the setting of
	    parameter 019.
	4 = At the seam end at light barrier speed without
	    influence by the pedal. Stop with pedal in pos. 0.
	    Chain suction at fixed speed (parameter 113) without
	    influence by the pedal is performed at the seam end
	    with pedal in pos. –2 until stop.
			4	0	2 *)	A

145	OFF = Signal M1 trimming pos.1...pos.1A ON = Signal M1 trimming pos.1...pos.2 (effective only if parameter 290 = 0)	ON/OFF			OFF	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

Technician Level

Code no. 190 with control operation

Parameter		Designation	Unit	max	min	Preset		Ind.
146		0 = Signal **high lift for walking foot** Off 1 = Signal **high lift for walking foot** at output M1 2 = Signal **high lift for walking foot** at output M2 3 = Signal **high lift for walking foot** at output M3, if parameter 297 = 0 The connection of adapter cord and high lift walking solenoid may have to be corrected according to the setting of outputs M1...M3. See connection diagram and adapter cable routing!		3	0	0		A
147		0 = Signal **machine running** Off (exception M5) 1 = Signal **machine running** at output M1 2 = Signal **machine running** at output M2 3 = Signal **machine running** at output M3, if parameter 297 = 0 The connection of adapter cord and solenoid valve **machine running** may have to be corrected according to the setting of outputs M1...M3. See connection diagram and adapter cable routing!		3	0	0	*)	A
148		0 = Signal **backtacking** Off 1 = Signal **backtacking** at output M1 2 = Signal **backtacking** at output M2 3 = Signal **backtacking** at output M3, if parameter 297 = 0 If parameter 290 = 7, the selected output takes the function **chain suction**. The connection of adapter cord and backtacking solenoid may have to be corrected according to the setting of outputs M1...M3. See connection diagram and adapter cable routing!		3	0	0	*)	A
152	thP	Run-out time of the high lift walking speed	ms	500	80	150		A
153		Braking power at machine standstill		50	0	10	*)	A
155		Mode signal "run" 0 = Signal Off. 1 = Signal "run" On. 2 = Signal "run" switched on when the speed is >3000 RPM. 3 = Signal with pedal <> 0.		3	0	1		A
156	t05	Switch-off delay for the signal "run"	ms	2550 **)	0	0		A
161		Direction of motor rotation 0 = Clockwise rotation 1 = Counterclockwise rotation		1	0	1	*)	A
172	POS	**Display on the control:** Pos. 1 to 1A (LED 7 lights up) Pos. 2 to 2A (LED 8 lights up)						

173		Checking of the signal outputs and inputs using the incorporated control panel
		01 = Free on socket ST2/34
		02 = Sewing foot lifting on socket ST2/35
		03 = Output M1 on socket ST2/37
		04 = Output M3 on socket ST2/27
		05 = Output M2 on socket ST2/28
		06 = Free
		07 = Output ML or M5 on socket ST2/32
		OFF/ON = By actuating the switches connected to the
		           control, the function of these switches is
		           checked and displayed on the control.
		           OFF is displayed with open switch and **ON**
		           with closed switch.						

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

**)   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

Technician Level

Code no.   190 with control operation

Parameter		Designation	Unit	max	min	Preset		Ind.
179	Sr5	Control program number with index and identification number. Upon pressing the appropriate key the data will be displayed in succession. **Control display:** Press the **E** key → Display e. g. **467** Press the **>>** key → Display e. g. **h** Press the **>>** key → Display e. g. **00** Press the **>>** key → Display e. g. **04** Press the **>>** key → Display e. g. **20** Press 2x the **P** key → Display shows no reading						
180	ird	Number of reversing increments	incr.	100	0	60	*)	A
181	drd	Switch-on delay of reverse motor rotation	ms	990	0	10	*)	A
182		Reverse motor rotation On/Off	ON/OFF			OFF	*)	A
183		Switching off the flip-flop functions at the seam end 0 = Flip-flop 1 not switched off at the seam end 1 = Flip-flop 1 switched off at the seam end		1	0	0		A
184	c6	Number of run-out stitches when unlocking the chain (effective only if parameter 190 = 3 and 290 = 7)	stitches	254	0	20	*)	A
185	chP	Stitch counting high lift for walking foot	stitches	254	0	0		A

190		Function "unlocking the chain" in modes 4, 5, 6 and 7 (parameter 290)
		0 = Unlocking the chain Off
		1 = Unlocking the chain manually (with pedal in pos. –2 without cutting at the seam end)
		2 = Unlocking the chain automatically
		  - with light barrier or
		  - pedal in pos. –2 (parameter 019) without cutting at the seam end
		3 = Unlocking the chain automatically
		  - with light barrier or
		  - pedal in pos. –2 (parameter 019) with cutting and run-out stitches (parameter 184) at the seam end, then unlocking the chain (only if parameter 290 = 7)
				4	0	2	*)	A

191		Seam end in the overlock mode by end count c2 or c4 0 = Seam end after count c4 – tape cutter 1 = Seam end after count c2 – chain suction		1	0	0		A
192		Speed of the light barrier compensating stitches OFF = Speed n5 after light barrier sensing ON = Speed pedal controlled	ON/OFF			OFF	*)	A
193		Enable chain suction signal OFF = Chain suction signal after the light barrier compensating stitches ON = Chain suction signal from light barrier uncovered onwards	ON/OFF			OFF		A
195		Stitches for light barrier monitoring (light barrier monitoring is off, when set to "0").	stitches	2550 **)	0	0		A
196		Function "chainstitch thread trimmer" (only if parameter 290 = 5) 0 = Chainstitch thread trimmer in general 1 = Chainstitch thread trimmer Pegasus		1	0	0	*)	A
197	dr°	Stop for thread trimming depending on angle	degrees	510	0	360	*)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!
**)   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

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6.4 Supplier Level

Code no. 311 with control operation

Parameter		Designation	Unit	max	min	Preset		Ind.
201	t2	Sewing foot lift switch-on delay with half heelback	ms	500	20	80	*)	A
202	t3	Start delay after switching off the sewing foot lift signal	ms	500	0	50	*)	A
203	t4	Time of full power of sewing foot lifting	ms	600	0	500	*)	A
204	t5	Holding power for sewing foot lifting Stages 0...7 Stage 1 → 12.5% low holding power Stage 7 → 87.5% Stage 0 → 100% high holding power				3	*)	A
205	t6	Thread wiper time	ms	2550 **)	0	120	*)	A
206	t7	Delay from end of thread wiper until sewing foot lifting On	ms	800	0	40	*)	A
207		Braking effect when modifying the preset value ≤ 4 stages		64	1	25		A
208		Braking effect when modifying the preset value ≥ 5 stages		64	1	64		A
211	tFL	Sewing foot lift switch-on delay with thread wiper off	ms	500	0	60	*)	A
220		Accelerating power of the drive		255	1	32		A
221		Speed gate 1	RPM	990 **)	50	100		A
222		Speed gate damping period (effective only if parameter 224 = OFF)	ms	990	0	0		A
223		Speed gate 2	RPM	6500 **)	500	1700		A
224		Speed gate 2 On/Off	ON/OFF			ON		A
231		Execution of the first stitch after Power On at positioning speed	ON/OFF			ON	*)	A
232		Overlock with fast scissors On/Off OFF = Tape cutter ON = Fast scissors (set parameter 282 = 0)	ON/OFF			OFF		A
233		Error message A1, if the pedal is not in pos. 0 (neutral), when switching the machine on. OFF = Error message A1 is suppressed (e. g. with automats) ON = Error message A1 is displayed	ON/OFF			ON		A
234		New start after machine run blockage OFF = New start after deactivating the machine run blockage without influence by the pedal (e. g. with automats) ON = New start after deactivating the machine run blockage only if pedal in pos. 0	ON/OFF			ON		A
236		0 = Sewing foot lift possible in all positions 1 = Sewing foot lift possible in position 2 2 = Sewing foot lift at the seam end stored with pedal backward. Storing undone with pedal slightly forward.		2	0	0		A
238		Software debouncing for all inputs: 0 = No debouncing 1 = With debouncing		1	0	1	*)	A
239	FEL	Selection of the input function on socket B18/5 0 = Light barrier function, if 009 = ON All other functions as with parameter 240. Exception is parameter 239 = 14. At this setting, high lift for walking foot is performed with speed limitation <u>operational mode not stored</u>.		44	0	0	*)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

**)   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation

Parameter		Designation	Unit	max	min	Preset		Ind.
240	in1	**Selection of the input functions on socket ST2/7 and B4/1 for input 1.** A value is preset for a number of modes. See chapter "Preset Values Depending on Mode" 0 = No function 1 = Needle up/down 2 = Needle up 3 = Single stitch (basting stitch) 4 = Full stitch 5 = Needle to position 2 6 = Machine run blockage effective with open contact 7 = Machine run blockage effective with closed contact 8 = Machine run blockage unpositioned effective with open contact 9 = Machine run blockage unpositioned effective with closed contact 10 = Automatic speed n12 without pedal 11 = Limited speed n12 pedal controlled 12 = Sewing foot lifting with pedal in position 0 (neutral) 13 = High lift for walking foot with speed limitation n10 (operational mode not stored) 14 = High lift for walking foot **(flip-flop 1)** with speed limitation n10 (operational mode stored) 15 = Tape cutter / fast scissors (in chainstitch and overlock mode) 16 = Intermediate backtack / intermediate stitch condensing 17 = No function 18 = Unlocking the chain (can be activated by keystroke, but will be executed only at the seam end) 19 = Set counter of bobbin thread monitor 20 = Positioning speed n1 21 = Reversal of motor rotation (possible only if parameter 290 = 12) 22 = No function 23 = Speed limitation n9 24 = Needle moves from position 1 to position 2 **(flip-flop 3)**. If the needle is outside of position 1, machine start is blocked for safety reasons and the sewing foot is immediately lifted. 25 = Speed limitation with ext. potentiometer On/Off (see parameter 126) 26 = No function 27 = Unlocking the chain (the function is performed upon pressing the key). 28 = External light barrier 29 = No function 30 = No function 31 = Function "speed limitation bit0" (speed n11) 32 = Function "speed limitation bit1" (speed n10) (Bit0 + Bit1 = Speed n9) 33 = Speed n9 pedal controlled 34 = Automatic speed n9 can be suspended by pressing the pedal to pos. 0 35 = Automatic speed n9 can be interrupted by pressing the pedal to pos. -2 36 = Automatic speed n9 without pedal 37 = No function 38 = No function		44	0	0 *)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

Supplier Level

Code no.   311 with control operation

Parameter		Designation	Unit	max		min	Preset		Ind.
		39 = No function 40 = No function 41 = No function 42 = No function 43 = Needle up with subsequent sewing foot lifting with pedal in pos. 0 (neutral) 44 = Seam end as with pedal in pos. -2							
242	in3	**Selection of the input function on socket ST2/6** **and B4/4 for input 3** 0 = No function All other functions of the keys as with parameter 240		44		0	0	*)	A
243	in4	**Selection of the input function on socket ST2/8** **and B4/5 for input 4** 0 = No function All other functions of the keys as with parameter 240		44		0	0	*)	A
250	iFA	Thread trimmer activation angle (1 increment = 1.5°)	incr.	120		0	100	*)	A
251	FSA	Switch-off delay of thread tension release	ms	990		0	50	*)	A
252	FSE	Switch-on delay of thread tension release (1 increment = 1.5°)	incr.	120		0	0	*)	A
253	tFA	Stop time for thread trimmer	ms	2550	**)	0	70	*)	A
254	tAM	Holding power output M1 of the thread trimmer backward (stages 0...9) Stage 0 = Holding power Off Stage 1 = 6.25% Stage 2 = 12.5% Stage 3 = 18.75% Stage 4 = 25% Stage 5 = 31,25% Stage 6 = 37,5% Stage 7 = 43,75% Stage 8 = 50% Stage 9 = 100% (full power)		9		0	2	*)	A
263		High lift for walking foot operational mode not stored with input in.. = 13 0 = Signal "high lift for walking foot", when key is closed. 1 = Signal "high lift for walking foot", when key is open. (Function effective if parameter 137 = ON)		1		0	0		A
266		Limited speed n12 input in.. = 11 0 = Speed limitation n12, when key is closed. 1 = Speed limitation n12, when key is open.		1		0	0		A
273		Trimming function at the start of the seam On/Off (only if parameter 290 = 5)	ON/OFF				OFF		A
274	Ad1	Delay time of signal M3 at the start of the seam	ms	2550	**)	0	40		A
275	At1	ON period of signal M3 at the start of the seam	ms	2550	**)	0	150		A
276	Ad2	Delay time of signal M2 at the start of the seam	ms	2550	**)	0	50		A
277	At2	ON period of signal M2 at the start of the seam	ms	2550	**)	0	60		A
278	Ad3	Delay time of signal M5 at the start of the seam	ms	2550	**)	0	40		A
279	At3	ON period of signal M5 at the start of the seam	ms	2550	**)	0	350		A
280	kd1	Delay time	ms	2550	**)	0	0	*)	A
281	kt1	ON period	ms	2550	**)	0	100	*)	A
282	kd2	Delay time	ms	2550	**)	0	100	*)	A
283	kt2	ON period	ms	2550	**)	0	100	*)	A
284	kd3	Delay time	ms	2550	**)	0	200	*)	A
285	kt3	ON period	ms	2550	**)	0	100	*)	A
286	kd4	Delay time	ms	2550	**)	0	300	*)	A
287	kt4	ON period	ms	2550	**)	0	100	*)	A
288	kdF	Delay time until sewing foot On	ms	2550	**)	0	380	*)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!
**)   When programming the 3-digit or 4-digit control parameter values, the 2-digit or 3-digit value displayed must be
        multiplied by 10.

Supplier Level

Code no. 311 with control operation

Parameter	Designation	Unit	max	min	Preset	Ind.
290 FAM	**0 = Lockstitch mode:** (FA1, FA2, FA3, FA1+FA2); e. g. Brother Dürkopp Adler, Mitsubishi, Pfaff, Toyota **1 = Lockstitch mode:** e. g. Singer (SN62AV) **2 = Lockstitch mode:** e. g. Singer (212 UTT) **3...= Lockstitch mode:** e. g. Dürkopp Adler (models 767, N291) **4 = Chainstitch mode:** e. g. (US80A) **5 = Chainstitch mode** in general**:** M1, M2, M3 and M4 parallel sequence **6 = Chainstitch mode** with **tape cutter** and/or **fast scissors** and **M1 / M2** at the seam end **7 = Overlock mode:** e. g. (AC62AV1461) **8 = Backlatch mode:** Pegasus **9 = Backlatch mode:** Yamato **10 = Lockstitch mode:** Union Special (63900AMZ »replacement for US80A«) and on Refrey lockstitch machines **13 = Lockstitch mode:** Pfaff (1425) **14 = Lockstitch mode:** Juki (5550-6, 5550-7) **15 = Function as in mode 0** **16 = Function as in mode 0** **17 = Chainstitch mode:** Pegasus (stitch lock) **18 = Overlock mode:** Bottoms **19 = Lockstitch mode:** Macofrey **20 = Lockstitch mode:** Juki (LU1510-7) **21 = Function as in mode 0** **22 = Lockstitch mode:** Brother (B-891)		22	0	5	A
297	Functions of signal M3 0 = Function according to setting of parameter 290. 1 = Signal M3 is switched on whenever the light barrier is uncovered 2 = Signal M3 is switched on whenever the light barrier is covered 3 = Signal M3 is switched on only after light barrier uncovered and/or covered until seam end 4 = Signal M3 is switched on as with setting 3. Signal M5 (machine running), however, is switched off while signal M3 is issued.		4	0	0 *)	A

*)   Depending on the selected mode. See table at the beginning of the List of Parameters!

7 Error Displays

General Information	
On the control	**Signification**
A1	Pedal not in neutral position, when turning the machine on (according to setting of parameter 233)
A2	Machine run blockage
A6	Light barrier monitoring
A7	Bobbin thread monitor

Programming Functions and Values (Parameters)	
On the control	**Signification**
Returns to 1st digit	Wrong code number or parameter number

Serious Condition	
On the control	**Signification**
E1	After power On, position transmitter or commutation transmitter defective, or connecting cables have been changed by mistake. During operation or after a sewing cycle, only position transmitter defects can be identified.
E2	Line voltage too low, or time between power off and power on too short.
E3	Machine blocked or does not reach the desired speed.
E4	Control disturbed by deficient grounding or loose contact.

Hardware Disturbance	
On the control	**Signification**
H1	Commutation transmitter cord or frequency converter disturbed.
H2	Processor disturbed