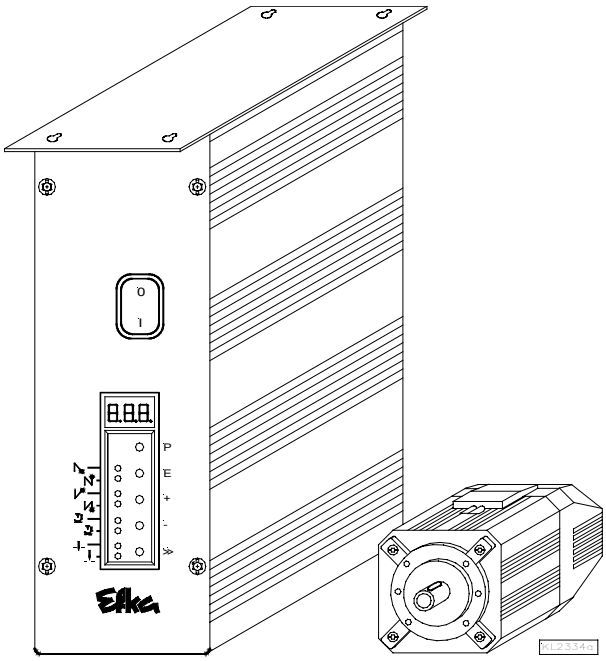
Efka dc 1550

CONTROL DA320G5350



LIST OF PARAMETERS

CONNECTION DIAGRAM
TIMING DIAGRAMS

No. 402303 English

Efka
FRANKL & KIRCHNER
GMBH & CO KG

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EFKA OF AMERICA INC.

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EFKA ELECTRONIC MOTORS
SINGAPORE PTE. LTD.

CONTENTS **Page**

1 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**
- **If necessary, the correct adjustment of the direction of motor rotation using parameter 161**
- **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!

2 Setting and Putting into Service with the Aid of the Fast Installation Routine (SIR)

The Fast Installation Routine (SIR) passes through all parameters necessary for programming the functional sequence and the positions.

Input parameter 500

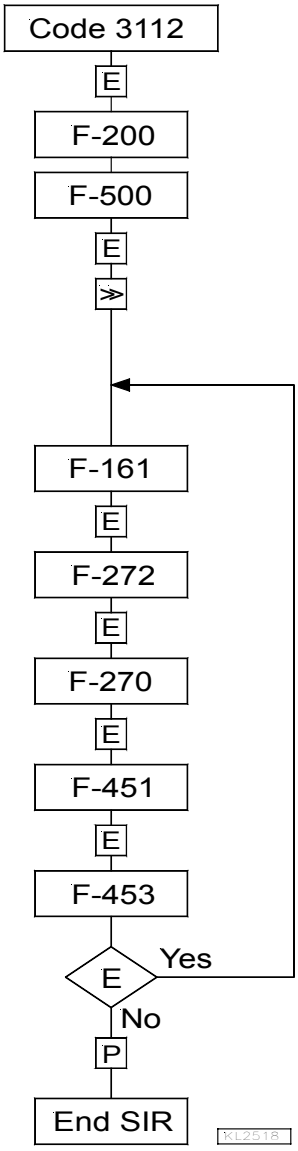
Parameter for direction of motor rotation

Parameter for transmission ratio
Important! The transmission ratio should be determined and indicated as precisely as possible.

Parameter for type of position sensor

Parameter for position 1

Parameter for position 2



The values can be varied by pressing the +/- keys. When the parameter is displayed on the V810 control panel, press the E key once more for the value to be displayed.

Exit the routine any time by pressing the **P** key once, and select a new parameter. Exit programming by pressing the **P** key twice, and the drive is ready for a new sewing operation.
See instruction manual for details!

3 Operating Elements and Socket Connectors

3.1 Position of Operating Elements and Displays

S1 **P key**
- Call or exit programming mode

S2 **E key**
- Start backtack single / double / off
- Enter key for modifications in the programming mode

S3 **+ key**
- End backtack single / double / off
- Increase of the value indicated in the programming mode

S4 **– key**
- Automatic sewing foot lifting at stop in the seam On/Off
- Automatic sewing foot lifting after thread 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

LED1 Indicator for single start backtack

LED2 Indicator for double start backtack

LED3 Indicator for single end backtack

LED4 Indicator for double end backtack

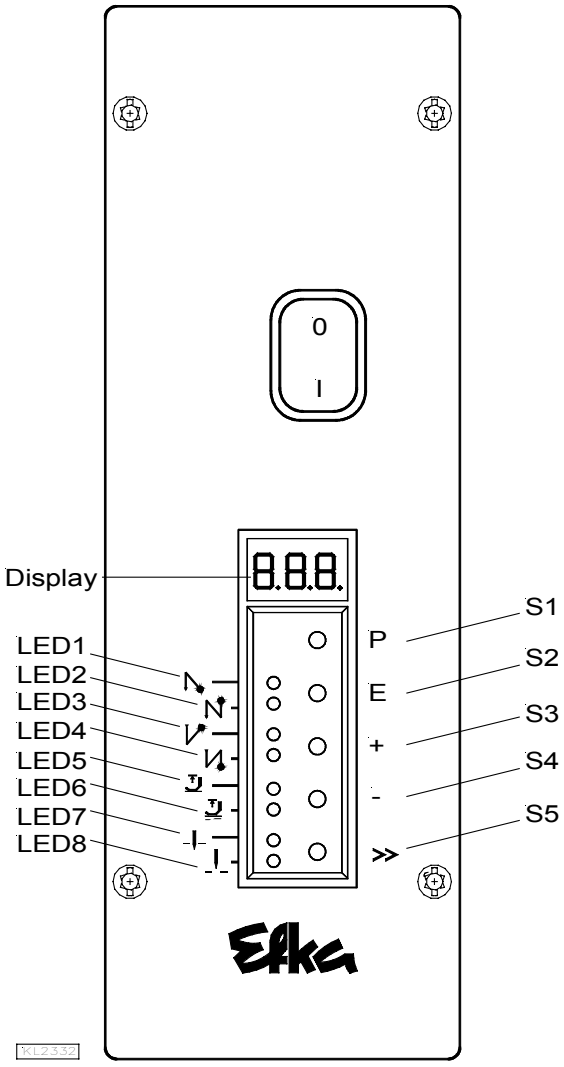
LED5 Indicator for automatic sewing foot lift at stop in the seam

LED6 Indicator for automatic sewing foot lift after the thread trimming operation

LED7 Indicator for basic position “needle position 1“

LED8 Indicator for basic position “needle position 2“

Display 3 digits



3.2 Position of the Socket Connectors

B2 Socket for commutation transmitter

B18 Socket for
- Light barrier module LSM002
- Hall sensor module HSM001
- Pulse encoder IPG001
- EFKANET

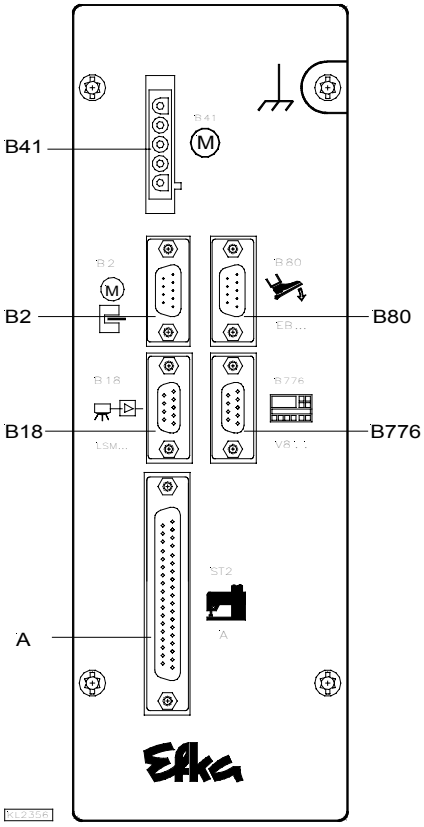
(Adapter cord 1113229 in case of multiple assignment)

B41 Socket for motor power supply

B80 Socket for actuator

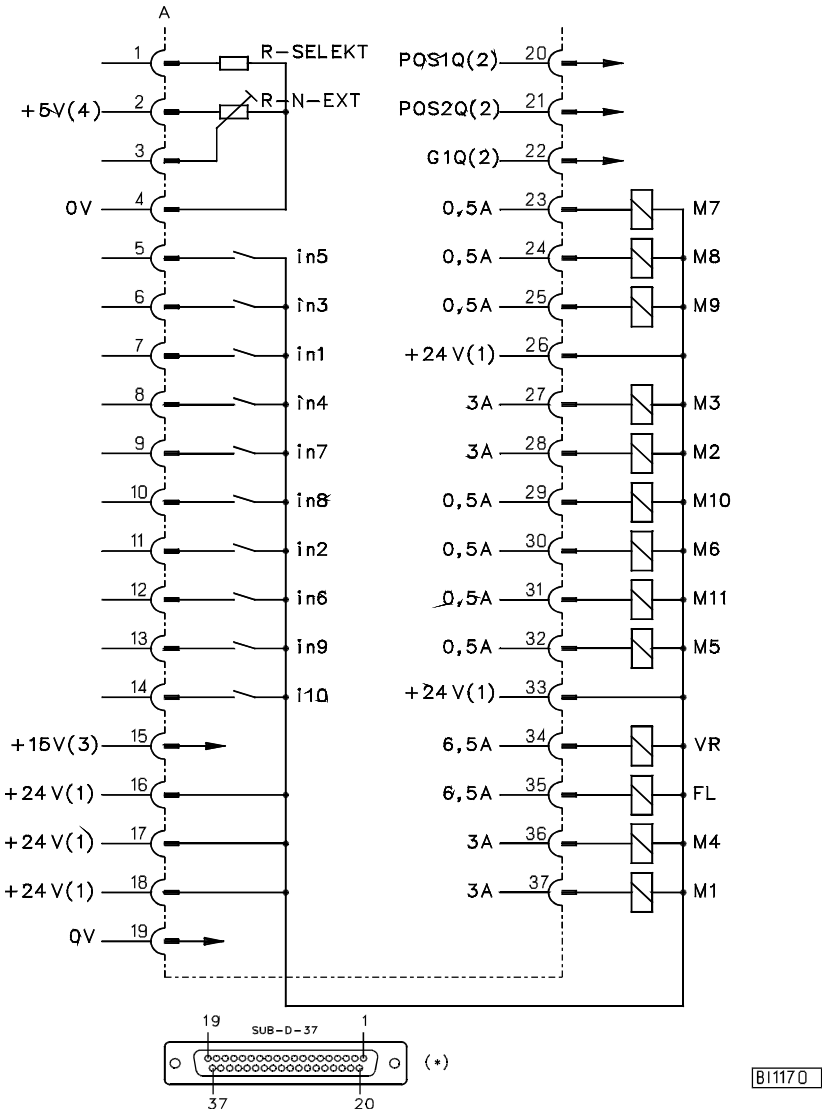
B776 Socket for V810/V820 control panel

ST2 Socket for solenoid inputs and outputs / solenoid valves / displays / keys and switches



3.3 Connection Diagram

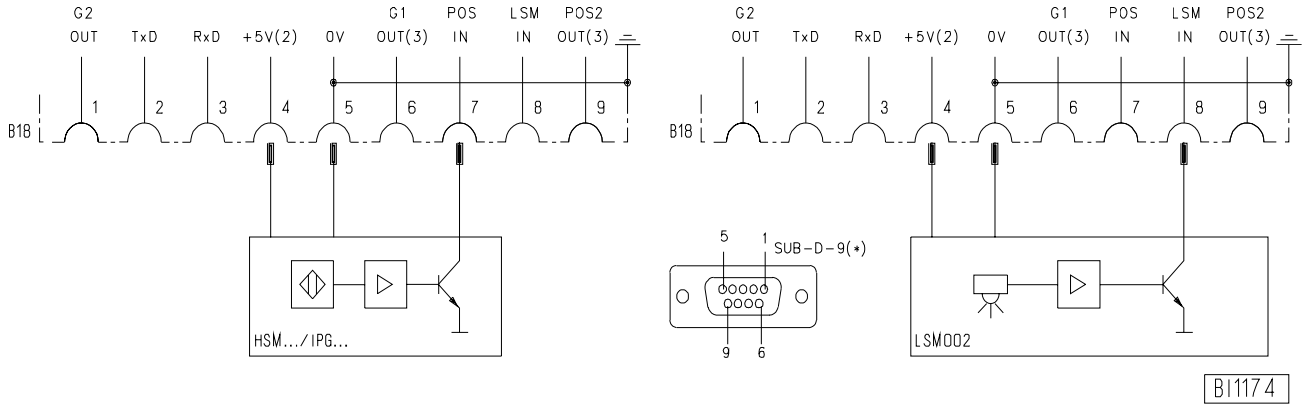
Socket ST2 corresponds to socket A



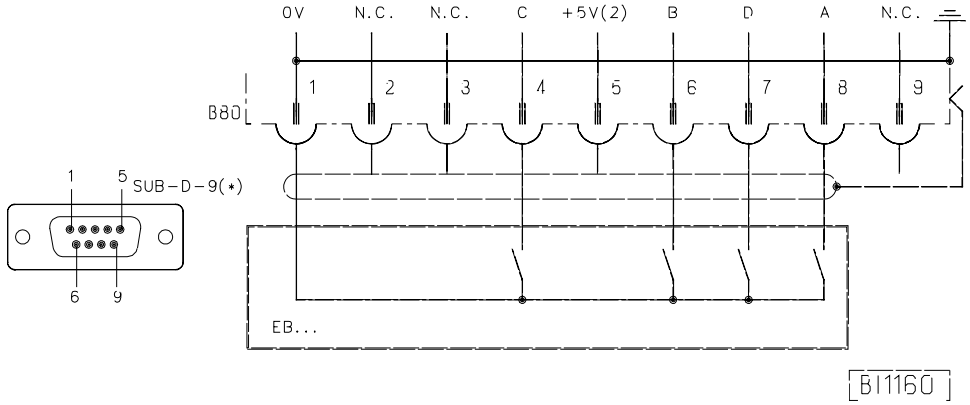
ATTENTION!
When connecting the outputs, ensure that a total power of 96VA constant load will not be exceeded!

in1 - Key for output B	i10 - Backtack suppression/recall	M9	- LED righthand thread monitor
in2 - Machine run blockage	M1- Thread trimmer	M10	- LED for output A
in3 - Needle up/down	M2- Needle cooling	M11	- LED for output B
in4 - Key for output A	M3- Thread wiper	FL	- Sewing foot lifting
in5 - Intermediate backtack	M4- Thread tension release	VR	- Backtacking
in6 - Thread monitor	M5- Output B	POS1	- Position 1
in7 - DB2000	M6- Output A	POS2	- Position 2
in8 - DB3000	M7- LED lefthand thread monitor	GEN	- Generator impulses
in9 - External light barrier	M8- LED backtack suppression/recall	R-N-EXT	- External potentiometer for speed limitation (50kΩ)

1) Nominal voltage 24V, no-load voltage max. 30V momentarily after power on
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)



POS2 OUT - Output for position 2
POS IN - Input for positions
G1/G2 OUT - Output of generator impulses
TXD/RXD - Serial transmission lines
LSM IN - Possibility of connecting a light barrier module to socket B18/8
LSM002 - Reflection light barrier module
HSM001 - Hall sensor module
IPG... - Pulse encoder



EB.. Actuator

Pedal step ➔	-2	-1	0	½	1	2	3	4	5	6	7	8	9	10	11	12
Input A	L	L	H	H	H	L	L	H	H	L	L	H	H	L	L	H
Input B	L	H	H	L	L	L	H	H	H	H	L	L	L	L	H	H
Input C	H	H	H	H	L	L	L	L	L	L	L	L	H	H	H	H
Input D	H	H	H	H	H	H	H	H	L	L	L	L	L	L	L	L

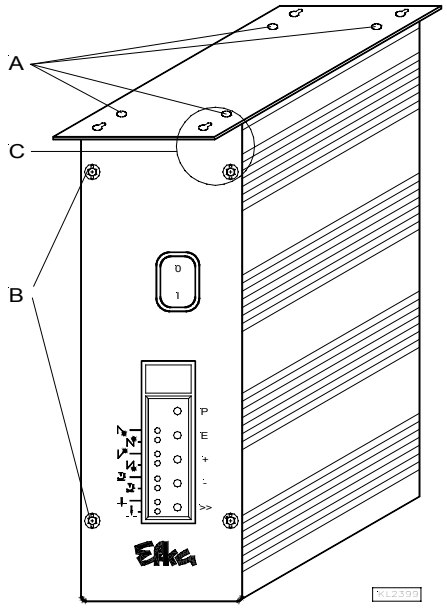
2) Nominal voltage 5V, I_{max} = 20mA
3) Transistor output with open collector (max. 40V, 10mA)
*) Front view of the socket (component side) and/or rear view of the plug (soldering side)

3.4 Connection of a Sewing Light with Transformer

ATTENTION!

Before opening the cover, turn power off!

- **Switch off the control and remove mains plug from outlet**
- Unscrew the control unit from the machine table
- Loosen 4 screws (**A**)
- Remove the mounting plate
- Loosen 2 screws (**B**) each at the front and at the rear
- Open the left part of the housing
- Pull the sewing light cable through the cable bushing
- Area (**C**): Connect strands with clamp on the printed circuit board
- Insert earth lead into plug-in device on the housing part
- Close and screw-connect the housing
- Mount the control unit on the machine table

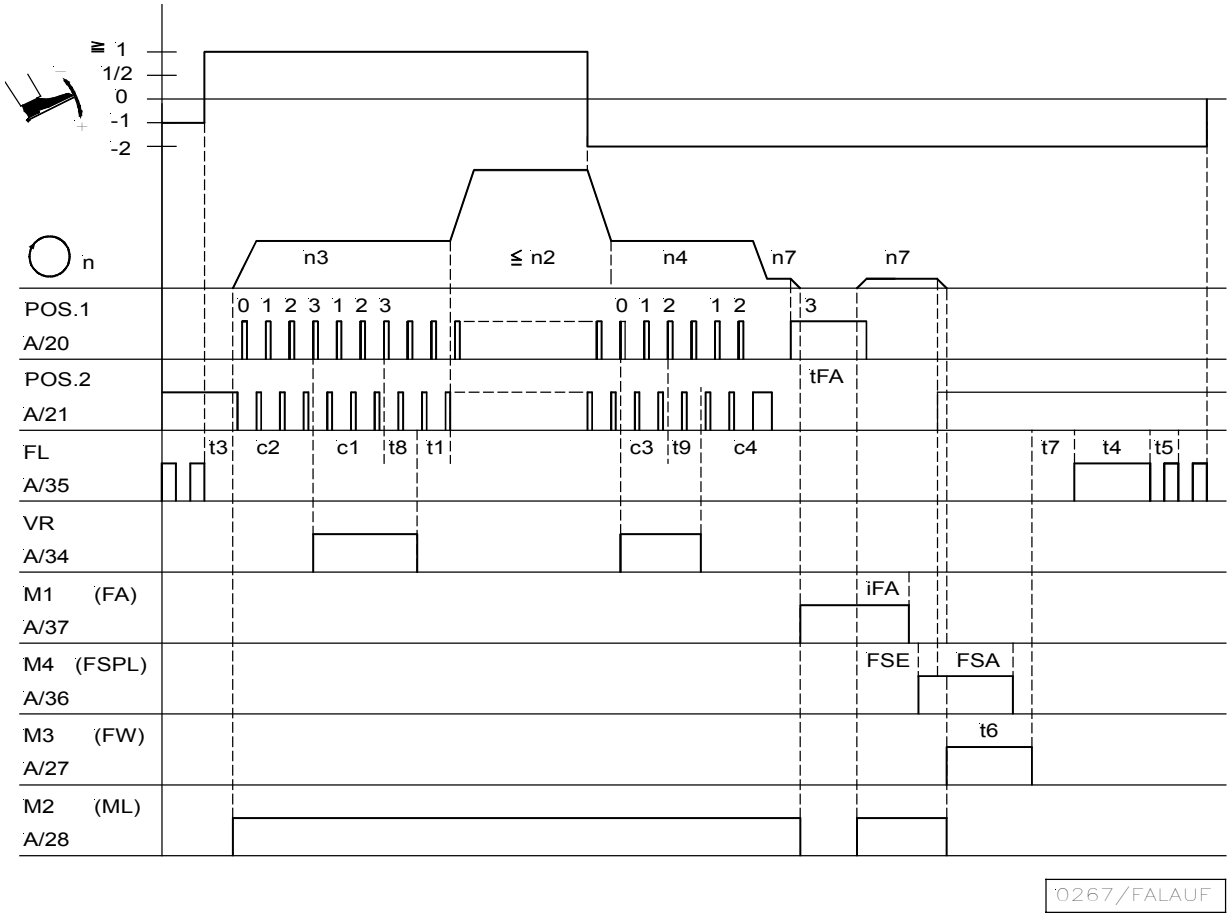


CAUTION!

When the sewing light is connected, it is always current-carrying (230V), even if the control unit is switched off! Only one sewing light with transformer can be connected to the control unit!

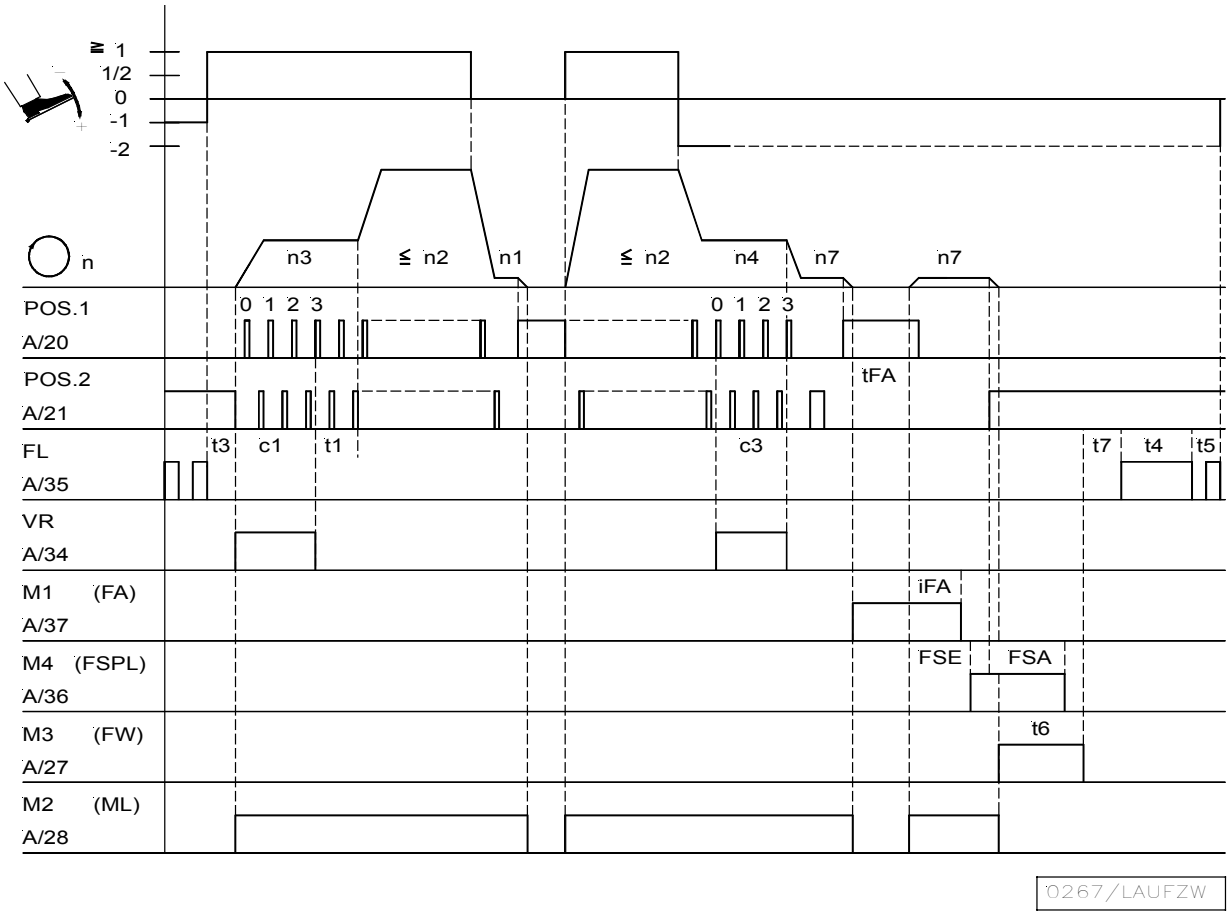
4 Timing Diagrams

Trimming from full machine run



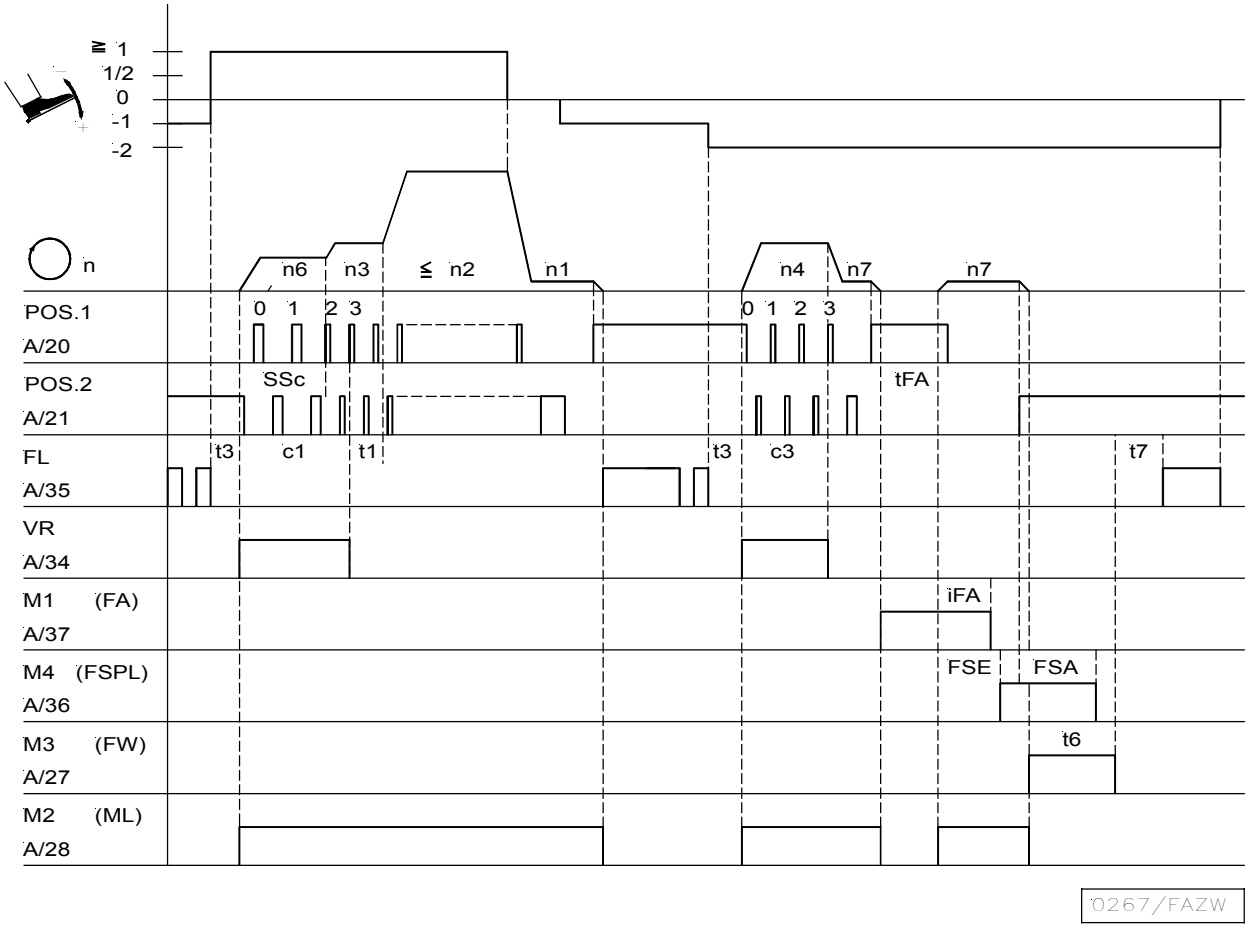
Mark	Function		Parameter	Control	V810	V820
	Double start backtack with stitch correction Double end backtack with stitch correction	On On		S2 key S3 key	1 key 2 key	1 key 4 key
n2 n3 n4 n7	Maximum speed Start backtack speed End backtack speed Trimming speed		111 112 113 116			
c2 c1 c3 c4 t8 t9 iFA FSA FSE tFA t1 t3 t4 t5 t6 t7	Start backtack stitches forward Start backtack stitches backward End backtack stitches backward End backtack stitches forward Start backtack stitch correction End backtack stitch correction Activation angle of the thread trimmer Thread tension release ON period Thread tension release delay depending on angle Stop time for thread trimmer Delay until speed release after start backtack 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		000 001 002 003 150 151 190 191 192 193 200 202 203 204 205 206			

Machine run with intermediate stop



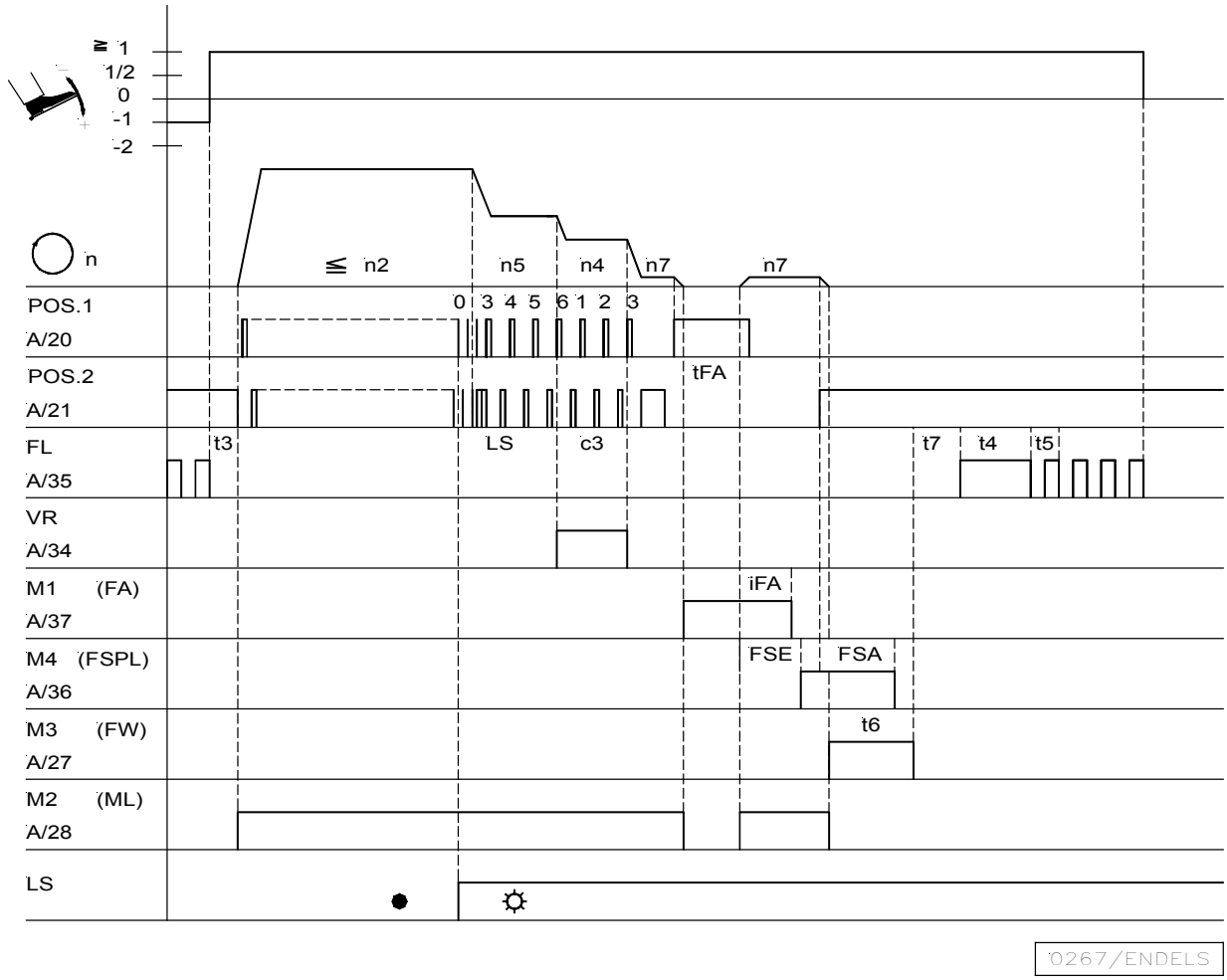
Mark	Function		Parameter	Control	V810	V820
	Single start backtack Single end backtack	On On		S2 key S3 key	1 key 2 key	1 key 4 key
n1 n2 n3 n4 n7	Positioning speed Maximum speed Start backtack speed End backtack speed Trimming speed		110 111 112 113 116			
c1 c3 iFA FSA FSE tFA t1 t3 t4 t5 t6 t7	Start backtack stitches backward End backtack stitches backward Activation angle of the thread trimmer Thread tension release ON period Thread tension release delay depending on angle Stop time for thread trimmer Delay until speed release after start backtack 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		001 002 190 191 192 193 200 202 203 204 205 206			

Trimming from intermediate stop



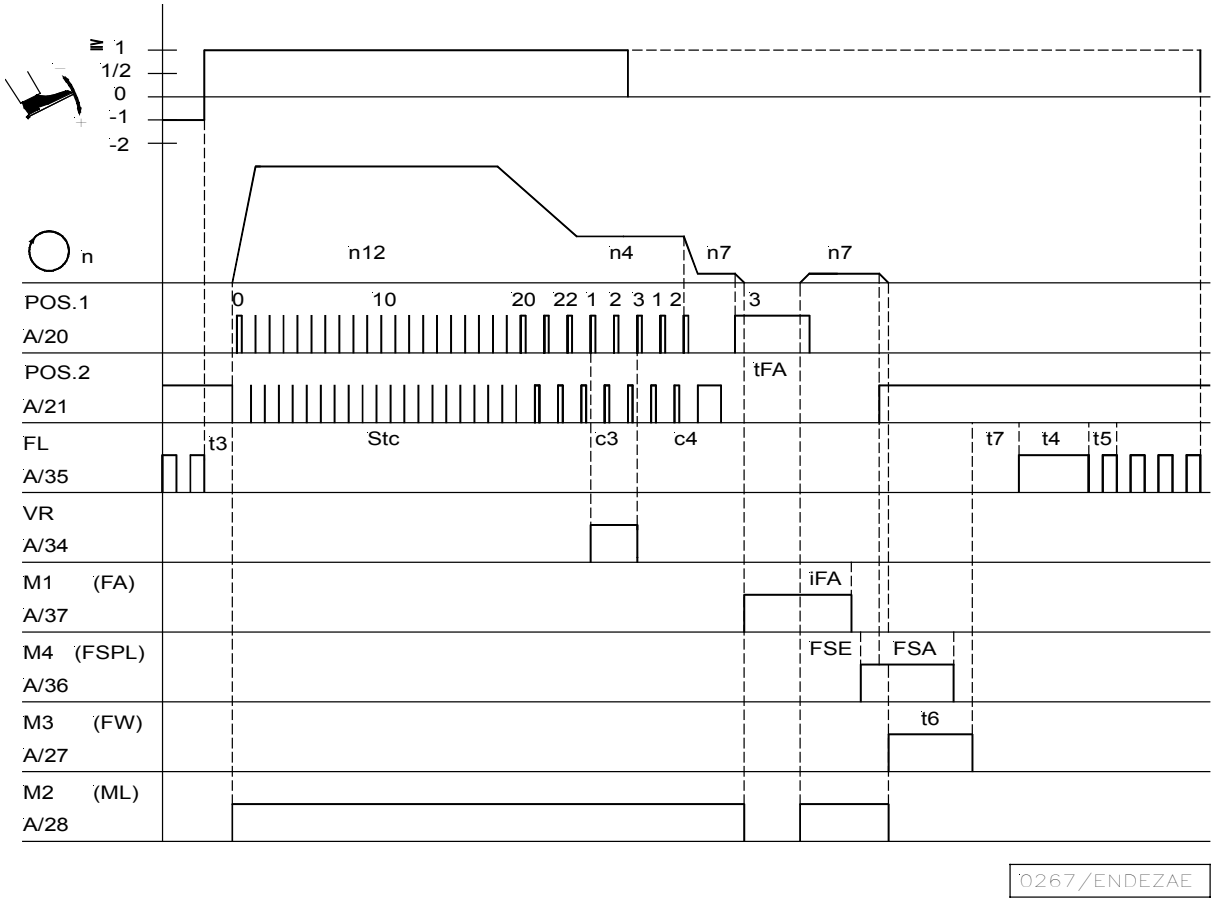
Mark	Function		Parameter	Control	V810	V820
	Single start backtack Single end backtack Softstart	On On	 134 = 1	S2 key S3 key	1 key 2 key	1 key 4 key
n1 n2 n3 n4 n6 n7	Positioning speed Maximum speed Start backtack speed End backtack speed Softstart speed Trimming speed		110 111 112 113 115 116			
c1 c3 SSc iFA FSA FSE tFA t1 t3 t6 t7	Start backtack stitches backward End backtack stitches backward Softstart stitches Activation angle of the thread trimmer Thread tension release ON period Thread tension release delay depending on angle Stop time for thread trimmer Delay until speed release after start backtack Start delay from lifted sewing foot Thread wiper ON period Sewing foot switch-on delay after thread wiper		001 002 100 190 191 192 193 200 202 205 206			

End sensing by light barrier



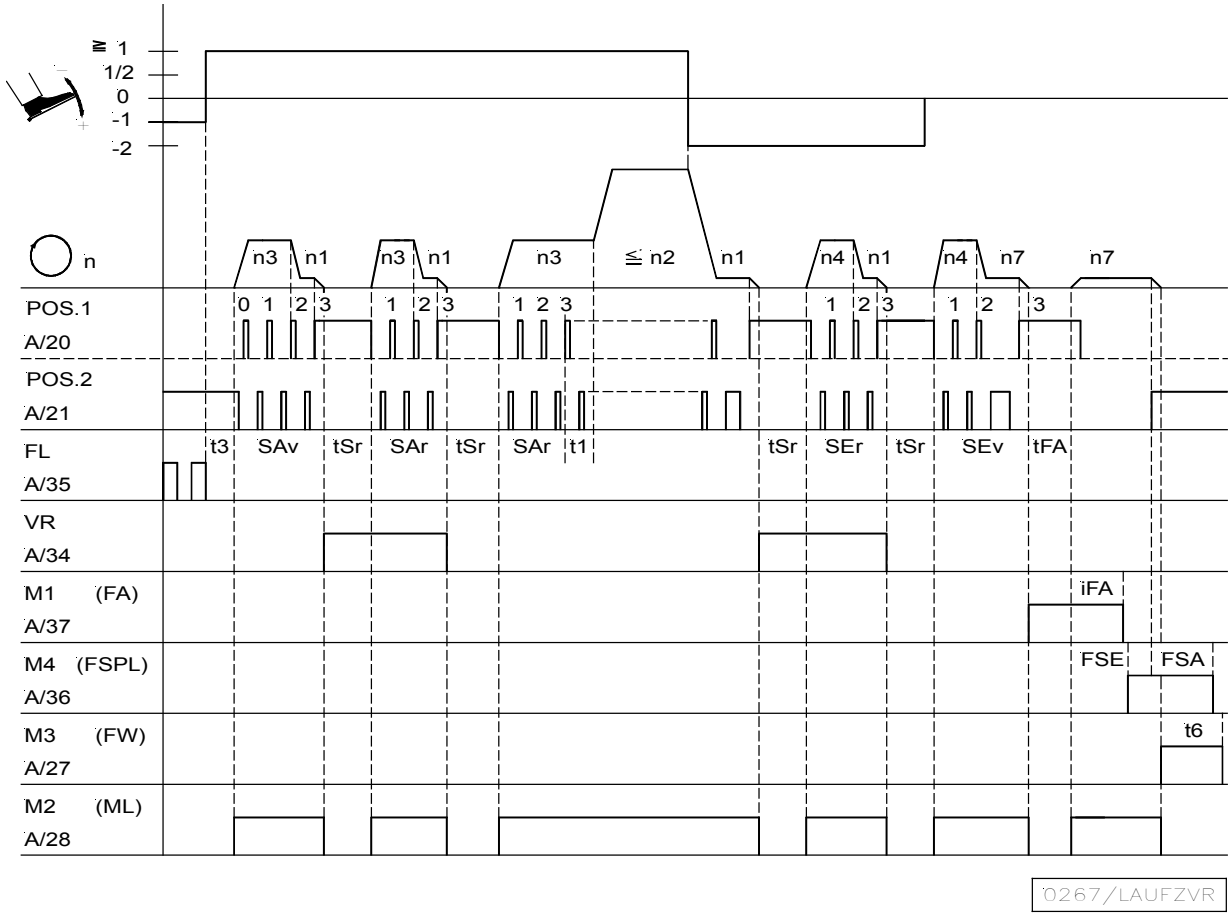
Mark	Function		Parameter	Control	V810	V820
	Start backtack	Off		S2 key	1 key	1 key
	Single end backtack	On		S3 key	2 key	4 key
	Light barrier		009 = 1			
	Light barrier covered/uncovered		131 = 1			
n2	Maximum speed		111			
n3	Start backtack speed		112			
n5	Speed after light barrier sensing		114			
n7	Trimming speed		116			
c3	End backtack stitches backward		002			
LS	Light barrier compensating stitches		004			
iFA	Activation angle of the thread trimmer		190			
FSA	Thread tension release ON period		191			
FSE	Thread tension release delay depending on angle		192			
tFA	Stop time for thread trimmer		193			
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			

Seam end by stitch counting



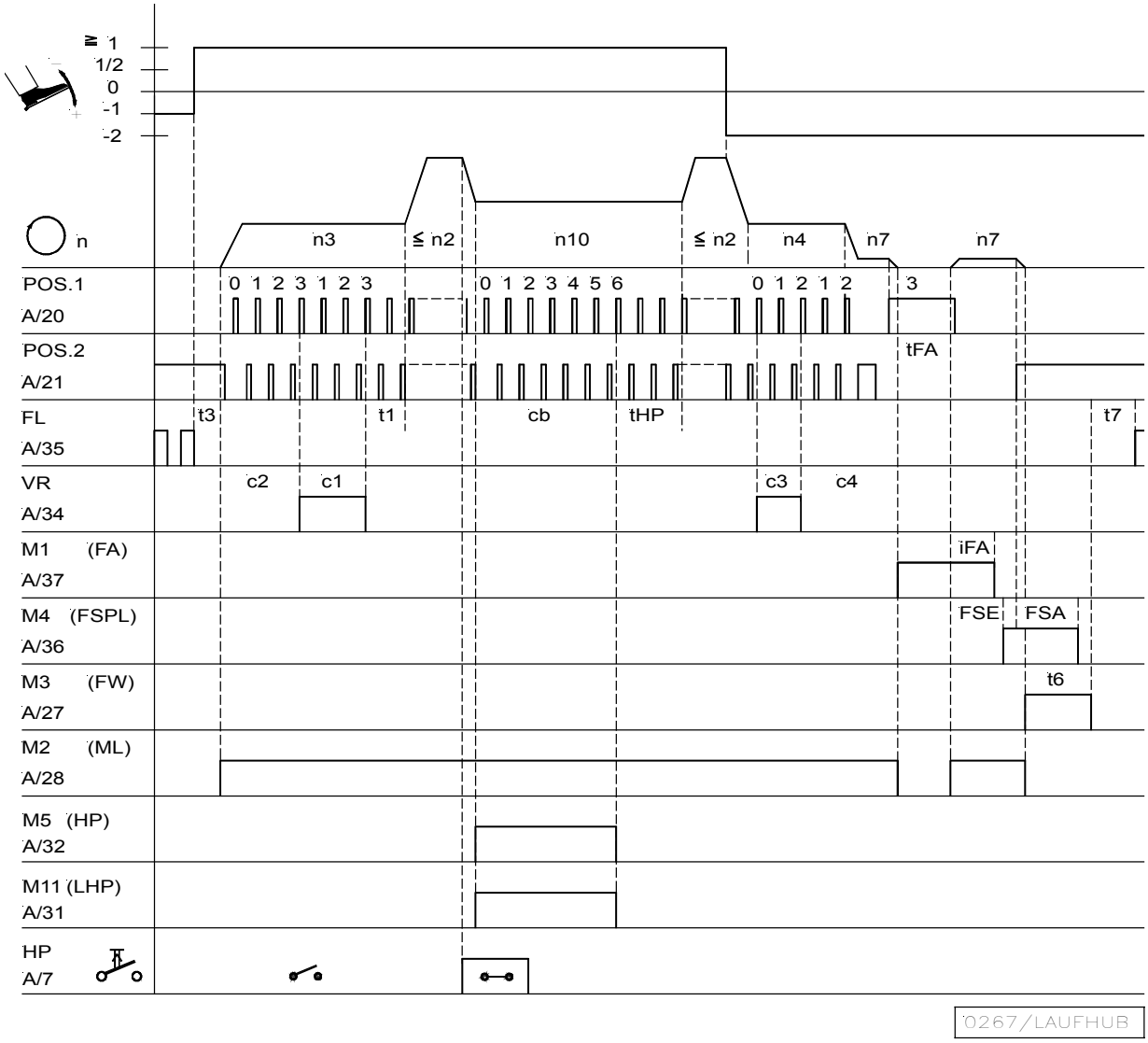
Mark	Function		Parameter	Control	V810	V820
	Start backtack	Off		S2 key	1 key	1 key
	Double end backtack	On		S3 key	2 key	4 key
	Stitch counting		015 = 1			
	Speed mode “stitch counting” (limited speed)		141 = 2			
n4	End backtack speed		113			
n7	Trimming speed		116			
n12	Automatic speed for stitch counting		118			
c3	End backtack stitches backward		002			
c4	End backtack stitches forward		003			
Stc	Stitches of the seam with stitch counting		007			
iFA	Activation angle of the thread trimmer		190			
FSA	Thread tension release ON period		191			
FSE	Thread tension release delay depending on angle		192			
tFA	Stop time for thread trimmer		193			
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			

Machine run with ornamental backtack



Mark	Function		Parameter	Control	V810	V820
	Double start backtack	On		S2 key	1 key	1 key
	Double end backtack	On		S3 key	2 key	4 key
	Ornamental backtack		135 = 1			
n1	Positioning speed		110			
n2	Maximum speed		111			
n3	Start backtack speed		112			
n4	End backtack speed		113			
n7	Trimming speed		116			
SAv	Number of start ornamental backtack stitches forward		080			
SAr	Number of start ornamental backtack stitches backward		081			
SEr	Number of end backtack stitches backward		082			
SEv	Number of end backtack stitches forward		083			
iFA	Activation angle of the thread trimmer		190			
FSA	Thread tension release ON period		191			
FSE	Thread tension release delay depending on angle		192			
tFA	Stop time for thread trimmer		193			
t1	Delay until speed release after start backtack		200			
t3	Start delay from lifted sewing foot		202			
t6	Thread wiper ON period		205			
tSr	Stop time for ornamental backtack		210			

Machine run with high lift for walking foot



Mark	Function	Parameter	Control	V810	V820
	Double start backtack On		S2 key	1 key	1 key
	Double end backtack On		S3 key	2 key	4 key
	High lift for walking foot operational mode not stored	138 = 0			
	Output B high lift for walking foot	255 = 11			
n2	Maximum speed	111			
n3	Start backtack speed	112			
n4	End backtack speed	113			
n7	Trimming speed	116			
n10	High lift walking speed	117			
c2	Start backtack stitches forward	000			
c1	Start backtack stitches backward	001			
c3	End backtack stitches backward	002			
c4	End backtack stitches forward	003			
thP	High lift walking speed run-out time	152			
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			
t1	Delay until speed release after start backtack	200			
t3	Start delay from lifted sewing foot	202			
t6	Thread wiper ON period	205			
t7	Sewing foot switch-on delay after thread wiper	206			
cb	Number of stitches output B “high lift for walking foot”	258			

5 List of Parameters

5.1 Operator Level

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
000	c2	Number of stitches of start backtack forward	stitches	254	0	2	3		2	2	A
001	c1	Number of stitches of start backtack backward	stitches	254	0	4	3		2	4	A
002	c3	Number of stitches of end backtack backward	stitches	254	0	3	2		2	3	A
003	c4	Number of stitches of end backtack forward	stitches	254	0	3	3		5	3	A
004	LS	Light barrier compensating stitches (for long stitches)	stitches	254	0	4	4		4	4	A
005	LSF	Number of stitches of the light barrier filter for knitted fabrics	stitches	254	0	0	0		0	0	A
006	LSn	Number of light barrier seams		15	1	1	1		1	1	A
007	Stc	Number of stitches for the seam with stitch counting	stitches	254	0	10	10		10	10	A
008	-F-	A parameter from the technician level is assigned to the 9 key on the V820 control panel 1 = Softstart On/Off 2 = Ornamental backtack On/Off 3 = High lift for walking foot (only if parameter 250 or 255 = 11) 4 = Needle cooling On/Off (only if parameter 185 = 1) 5 = Signals A1 and/or A2 On/Off with slide-in strips 1...4 (lefthand arrow = A1, righthand arrow = A2)		5	1	2	2		2	2	A
009	LS	Light barrier On/Off		1	0	0	0		0	0	A
010	cLS	Light barrier compensating stitches (for normal stitch length)	stitches	254	0	8	8		8	8	A
013	FA	Thread trimmer On/Off		1	0	1	1		1	1	A
014	FW	Thread wiper On/Off		1	0	0	0		0	0	A
015	StS	Stitch counting On/Off		1	0	0	0		0	0	A
023	AFL	Automatic sewing foot lifting with pedal forward at the seam end, if light barrier or stitch counting is On 0 = Automatic sewing foot Off 1 = Automatic sewing foot On		1	0	0	0		0	0	A
080	SAv	Number of start ornamental backtack stitches forward	stitches	254	0	3	3		2	3	A
081	SAr	Number of start ornamental backtack stitches backward	stitches	254	0	3	3		2	3	A
082	SEr	Number of end ornamental backtack stitches backward	stitches	254	0	3	3		2	3	A
083	SEv	Number of end ornamental backtack stitches forward	stitches	254	0	3	3		2	3	A
085	cFw	Number of stitches for bobbin thread monitor parameter 195 = 1...3	stitches	5000	0	0	0		0	0	A
086	cF4	Number of stitches for bobbin thread monitor parameter 195 = 4 At this setting, the following functions will be activated upon pressing the appropriate key: >1 sec. = Bobbin thread monitor function is deactivated. <1 sec. = Counter is set to preset value.	stitches	25500	0	0	0		0	0	A ***)

Note:
At the operator level, the parameter number (F-xxx) is not shown on the display, but the abbreviation (e. g. c2) and the actual value (e. g. 002 for 2 stitches).

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

5.2 Technician Level

Code no. 190 with control operation
Code no. 1907 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
100	SSc	Number of softstart stitches	stitches	254	0	2	2		1	1	A
110	n1	Positioning speed	RPM	390	70	180	100		150	150	A**)
111	n2-	Upper limit setting range of the maximum speed	RPM	6000	n2_	4800	900		1700	3500	A**)
112	n3	Start backtacking speed	RPM	6000	200	1700	400		800	1200	A**)
113	n4	End backtacking speed	RPM	6000	200	1700	400		800	1200	A**)
114	n5	Speed after light barrier sensing	RPM	6000	200	1700	400		800	1200	A**)
115	n6	Softstart speed	RPM	1500	70	800	250		400	400	A**)
116	n7	Trimming speed	RPM	500	70	180	100		150	150	A**)
117	n10	High lift walking speed	RPM	6000	400	2000	400		800	2000	A**)
118	n12	Automatic speed for stitch counting	RPM	6000	400	3000	400		800	1200	A**)
119	nSt	Speed stage graduation 1 = linear 2 = slightly progressive 3 = highly progressive		3	1	2	2		2	2	A
120	nnk	Whenever this speed is exceeded, needle cooling is activated, if parameter 185 is set at “3“	RPM	6000	0	3000	3000		3000	3000	A**)
121	n2_	Lower limit setting range of the maximum speed	RPM	n2-	400	400	400		400	400	A**)
123	tnS	End backtack synchronization time	ms	500	0	0	0		0	40	A
124	nrS	End backtack synchronization speed (maximum value)	RPM	3000	200	1700	400		0	500	A**)
127	AkS	Audible signal On/Off		1	0	0	0		0	0	A
128	Asd	Start delay, when command “start” is given by covering the light barrier (see parameter 129)	ms	2000	0	0	0		0	0	A**)
129	ALS	Automatic start by light barrier On/Off: machine start by covering the light barrier, without having heeled the pedal back to the basic position. Additional prerequisites: - Parameter 132 = 1 - Function “light barrier sensing” switched on on the control panel - Initiation of the first “normal” seam section (pedal in the basic position) - Cover light barrier - Press pedal forward - Keep pedal pressed forward Deactivate this function by heeling the pedal back to the basic position.		1	0	0	0		0	0	A
130	LSF	Light barrier filter for knitted fabrics On/Off		1	0	0	0		0	0	A
131	LSd	0 = Light barrier sensing “covered” 1 = Light barrier sensing “uncovered”		1	0	1	1		1	1	A
132	LSS	0 = Machine start possible with light barrier uncovered or covered. 1 = Machine start blocked with light barrier uncovered if parameter 131 = 1. Machine start blocked with light barrier covered if parameter 131 = 0.		1	0	1	1		1	1	A
133	LSE	Thread trimming operation, when completing the seam after light barrier sensing On/Off		1	0	1	1		1	1	A
134	SSt	Softstart On/Off		1	0	1	1		1	1	A
135	SrS	Ornamental backtack On/Off		1	0	0	0		0	0	A

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Technician Level

Code no. 190 with control operation
Code no. 1907 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
136	FAr	0 = Trimming stitch forward and thread wiper function On 1 = Trimming stitch backward and thread wiper function On 2 = Trimming stitch forward with short trimmer signal instead of a thread wiper		2	0	0	0		1	0	A
137	SLU	Stitch length during backtack		1	0	1	1		0	0	A
138	hPr	0 = High lift for walking foot operational mode not stored 1 = High lift for walking foot operational mode stored		1	0	0	0		0	0	A
139	nIS	Display of machine speed On/Off		1	0	0	0		0	0	A
140	nh1	Mode needle UP/DOWN (key on A/6) 1 = Needle up 2 = Needle up/down 3 = Single stitch 4 = Needle up if outside pos.2		4	1	1	2		2	1	A
141	SGn	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 limit (parameter 118) 3 = At fixed speed (parameter 118) can be interrupted by full heelback 4 = At fixed speed (parameter 110) can be interrupted by full heelback.		4	0	1	1		1	1	A
142	SFn	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		3	0	0	0		0	0	A
150	t8	Stitch correction of the double start backtack (prolongation of the stitch regulator ON period / not effective with ornamental backtack)	ms	500	0	0	0		0	0	A
151	t9	Stitch correction of the double end backtack (prolongation of the stitch regulator ON period / not effective with ornamental backtack)	ms	500	0	0	0		0	0	A
152	thP	Run-out time of the high lift walking speed	ms	500	80	100	100		100	100	A
153	brt	Braking power at machine standstill		50	0	6	6		6	6	A
161	drE	Direction of motor rotation 0 = Clockwise rotation 1 = Counterclockwise rotation		1	0	1	1		1	1	A
170	Sr1	**Setting the reference position: ****)** - Press the **E** key. - Press the **>>** key. - Turn handwheel until symbol on display goes off. Then position the notch on the handwheel to - marking F on the machine.									**A**

****) For more detailed instructions see instruction manual!

Technician Level

Code no. 190 with control operation
Code no. 1907 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
171	Sr2	**Setting the needle positions: ****)** Press the **E** key. Press the **>>** key. 1E= Position 1 (leading edge) Press the **E** key. 2E= Position 2 (leading edge) Press the **E** key. 1A= Position 1 (trailing edge) Press the **E** key. 2A= Position 2 (trailing edge) (for changing the values turn handwheel or press the +/- key) Press the **P** key twice. Settings are completed!	degrees	359 359 359 359	0 0 0 0	000 257 070 338	000 257 070 338		115 315 175 015	042 326 140 357	A A A A
172	Sr3	**Display on the control:** Pos. 1 to 1A (LED 7 lights up) Pos. 2 to 2A (LED 8 lights up)									
172	Sr3	**Display on the V810 control panel:** Pos. 1 to 1A (lefthand arrow above the 4 key On) Pos. 2 to 2A (righthand arrow above the 4 key On)									
172	Sr3	**Display on the V820 control panel:** Pos. 1 to 1A (lefthand arrow above the 7 key On) Pos. 2 to 2A (righthand arrow above the 7 key On)									
173	Sr4	Checking of the signal outputs and inputs using the incorporated control panel or the V810/V820 control panels - Select the desired output using the **+/-** key - Activate the selected output using the **>>** key 01 = Backtacking on socket A/34 02 = Sewing foot lift on socket A/35 03 = Thread trimmer on socket A/37 04 = Thread wiper on socket A/27 05 = Needle cooling on socket A/28 06 = Thread tension release on socket A/36 07 = Output B on socket A/32 08 = LED for output A on socket A/31 09 = Output A on socket A/30 10 = LED righthand thread monitor on socket A/25 11 = LED backtack suppression/recall on socket A/24 12 = LED lefthand thread monitor on socket A/23 13 = LED for output A on socket A/29 OFF/ON = By actuating the switches connected to the control, the function of these switches is checked and **ON/OFF** is displayed on the V810/V820 control panels									

****) For more detailed instructions see instruction manual!

Technician Level

Code no. 190 with control operation
Code no. 1907 with control panel operation

Parameter	Designation	Unit	Limits		Preset for					Ind.
			max	min	100Ω	220Ω		680Ω	1000Ω	
179 Sr5	Control program number with index and identification number. Upon pressing the appropriate key the data will be displayed in succession. **Control display example:** Press the **E** key ➔ Display e. g. **Sr5** Press the **>>** key ➔ Progr. No. **53** Press the **E** key ➔ Progr. No. **50** Press the **E** key ➔ Index **A** Press the **E** key ➔ Ident. No. **98** (1+2) Press the **E** key ➔ Ident. No. **04** (3+4) Press the **E** key ➔ Ident. No. **01** (5+6) Press the **E** key ➔ Ident. No. **16** (7+8) Press the **P** key twice ➔ Display **dA320G** **V810 control panel display example:** Press the **E** key ➔ Display e. g. **Sr** [°] Press the **>>** key ➔ Display e. g. **5350A** Press the **E** key ➔ Display e. g. **981019** Press the **E** key ➔ Display e. g. **15** Press the **P** key twice ➔ Display **dA320G** **V820 control panel display example:** Press the **E** key ➔ Display **F-179 Sr5** [°] Press the **>>** key ➔ Display e. g. **5350A** Press the **E** key ➔ Display e. g. **98101915** Press the **P** key twice ➔ Display **4000 dA320G**										
180 rd	Number of reversing increments	degrees	359	0	14	28		20	63	A
181 drd	Switch-on delay of reverse motor rotation	ms	990	0	0	0		0	0	A
182 Frd	Reverse motor rotation On/Off		1	0	0	0		0	0	A
183 t05	Switch-off delay of needle cooling after stop	ms	2550	0	2500	2500		2500	2500	A**)
185 Fnk	Function of the output “needle cooling” 1 = Needle cooling 2 = Under-edge trimmer 3 = Needle cooling depending on speed (the switch speed can be set using pa. 120)		3	1	1	1		1	1	A
188 hP	Minimum speed level for high lift for walking foot Maximum speed level for high lift for walking foot Assignment of maximum speed (parameter 111) and minimum speed (parameter 117 = high lift walking speed) to the 21 speedomat levels. **Display example:** **2740 05 11 19** 05 = Display of the level up to which the maximum speed is effective. 19 = Display of the level up to which the minimum speed is effective. 11 = Display of the level set on the speedomat (potentiometer). 2740 = Corresponding speed **See instruction manual on how to change the setting!**		21 21	1 1						A A

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Technician Level

Code no. 190 with control operation
Code no. 1907 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
190	iFA	Activation angle of the thread trimmer	degrees	359	0	280	315		315	56	A
191	FSA	Switch-off delay of thread tension release	ms	990	0	50	50		50	50	A
192	FSE	Switch-on delay angle of thread tension release	degrees	359	0	0	0		147	182	A
193	tFA	Thread trimmer stop time	ms	500	0	0	0		0	30	A
194	FAE	Switch-on delay angle of thread timmer	degrees	359	0	0	0		0	0	A
195	rFW	Bobbin thread monitor 0 = No bobbin thread monitor function. 1 = Model 270 or short seams. Without stop, sewing foot down after thread trimming. 2 = Model 767/N291. With stop, sewing foot up after thread trimming. 3 = Model 767/N291. With stop, sewing foot down after thread trimming. 4 = With bobbin thread monitor stitch counting (max. 25500 stitches)		4	0	0	0		0	0	A

5.3 Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
200	t1	Delay until speed release after start backtack	ms	500	0	50	50		50	50	A
201	t2	Sewing foot lift switch-on delay with half heelback	ms	500	20	80	80		80	80	A
202	t3	Start delay after disabling the sewing foot lift signal	ms	500	0	80	80		120	80	A
203	t4	Time of full power of sewing foot lifting	ms	600	0	200	200		200	200	A
204	t5	Holding power for sewing foot lifting 1...100% 1% ➔ low holding power 100% ➔ high holding power	% pa. 298		1	40	40		40	40	A
205	t6	Thread wiper time	ms	2550	0	100	100		100	100	A**)
206	t7	Delay from end of thread wiper until sewing foot lifting On	ms	800	0	50	50		30	30	A
207	br1	Braking effect when modifying the preset value ≤ 4 stages		55	1	20	20		20	20	A
208	br2	Braking effect when modifying the preset value ≥ 5 stages		55	1	30	30		30	30	A
210	tSr	Stop time for switching the stitch regulator in the ornamental backtack	ms	500	0	100	270		150	100	A
212	t10	Time of full power of backtacking	ms	600	0	200	200		200	200	A
213	t11	Holding power for backtacking 1...100% 1% ➔ low holding power 100% ➔ high holding power	% pa. 299		1	50	50		50	50	A
215	Zrv	0 = Last counted forward section in the start backtack OFF 1 = Last counted forward section in the start backtack ON		1 1	0 0	1 1	1 1		1 1	1 1	A A
216	FLS	0 = Fast disabling of sewing foot lift OFF 1 = Fast disabling of sewing foot lift ON		1	0	1	1		1	1	A
219	br3	Positioning power at stop of the drive		**5**5	1	10	10		10	10	A
220	ALF	Accelerating power of the drive		**5**5	1	20	20		20	20	A
221	dGn	Speed gate 1	RPM	990	50	100	100		100	100	A
222	tGn	Speed gate damping period	ms	990	0	120	120		120	120	A
223	dG2	Speed gate 2	RPM	6000	200	1600	1600		1600	1600	A**)
224	dGF	Speed gate 2 On/Off		1	0	1	1		1	1	A
250	FmA	Function modules for output A on socket A/30 and input A on socket A/8 active only if parameter 255 is not equal to 10. 0 = No function 1 = Switch stitch length 2 = Fullness control with speed limitation 3 = Fullness control without speed limitation 4 = Single stitch with stitch length switching 5 = Lift / lower roller 6 = Lift / lower fabric endstop 7 = Second thread tension 8 = Manual edge trimmer 9 = Automatic edge trimmer 10 = Triflex function: affects stitch length, thread tension, speed limitation, automatic backtack and function module for output B (parameter 255 = 7) 11 = High lift for walking foot		14	0	0	0		0	0	D

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter	Designation	Unit	Limits		Preset for					Ind.
			max	min	100Ω	220Ω		680Ω	1000Ω	
	12 = Functions of sewing foot pressure reduction: the following functions are available if the key is enabled: - Pedal 0 ➔ Pulsing parameter 334 is effective - Pedal >1 ➔ Pulsing parameter 334 is effective - Pedal +1 ➔ Sewing foot is lowered - Pedal –1 ➔ Pulsing parameter 204 is effective - Pedal –2 ➔ Pulsing parameter 204 or trimming operation is effective 13 = Handwheel runs in the direction of rotation according to setting of parameter 161 14 = Handwheel runs in the opposite direction of rotation according to setting of parameter 161									
251 AFA	Output A (A/30) and LED A (A/29) after thread trimming 0 = Output signal status is maintained as before thread trimming 1 = Output signal status as after power On **Function with pa. 250 = 1, 2, 3, 7, 8, 9, 10**		1	0	0	0	0		0	A
252 Ain	Output A (A/30) 0 = Output not inverted 1 = Output inverted		1	0	0	0	0		0	A
253 cA	Number of stitches until enabling of output A **Function with parameter 250 = 5, 9**		100	0	0	0	0		0	A
254 cA_	Number of stitches until disabling of output A **Function with parameter 250 = 9, 11**		100	0	0	0	0		0	A
255 Fmb	Function modules for output B on socket A/32 and input B on socket A/7 active only if parameter 255 is not equal to 10. 0 = No function 1 = Switch stitch length 2 = Fullness control with speed limitation 3 = Fullness control without speed limitation 4 = Single stitch with stitch length switching 5 = Lift / lower roller 6 = Lift / lower fabric endstop 7 = Second thread tension 8 = Manual edge trimmer 9 = Automatic edge trimmer 10 = Triflex function: affects stitch length, thread tension, speed limitation, automatic backtack and function module for output A (parameter 250 = 7) 11 = High lift for walking foot 12 = Function as with parameter 250 13 = Handwheel runs in the direction of rotation according to setting of parameter 161 14 = Handwheel runs in the opposite direction of rotation according to setting of parameter 161		14	0	0	0		0	0	D
256 bFA	Output B (A/32) and LED B (A/31) after thread trimming 0 = Output signal status is maintained as before thread trimming 1 = Output signal status as after power On **Function with pa. 255 = 1, 2, 3, 7, 8, 9, 10**		1	0	0	0		0	0	A

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

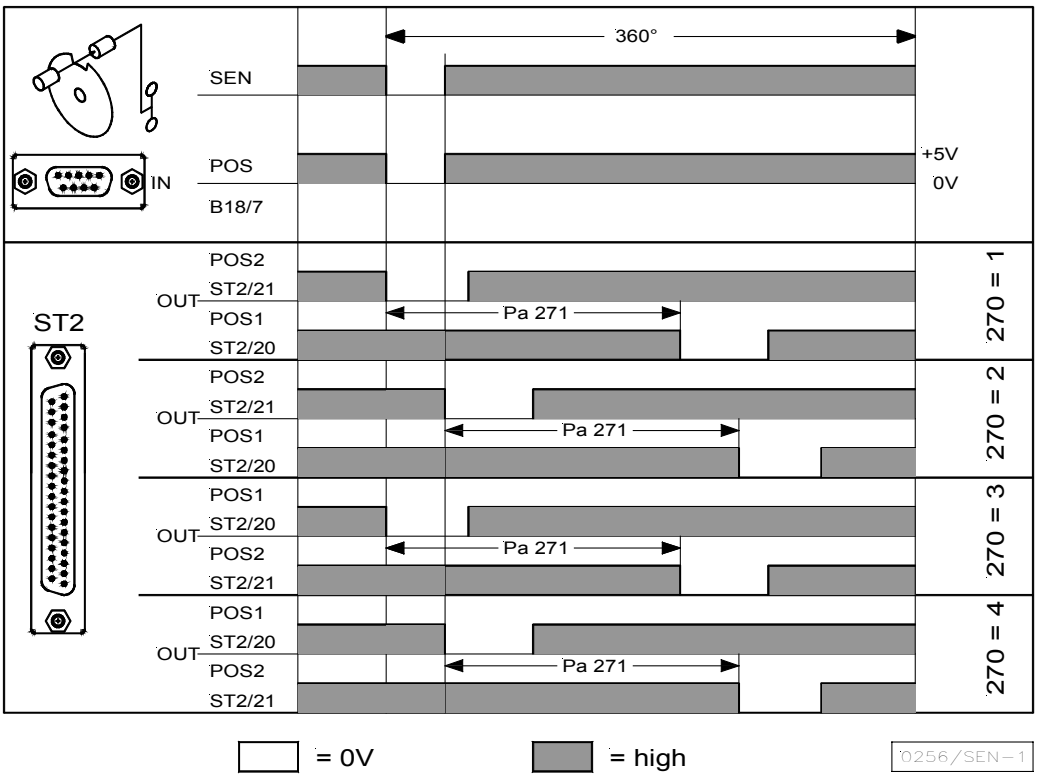
Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
257	bin	Output B (A/32) 0 = Output not inverted 1 = Output inverted		1	0	0	0		0	0	A
258	cb	Number of stitches until enabling of output B **Function with parameter 255 = 5, 9**		100	0	0	0	0		0	A
259	cb_	Number of stitches until disabling of output B **Function with parameter 255 = 9, 11**		100	0	0	0	0		0	A
260	PLc	Time interval which can be varied by means of the number of stitches performed after sewing foot lowering until roller lowering in the seam On/Off (only if parameter 250 = 5 or 255 = 5). At ouput A stitch setting with parameter 253 At output B stitch setting with parameter 258 0 = Time interval which can be varied by the number of stitches performed OFF 1 = Time interval which can be varied by the number of stitches performed ON		1	0	0	0		0	0	A
261	FLk	0 = Lift roller, but without sewing foot lift and backtack 1 = Lift roller with sewing foot lift and backtack 2 = Lift roller with sewing foot lift 3 = Lift roller with backtack Effective only if parameter 250 or 255 = 5		3	0	1	1		1	1	A
262	hPt	0 = Roller remains lowered when enabling high lift for walking foot. 1 = Roller is lifted when enabling high lift for walking foot. Effective only if parameter 250 = 11 and parameter 255 = 5 or if parameter 250 = 5 and parameter 255 = 11.		1	0	0	0		1	0	A
263	ihr	Handwheel increments carried out when the key is pressed once (function module A at the input of socket A/8 or function module B at the input of socket A/7)	incr.	500	0	10	10		10	10	D
264	nhr	Handwheel speed	RPM	150	30	50	50		50	50	D**)
265	dhr	Delay time until the key is pressed down causing the handwheel to rotate continuously (function module A at the input of socket A/8 or function module B at the input of socket A/7). **Pressing the key briefly**: if ≤ preset value of parameter 262. Increments set using parameter 260 are carried out. **Keeping the key pressed down**: if ≥ preset value of parameter 262. Handwheel rotates continuously.	ms	2550	0	200	200		200	200	D**)
266	LFL	0 = Sewing foot lowers when the handwheel rotates. 1 = The functions “pedal in pos. –1” or “automatic sewing foot lift” remain effective		1	0	1	1		1	1	D
269	PSv	Positioning shift	degrees	100	0	15	15		15	15	A

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter	Designation	Unit	Limits		Preset for					Ind.
			max	min	100Ω	220Ω		680Ω	1000Ω	
270 PGm	Selection according to the position sensors. Setting of socket B18 see chapter “Connection Diagram” 0 = The positions are generated by means of the transmitter incorporated in the motor and can be set using parameter 171. 1 = Setting the sensor to position 2. Set position 1 using parameter 271, starting from leading edge position 2. 2 = Setting the sensor to position 2. Set position 1 using parameter 271, starting from trailing edge position 2. 3 = Setting the sensor to position 1. Set position 2 using parameter 271, starting from leading edge position 1. 4 = Setting the sensor to position 1. Set position 2 using parameter 271, starting from trailing edge position 1. 5 = No position sensor available. The drive stops unpositioned. The thread trimmer function is suppressed with this setting.		5	0	0	0		0	0	A

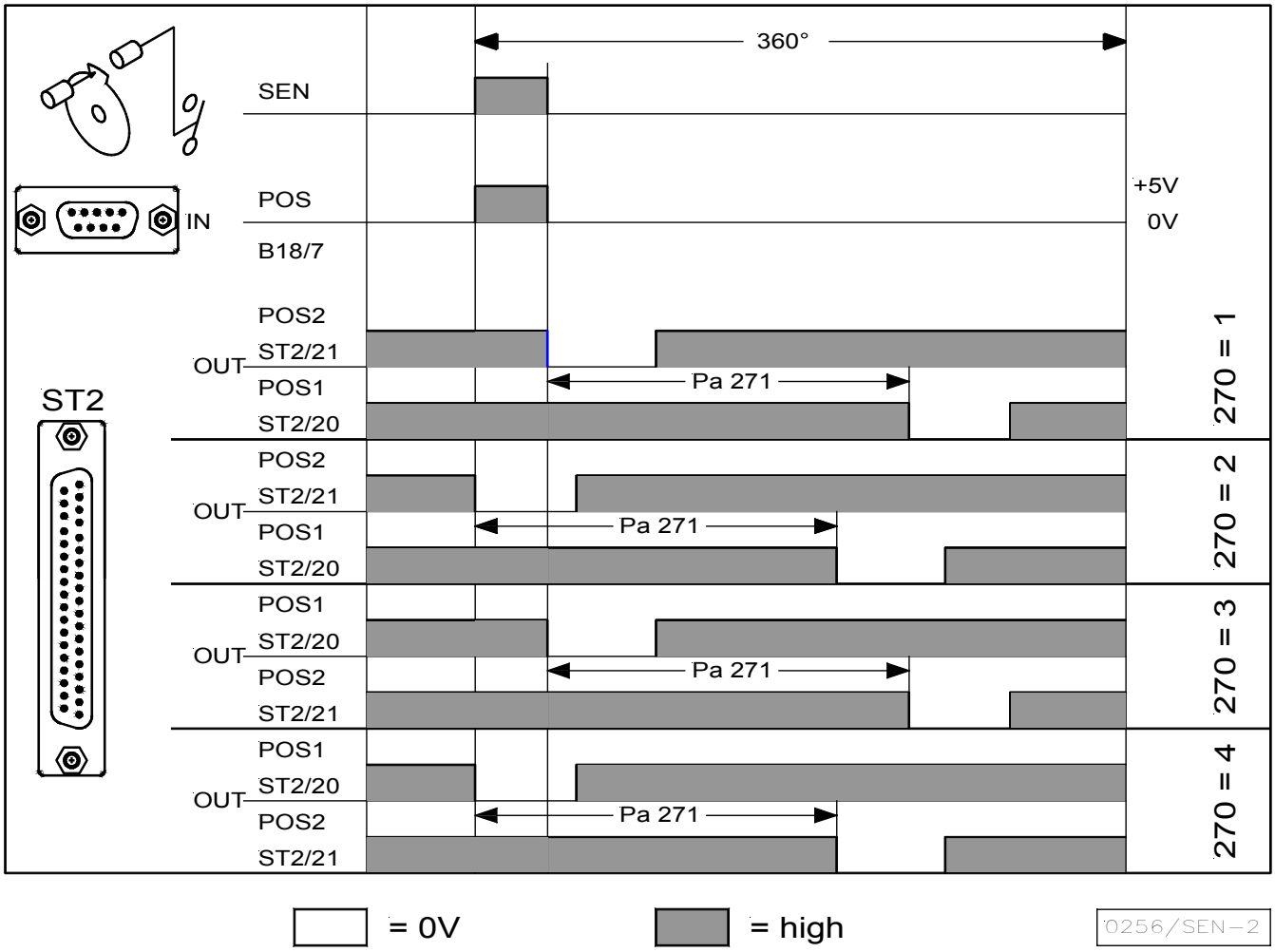


OUT (position window) = npn transistor (emitter to 0V) is conductive.
Width of position window cannot be adjusted!

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter	Designation	Unit	Limits		Preset for					Ind.
			max	min	100Ω	220Ω		680Ω	1000Ω	
270 PGm	Selection according to the position sensors. Setting of socket B18 see chapter "Connection Diagram" 0 = Function as in table on previous page! 1 = Setting the sensor to position 2. Set position 1 using parameter 271, starting from trailing edge position 2. 2 = Setting the sensor to position 2. Set position 1 using parameter 271, starting from leading edge position 2. 3 = Setting the sensor to position 1. Set position 2 using parameter 271, starting from trailing edge position 1. 4 = Setting the sensor to position 1. Set position 2 using parameter 271, starting from leading edge position 1. 5 = No position sensor available. The drive stops unpositioned. The thread trimmer function is suppressed with this setting.		5	0	0	0		0	0	A



OUT (position window) = npn transistor (emitter to 0V) is conductive.
Width of position window cannot be adjusted!

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
271	PGr	Number of angular degrees after the sensor position on the machine handwheel	degrees	255	0	180	180		180	180	A
272	trr	Transmission ratio between motor shaft and machine shaft (calculation formula see instruction manual!) **Attention!** The transmission ratio should be determined and indicated as precisely as possible!		255	020	100	100		100	100	A
280	SEL	Display of the select resistor values (socket A/1-4) for the following machine series: 100Ω = 271, 272, 273, 274, 275 220Ω = 205 470Ω 680Ω = 069, 267, 268, 269, 4180, 4280 1000Ω = 367, 381, 382, 467, 767, 768		1000	100	100	220		680	1000	A **)
281	Pd0	New sewing start after machine run blockage 0 = Immediate start 1 = Only with pedal in position 0 (neutral)		1	0	1	1		1	1	A
282	LoS	Functioning of the switch for machine run blockage 0 = Make contact (N.O.) 1 = Break contact (N.C.)		1	0	0	0		0	0	A
283	LSP	Function “machine run blocakge” 0 = Function Off 1 = Blockage 1, without positioning 2 = Blockage 2, with positioning		2	0	0	0		1	1	A
284	StP	Start and end backtack can be interrupted with pedal in position 0 (neutral) On/Off		1	0	0	0		0	0	A
287	dbA	Speed limitation DB3000 (n11) for manual backtack 0 = Speed limitation Off 1 = Speed limitation On		1	0	0	0		0	0	A
288	n9	Speed limitation (n9) for manual ornamental backtack	RPM	3000	200	1700	400		800	1200	A **)
289	n11	Speed limitation (n11) DB3000	RPM	6000	500	3000	500		1700	3000	A **)
292	820	Select slide-in strip number for the V820 control panel		10	1	1	1		1	1	A
293	tF1	**Selection of the input function using the (A) key “F1” on the V810/V820 control panel** 0 = No function 1 = Needle up/down 2 = Needle up 3 = Single stitch (basting stitch) 4 = Full stitch 5 = Needle to position 2 6 = Output A, if parameter 250 > 0 7 = Output B, if parameter 255 > 0 8 = Operation in the direction of rotation 9 = Operation in the opposite direction of rotation 10...12 = No function 13 = High lift for walking foot with speed limitation n10 (operational mode not stored) 14 = High lift for walking foot with speed limitation n10 (operational mode stored) 15 = No function 16 = Intermediate backtack 17 = Backtack suppression / recall 18 = No function 19 = Reset bobbin thread monitor		19	0	17	17		17	17	D

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
294	tF2	**Selection of the input function using the (B) key "F2" on the V810/V820 control panel** Functions of the key as with parameter 293		19	0	1	1		1	1	D
297	tFL	Time monitoring of sewing foot lift (monitoring off at "0")	sec	250	0	0	0		180	0	A
298	EF-	Upper limit (pa. 204) ON period for sewing foot lift 1...100	%	100	1	100	100		100	100	A
299	EV-	Upper limit (pa. 213) ON period for backtacking 1...100	%	100	1	100	100		100	100	A
300	AA1	Selectable power transistors for signal A1 0 = No function 1 = Signal on output M1 2 = Signal on output M2 3 = Signal on output M3 4 = Signal on output M4 5 = Signal on output M5 6 = Signal on output M6 7 = Signal on output M7 8 = Signal on output M8 9 = Signal on output M9 10 = Signal on output M10 11 = Signal on output M11 12 = Signal on output VR		12	0	0	0		0	0	A
301	So1	Issue signal A1 0 = Signal until seam end (according to setting of parameter 320) 1 = Signal over time 2 = Signal until seam end and drive stops 3 = Signal during stitch counting (according to setting of parameter 309)		3	0	0	0		0	0	A
302	tr1	Starting point for signal A1 0 = Start at the beginning of the seam 1 = Start of the signal triggered by light barrier sensing 2 = Start of the signal when the drive stops at the seam end 3 = Start from light barrier covered onwards at the beginning of the seam		3	0	0	0		0	0	A
303	do1	Delay of signal A1 0 = No delay until signal On 1 = Delay over time until signal On 2 = Delay over stitches until signal On		2	0	1	1		1	1	A
304	dt1	Delay time until signal A1 On	ms	2550	0	0	0		0	0	A**)
305	St1	ON period of signal A1	ms	2550	0	0	0		0	0	A**)
306	nA1	Speed mode when signal A1 is On 0 = Pedal controlled speed 1 = Limited speed n9 2 = Limited speed n11		2	0	0	0		0	0	A
307	A1	Signal A1 On/Off		1	0	0	0		0	0	A
308	dA1	Stitches delaying signal A1	stitches	999	0	0	0		0	0	A
309	cA1	Stitch counting during signal A1	stitches	999	0	0	0		0	0	A

**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter		Designation	Unit	Limits		Preset for					Ind.
				max	min	100Ω	220Ω		680Ω	1000Ω	
310	AA2	Selectable power transistors for signal A2 0 = No function 1 = Signal on output M1 2 = Signal on output M2 3 = Signal on output M3 4 = Signal on output M4 5 = Signal on output M5 6 = Signal on output M6 7 = Signal on output M7 8 = Signal on output M8 9 = Signal on output M9 10 = Signal on output M10 11 = Signal on output M11 12 = Signal on output VR		12	0	0	0		0	0	A
311	So2	Issue signal A2 0 = Signal until seam end (according to setting of parameter 320) 1 = Signal over time 2 = Signal until seam end and drive stops 3 = Signal during stitch counting (according to setting of parameter 319)		3	0	0	0		0	0	A
312	tr2	Starting point for signal A2 0 = Start at the beginning of the seam 1 = Start of the signal triggered by light barrier sensing 2 = Start of the signal when the drive stops at the seam end 3 = Start from light barrier covered onwards at the beginning of the seam		3	0	0	0		0	0	A
313	do2	Delay of signal A2 0 = No delay until signal On 1 = Delay over time until signal On 2 = Delay over stitches until signal On		2	0	1	1		1	1	A
314	dt2	Delay time until signal A2 On	ms	2550	0	0	0		0	0	A**)
315	St2	ON period of signal A2	ms	2550	0	0	0		0	0	A**)
316	nA2	Speed mode when signal A2 is On 0 = Pedal controlled speed 1 = Limited speed n9 2 = Limited speed n11		2	0	0	0		0	0	A
317	A2	Signal A2 On/Off		1	0	0	0		0	0	A
318	dA2	Stitches delaying signal A2	stitches	999	0	0	0		0	0	A
319	cA2	Stitch counting during signal A2	stitches	999	0	0	0		0	0	A
320	bP0	Switch-off time of signals A1 and A2 0 = Signals effective until seam end 1 = Signals effective until pedal is in pos. 0 (neutral)		1	0	0	0		0	0	A
321	Std	Suppression of the seam when 0 stitches are set 0 = Suppression Off 1 = Suppression On		1	0	0	0		0	0	A
322	dkn	0 = Correction seam Off 1 = Correction seam On 2 = Interruption of seam or pattern by thread trimmer		2	0	0	0		0	0	A
323	FLn	0 = Sewing foot is not lifted after power On 1 = Sewing foot is lifted after power On This function is enabled only if **Teach in** is On		1	0	0	0		0	0	A

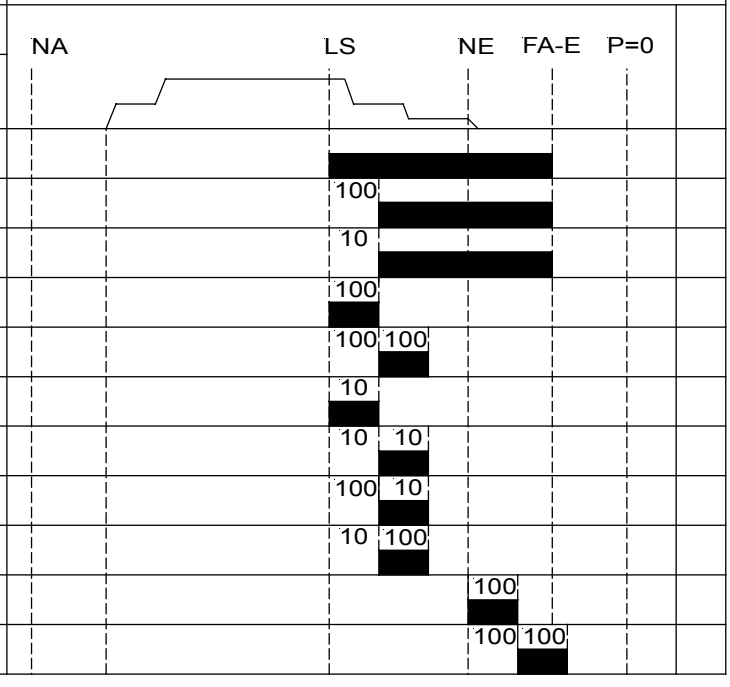
**) When programming the 3-digit or 4-digit control parameter values (without control panel), the 2-digit or 3-digit value displayed must be multiplied by 10.

Supplier Level

Code no. 311 with control operation
Code no. 3112 with control panel operation

Parameter	Designation	Unit	Limits		Preset for					Ind.
			max	min	100Ω	220Ω		680Ω	1000Ω	
324 ti	0 = **Teach in** Off 1 = **Teach in** On **Teach in** programming is possible only with V820. Execution of pattern is possible without V820.		1	0	0	0		0	0	A
332 FLd	0 = The settings of parameters 203 and 204 determine the sewing foot lift function. 1 = If sewing foot lifting is stored in the seam, the solenoid will be fully activated based on the settings of parameter 333, and pulsed based on the settings of parameter 334.		1	0	0	0		0	0	A
333 t4_	Time of full power of sewing foot lifting	ms	600	0	0	0		0	0	A
334 t5_	Holding power for sewing foot lifting 1...100% 1% ➔ low holding power 100% ➔ high holding power	%	pa. 298	1	85	85		85	85	A
401 EEP	Immediate storage of all changed data - Input code number 3112 after power On - Press the E key - Input parameter 401 - Press the E key - Set display from 0 to 1 - Press the E or P key - All data are stored		1	0	0	0		0	0	A
500 Sir	Recall of Fast Installation Routine (SIR) (see description in chapter 2 on page 5!)									

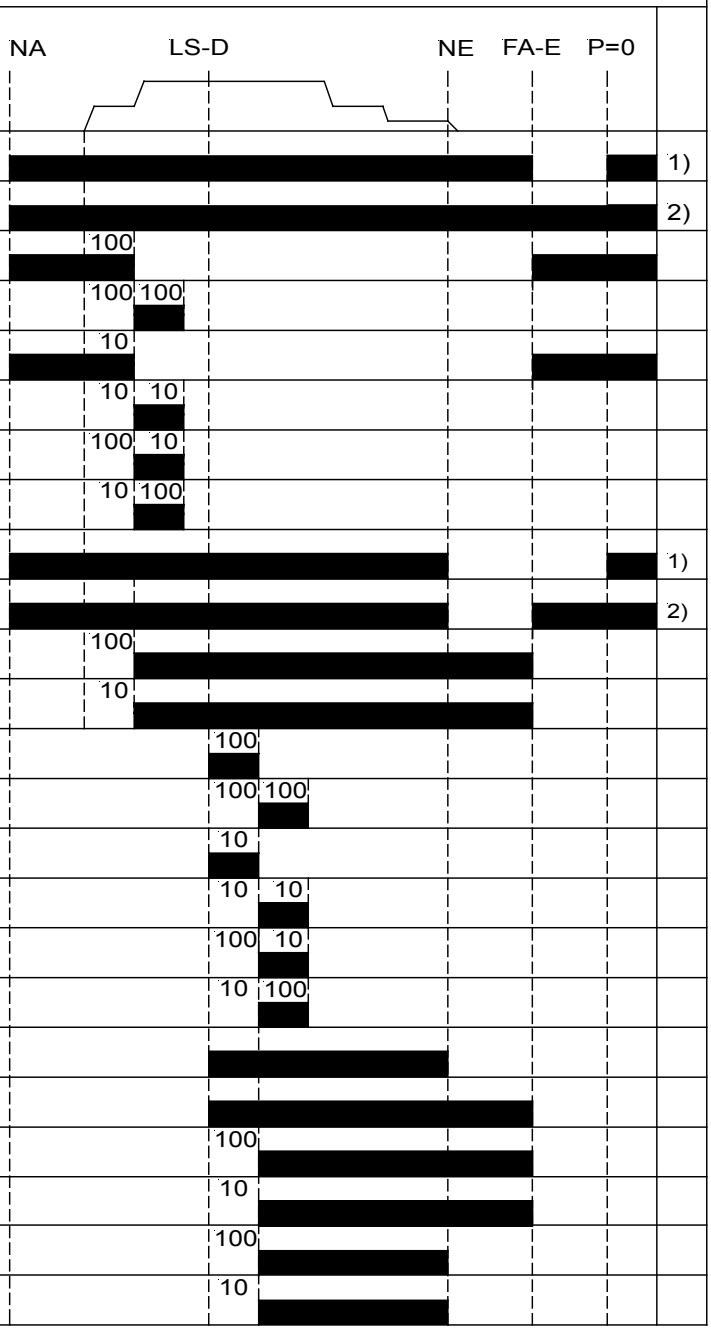
	Parameter						
A1	301	302	303	304	305	308	309
A2	311	312	313	314 [ms]	315 [ms]	318 [St]	319 [St]
	0	1	0	0	0	0	0
	0	1	1	100	0	0	0
	0	1	2	0	0	10	0
	1	1	0	0	100	0	0
	1	1	1	100	100	0	0
	3	1	0	0	0	0	10
	3	1	2	0	0	10	10
	3	1	1	100	0	0	10
	1	1	2	0	100	10	0
	1	2	0	0	100	0	0
	1	2	1	100	100	0	0



0256/BILD4

See next page for explanation of letter symbols!

	Parameter							
A1	301	302	303	304	305	308	309	
A2	311	312	313	314 [ms]	315 [ms]	318 [St]	319 [St]	
	0	0	0	0	0	0	0	1)
	0	0	0	0	0	0	0	2)
	1	0	0	0	100	0	0	
	1	0	1	100	100	0	0	
	3	0	0	0	0	0	10	
	3	0	2	0	0	10	10	
	3	0	1	100	0	0	10	
	1	0	2	0	100	10	0	
	2	0	0	0	0	0	0	1)
	2	0	0	0	0	0	0	2)
	0	0	1	100	0	0	0	
	0	0	2	0	0	10	0	
	1	3	0	0	100	0	0	
	1	3	1	100	100	0	0	
	3	3	0	0	0	0	10	
	3	3	2	0	0	10	10	
	3	3	1	100	0	0	10	
	1	3	2	0	100	10	0	
	2	3	0	0	0	0	0	
	0	3	0	0	0	0	0	
	0	3	1	100	0	0	0	
	0	3	2	0	0	10	0	
	2	3	1	100	0	0	0	
	2	3	2	0	0	10	0	



NA = Start of seam
LS = Light barrier uncovered or covered at the seam end
LS-D = Light barrier uncovered ➔ covered (parameter 131 = 1 and parameter 132 = 0)
NE = Seam end
FA-E = End thread trimming operation
P=0 = Pedal in pos. 0 (neutral)
St = Stitches

Parameter 320 = 0 ➔ Signals enabled according to setting of parameter 301/311.
Parameter 320 = 1 ➔ Signals enabled until pedal is in pos. 0 (neutral).

1) Seam end after stitch counting or light barrier sensing
2) Seam end after pedal in pos. –2

6 Error Displays

General Information			
On the control	**On the V810**	**On the V820**	**Signification**
A1	InF A1	InF A1	Pedal not in neutral position, when turning the machine on
A2	-StoP- blinking	-StoP- blinking + symbol display	Machine run blockage
A3	InF A3	InF A3	Reference position is not set
A5	InF A5	InF A5	Emergency run, identification of an invalid machine select

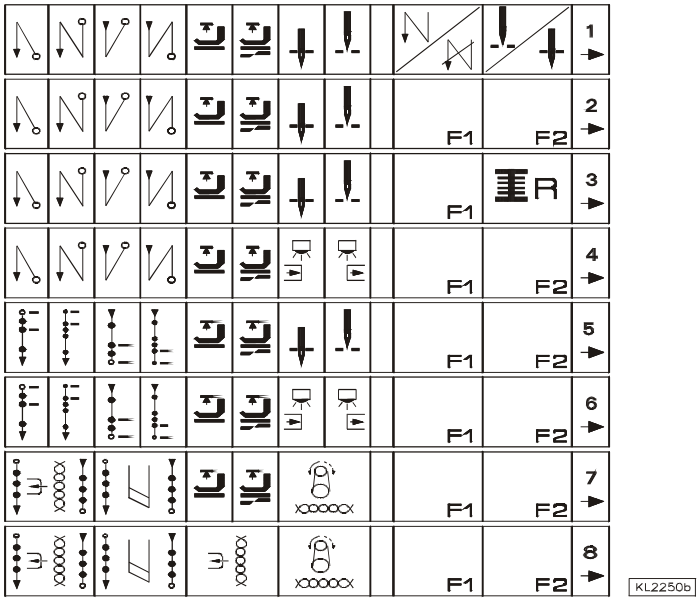
Programming Functions and Values (Parameters)			
On the control	**On the V810**	**On the V820**	**Signification**
Returns to 000 or to last parameter number	Returns to 0000 or to last parameter number	Like V810 + display InFo F1	Wrong code number or parameter number input

Serious Condition			
On the control	**On the V810**	**On the V820**	**Signification**
E1	InF E1	InF E1	The external pulse encoder e.g. IPG... is defective or not connected.
E2	InF E2	InF E2	Line voltage too low, or time between power off and power on too short.
E3	InF E3	InF E3	Machine blocked or does not reach the desired speed.
E4	InF E4	InF E4	Control disturbed by deficient grounding or loose contact.
E9	InF E9	InF E9	EEPROM defective.

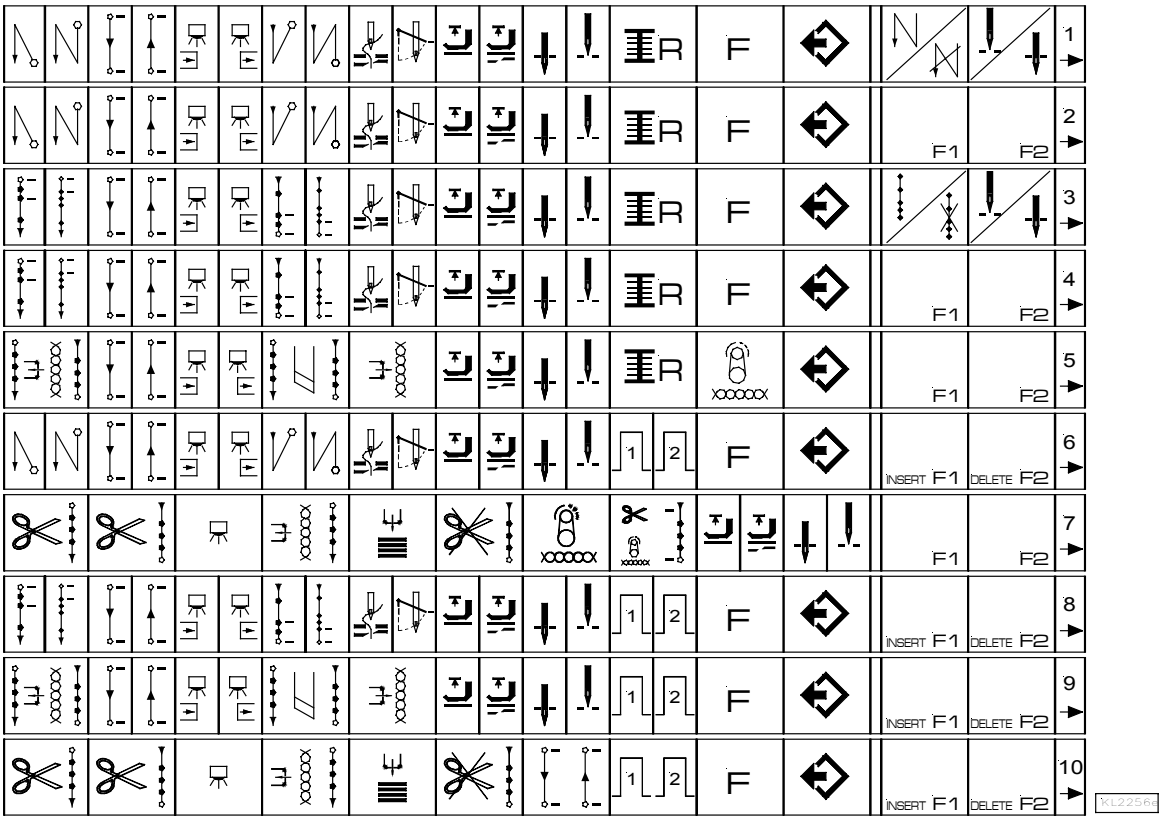
Hardware Disturbance			
On the control	**On the V810**	**On the V820**	**Signification**
H1	InF H1	InF H1	Commutation transmitter cord or frequency converter disturbed.
H2	InF H2	InF H2	Processor disturbed

7 Slide-in Strips for the V810/V820 Control Panels

Slide-in strips for the V810 control panel



Slide-in strips for the V820 control panel



Note

When changing the setting of parameters 291 / 292, the V810 / V820 functions change as well, save function keys F1 / F2 which are influenced by parameters 293 /294.

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