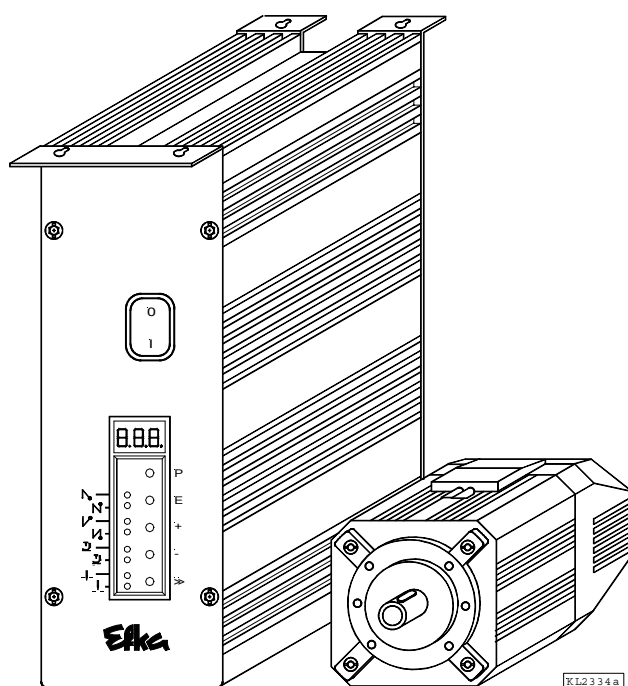


# EFKA dc 1550

**CONTROL**

**DA320G5351**



## LIST OF PARAMETERS

CONNECTION DIAGRAM  
TIMING DIAGRAMS

**No. 402311**

**English**

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**EFKA**  
FRANKL & KIRCHNER  
GMBH & CO KG

**EFKA**  
EFKA OF AMERICA INC.

**EFKA**  
EFKA ELECTRONIC MOTORS  
SINGAPORE PTE. LTD.

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## 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**

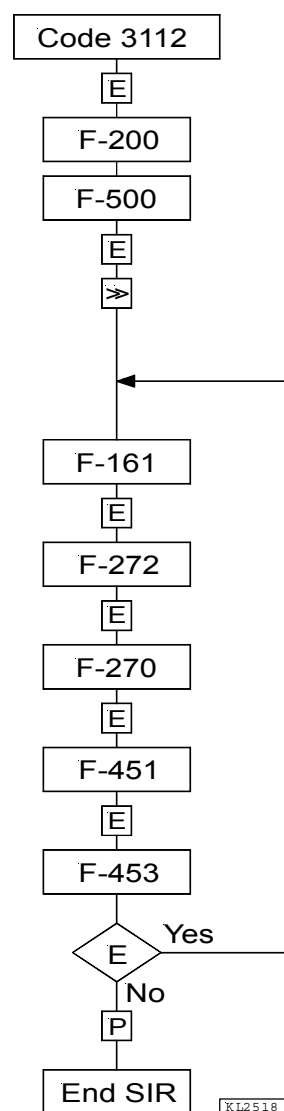
**Parameter for transmission ratio**

**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.

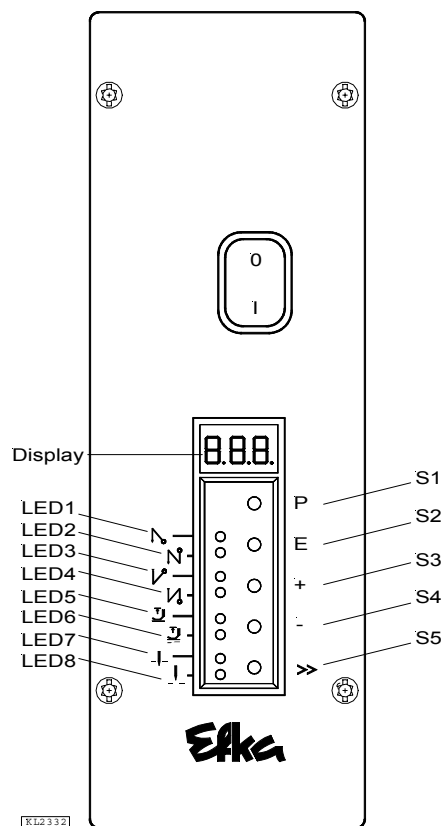
See instruction manual for details!

## 3 Operating Elements and Socket Connectors

### 3.1 Position of Operating Elements and Displays

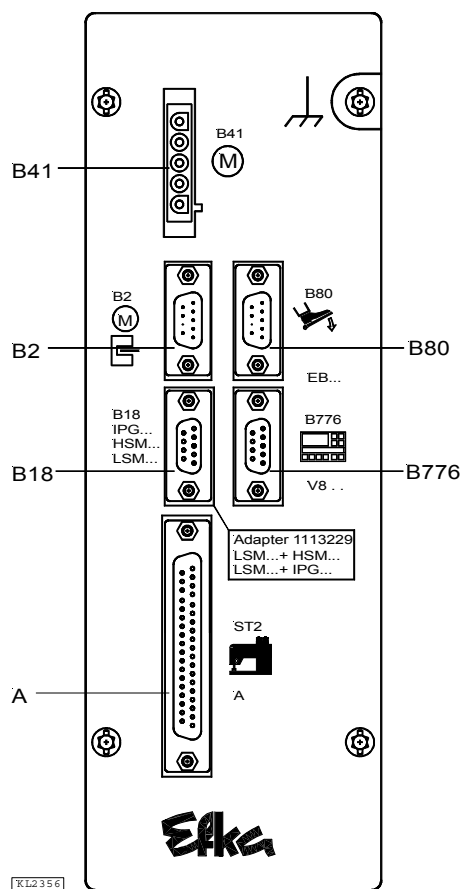
- S1**     **P key**
- Call or exit programming mode
- S2**     **E key**
- Start backtack single / double / off
  - Enter key for modifications in the programming mode
- S3**     **+ key**
- End backtack single / double / off
  - Increase of the value indicated in the programming mode
- S4**     **– 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



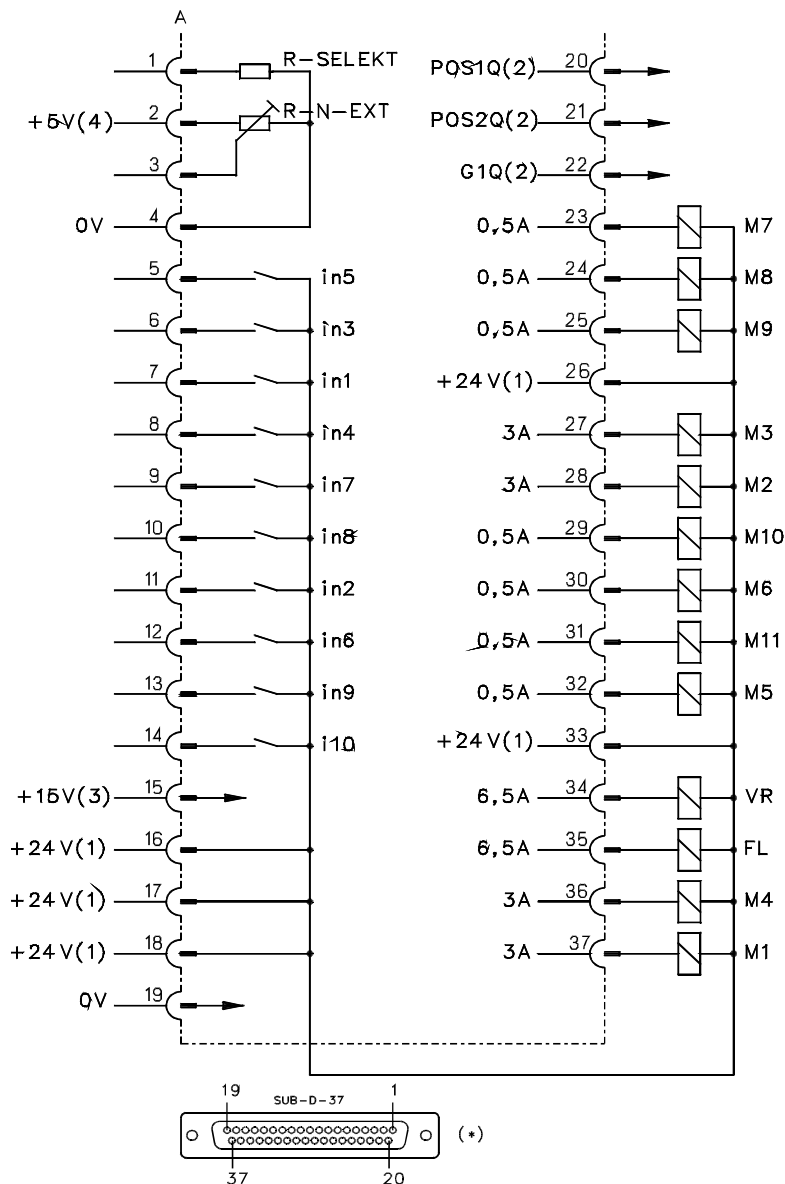
### 3.2 Position of the Socket Connectors

- 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!

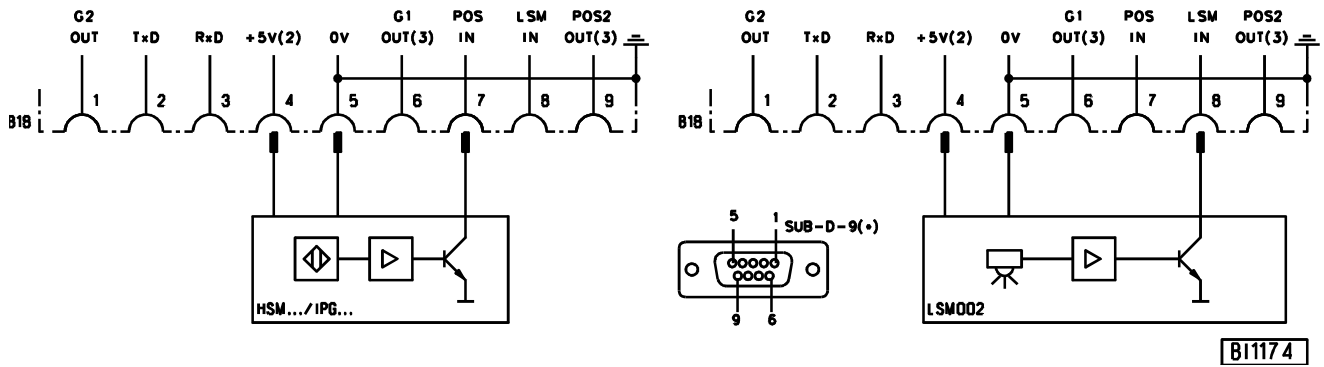
When connecting the outputs, ensure that a total power of 96VA constant load will not be exceeded!

- in1 - Key for output B
- in2 - Machine run blockage
- in3 - Needle up/down
- in4 - Key for output A
- in5 - Intermediate backtack
- in6 - Thread monitor
- in7 - DB2000
- in8 - DB3000
- in9 - External light barrier

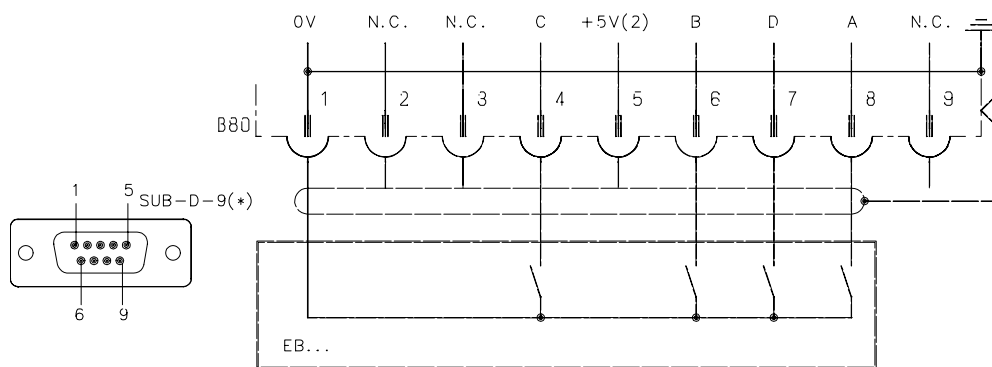
- i10- Backtack suppression/recall
- M1- Thread trimmer
- M2- Needle cooling
- M3- Thread wiper
- M4- Thread tension release
- M5- Output B
- M6- Output A
- M7- LED lefthand thread monitor
- M8- LED backtack suppression/recall

|         |                                                      |
|---------|------------------------------------------------------|
| M9      | - LED righthand thread monitor                       |
| M10     | - LED for output A                                   |
| M11     | - LED for output B                                   |
| FL      | - Sewing foot lifting                                |
| VR      | - Backtacking                                        |
| POS1    | - Position 1                                         |
| POS2    | - Position 2                                         |
| GEN     | - Generator impulses                                 |
| 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,  $I_{\max} = 30\text{mA}$
- 4) Nominal voltage 5V,  $I_{\max} = 20\text{mA}$
- \*) 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)

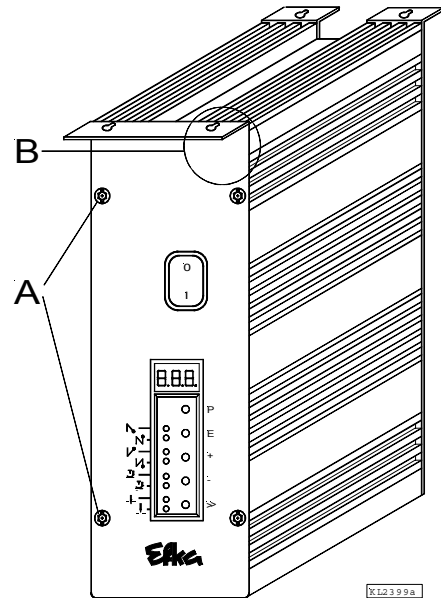
\*) Front view of the socket (component side) and/or rear view of the plug (soldering side)

### 3.4 Connection of a Sewing Light with Transformer

**ATTENTION!**

Before opening the cover, turn power off!

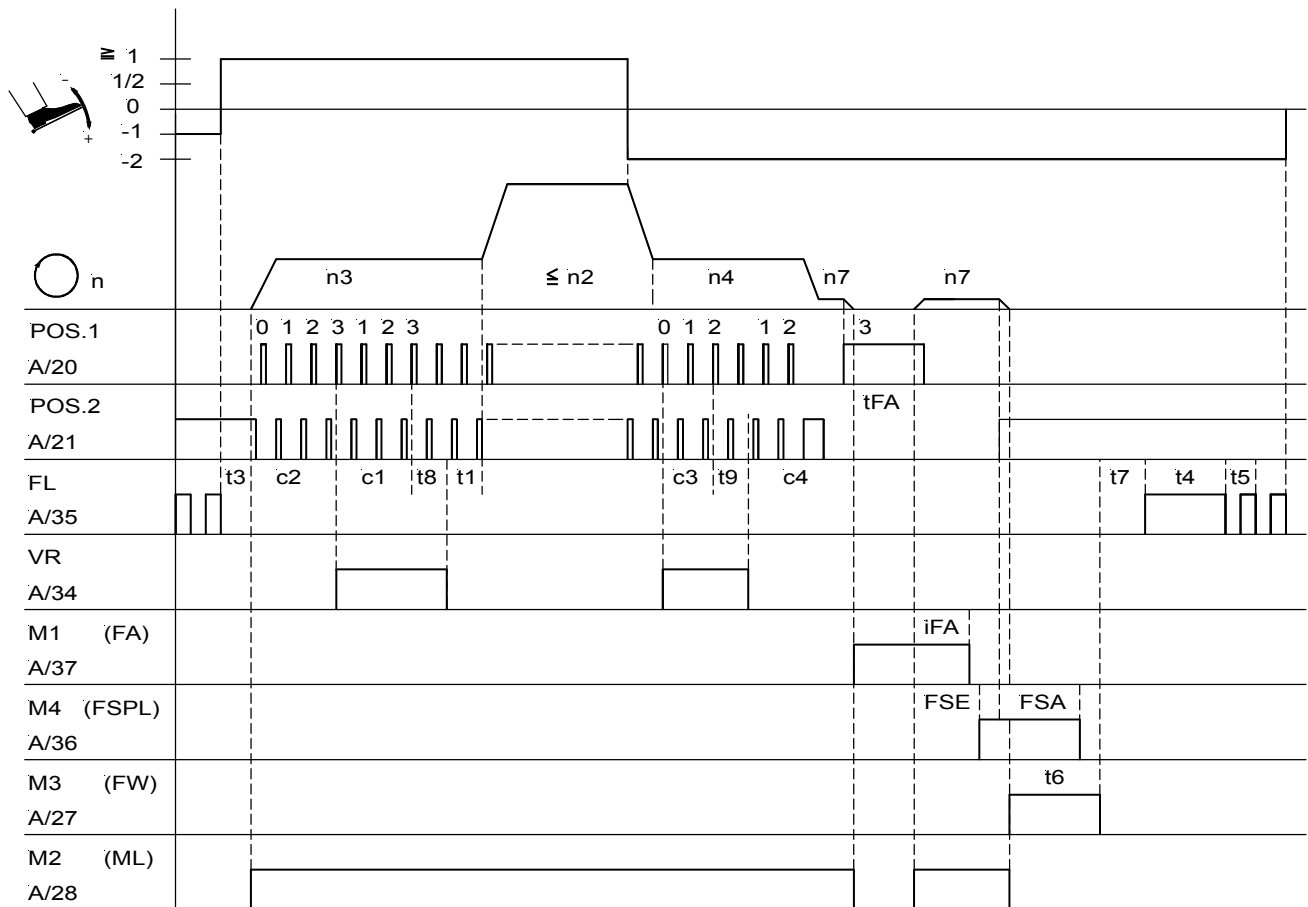
- **Switch off the control and remove mains plug from outlet**
- Unscrew the control unit from the machine table
- Loosen 2 screws (A) each at the front and at the rear
- Open the left part of the housing
- Pull the sewing light cable through the cable bushing
- Area (B): Connect strands with clamp on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

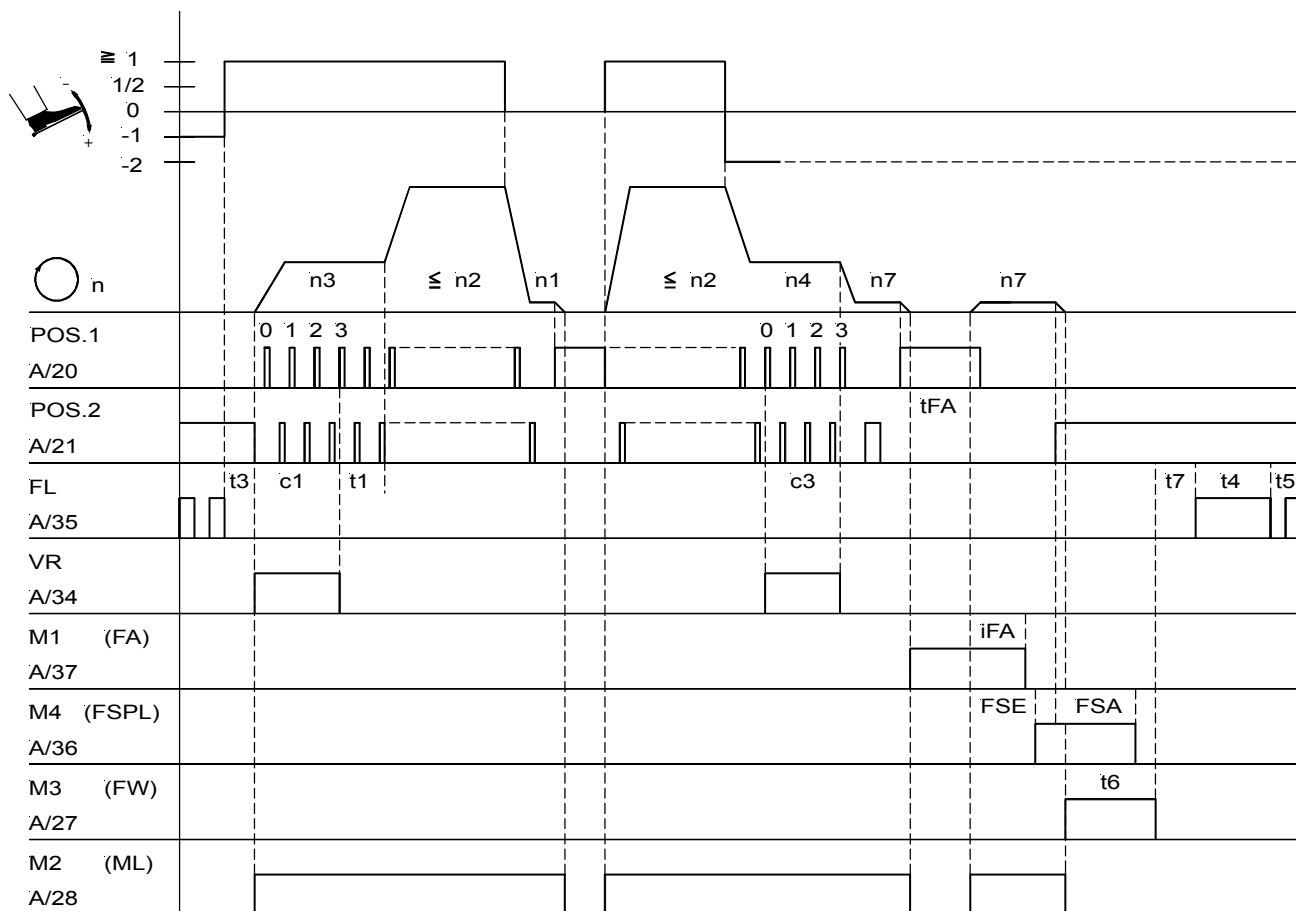
Trimming from full machine run



0267 / FALAUF

| Mark | Function                                       | Parameter | Control | V810  | V820  |
|------|------------------------------------------------|-----------|---------|-------|-------|
|      | Double start backtack with stitch correction   | On        | Key S2  | Key 1 | Key 1 |
|      | Double end backtack with stitch correction     | On        | Key S3  | Key 2 | Key 4 |
| n2   | Maximum speed                                  | 111       |         |       |       |
| n3   | Start backtack speed                           | 112       |         |       |       |
| n4   | End backtack speed                             | 113       |         |       |       |
| n7   | Trimming speed                                 | 116       |         |       |       |
| c2   | Start backtack stitches forward                | 000       |         |       |       |
| c1   | Start backtack stitches backward               | 001       |         |       |       |
| c3   | End backtack stitches backward                 | 002       |         |       |       |
| c4   | End backtack stitches forward                  | 003       |         |       |       |
| t8   | Start backtack stitch correction               | 150       |         |       |       |
| t9   | End backtack stitch correction                 | 151       |         |       |       |
| iFA  | Activation angle of the thread trimmer         | 190       |         |       |       |
| FSA  | Thread tension release switch-off delay        | 191       |         |       |       |
| FSE  | Thread tension release activation 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       |         |       |       |
| 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       |         |       |       |

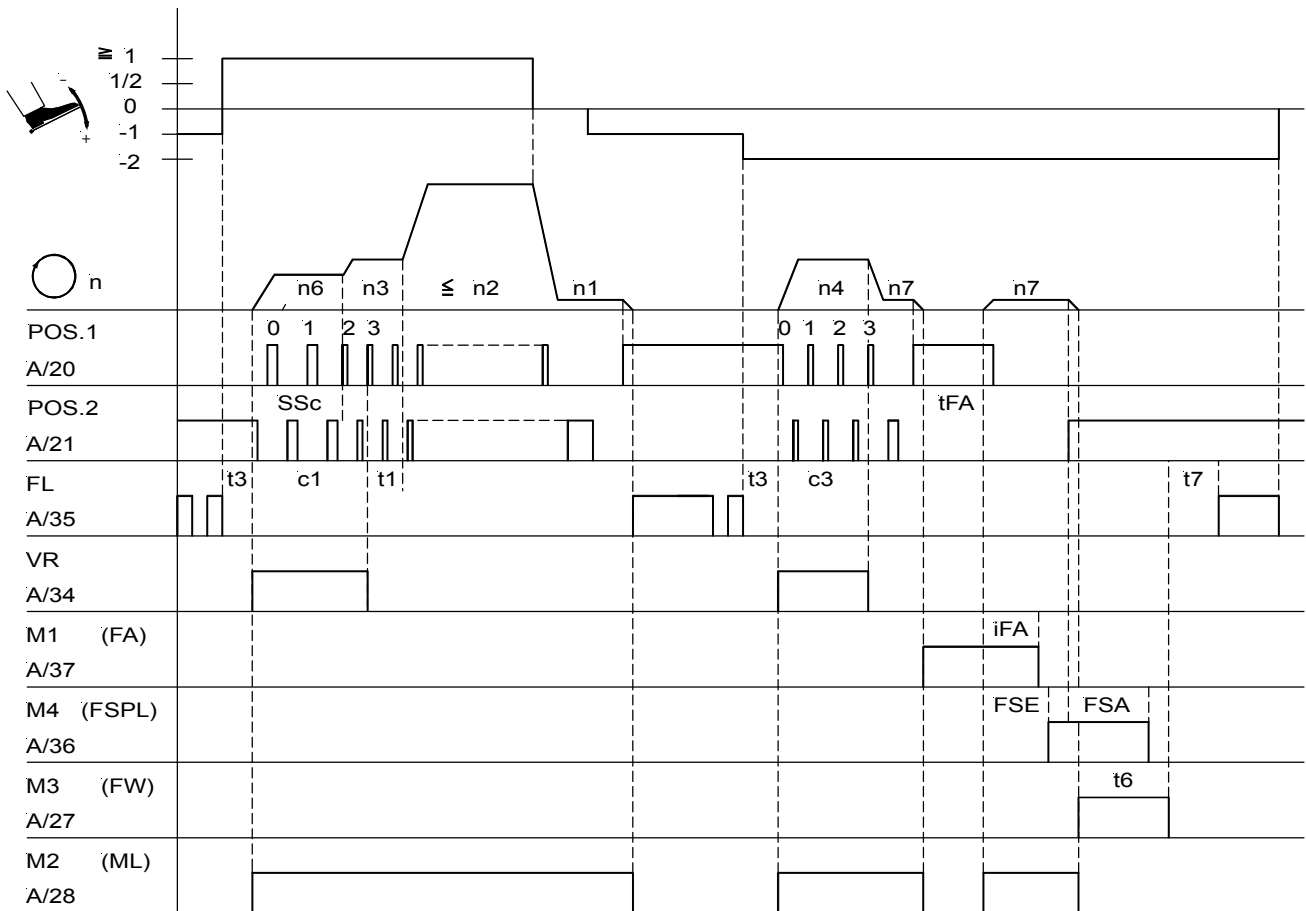
## Machine run with intermediate stop



0267 / LAUFZW

| Mark | Function                                       | Parameter | Control          | V810           | V820           |
|------|------------------------------------------------|-----------|------------------|----------------|----------------|
|      | Single start backtack<br>Single end backtack   | On<br>On  | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| n1   | Positioning speed                              | 110       |                  |                |                |
| n2   | Maximum speed                                  | 111       |                  |                |                |
| n3   | Start backtack speed                           | 112       |                  |                |                |
| n4   | End backtack speed                             | 113       |                  |                |                |
| n7   | Trimming speed                                 | 116       |                  |                |                |
| c1   | Start backtack stitches backward               | 001       |                  |                |                |
| c3   | End backtack stitches backward                 | 002       |                  |                |                |
| iFA  | Activation angle of the thread trimmer         | 190       |                  |                |                |
| FSA  | Thread tension release switch-off delay        | 191       |                  |                |                |
| FSE  | Thread tension release activation 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       |                  |                |                |
| 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       |                  |                |                |

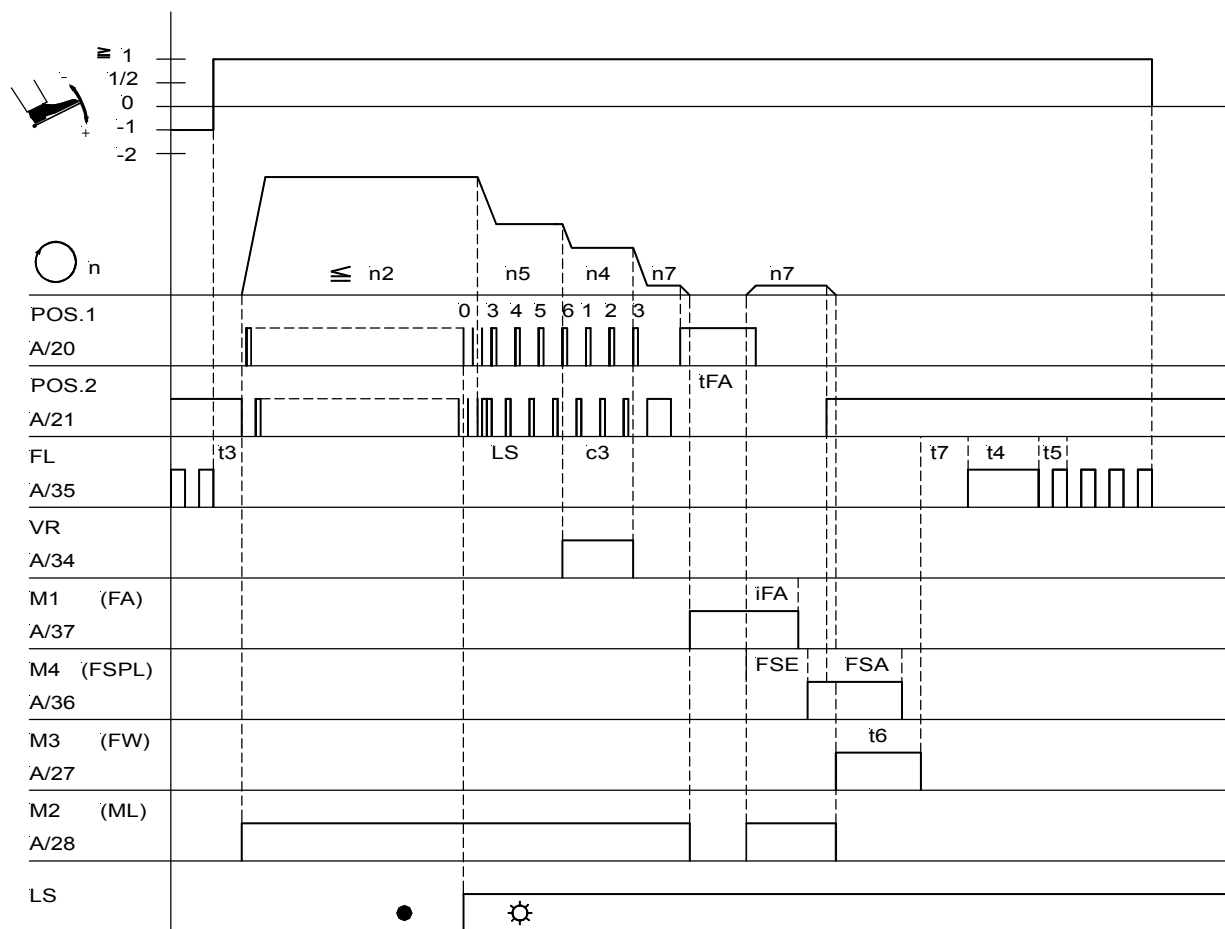
## Trimming from intermediate stop



0267/FAZW

| Mark | Function                                                  | Parameter           | Control          | V810           | V820           |
|------|-----------------------------------------------------------|---------------------|------------------|----------------|----------------|
|      | Single start backtack<br>Single end backtack<br>Softstart | On<br>On<br>134 = 1 | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| n1   | Positioning speed                                         | 110                 |                  |                |                |
| n2   | Maximum speed                                             | 111                 |                  |                |                |
| n3   | Start backtack speed                                      | 112                 |                  |                |                |
| n4   | End backtack speed                                        | 113                 |                  |                |                |
| n6   | Softstart speed                                           | 115                 |                  |                |                |
| n7   | Trimming speed                                            | 116                 |                  |                |                |
| c1   | Start backtack stitches backward                          | 001                 |                  |                |                |
| c3   | End backtack stitches backward                            | 002                 |                  |                |                |
| SSc  | Softstart stitches                                        | 100                 |                  |                |                |
| iFA  | Activation angle of the thread trimmer                    | 190                 |                  |                |                |
| FSA  | Thread tension release switch-off delay                   | 191                 |                  |                |                |
| FSE  | Thread tension release activation 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                 |                  |                |                |
| t7   | Sewing foot switch-on delay after thread wiper            | 206                 |                  |                |                |

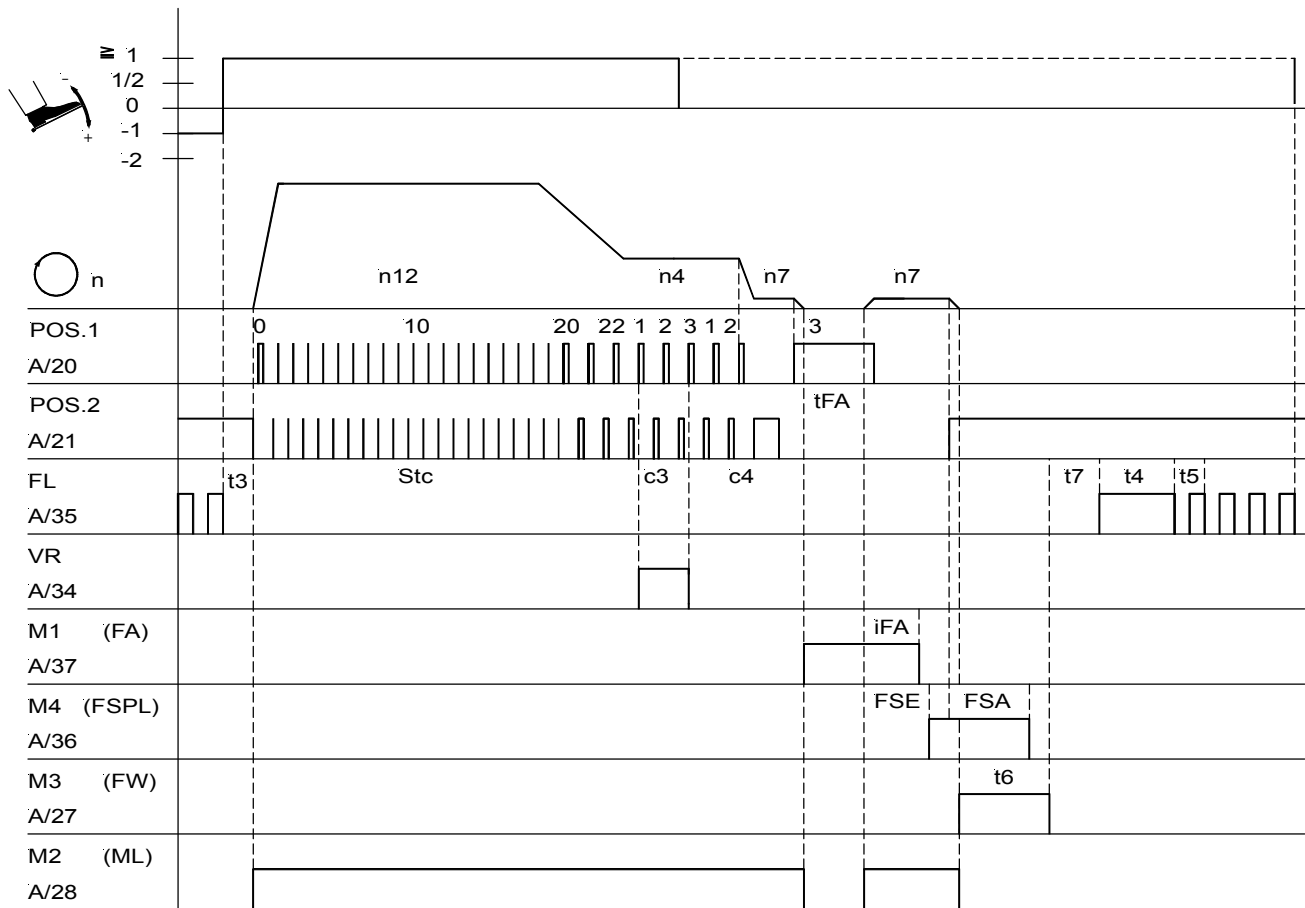
## End sensing by light barrier



0267/ ENDELS

| Mark | Function                                                                                  | Parameter                       | Control          | V810           | V820           |
|------|-------------------------------------------------------------------------------------------|---------------------------------|------------------|----------------|----------------|
|      | Start backtack<br>Single end backtack<br>Light barrier<br>Light barrier covered/uncovered | Off<br>On<br>009 = 1<br>131 = 1 | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| 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 switch-off delay                                                   | 191                             |                  |                |                |
| FSE  | Thread tension release activation 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                             |                  |                |                |

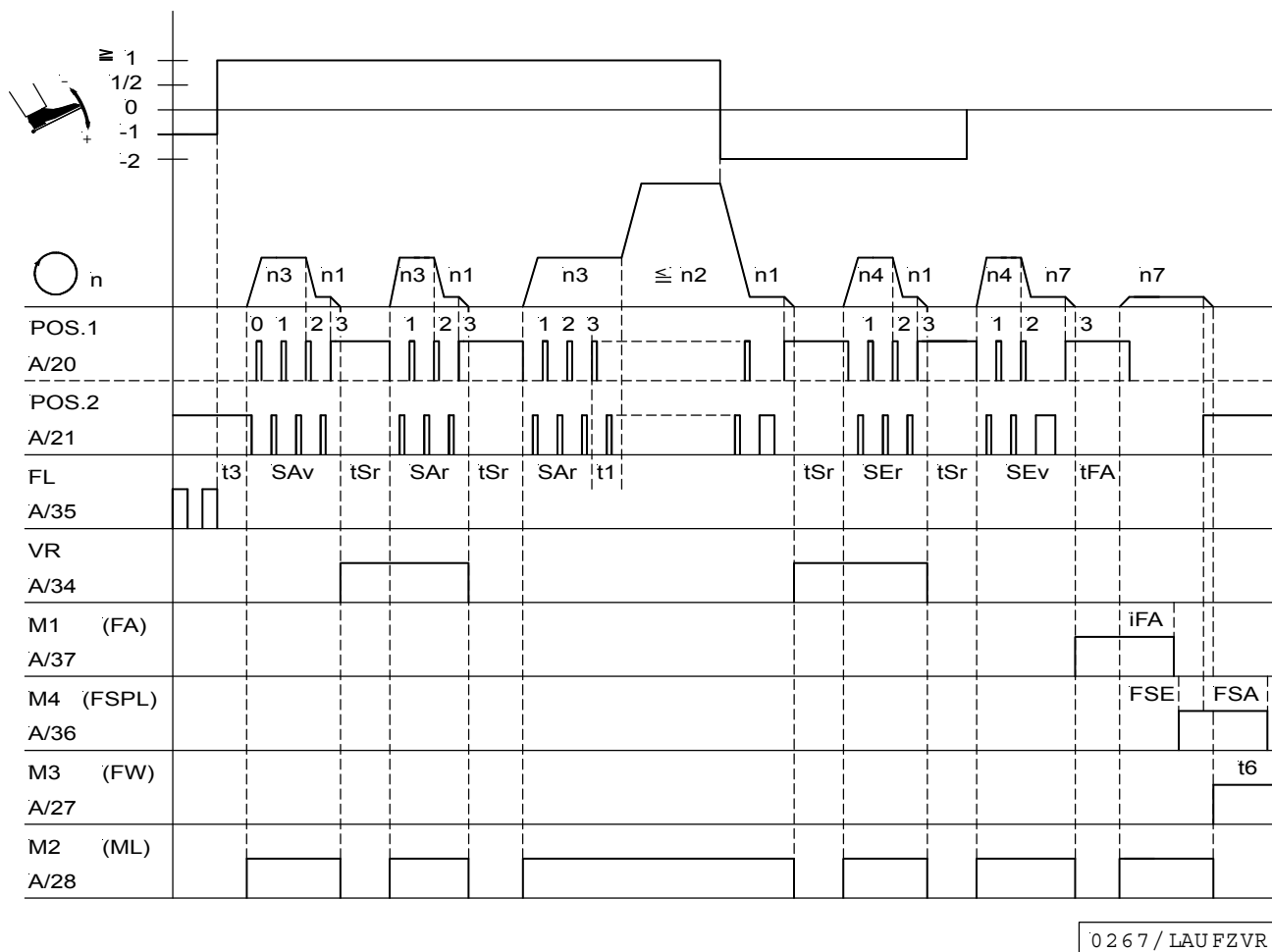
## Seam end by stitch counting



0267/ENDEZAE

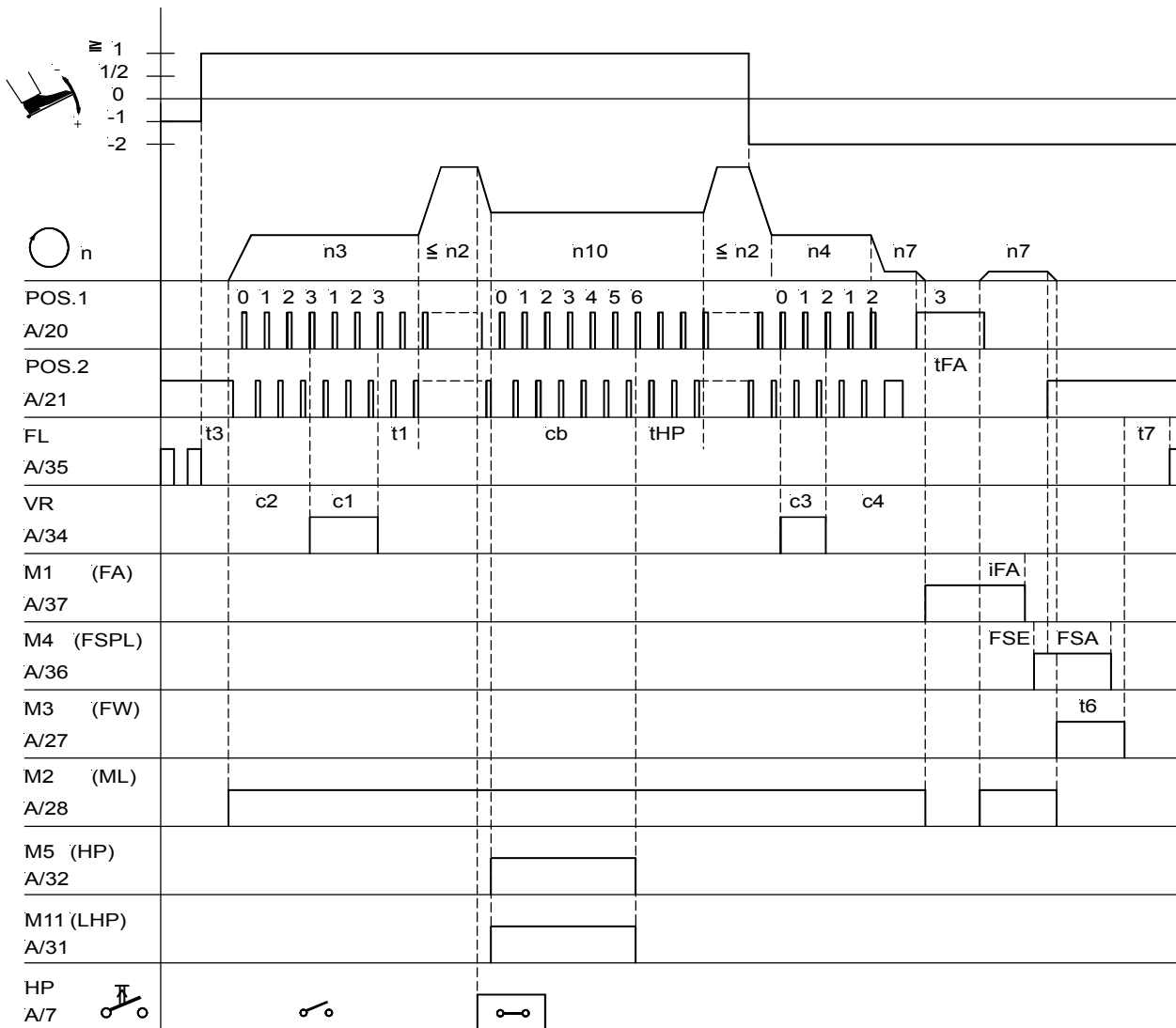
| Mark | Function                                                                                                 | Parameter                       | Control          | V810           | V820           |
|------|----------------------------------------------------------------------------------------------------------|---------------------------------|------------------|----------------|----------------|
|      | Start backtack<br>Double end backtack<br>Stitch counting<br>Speed mode "stitch counting" (limited speed) | Off<br>On<br>015 = 1<br>141 = 2 | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| 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 switch-off delay                                                                  | 191                             |                  |                |                |
| FSE  | Thread tension release activation 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<br>Double end backtack<br>Ornamental backtack | On<br>On<br>135 = 1 | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| 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 ornamental backtack stitches backward                 | 082                 |                  |                |                |
| SEv  | Number of end ornamental backtack stitches forward                  | 083                 |                  |                |                |
| iFA  | Activation angle of the thread trimmer                              | 190                 |                  |                |                |
| FSA  | Thread tension release switch-off delay                             | 191                 |                  |                |                |
| FSE  | Thread tension release activation 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



0267/LAUFHUB

| Mark | Function                                                                                                                                            | Parameter           | Control          | V810           | V820           |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|----------------|----------------|
|      | Double start backtack On<br>Double end backtack On<br>High lift for walking foot operational mode not stored<br>Output B high lift for walking foot | 138 = 0<br>255 = 11 | Key S2<br>Key S3 | Key 1<br>Key 2 | Key 1<br>Key 4 |
| 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 switch-off delay                                                                                                             | 191                 |                  |                |                |
| FSE  | Thread tension release activation angle                                                                                                             | 192                 |                  |                |                |
| 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 key 9 on the V820 control panel<br>1 = Softstart On/Off<br>2 = Ornamental backtack On/Off<br>3 = High lift for walking foot (only if parameter 250 or 255 = 11) oprational mode stored = On / operational mode not stored = Off<br>4 = Needle cooling On/Off (only if parameter 185 = 1)<br>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<br>0 = Automatic sewing foot Off<br>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    |

## Operator Level

| Parameter | Designation                                                                                                                                                                                                                                                              | Unit     | Limits |     | Preset for |      |  |      |       | Ind.   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|-----|------------|------|--|------|-------|--------|
|           |                                                                                                                                                                                                                                                                          |          | max    | min | 100Ω       | 220Ω |  | 680Ω | 1000Ω |        |
| 086 cF4   | Number of stitches for bobbin thread monitor parameter 195 = 4<br>At this setting, the following functions will be activated upon pressing the appropriate key:<br>>1 sec. = Bobbin thread monitor function is deactivated.<br><1 sec. = Counter is set to preset value. | stitches | 25500  | 0   | 0          | 0    |  | 0    | 0     | A ***) |
| 087       | Intermediate backtack with counted stitches. At setting "0", normal intermediate backtack is active.                                                                                                                                                                     | stitches | 255    | 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<br>1 = linear<br>2 = slightly progressive<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | RPM      | 3000 | 200        | 1700 | 400  |      | 800   | 500  | A**) |
| 125       | n2A         | Start backtack speed 2<br>(only if parameter 284 = ON)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RPM      | 3000 | 200        | 600  | 600  |      | 600   | 600  | A    |
| 126       | n2E         | End backtack speed 2<br>(only if parameter 284 = ON)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RPM      | 3000 | 200        | 600  | 600  |      | 600   | 600  | 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:<br>- Parameter 132 = 1<br>- Function “light barrier sensing” switched on on the control panel<br>- Initiation of the first “normal” seam section (pedal in the basic position)<br>- Cover light barrier<br>- Press pedal forward<br>- Keep pedal pressed forward<br>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”<br>1 = Light barrier sensing “uncovered”                                                                                                                                                                                                                                                                                                                                                                                                                                              |          | 1    | 0          | 1    | 1    |      | 1     | 1    | A    |
| 132       | LSS         | 0 = Machine start possible with light barrier uncovered or covered.<br>1 = Machine start blocked with light barrier uncovered if parameter 131 = 1.<br>Machine start blocked with light barrier covered if parameter 131 = 0.                                                                                                                                                                                                                                                                                             |          | 1    | 0          | 1    | 1    |      | 1     | 1    | 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 |      |   |
| 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    |   |
| 136       | FAR         | 0 = Trimming stitch forward and thread wiper function On<br>1 = Trimming stitch backward and thread wiper function On<br>2 = Trimming stitch forward with short trimmer signal instead of a thread wiper<br>3 = No function<br>4 = No function<br>5 = Thread clamp with trimming stitch backward<br>6 = Thread clamp with trimming stitch forward                                                                                                                                                      | 6      | 0   | 5          | 0    |     | 1    | 0     | A    |   |
| 137       | SLU         | Stitch length during backtack<br>0 = long stitches<br>1 = normal stitches                                                                                                                                                                                                                                                                                                                                                                                                                              | 1      | 0   | 1          | 1    |     | 0    | 0     | A    |   |
| 138       | hPr         | 0 = High lift for walking foot operational mode not stored<br>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    |   |
| 141       | SGn         | Speed status for the seam with stitch counting<br>0 = Speed controllable by the pedal up to the set maximum speed (parameter 111)<br>1 = Fixed speed (parameter 118) without influence by the pedal (machine stop by pressing the pedal to the basic position)<br>2 = Limited speed controllable by the pedal up to the set limit (parameter 118)<br>3 = At fixed speed (parameter 118) can be interrupted by full heelback<br>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<br>0 = Speed controllable by the pedal up to the set maximum speed (parameter 111)<br>1 = Fixed speed (parameter 118) without influence by the pedal (machine stop by pressing the pedal to the basic position)<br>2 = Limited speed controllable by the pedal up to the set limit (parameter 118)<br>3 = At fixed speed (parameter 118) can be interrupted by full heelback                                                        | 3      | 0   | 0          | 0    |     | 0    | 0     | A    |   |
| 145       | StL         | Normal/long stitches with/without speed limitation. Key on input in1...i10 = 22.<br>0 = Normal/long stitches without speed limitation<br>1 = Normal/long stitches with speed limitation (DB2000)<br>2 = Normal/long stitches with speed limitation (DB3000)                                                                                                                                                                                                                                            | 2      | 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 |

## 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 |      |
| 153       | brt         | Braking power at machine standstill                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 50      | 0   | 6          | 6    |     | 6    | 6     | A    |
| 154       | FkL         | 0 = Thread clamp Off<br>1 = Enabling thread clamp (pa. 155) and disabling thread clamp (pa. 156).<br>2 = Enabling thread clamp at 20 degrees and disabling at 224 degrees.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2       | 0   | 2          | 0    |     | 0    | 0     | A    |
| 155       | k1          | Enabling thread clamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | degrees | 359 | 0          | 0    | 0   | 0    | 0     | A    |
| 156       | k1          | Disabling thread clamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | degrees | 359 | 0          | 0    | 0   | 0    | 0     | A    |
| 161       | drE         | Direction of motor rotation<br>0 = Clockwise rotation<br>1 = Counterclockwise rotation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1       | 0   | 1          | 1    |     | 1    | 1     | A    |
| 170       | Sr1         | <b>Setting the reference position: ****)</b><br>- Press the <b>E</b> key.<br>- Press the <b>&gt;&gt;</b> key.<br>- Turn handwheel until symbol on display goes off.<br>Then position the notch on the handwheel to<br>- marking F on the machine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |     |            |      |     |      |       | A    |
| 171       | Sr2         | <b>Setting the needle positions: ****)</b><br>Press the <b>E</b> key.<br>Press the <b>&gt;&gt;</b> key.<br>1E= Position 1 (leading edge)<br>Press the <b>E</b> key.<br>2E= Position 2 (leading edge)<br>Press the <b>E</b> key.<br>1A= Position 1 (trailing edge)<br>Press the <b>E</b> key.<br>2A= Position 2 (trailing edge)<br>(for changing the values turn handwheel or press the +/- key)<br>Press the <b>P</b> key twice. Settings are completed!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | degrees | 359 | 0          | 000  | 000 | 025  | 042   | A    |
| 172       | Sr3         | <b>Display on the control:</b><br>Pos. 1 to 1A (LED 7 lights up)<br>Pos. 2 to 2A (LED 8 lights up)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |     |            |      |     |      |       |      |
| 172       | Sr3         | <b>Display on the V810 control panel:</b><br>Pos. 1 to 1A (lefthand arrow above key 4 On)<br>Pos. 2 to 2A (righthand arrow above key 4 On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |     |            |      |     |      |       |      |
| 172       | Sr3         | <b>Display on the V820 control panel:</b><br>Pos. 1 to 1A (lefthand arrow above key 7 On)<br>Pos. 2 to 2A (righthand arrow above key 7 On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |     |            |      |     |      |       |      |
| 173       | Sr4         | Checking of the signal outputs and inputs using the incorporated control panel or the V810/V820 control panels<br>- Select the desired output using the +/- key<br>- Activate the selected output using the >> key<br>01 = Backtacking on socket A/34<br>02 = Sewing foot lift on socket A/35<br>03 = Thread trimmer on socket A/37<br>04 = Thread wiper on socket A/27<br>05 = Needle cooling on socket A/28<br>06 = Thread tension release on socket A/36<br>07 = Output B on socket A/32<br>08 = LED for output A on socket A/31<br>09 = Output A on socket A/30<br>10 = LED righthand thread monitor on socket A/25<br>11 = LED backtack suppression/recall on socket A/24<br>12 = LED lefthand thread monitor on socket A/23<br>13 = LED for output A on socket A/29<br><br>OFF/ON = By actuating the switches connected to the control, the function of these switches is checked and <b>ON/OFF</b> 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.<br><br><b>Control display example:</b><br>Press the <b>E</b> key → Display e. g. <b>Sr5</b><br>Press the <b>&gt;&gt;</b> key → Progr. No. <b>53</b><br>Press the <b>E</b> key → Progr. No. <b>50</b><br>Press the <b>E</b> key → Index <b>A</b><br>Press the <b>E</b> key → Ident. No. <b>98</b> (1+2)<br>Press the <b>E</b> key → Ident. No. <b>04</b> (3+4)<br>Press the <b>E</b> key → Ident. No. <b>01</b> (5+6)<br>Press the <b>E</b> key → Ident. No. <b>16</b> (7+8)<br>Press the <b>P</b> key twice → Display <b>dA320G</b><br><br><b>V810 control panel display example:</b><br>Press the <b>E</b> key → Display e. g. <b>Sr [°]</b><br>Press the <b>&gt;&gt;</b> key → Display e. g. <b>5350A</b><br>Press the <b>E</b> key → Display e. g. <b>981019</b><br>Press the <b>E</b> key → Display e. g. <b>15</b><br>Press the <b>P</b> key twice → Display <b>dA320G</b><br><br><b>V820 control panel display example:</b><br>Press the <b>E</b> key → Display <b>F-179 Sr5 [°]</b><br>Press the <b>&gt;&gt;</b> key → Display e. g. <b>5350A</b><br>Press the <b>E</b> key → Display e. g. <b>98101915</b><br>Press the <b>P</b> key twice → Display <b>4000 dA320G</b> |          |          |            |      |      |      |       |      |        |
| 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**)   |
| 184       | chP         | Minimum number of stitches for high lift for walking foot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | stitches | 254      | 0          | 0    | 0    |      | 0     | 0    | A      |
| 185       | Fnk         | Function of the output “needle cooling”<br>1 = Needle cooling<br>2 = Under-edge trimmer<br>3 = Needle cooling depending on speed (speed can be set using pa. 120)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          | 3        | 1          | 1    | 1    |      | 1     | 1    | A      |
| 186       | ctw         | Stitches until roller lowering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | stitches | 254      | 0          | 0    | 0    |      | 0     | 0    | A      |
| 187       | Stn         | Stitch length in the next seam (after the thread trimming operation)<br>0 = The selected stitch legth remains On.<br>1 = Switch to long stitches after thread trimming.<br>2 = Switch to normal stitches after thread trimming.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          | 2        | 0          | 0    | 0    |      | 0     | 0    | A      |
| 188       | hP          | Minimum speed level for high lift for walking foot<br>Maximum speed level for high lift for walking foot<br>Assignment of maximum speed (parameter 111) and minimum speed (parameter 117 = high lift walking speed) to the 21 speedomat levels.<br><b>Display example:</b><br><br><b>2740 05 11 19</b><br><br>05 = Display of the level up to which the maximum speed is effective.<br>19 = Display of the level up to which the minimum speed is effective.<br>11 = Display of the level set on the speedomat (potentiometer).<br>2740= Corresponding speed<br><b>See instruction manual on how to change the setting!</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          | 21<br>21 | 1<br>1     |      |      |      |       |      | A<br>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         | Thread tension release switch-off delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ms      | 990 | 0          | 50   | 50  |      | 50    | 50   | A |
| 192       | FSE         | Thread tension release switch-on delay angle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | degrees | 359 | 0          | 0    | 0   |      | 237   | 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<br>0 = No bobbin thread monitor function.<br>1 = Model 270 or short seams: without stop, sewing foot down after thread trimming.<br>2 = Model 767/N291: with stop, sewing foot up after thread trimming.<br>3 = Model 767/N291: with stop, sewing foot down after thread trimming.<br>4 = With bobbin thread monitor stitch counting (max. 25500 stitches)                                                                                                                                                                                                                                                                                                                                       |         | 4   | 0          | 0    | 0   |      | 0     | 0    | A |
| 196       | kFn         | 0 = Coupling the sewing foot with thread tension release and thread tension reduction in the seam and after thread trimming Off.<br>1 = Thread tension release and thread tension reduction in the seam during sewing foot lifting On.<br>2 = Thread tension release and thread tension reduction after thread trimming during sewing foot lifting On.<br>3 = Thread tension release and thread tension reduction in the seam and after thread trimming during sewing foot lifting On.<br>If parameter 250 or 255 = 7 and 240...249 = 18, thread tension reduction can be enabled at any time.<br>The operational mode of the keys is stored.                                                                          |         | 3   | 0          | 0    | 0   |      | 0     | 0    | A |
| 197       | kFh         | 0 = Coupling thread tension reduction with high lift for walking foot and speedomat Off.<br>1 = Thread tension reduction is disabled and high lift for walking foot enabled using the key on socket A/7. The speedomat has no effect.<br>2 = When reaching the high lift walking speed by adjusting the speedomat, thread tension reduction is disabled. The key on socket A/7 has no effect.<br>3 = When reaching the high lift walking speed by adjusting the speedomat, thread tension reduction is disabled. The key on socket A/7 works as with setting 1.<br>If parameter 250 or 255 = 7 and 240...249 = 18, thread tension reduction can be enabled at any time.<br>The operational mode of the keys is stored. |         | 3   | 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%<br>1% → low holding power<br>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%<br>1% → low holding power<br>100% → high holding power                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | %    | pa. 299 | 1   | 50         | 50   |  | 50   | 50    | A    |
| 215       | Zrv         | 0 = Last counted forward section in the start backtack OFF<br>1 = Last counted forward section in the start backtack ON                                                                                                                                                                                                                                                                                                                                                                                                                                             |      | 1       | 0   | 1          | 1    |  | 1    | 1     | A    |
| 216       | FLS         | 0 = Fast disabling of sewing foot lift OFF<br>1 = Fast disabling of sewing foot lift ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      | 1       | 0   | 1          | 1    |  | 1    | 1     | A    |
| 219       | br3         | Positioning power at stop of the drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      | 55      | 1   | 10         | 10   |  | 10   | 10    | A    |
| 220       | ALF         | Accelerating power of the drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | 55      | 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 | 1300       | 1600 |  | 1600 | 1600  | A**) |
| 224       | dGF         | Speed gate 2 On/Off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | 1       | 0   | 1          | 1    |  | 1    | 1     | A    |
| 240       | in1         | <b>Selection of the input functions on socket A/7 for input 1</b><br>0 = No function<br>1 = Needle up/down<br>2 = Needle up<br>3 = Single stitch (basting stitch)<br>4 = Full stitch<br>5 = Needle to position 2<br>6 = Machine run blockage effective with open contact<br>7 = Machine run blockage effective with closed contact<br>8 = Machine run blockage unpositioned effective with open contact<br>9 = Machine run blockage unpositioned effective with closed contact<br>10 = Automatic speed n12 without pedal<br>11 = Limited speed n12 pedal controlled |      | 69      | 0   | 13         | 13   |  | 13   | 13    | 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 |      |
|           | 12 = Sewing foot lifting with pedal in position 0 (neutral)<br>13 = High lift for walking foot with speed limitation n10 (operational mode not stored)<br>14 = High lift for walking foot (flip-flop 1) with speed limitation n10<br>15 = Sewing foot pressure (NFD)<br>16 = Intermediate backtack<br>17 = Backtack suppression / recall<br>18 = Thread tension reduction<br>19 = Reset bobbin thread monitor if parameter 085 = >0<br>20 = Handwheel running in the direction of rotation according to the setting of parameter 161<br>21 = Handwheel running in the opposite direction of rotation according to the setting of parameter 161<br>22 = Stitch length (STL)<br>23 = Roller<br>24 = No function<br>25 = Fixed speed DB2000<br>26 = Speed limitation n11 (DB3000)<br>27 = Speed limitation n10 (DB2000)<br>28 = External light barrier (according to setting of parameter 131)<br>29 = Single stitch with stitch length switching<br>30 = Emergency stop<br>31..38 = No function<br>39 = Switch to the next pattern in TEACH IN<br>40 = Switch back to the previous pattern in TEACH IN<br>41..45 = No function<br>46 = Key for output A<br>47 = Key for output B<br>48 = Signal A1 is issued<br>49 = Signal A1 switchable as flip-flop<br>50 = No function<br>51 = Signal A2 is issued<br>52 = Signal A2 switchable as flip-flop<br>53..69 = No function |      |        |     |            |      |  |      |       |      |
| 241       | in2 <b>Selection of input function on socket A/11 for input 2</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | 69     | 0   | 7          | 7    |  | 9    | 9     | A    |
| 242       | in3 <b>Selection of input function on socket A/6 for input 3</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 69     | 0   | 2          | 2    |  | 2    | 2     | A    |
| 243       | in4 <b>Selection of input function on socket A/8 for input 4</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 69     | 0   | 46         | 46   |  | 46   | 46    | A    |
| 244       | in5 <b>Selection of input function on socket A/5 for input 5</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 69     | 0   | 16         | 16   |  | 16   | 16    | A    |
| 245       | in6 <b>Selection of input function on socket A/12 for input 6</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | 69     | 0   | 18         | 18   |  | 19   | 18    | 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 |      |
| 246       | in7         | <b>Selection of input function on socket A/9 for input 7</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 69     | 0   | 27         | 27   |  | 27   | 27    | A    |
| 247       | in8         | <b>Selection of input function on socket A/10 for input 8</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 69     | 0   | 26         | 26   |  | 26   | 26    | A    |
| 248       | in9         | <b>Selection of input function on socket A/13 for input 9</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 69     | 0   | 23         | 23   |  | 28   | 23    | A    |
| 249       | i10         | <b>Selection of input function on socket A/14 for input 10</b><br>0 = No function<br>All other functions of the keys as with parameter 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 69     | 0   | 17         | 17   |  | 17   | 17    | 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.<br>0 = No function<br>1 = Switch stitch length<br>2 = Fullness control with speed limitation<br>3 = Fullness control without speed limitation<br>4 = Single stitch with stitch length switching<br>5 = Lift / lower roller<br>6 = Lift / lower fabric endstop<br>7 = Thread tension reduction<br>8 = Manual edge trimmer<br>9 = Automatic edge trimmer<br>10 = Triflex function: affects stitch length, thread tension, speed limitation, automatic backtack and function module for output B (parameter 255 = 7)<br>11 = High lift for walking foot<br>12 = Functions of sewing foot pressure reduction: the following functions are available if the key is enabled:<br>- Pedal 0 → Pulsing parameter 334 is effective<br>- Pedal >1 → Pulsing parameter 334 is effective<br>- Pedal +1 → Sewing foot is lowered<br>- Pedal -1 → Pulsing parameter 204 is effective<br>- Pedal -2 → Pulsing parameter 204 or trimming operation is effective<br>13 = Handwheel runs in the direction of rotation according to setting of parameter 161<br>14 = Handwheel runs in the opposite direction of rotation according to setting of parameter 161 | 14     | 0   | 0          | 1    |  | 1    | 1     | A    |
| 251       | AFA         | Output A (A/30) and LED A (A/29) after thread trimming<br>0 = Output signals are maintained as before thread trimming<br>1 = Output signals as after power On<br><b>Function with pa. 250 = 1, 2, 3, 7, 8, 9, 10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | 0   | 0          | 0    |  | 0    | 0     | A    |
| 252       | Ain         | Output A (A/30)<br>0 = Output not inverted<br>1 = Output inverted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 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 |      |
| 253       | cA          | Number of stitches until enabling of output A<br><b>Function with parameter 250 = 5, 9</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 100    | 0   | 0          | 0    |   | 0    | 0     | A    |
| 254       | cA_         | Number of stitches until disabling of output A<br><b>Function with parameter 250 = 9, 11</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 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 250 is not equal to 10.<br>0 = No function<br>1 = Switch stitch length<br>2 = Fullness control with speed limitation<br>3 = Fullness control without speed limitation<br>4 = Single stitch with stitch length switching<br>5 = Lift / lower roller<br>6 = Lift / lower fabric endstop<br>7 = Thread tension reduction<br>8 = Manual edge trimmer<br>9 = Automatic edge trimmer<br>10 = Triflex function: affects stitch length, thread tension, speed limitation, automatic backtack and function module for output A (parameter 250 = 7)<br>11 = High lift for walking foot<br>12 = Function as with parameter 250<br>13 = Handwheel runs in the direction of rotation according to setting of parameter 161<br>14 = Handwheel runs in the opposite direction of rotation according to setting of parameter 161 | 14     | 0   | 11         | 11   |   | 11   | 11    | A    |
| 256       | bFA         | Output B (A/32) and LED B (A/31) after thread trimming<br>0 = Output signals are maintained as before thread trimming<br>1 = Output signals as after power On<br><b>Function with pa. 255 = 1, 2, 3, 7, 8, 9, 10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1      | 0   | 0          | 0    |   | 0    | 0     | A    |
| 257       | bin         | Output B (A/32)<br>0 = Output not inverted<br>1 = Output inverted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | 0   | 0          | 0    |   | 0    | 0     | A    |
| 258       | cb          | Number of stitches until enabling of output B<br><b>Function with parameter 255 = 5, 9</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 100    | 0   | 0          | 0    | 0 |      | 0     | A    |
| 259       | cb_         | Number of stitches until disabling of output B<br><b>Function with parameter 255 = 9, 11</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 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).<br>At output A stitch setting with parameter 253<br>At output B stitch setting with parameter 258<br>0 = Time interval which can be varied by the number of stitches performed OFF<br>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<br>1 = Lift roller with sewing foot lift and backtack<br>2 = Lift roller with sewing foot lift<br>3 = Lift roller with backtack<br>Effective only if parameter 250 or 255 = 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3      | 0   | 1          | 1    |   | 1    | 1     | A    |

## Supplier Level

Code no. 311 with control operation

Code no. 3112 with control panel operation

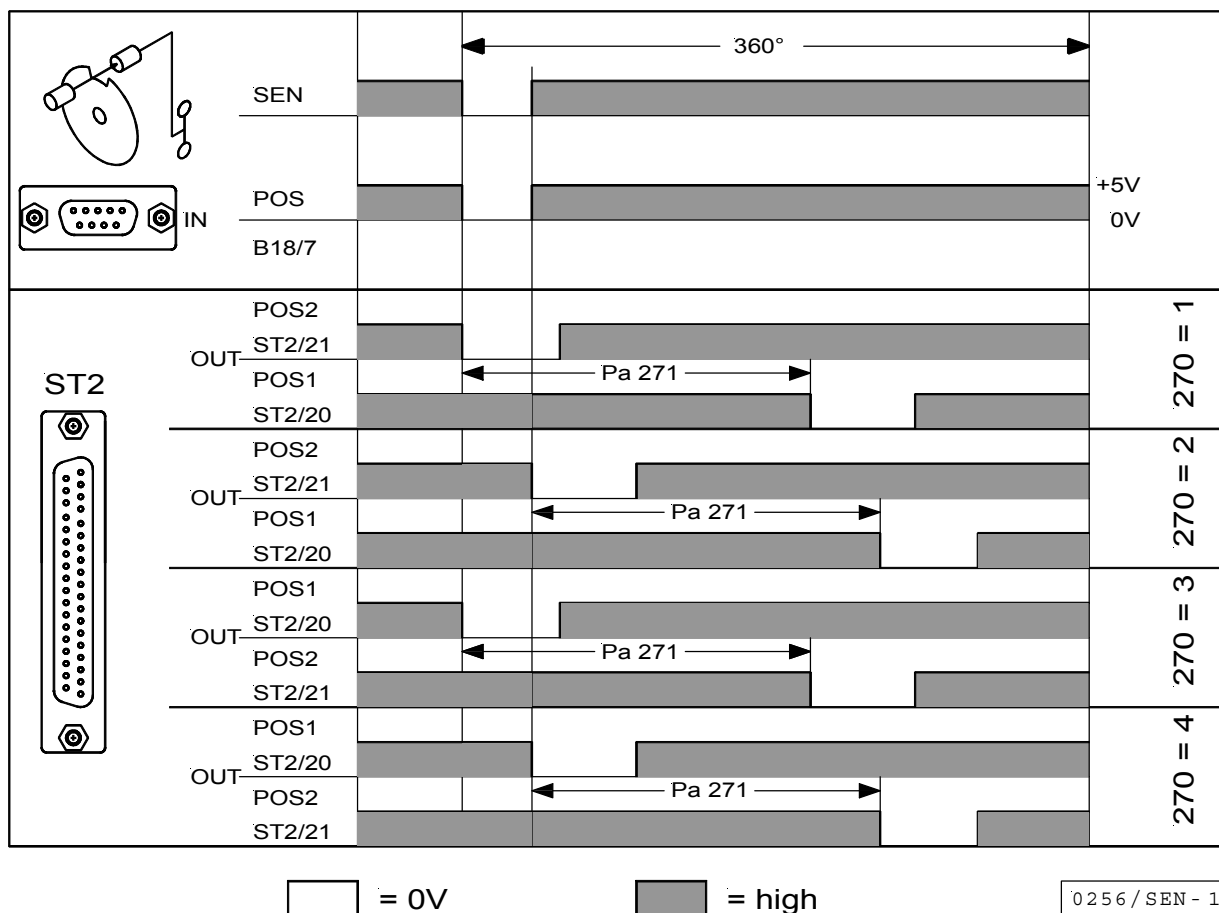
| Parameter | Designation | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Limits  |      | Preset for |      |     |      |       | Ind. |      |
|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|------------|------|-----|------|-------|------|------|
|           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | max     | min  | 100Ω       | 220Ω |     | 680Ω | 1000Ω |      |      |
| 262       | hPt         | 0 = Roller remains lowered when enabling high lift for walking foot.<br>1 = Roller is lifted when enabling high lift for walking foot.<br>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   | A    |
| 264       | nhr         | Handwheel speed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RPM     | 150  | 30         | 50   | 50  |      | 50    | 50   | A**) |
| 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).<br><b>Pressing the key briefly:</b> if ≤ preset value of parameter 262. Increments set using parameter 260 are carried out.<br><b>Keeping the key pressed down:</b> if ≥ preset value of parameter 262. Handwheel rotates continuously.                                                                                                                                                                                                                                                                                                                                                                                                                      | ms      | 2550 | 0          | 200  | 200 |      | 200   | 200  | A**) |
| 266       | LFL         | 0 = Sewing foot lowers when the handwheel rotates.<br>1 = The functions “pedal in pos. –1” or “automatic sewing foot lift” remain effective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         | 1    | 0          | 1    | 1   |      | 1     | 1    | A    |
| 267       | kFk         | 0 = The edge trimmer remains On, independently of sewing foot lifting.<br>1 = The edge trimmer is disabled when the sewing foot is lifted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |         | 1    | 0          | 0    | 0   |      | 0     | 0    | A    |
| 269       | PSv         | Positioning shift                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | degrees | 100  | 0          | 15   | 15  |      | 15    | 15   | A    |
| 270       | PGm         | Selection according to the position sensors. Setting of socket B18 see chapter “Connection Diagram”<br>0 = The positions are generated by means of the transmitter incorporated in the motor and can be set using parameter 171.<br>1 = Setting the sensor to position 2. Set position 1 using parameter 171, starting from leading edge position 2.<br>2 = Setting the sensor to position 2. Set position 1 using parameter 171, starting from trailing edge position 2.<br>3 = Setting the sensor to position 1. Set position 2 using parameter 171, starting from leading edge position 1.<br>4 = Setting the sensor to position 1. Set position 2 using parameter 171, starting from trailing edge position 1.<br>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    |

\*\*) 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

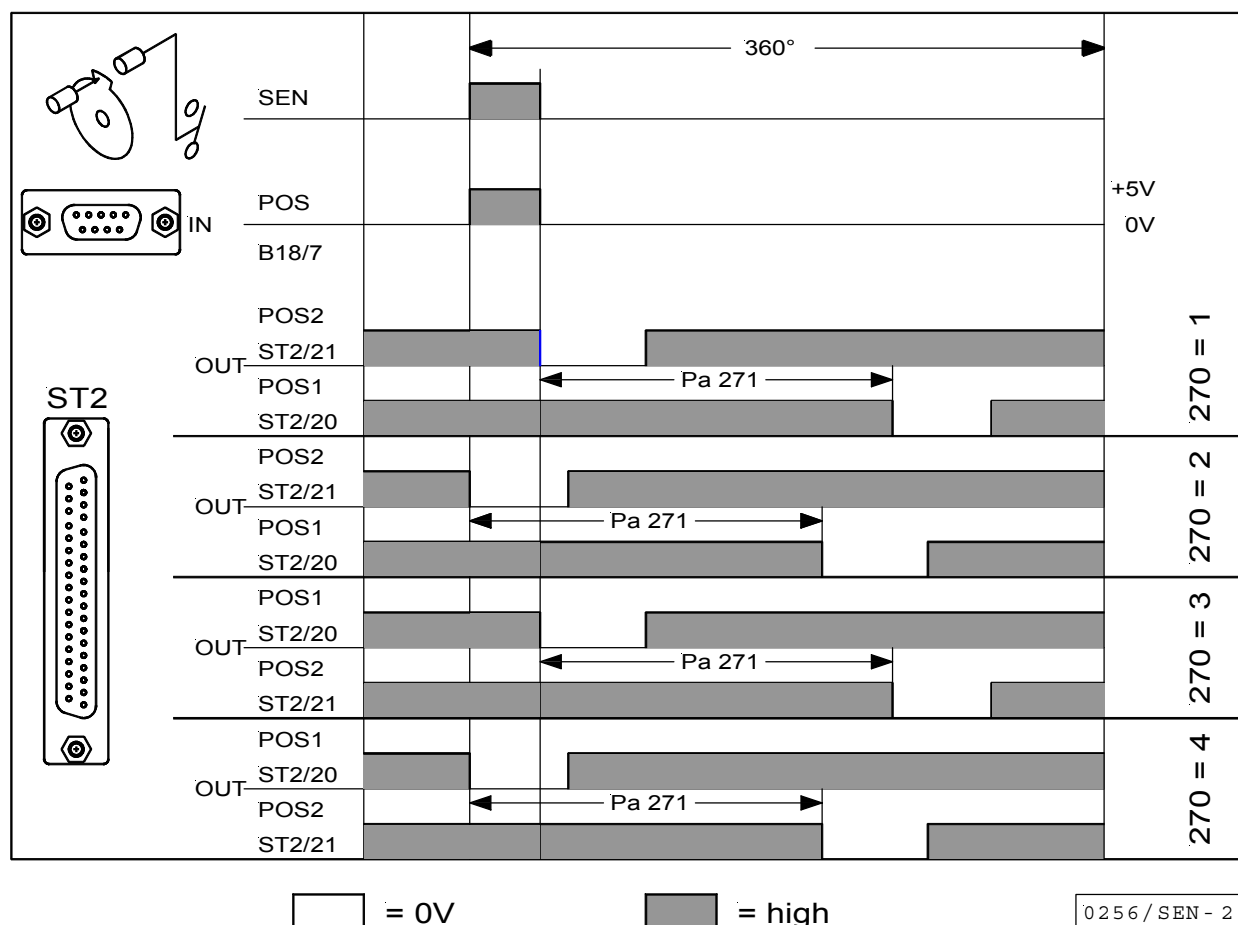
Code no. 311 with control operation

Code no. 3112 with control panel operation



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

| Parameter | Designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unit | Limits |     | Preset for |      |  |      |       | Ind. |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|-----|------------|------|--|------|-------|------|
|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | max    | min | 100Ω       | 220Ω |  | 680Ω | 1000Ω |      |
| 270 PGm   | Selection according to the position sensors.<br>Setting of socket B18 see chapter "Connection Diagram"<br>0 = Function as in table on previous page!<br>1 = Setting the sensor to position 2.<br>Set position 1 using parameter 171, starting from trailing edge position 2.<br>2 = Setting the sensor to position 2.<br>Set position 1 using parameter 171, starting from leading edge position 2.<br>3 = Setting the sensor to position 1.<br>Set position 2 using parameter 171, starting from trailing edge position 1.<br>4 = Setting the sensor to position 1.<br>Set position 2 using parameter 171, starting from leading edge position 1.<br>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 |       |
| 272       | trr         | Transmission ratio between motor shaft and machine shaft (calculation formula see instruction manual!)                                                                                                                                                                                                                                                      | 255    | 020 | 100        | 100  |  | 100  | 100   | A     |
|           |             | <b>Attention!</b> The transmission ratio should be determined and indicated as precisely as possible!                                                                                                                                                                                                                                                       |        |     |            |      |  |      |       |       |
| 280       | SEL         | Display of the select resistor values (socket A/1-4) for the following machine series:<br>100Ω = 271, 272, 273, 274, 275<br>220Ω = 205<br>680Ω = 069, 267, 268, 269, 4180, 4280<br>1000Ω = 367, 381, 382, 467, 767, 768<br>If a select resistor is not connected, it is possible to set the resistor value appropriate for the machine using parameter 280. | 1000   | 100 | 100        | 220  |  | 680  | 1000  | A **) |
| 281       | Pd0         | New sewing start after machine run blockage<br>0 = Immediate start<br>1 = Only with pedal in position 0 (neutral)                                                                                                                                                                                                                                           | 1      | 0   | 1          | 1    |  | 1    | 1     | 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 |      |       |
| 283       | LSP         | Function “machine run blockage”<br>0 = Function Off<br>1 = Blockage 1, without positioning<br>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<br>0 = Speed limitation Off<br>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 **) |
| 291       | 810         | Select slide-in strip number for the V810 control panel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        | 8    | 0          | 1    | 1   |      | 1     | 1    | A     |
| 292       | 820         | Select slide-in strip number for the V820 control panel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        | 10   | 1          | 1    | 1   |      | 1     | 1    | A     |
| 293       | tF1         | <b>Selection of the input function using the (A) key “F1” on the V810/V820 control panel</b><br>0 = No function<br>1 = Needle up/down<br>2 = Needle up<br>3 = Single stitch (basting stitch)<br>4 = Full stitch<br>5 = Needle to position 2<br>6 = Output A, if parameter 250 > 0<br>7 = Output B, if parameter 255 > 0<br>8 = Operation in the direction of rotation<br>9 = Operation in the opposite direction of rotation<br>10...12= No function<br>13 = High lift for walking foot with speed limitation n10 (operational mode not stored)<br>14 = High lift for walking foot with speed limitation n10 (operational mode stored)<br>15 = No function<br>16 = Intermediate backtack<br>17 = Backtack suppression / recall<br>18 = No function<br>19 = Reset bobbin thread monitor |        | 19   | 0          | 17   | 17  |      | 17    | 17   | A     |
| 294       | tF2         | <b>Selection of the input function using the (B) key “F2” on the V810/V820 control panel</b><br>Functions of the key as with parameter 293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        | 19   | 0          | 1    | 1   |      | 1     | 1    | A     |
| 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     |

\*\*) 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 |      |
| 300 AA1   | Selectable power transistors for signal A1<br>0 = No function<br>1 = Signal on output M1<br>2 = Signal on output M2<br>3 = Signal on output M3<br>4 = Signal on output M4<br>5 = Signal on output M5<br>6 = Signal on output M6<br>7 = Signal on output M7<br>8 = Signal on output M8<br>9 = Signal on output M9<br>10 = Signal on output M10<br>11 = Signal on output M11<br>12 = Signal on output VR |          | 12     | 0   | 0          | 0    |  | 0    | 0     | A    |
| 301 So1   | Issue signal A1<br>0 = Signal until seam end (according to setting of parameter 320)<br>1 = Signal over time<br>2 = Signal until seam end and drive stops<br>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<br>0 = Start at the beginning of the seam<br>1 = Start of the signal triggered by light barrier sensing<br>2 = Start of the signal when the drive stops at the seam end<br>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<br>0 = No delay until signal On<br>1 = Delay over time until signal On<br>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<br>0 = Pedal controlled speed<br>1 = Limited speed n9<br>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<br>0 = No function<br>1 = Signal on output M1<br>2 = Signal on output M2<br>3 = Signal on output M3<br>4 = Signal on output M4<br>5 = Signal on output M5<br>6 = Signal on output M6<br>7 = Signal on output M7<br>8 = Signal on output M8<br>9 = Signal on output M9<br>10 = Signal on output M10<br>11 = Signal on output M11<br>12 = Signal on output VR |          | 12   | 0          | 0    | 0 |      | 0     | 0    | A    |
| 311       | So2         | Issue signal A2<br>0 = Signal until seam end (according to setting of parameter 320)<br>1 = Signal over time<br>2 = Signal until seam end and drive stops<br>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<br>0 = Start at the beginning of the seam<br>1 = Start of the signal triggered by light barrier sensing<br>2 = Start of the signal when the drive stops at the seam end<br>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<br>0 = No delay until signal On<br>1 = Delay over time until signal On<br>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<br>0 = Pedal controlled speed<br>1 = Limited speed n9<br>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<br>0 = Signals effective until seam end<br>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<br>0 = Suppression Off<br>1 = Suppression On                                                                                                                                                                                                                                                                                                           |          | 1    | 0          | 0    | 0 |      | 0     | 0    | A    |
| 322       | dkn         | 0 = Correction seam Off<br>1 = Correction seam On<br>2 = Interruption of seam or pattern by thread trimmer                                                                                                                                                                                                                                                                                             |          | 2    | 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 |     |     |     |             |             |             |             |    |  |     |     |      |     |
|-----------|-----|-----|-----|-------------|-------------|-------------|-------------|----|--|-----|-----|------|-----|
| A1        | 301 | 302 | 303 | 304         | 305         | 308         | 309         | NA |  | LS  | NE  | FA-E | P=0 |
| A2        | 311 | 312 | 313 | 314<br>[ms] | 315<br>[ms] | 318<br>[St] | 319<br>[St] |    |  |     |     |      |     |
|           | 0   | 1   | 0   | 0           | 0           | 0           | 0           |    |  |     |     |      |     |
|           | 0   | 1   | 1   | 100         | 0           | 0           | 0           |    |  | 100 |     |      |     |
|           | 0   | 1   | 2   | 0           | 0           | 10          | 0           |    |  | 10  |     |      |     |
|           | 1   | 1   | 0   | 0           | 100         | 0           | 0           |    |  | 100 |     |      |     |
|           | 1   | 1   | 1   | 100         | 100         | 0           | 0           |    |  | 100 | 100 |      |     |
|           | 3   | 1   | 0   | 0           | 0           | 0           | 10          |    |  | 10  |     |      |     |
|           | 3   | 1   | 2   | 0           | 0           | 10          | 10          |    |  | 10  | 10  |      |     |
|           | 3   | 1   | 1   | 100         | 0           | 0           | 10          |    |  | 100 | 10  |      |     |
|           | 1   | 1   | 2   | 0           | 100         | 10          | 0           |    |  | 10  | 100 |      |     |
|           | 1   | 2   | 0   | 0           | 100         | 0           | 0           |    |  |     |     | 100  |     |
|           | 1   | 2   | 1   | 100         | 100         | 0           | 0           |    |  |     |     | 100  | 100 |

0256/B ILD4

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

## Supplier Level

Code no. 311 with control operation

Code no. 3112 with control panel operation

| A1 | Parameter |     |     |             |             |             |             |    |         |         |      |     |    |
|----|-----------|-----|-----|-------------|-------------|-------------|-------------|----|---------|---------|------|-----|----|
|    | 301       | 302 | 303 | 304         | 305         | 308         | 309         | NA | LS-D    | NE      | FA-E | P=0 |    |
| A2 | 311       | 312 | 313 | 314<br>[ms] | 315<br>[ms] | 318<br>[St] | 319<br>[St] |    |         |         |      |     |    |
|    | 0         | 0   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     | 1) |
|    | 0         | 0   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     | 2) |
|    | 1         | 0   | 0   | 0           | 100         | 0           | 0           |    | 100     |         |      |     |    |
|    | 1         | 0   | 1   | 100         | 100         | 0           | 0           |    | 100 100 |         |      |     |    |
|    | 3         | 0   | 0   | 0           | 0           | 0           | 10          |    | 10      |         |      |     |    |
|    | 3         | 0   | 2   | 0           | 0           | 10          | 10          |    | 10 10   |         |      |     |    |
|    | 3         | 0   | 1   | 100         | 0           | 0           | 10          |    | 100 10  |         |      |     |    |
|    | 1         | 0   | 2   | 0           | 100         | 10          | 0           |    | 10 100  |         |      |     |    |
|    | 2         | 0   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     | 1) |
|    | 2         | 0   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     | 2) |
|    | 0         | 0   | 1   | 100         | 0           | 0           | 0           |    | 100     |         |      |     |    |
|    | 0         | 0   | 2   | 0           | 0           | 10          | 0           |    | 10      |         |      |     |    |
|    | 1         | 3   | 0   | 0           | 100         | 0           | 0           |    |         | 100     |      |     |    |
|    | 1         | 3   | 1   | 100         | 100         | 0           | 0           |    |         | 100 100 |      |     |    |
|    | 3         | 3   | 0   | 0           | 0           | 0           | 10          |    |         | 10      |      |     |    |
|    | 3         | 3   | 2   | 0           | 0           | 10          | 10          |    |         | 10 10   |      |     |    |
|    | 3         | 3   | 1   | 100         | 0           | 0           | 10          |    |         | 100 10  |      |     |    |
|    | 1         | 3   | 2   | 0           | 100         | 10          | 0           |    |         | 10 100  |      |     |    |
|    | 2         | 3   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     |    |
|    | 0         | 3   | 0   | 0           | 0           | 0           | 0           |    |         |         |      |     |    |
|    | 0         | 3   | 1   | 100         | 0           | 0           | 0           |    |         | 100     |      |     |    |
|    | 0         | 3   | 2   | 0           | 0           | 10          | 0           |    |         | 10      |      |     |    |
|    | 2         | 3   | 1   | 100         | 0           | 0           | 0           |    |         | 100     |      |     |    |
|    | 2         | 3   | 2   | 0           | 0           | 10          | 0           |    |         | 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 |      |
| 323       | FLn         | 0 = Sewing foot is not lifted after power On<br>1 = Sewing foot is lifted after power On<br>This function is enabled only if <b>Teach in</b> is On                                                                                                                                                                          | 1      | 0       | 0          | 0    |    | 0    | 0     | A    |
| 324       | ti          | 0 = <b>Teach in</b> Off<br>1 = <b>Teach in</b> On<br><b>Teach in</b> programming is possible only with V820.<br>Execution of pattern is possible without V820.                                                                                                                                                              | 1      | 0       | 0          | 0    |    | 0    | 0     | A    |
| 325       | cti         | Erasing all TEACH IN data<br>- Input code number 3112 after power On<br>- Press the E key<br>- Input parameter 325<br>- Press the E key<br>- Input 3112<br>- Press the P key<br>- The display briefly shows "deleted", and a short acoustic signal is issued<br>- Press the P key - all TEACH IN programs have been erased! |        |         |            |      |    |      |       |      |
| 326       | EPE         | Disabling the <b>P</b> and <b>E</b> keys on the control panels and the <b>P</b> key on the control<br>0 = P and E keys are Off<br>1 = P key is On and E key is Off<br>2 = P key is Off and E key is On<br>3 = P and E keys are On                                                                                           | 3      | 0       | 3          | 3    |    | 3    | 3     | A    |
| 327       | EPm         | Disabling the + / - keys on the control panels<br>0 = + and - keys are Off<br>1 = + and - keys are On                                                                                                                                                                                                                       | 1      | 0       | 1          | 1    |    | 1    | 1     | A    |
| 328       | ob          | Disabling the <b>E</b> , +, - and >> keys on the control<br>0 = <b>E</b> , +, - and >> keys are Off<br>1 = <b>E</b> , +, - and >> keys are On                                                                                                                                                                               | 1      | 0       | 1          | 1    |    | 1    | 1     | A    |
| 332       | FLd         | 0 = The settings of parameters 203 and 204 determine the sewing foot lift function.<br>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<br>1...100%<br>1% → low holding power<br>100% → high holding power                                                                                                                                                                                                                    | %      | pa. 298 | 1          | 85   | 85 |      | 85    | 85 A |
| 401       | EEP         | Immediate storage of all changed data<br>- Input code number 3112 after power On<br>- Press the E key<br>- Input parameter 401<br>- Press the E key<br>- Set display from 0 to 1<br>- Press the E or P key<br>- All data are stored                                                                                         |        | 1       | 0          | 0    | 0  |      | 0     | 0 A  |
| 500       | Sir         | Recall of Fast Installation Routine (SIR)<br>(see description in chapter 2 on page 5!)                                                                                                                                                                                                                                      |        |         |            |      |    |      |       |      |

## 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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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