PFAFF

BDF S2

Instruction manual for the Control Panel

(Control unit Quick P40 ED

from Version 1_040_10 on)

296-12-18 622/002
Betriebsanleitung engl. 10.05

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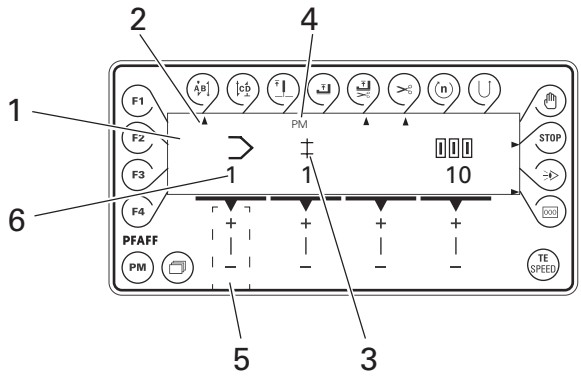
1 Operating elements of the S2 control panel

The control panel is used to create and alter seam programs, enter parameter values and read error messages and service settings.



The control panel consists of display **1** and the function keys described below. Display **1** consists of a two-row, alpha-numerical display with 16 symbols per row. The special symbols **3** and texts **4** show the respective status of the function keys and the operating modes of the machine.
During the power-on phase the control panel automatically switches on all LCD segments and the horn. Afterwards the lettering PFAFF appears on the display, until the higher-ranking control unit sends commands to the control panel.

1.01 Screen displays

- Activated functions are displayed with a triangular marking **2** below or next to the respective function key.
- In the sewing mode all relevant sewing data is displayed and these can be changed directly, depending on the status of the machine, see also **Chapter 2 Sewing.**
- During the parameter input the selected parameter number with the corresponding value is displayed, see **Chapter 2.06 Parameter settings.**

1.02 Function keys

The function keys described below are used basically to switch machine functions on and off.

If a corresponding value has to be set for the activated function, this is carried out with the corresponding **+/- key.** For example, by pressing and holding the **+/- key 5**, the numerical value **6** shown above the key is changed slowly to begin with. If the **+/- key 5** is held down longer, the numerical value **6** is changed more quickly.

Start backtacks

- If this key is pressed, the backtacks at the beginning of the seam (start backtacks) are switched on or off. The number of forward stitches (A) or reverse stitches (B) for the start backtacks can be changed by pressing the +/- key underneath. To convert from double backtack to single backtack set the number of stitches for the corresponding seam section at zero.

End backtacks

- If this key is pressed, the backtacks at the end of the seam (end backtacks) are switched on or off. The number of reverse stitches (C) or forward stitches (D) can be changed by pressing the +/- key underneath. To convert from double backtack to single backtack set the number of stitches for the corresponding seam section at zero.

Needle position

- If this key is pressed the "needle raised after sewing stop" function is switched on or off. When the function is switched on, the needle positions at t.d.c. after sewing stops.

Foot position after stop

- If this key is pressed the "foot raised after sewing stop" function is switched on or off. When the function is switched on, the presser foot is raised after sewing stops.

Foot position at end of seam/or after a seam segment (in programmed sewing)

- If this key is pressed the „Foot position raised at the end of a seam“ function is switched on or off. When the function is switched on, the presser foot is raised at the end of a seam.

Thread trimmer

- If this key is pressed the thread trimming function is switched on or off.

Speed (only in programmed sewing)

- If this key is pressed the corresponding function is switched on or off. In programmed sewing the speed is not pedal-controlled. When the function is switched on, the speed cannot be controlled by pedal. The machine only sews at the set maximum speed.
- When the function is switched off, the speed is controlled up to the maximum speed by pedal

Reverse sewing (only in programmed sewing)

- If this key is pressed the corresponding function is switched on or off. When the function is switched during programmed sewing, the corresponding seam section is sewn in reverse.

Manual seam end (only in programmed sewing)

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, the move to the next seam section is not carried out by stitch counting or sensor, but manually with the use of the pedal (position "-2").

Programmed stop (only in programmed sewing)

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, in programmed sewing the machine stops automatically at the end of the seam section.

Photocell

- In manual sewing the number of compensating stitches from the point where the photocell is light to the end of the seam can be set under parameter 111, and in programmed sewing directly.

Stitch counting (only in programmed sewing)

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, in programmed sewing the machines switches to the next sewing section after the number of stitches entered have been sewn.

TE/Speed

- If this key is pressed once while the machine is in the sewing mode, the input menu for the maximum speed is selected. If no input is made within 5 seconds, the sewing mode is selected again.
- If this key is pressed twice (within 5 seconds) while the machine is in the sewing mode, the machine switches to parameter input.
- If this key is pressed once while the machine is in the parameter input mode, the altered values are stored and the sewing mode is selected.

Scrolling

- If this key is pressed, the machine scrolls between the sub-menus in the program.

PM

- If this key is pressed the programmed sewing function is switched on or off. When the function is switched on, the letters "PM" appear on the display of the control panel. The parameters related to the program are shown in the alpha-numerical part of the display.

F1
No function

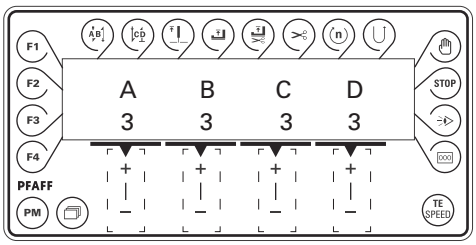
F2
No function

F3
No function

F4
No function

1.03 Entering the start and end backtacks

- Switch on the machine.



A
- By pressing the corresponding +/- key ("A") select the desired value for the number of forward stitches (A) of the start backtack.

B
- By pressing the corresponding +/- key ("B") select the desired value for the number of reverse stitches (B) of the start backtack.

C
- By pressing the corresponding +/- key ("C") select the desired value for the number of reverse stitches (C) of the end backtack.

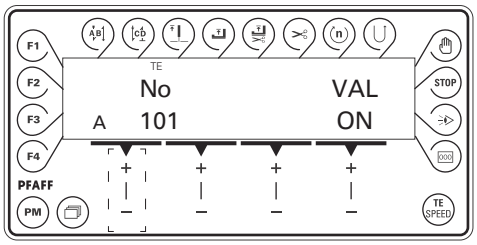
D
- By pressing the corresponding +/- key ("D") select the desired value for the number of forward stitches (D) of the end backtack.

1.04 Setting the stitch count function for controlling the amount of bobbin thread

- Switch on the machine.

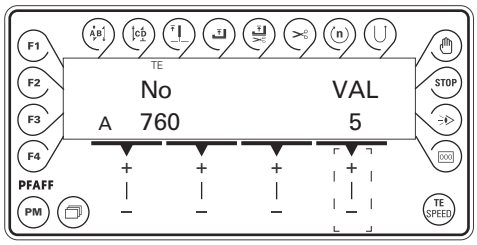
2x TE SPEED

- Press the **TE/Speed** key twice to call up the parameter input function.



No

- Select the parameter "760" by pressing the corresponding **+/- key**.



VAL

- Press the corresponding **+/- key** to set the number of remaining stitches, which can still be sewn after recognition by the bobbin thread control function.
  The selected value is multiplied by 200 and the result is the number of stitches.
  Example display 5 x 200 = 1000 stitches. The setting depends among other things on the thread strength.

TE SPEED

- If the **TE/Speed** key is pressed, the value is taken over and the machine changes into the sewing mode.

The bobbin thread rest counter can only be used, if parameter "660" is set at value "1" or "2".

1.05 Bobbin thread control on the sub-class -926/06 (optional)

Setting the bobbin thread control function, see the instruction manual for -926/06 (Part-no. 296-12-18 770/002).

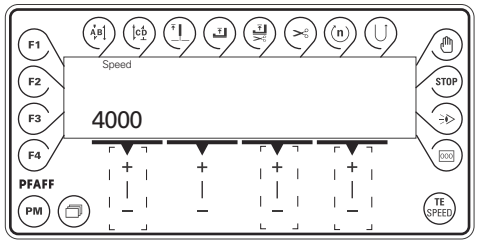
2 Sewing

In the sewing mode, all relevant settings for the sewing operation are shown on the display and can be altered directly. Functions can be switched on or off by pressing a key.
In this mode a difference is made between **manual sewing** and **programmed sewing**. To change from manual to programmed sewing, press the **PM** key. In programmed sewing the text "PM" appears on the display.

PM

2.01 Manual sewing

After switching on the machine and pressing the **TE/Speed** key, the max. speed can be set with the corresponding **+/- key**.



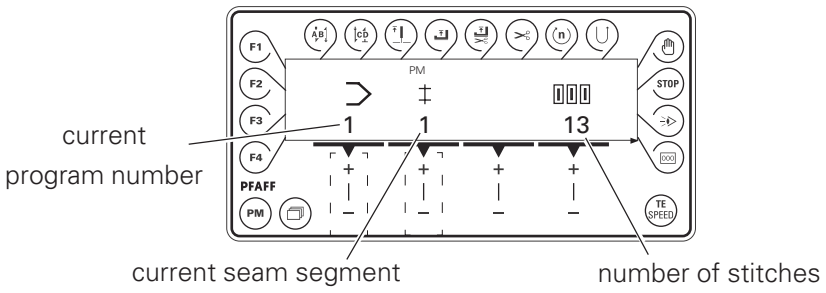
Further functions in manual sewing, also see **Chapter 1.02 Function keys:**

- Start backtacks on/off
- End backtacks on/off
- Needle position raised on/off
- Presser foot raised on/off
- Foot position at end of seam on/off
- Thread trimming on/off
- Photocell on/off

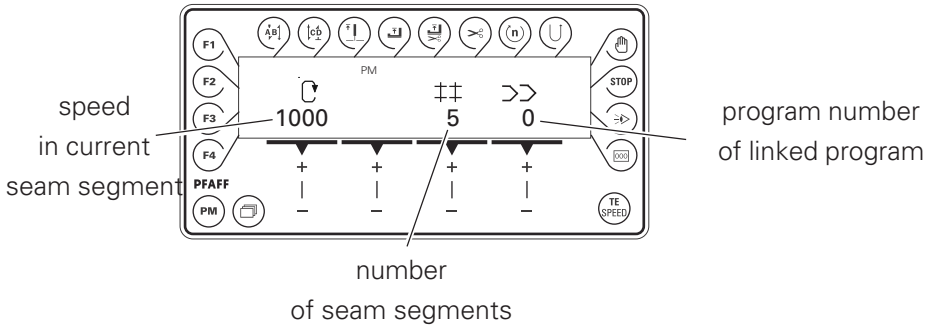
2.02 Programmed sewing

In programmed sewing 99 programs, each with 9 seam segments and 999 stitches, can be programmed.
The seam segments can be programmed by entering the number of stitches or by using the "Teach" function (sewing a seam segment).
Fixed programs are used for the quick and convenient production of seams with a different number of stitches.

PM After switching on the machine and selecting the programmed sewing mode with the **PM** key, the display appears for selecting program number, seam section and the number of stitches.



Further menus for entering start and end backtacks, as well as maximum speed can be called up in the appropriate seam sector by operating the scroll key.

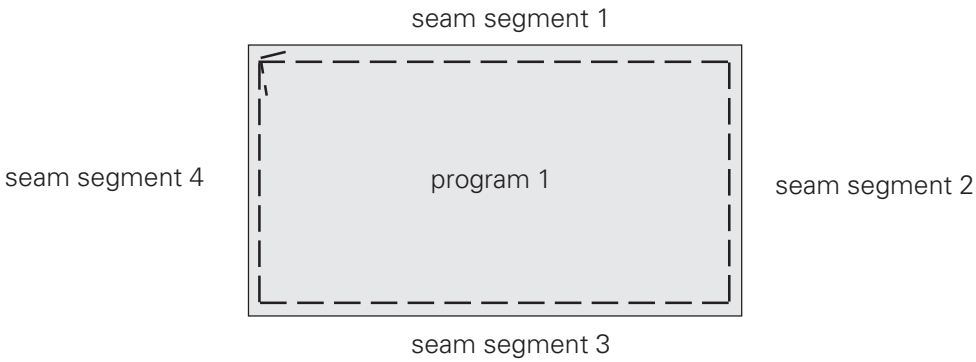


Functions in programmed sewing, also see **Chapter 1.02 Function keys:**

- Start backtacks on/off
- End backtacks on/off
- Needle position raised on/off
- Presser foot raised on/off
- Foot position at end of seam on/off
- Thread trimming on/off
- Seam section speed on/off
- Reverse sewing direction on/off
- Manual seam end on/off
- Stop on/off
- Photocell on/off
- Stitch count on/off

2.03 An example of programmed sewing

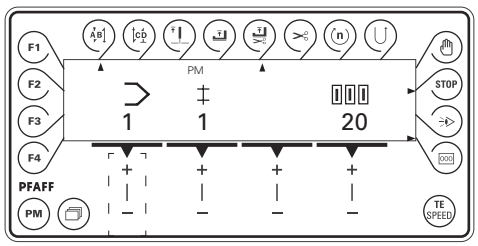
2.03.01 Programming by entering the number of stitches



Example: **Attaching a label**
Seam segment 1, 20 stitches,
Functions: Start backtacks, programmed stop and raising foot at the end of the seam,
Seam segment 2, 10 stitches,
Functions: Programmed stop and raising foot at the end of the seam,
Seam segment 3, 20 stitches,
Functions: Programmed stop and raising foot at the end of the seam,
Seam segment 4, 10 stitches,
Functions: End backtacks, programmed stop, raising foot at the end of the seam and thread trimming.

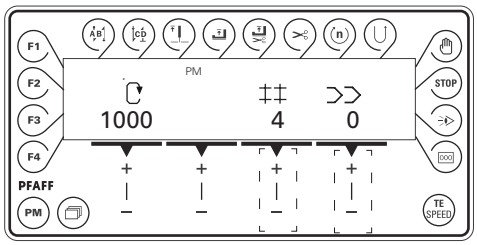
- Switch on the machine.

- Press the **PM** key to select the enter program function.
  The text "PM" must appear on the display.



- Select the program number "1" with the corresponding **+/- key**.

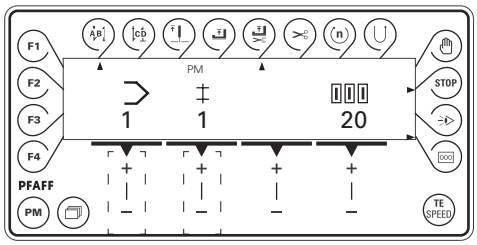
- Press the **scroll** key.



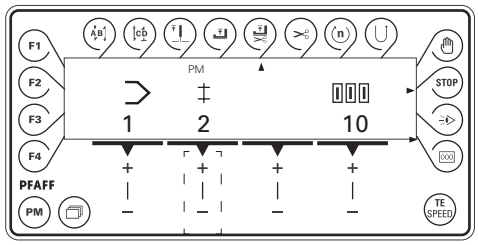
- With the corresponding **+/- key**, set the program with **4** seam segments.
- By entering the value "0" with the corresponding **+/- key**, stipulate that no program linking will take place.

2x

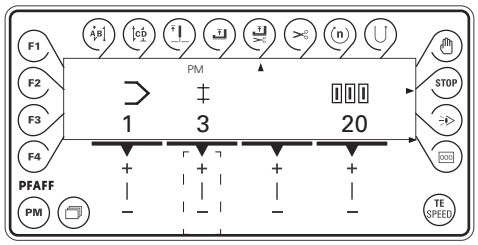
- Press the **scroll** key twice.



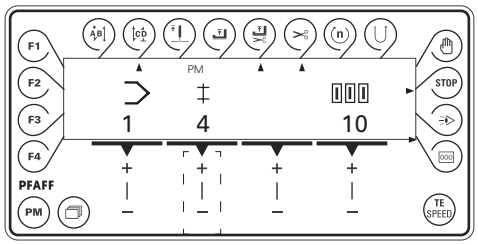
- With the corresponding **+/- key**, select the seam segment "**1**".
- With the corresponding **+/- key**, enter the value "**20**" for the number of stitches.
- Press the **start backtacks** key to switch on the backtacking stitch function at the beginning of the seam.
- Press the programmed **stop** key to switch on the function.
- By pressing the **raise foot after seam segment** key, switch on the function.



- With the corresponding **+/- key**, select the seam segment "**2**".
- With the corresponding **+/- key**, enter the value "**10**" for the number of stitches.
- Press the programmed **stop** key to switch on the function.
- By pressing the **raise foot after seam segment** key, switch on the function.



- With the corresponding +/- key, select the seam segment "3".
- With the corresponding +/- key, enter the value "20" for the number of stitches.
- Press the programmed stop key to switch on the function.
- By pressing the raise foot after seam segment key, switch on the function.

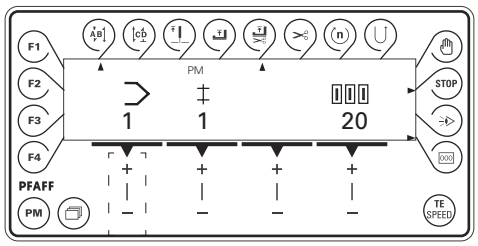


- With the corresponding +/- key, select the seam segment "4".
- With the corresponding +/- key, enter the value "10" for the number of stitches.
- Press the end backtacks key to switch on the backtacking stitch function at the end of the seam.
- Press the programmed stop key to switch on the function.
- By pressing the raise foot after seam segment key, switch on the function.
- Press the thread trimming key to switch on the function.

The program end is recognized automatically through the thread trimming function.

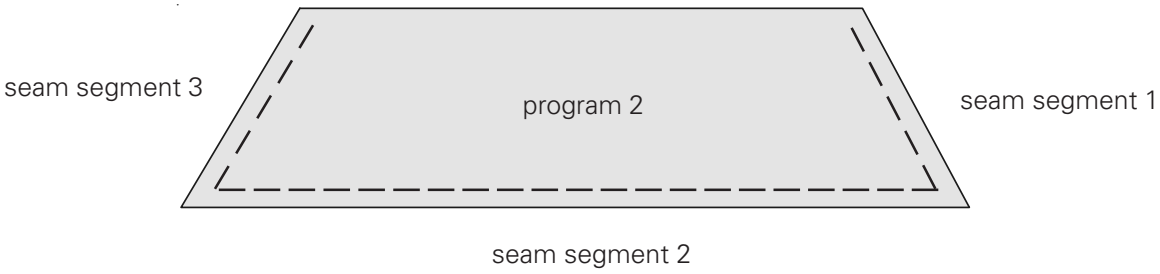
2x PM
- Press the PM key twice to move to the beginning of the program.
  The previously created program appears on the display with seam segment 1.

Sewing a test seam



- Sew the test seams by using the pedal functions.

2.03.02 Programming with the "teach function"

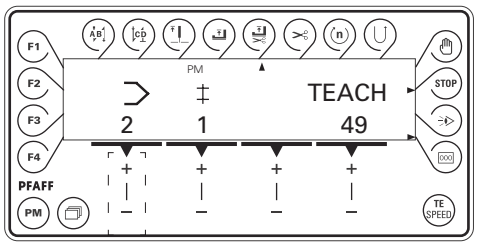


Example: **Top-stitching a collar**
Seam segment 1
Functions: Programmed stop and raising foot at the end of the seam,
Seam segment 2
Functions: Programmed stop and raising foot at the end of the seam,
Seam segment 3
Functions: Programmed stop, raising foot at the end of the seam and thread trimming

- Switch on the machine.

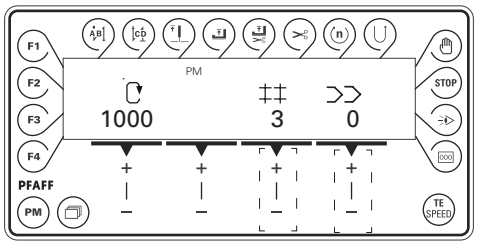
PM
- Press the **PM** key to select the enter program function.
  The text "PM" must appear on the display.

TE SPEED
- Press the **TE/Speed** key to call up the "teach function".



- Select the program number "**2**" with the corresponding +/- key.

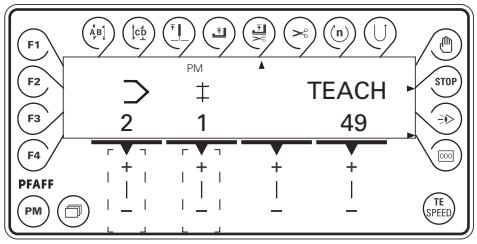
- Press the **scroll** key.



- With the corresponding **+/- key**, set the program with **3** seam segments.

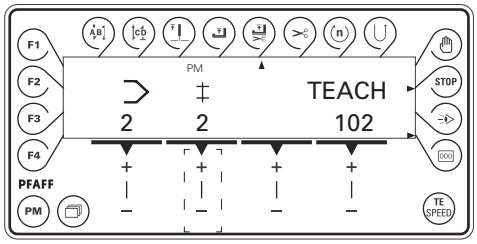
- By entering the value "0" with the corresponding **+/- key**, stipulate that no program linking will take place.

2x
- Press the **scroll** key.



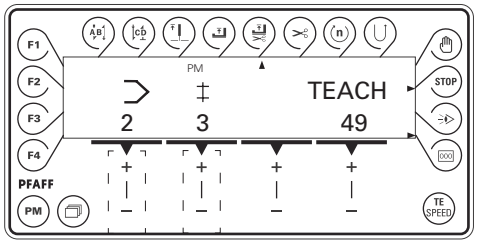
- With the corresponding +/- key, select the seam segment "1".
- Press the programmed stop key to switch on the function.
- By pressing the raise foot after seam segment key, switch on the function.

TEACH
- Sew seam segment "1".
  The number of stitches is shown on the display.



- With the corresponding +/- key, select the seam segment "2".
- Press the programmed stop key to switch on the function.
- By pressing the raise foot after seam segment key, switch on the function.

TEACH
- Sew seam segment "2".
  The number of stitches is shown on the display.



- With the corresponding **+/- key**, select the seam segment "**3**".

- Press the programmed **stop** key to switch on the function.

- By pressing the **raise foot after seam segment** key, switch on the function.

- Press the **thread trimming** key to switch on the function.

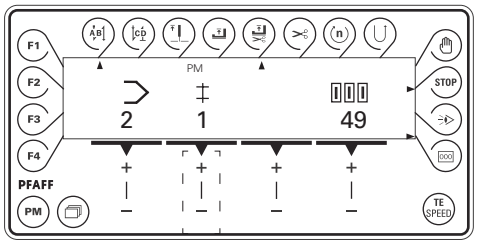
The program end is recognized automatically through the **thread trimming** function.

TEACH

- Sew seam segment "**3**".
  The number of stitches is shown on the display.

- Press the **TE/Speed key**.
  The machine carries out a thread trimming operation automatically and changes to the beginning of the program.
  The previously created program appears on the display with seam segment 1.

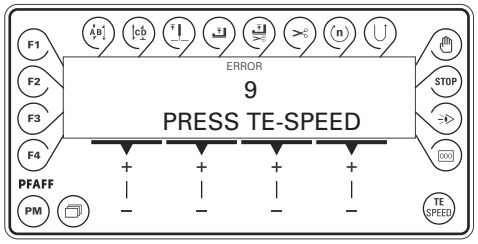
Sewing a test seam



- Sew the test seams by using the pedal functions.

2.04 Error messages

If a fault occurs, the text "ERROR" appears on the display, together with an error code and short instructions. An error message is caused by incorrect settings, faulty elements or seam programs as well as by overload conditions.
The error code numbers are explained below.



- Correct the error.
- Reset the program by pressing the **TE/Speed** key or **switching** the machine **on/off.**

2.05 Explanation of the error signals

Signal	Description
E001	Pedal not in neutral position
E009	Start inhibitor during standstill
E010	Incorrect machine class
E062	Short circuit 24V
E063	Overload mains supply circuit
E064	Network monitoring
E065	Extint low in operation
E066	Short circuit
E067	Network off
E068	Extint low in operation
E069	No increments
E070	Motor blocking
E071	No incremental connector
E074	External transmitter for synchronisation marker missing
E088	RAM defective
E092	Start inhibitor when motor running
E173	Start error

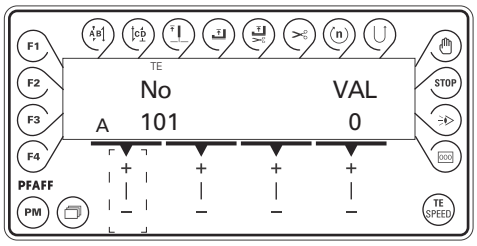
2.06 Parameter settings

2.06.01 Selecting the user level (only in the "manual sewing" mode)

- Switch on the machine.

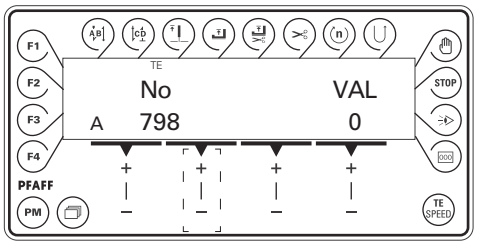
2x TE SPEED

- Press the **TE/Speed** key twice to call up the parameter input function.



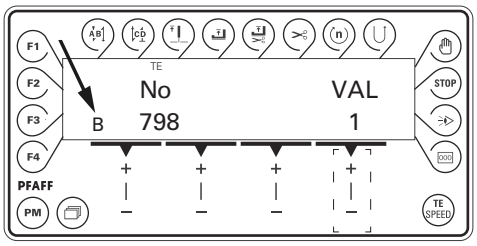
No

- Call up the parameter group "700" by pressing the corresponding **+/- key**.



No

- Call up parameter "798" by pressing the corresponding **+/- key.**



VAL

- By pressing the corresponding **+/- key** select the desired user level.
  "0" = Operator level **A**
  "1" = Mechanic level **B**
  "11" = Service level **C**
  The respective level is displayed on the screen (see arrow).

TE SPEED

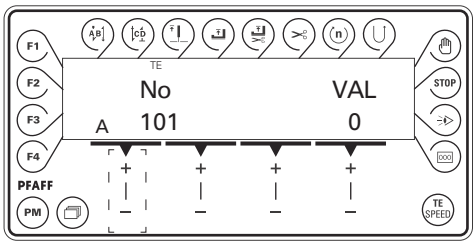
- Change to the sewing mode by pressing the **TE/Speed** key.

2.06.02 Selecting and altering parameters (only in the "manual sewing" mode)

- Switch on the machine.

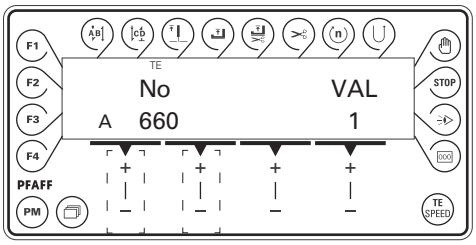
2x TE SPEED

- Press the **TE/Speed** key twice to call up the parameter input function.



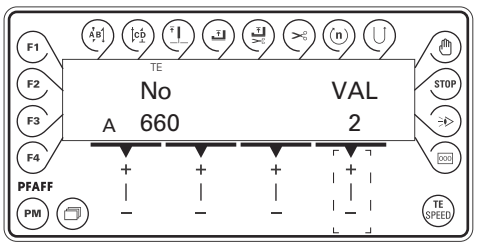
No

- By pressing the corresponding **+/- key**, select the parameter, e.g. "660" for bobbin thread monitoring.



VAL

- By pressing the corresponding **+/- key**, set the desired value for the selected parameter, e.g. "2" for the "remaining bobbin thread counter on" function.



TE SPEED

- Change to the sewing mode by pressing the **TE/Speed** key.

3 Adjustment

3.01 List of parameters

Only appropriately trained staff may change the set values in the parameters of user levels "B" and "C".

The setting is allocated to the following machine classes:

1 = Class 918, 918U, 937, 938, 938U, 939, 1122, 1181, 1183, 3704
2 = Class 571, 574, 591
3 = Class 1163
4 = Class 333-712/.., 1183-712/..

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
1	101	Audible signal of the control panel key ON / OFF	A, B, C	-	1,2,3,4	ON
	105	Speed for start backtack/stitch condensation	B,C	300 – 2000	1,3,4, 2	1200 700
	106	Speed for start backtack/stitch condensation ON = variable (pedal-controlled <107>) OFF = constant (<105>)	B,C		1,2,3,4	OFF
	107	Speed for start backtack/stitch condensation ON = limited by <105> OFF = limited by <607>	B,C		1,2,3,4	OFF
	110	Speed for end backtack/stitch condensation	B,C	300-2000	1,3,4 2	1200 700
	111	Light barrier compensation stitches stitches from light barrier light to seam end	A,B,C	1 – 30	1,2,3,4	8
	112	Number of stitches for light barrier fade-out on knitted fabrics (according to stitch size)	A,B,C	0 – 100	1,2,3,4	0
	113	Start with light barrier ON = only when light barrier is dark OFF = also when light barrier is light	B,C		1,2,3,4	OFF
	116	Number of soft start stitches (soft start)	A,B,C	0 – 30	1,2,3,4	0
	117	Speed for soft start stitches	B,C	30 – 640	1,2,3,4	400
	163	Sewing with light barrier ON = yes, OFF = no	B,C		1,2,3,4	OFF

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
1	199	Speed for light barrier compensation stitches	B,C	300 – 2000	1,2,3,4	1200
2	203	Speed for seam program ON = variable (pedal-controlled) OFF = constant (corresponding to <221> or <222>	B,C		1,2,3,4	ON
	206	Interruption/discontinue seam sections at speed = constant (<203> = OFF) ON = with pedal -2 OFF = with pedal 0	B,C		1,2,3,4	OFF
3	301	Switch-on voltage of the magnet for feed reverse ON = 24 V OFF = 36 V	C		1,2,3,4	OFF
	311	Cancellation of stitch count ON = with thread trimming OFF = without thread trimming	C		1,2,3,4	ON
	313	Programs are backtack programs (darning programs) ON = yes OFF = no	A,B,C		1,2,3,4	OFF
	356	Input E4 is at ON = presser foot OFF = vacuuming	B,C		1,2,3,4	ON
	364	Meaning of feed change-over for ON = backtack OFF = stitch condensation	B,C		1,2,3,4	ON
	382	Switching threshold of the analogue input for the thread monitor	B,C	0 – 100	1,2,3,4	15
	387	Output Ax (motor running) is active ON = with pedal = 1D (motor running) OFF = with pedal = 1 (lower presser foot)	B,C		1,2,3,4	ON
	391	Speed for single stitch with pedal	B,C	100 -700	4	500
	392	Change-over to single stitch with pedal ON = on OFF = off	B,C		4	ON
	393	Thread tension release after seam end ON = on OFF = off	B,C		1,2,3 333-712 1183-712	ON ON OFF

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
4	407	Disconnect cable break detection unit of the speed control unit On = on, OFF = off	B,C		1,2,3,4	ON
	446	Input E2 1 = needle raised without trimming 2 = needle position change-over 3 = single stitch 4 = single stitch with reduced length 5 = backtack inversion 6 = backtack suppression 7 = change-over position 8 = puller lift switched off	B,C	1 – 7	1,2,3,4	1
	470	Number of start sewing stitches on -712/..	A,B,C	0 – 20	4	3
5	522	Needle position when stop occurs, during decorative backtack ON = position 2 (raised) OFF = position 1 (lowered)	B,C		1,2,3,4	OFF
	523	Backtack ON = decorative backtack (stitch-in-stitch) OFF = standard backtack	A,B,C		1,3,4	OFF
	528	Duration (ms) of stacker function	B,C	0 – 2500	1,2,3,4	120
	530	Speed (max.) for decorative backtack	B,C	300 – 2000 300 – 2000	1,3,4 2	1000 600
	538	Timing of output Ax (thread tension release) (0 = 100% power)	B,C	10 – 90 10 – 90	1,2,3 4	40 80
	584	Backtack, ON = four times, OFF = double	B,C		1,2,3,4	OFF
	585	Speed limitation for backtack	B,C	300 – 4000	1,2,3,4	1000
6	605	Actual speed on display (<725>) ON = yes, OFF = no	B,C		1,2,3,4	OFF
	606	Speed: Level 1 (min.)	B,C	30 – 300	1,2,3,4	180
	607	Speed: Level 12 (max.)	B,C	300 – 6000	1,3, 2 4	▲ ▲ ▲
	608	Speed level curve (pedal characteristic) ON = linear, OFF = not-linear	B,C		1,3,4 2	ON OFF
	609	Trimming speed 1	B,C	60 – 300	1,2,3 4	180 160

▲ = Setting, see Machine Instruction Manual

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
6	615	End recognition when light barrier goes ON = from light to dark OFF = from dark to light	B,C		1,2,3,4	OFF
	618	Inverse rotation after seam end ON = yes, OFF = no	B,C		1,2,3,4	OFF
	623	Start delay (ms) for inverse rotation	B,C	0 – 2000	1,2,3,4	30
	631	Machine class selection for -712/.. ON = 1183-712/.., OFF = 333-712/..	B,C		4	OFF
	636	Thread tension release in conjunction with presser foot, ON = yes, OFF = no	B,C		1,2,3	OFF
	642	Presser foot – time from switch-on to voltage reduction (cycle)	B,C	10 – 150	1,2,3,4	100
	643	Feed reverse time from switch-on to voltage reduction (cycle)	B,C	10 – 150	1,2,3,4	100
	646	Without trimmer magnet at seam end ON = on, OFF = off	B,C		1,2,3,4	OFF
	651	Automatic lowering of presser foot after 1 min. machine stop ON = yes, OFF = no	B,C		1,2,3,4	ON
	653	Target stitch before sewing ON = yes, OFF = no	B,C		1,2,3,4	OFF
	660	Bobbin thread monitoring 0 without (= II) 1 by sensor (= I) 2 by stitch counting	A,B,C	0 – 2	1,2,3,4	0
	668	Thread wiper/thread clearer ON = yes, OFF = no	B,C		1,2,3,4	OFF
	694	Speed at which thread tension control unit disconnects	B,C	300 – 700	1183-712/.	500
7	700	Needle position 0 (needle reference position)	B,C	0 – 255	1,2,3,4	0
	702	Needle position 1 (needle lowered)	B,C	0 - 255 0 - 255 0 - 255	1 2 3, 4	▲ ▲ ▲

▲ = Setting, see Machine Instruction Manual

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
7	703	Needle position 2 (thread take-up lever raised)	B,C	0 - 255 0 - 255 0 - 255	1, 3 2 4	▲ ▲ ▲
	705	Needle position 5 (end of trimming signal 1) (magnetic trimming/trimming signal 1timing start)	B,C	0 - 255 0 - 255 0 - 255	1, 2 3 4	▲ ▲ ▲
	706	Needle position 6 (start trimming signal 2) (pneumatic thread trimmer)	B, C	0 - 255 0 - 255 0 - 255 0 - 255	1 2 3 4	▲ ▲ ▲ ▲
	707	Needle position 9 (start thread tension release/start thread catcher)	B, C	0 - 255 0 - 255	1, 3, 4 2	▲ ▲
	710	Needle position 3 (needle raised)	B,C	0 – 255 0 – 255 0 – 255	1,2 3 4	184 206 212
	715	Duration (ms) of thread wiper	B,C	0 – 2000	1,2,3,4	60
	718	Stop brake timing (0 = brake off)	B,C	0 – 1000 0 – 1000	1,2,3 4	0 7
	719	Timing output A4 (presser foot)	B,C	10 – 60	1,2,3	40
	721	Timing output A5 (feed reverse) (0 = 100% power on)	B,C	10 – 90	1,2,3,4	40
	722	Acceleration ramp 1 = gradual, 50 = steep	B,C	1 – 60 1 – 60	1,2,3 4	50 30
	723	Brake ramp 1 = gradual, 50 = steep	B,C	1 – 60 1 – 60	1,2,3 4	40 27
	729	Start delay after lowering the presser foot	B,C	10 – 2000	1,2,3	120
	730	Lift delay for presser foot after seam end	B,C	10 – 2000	1,2,3	50
	734	Timing output A2 (thread trimmer)	B,C	10 – 90 10 – 90 10 – 90	1,4 2 3	10 40 80
	746	Needle position for change-over zigzag or triple stitch	B,C	0 – 255 0 – 255 0 – 255	1 2 3,4	90 20 80

▲ = Setting, see Machine Instruction Manual

Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
7	748	Input E3 is: 1 = needle raised without trimming 2 = needle position change-over 3 = single stitch 4 = single stitch with reduced length 5 = backtack inversion 6 = backtack suppression 7 = change-over position 8 = puller lift switched off	B,C	1 – 7	1,2,3,4	5
	757	Stop position for decorative backtack	B,C	0 – 255	2	25
	760	Number of stitches for remaining thread after response of thebobbin thread monitor with direct bobbin thread monitoring Multiplier for the fixed value (200) for determining the start value of the stitch counter with indirect bobbin thread monitoring	A,B,C	0 – 250	1,2,3,4	5
	761	Prolongation thread tension release/thread puller	B,C	0 – 80	1,2,3,4	0
	762	Switch-on angle for thread tension release	B,C		1183-712/.	196
	763	Switch-off angle for thread tension release	B,C		1183-712/.	1
	770	Lifting delay for presser foot pedal position "-1"	B,C	10 – 250	1,2,3,4	80
	775	Stop time (ms) for	B,C	10 – 1000 10 – 1000	1,3,4 2	100 150
	789	Needle position 10 (target stitch)	B,C	0 – 255	1,2,3,4	248
	797	Hardware test, ON = yes, OFF = no	C		1,2,3,4	OFF
	798	Programming level 0 = operator level, I = mechanic level, II = service level	A,B,C	0 – 20	1,2,3,4	0
	799	Selected machine class	C	1 – 4	1 2 3 4	1 2 3 4
8	800	Direction of motor rotation viewed from V-belt pulley, 0 = left-hand rotation, 1 = right-hand rotation	C	0 - 1 0 - 1 0 - 1 0 - 1 0 - 1 0 - 1 0 - 1	910, 930, 1122, 3704 1163 333-712/.. 570, 590 1181, 1183 1183-712/..	1 1 1 1 1 0 0

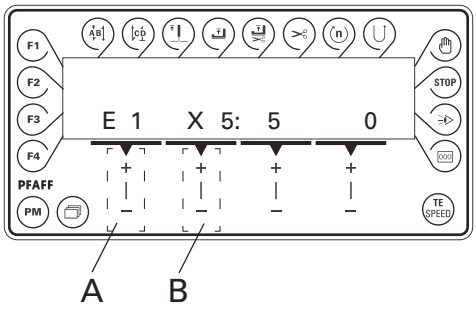
Group	Parameter	Description	User lever	Setting range	Machinen class	Set value
8	801	Reverse rotation angle after seam end	B,C	10 – 212	1,2,3,4	32
	880	Starting current max. [A]	C	1 – 10 1 – 10	1,2,3 4	5 8
	884	Proportional amplification of the speed control (in general)	B,C	03 – 24 03 – 30 03 – 24 03 – 24 03 – 24	1 2 3 333-712/.. 1183-712/..	9 16 10 6 9
	885	Integral amplification of the speed control	C	10 – 80 10 – 80 10 – 80	1,2,3 333-712/.. 1183-712/..	50 23 50
	886	Proportional amplification of the positioning controller	C	1 – 15	1,2,3,4	8
	887	Differential amplification of the positioning controller	C	1 – 15	1,2,3,4	8
	889	Time required for positioning controlling (0 = always)	C	0 – 2500	1,2,3,4	200
	890	Proportional amplification of the superior positioning controller for the stop brake	C	1 – 25 1 – 25	1,2,3 4	15 22
	897	MINI motor version 0 = long, 1 = short	C	0 – 1 0 – 1	1,3,4 2	0 1
9	900	Additional P-amplification of the speed control	B,C	1 – 24 1 – 30 1 – 24	1 2,3 4	10 16 6
	901	Trimming release speed	B,C	30 – 500	1,2,3,4	300
	903	Display change-over ON = diagnosis OFF = normal display	C	30 – 500	1,2,3,4	OFF
	939	Rate time (premature change-over) for the feed reset	B, C	10 – 200	1,2,3,4	30

3.02 Hardware-test

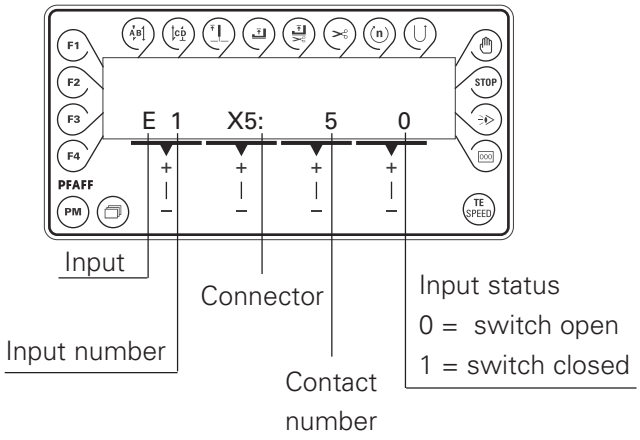
The hardware test is a test program, which makes it possible, with the aid of the control panel, to check various components of the control system and the machine installation. The test consists of seven test blocks.

3.02.01 Carrying out the hardware test

- Switch on the machine.
- Select service level "C" (see Chapter 2.06.01 **Selecting the user level**).
- Select parameter **797** and set it at "ON" by pressing the appropriate **+/- key**.
- The first test block appears on the display.
- The next test blocks can be selected by pressing the **+/- "A" key**.
- The individual inputs and outputs can be selected by pressing the **+/- "B" key**.

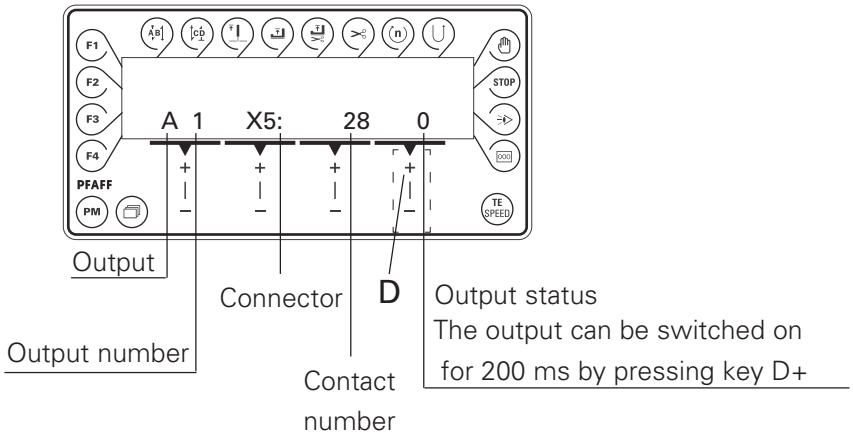


3.02.02 Test block 1 – inputs



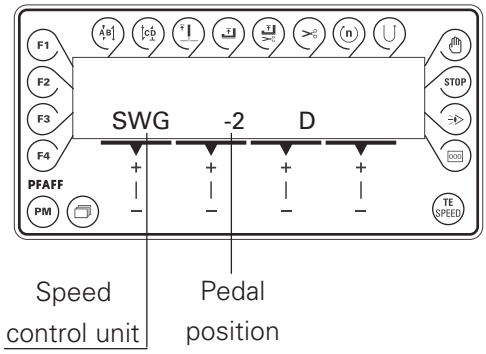
- The functions allocated to the inputs displayed can be found in **Chapter 3.03 Connection plan for the plug card.**

3.02.03 Test block 2 – outputs



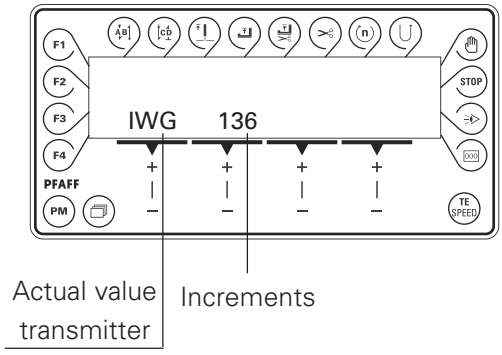
- The functions allocated to the outputs displayed can be found in **Chapter 3.03 Connection plan for the plug card.**

3.02.04 Test block 3 – speed control unit



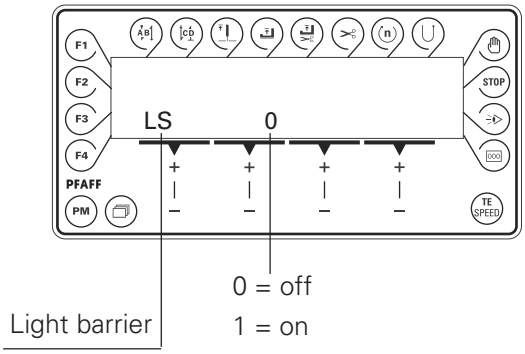
- It is possible to move to all 16 switch levels by operating the pedal.
- If all the displays from **-2, -1, 0, 1, 1D** to **12D** appear, the speed control unit is in order.

3.02.05 Test block 4 – actual value transmitters



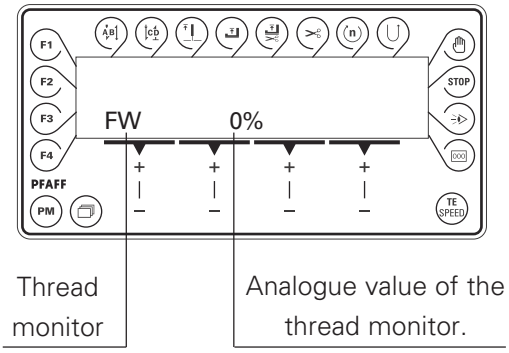
- The actual value transmitter can be checked by turning the balance wheel.
- If the increments from 0 – 255 appear on the display, the actual value transmitter is in order.

3.02.06 Test block 5 –light barrier



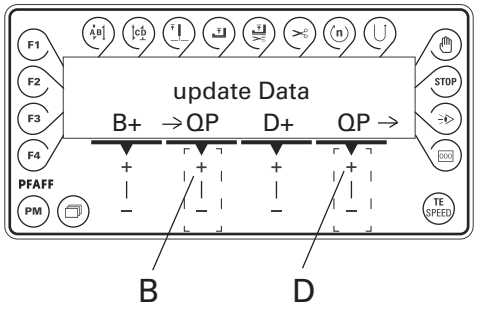
- The status of the light barrier can be checked here.

3.02.07 Test block 6 – thread monitor (only on subclass -926/06)



- The analogue value of the thread monitor is shown here in %.

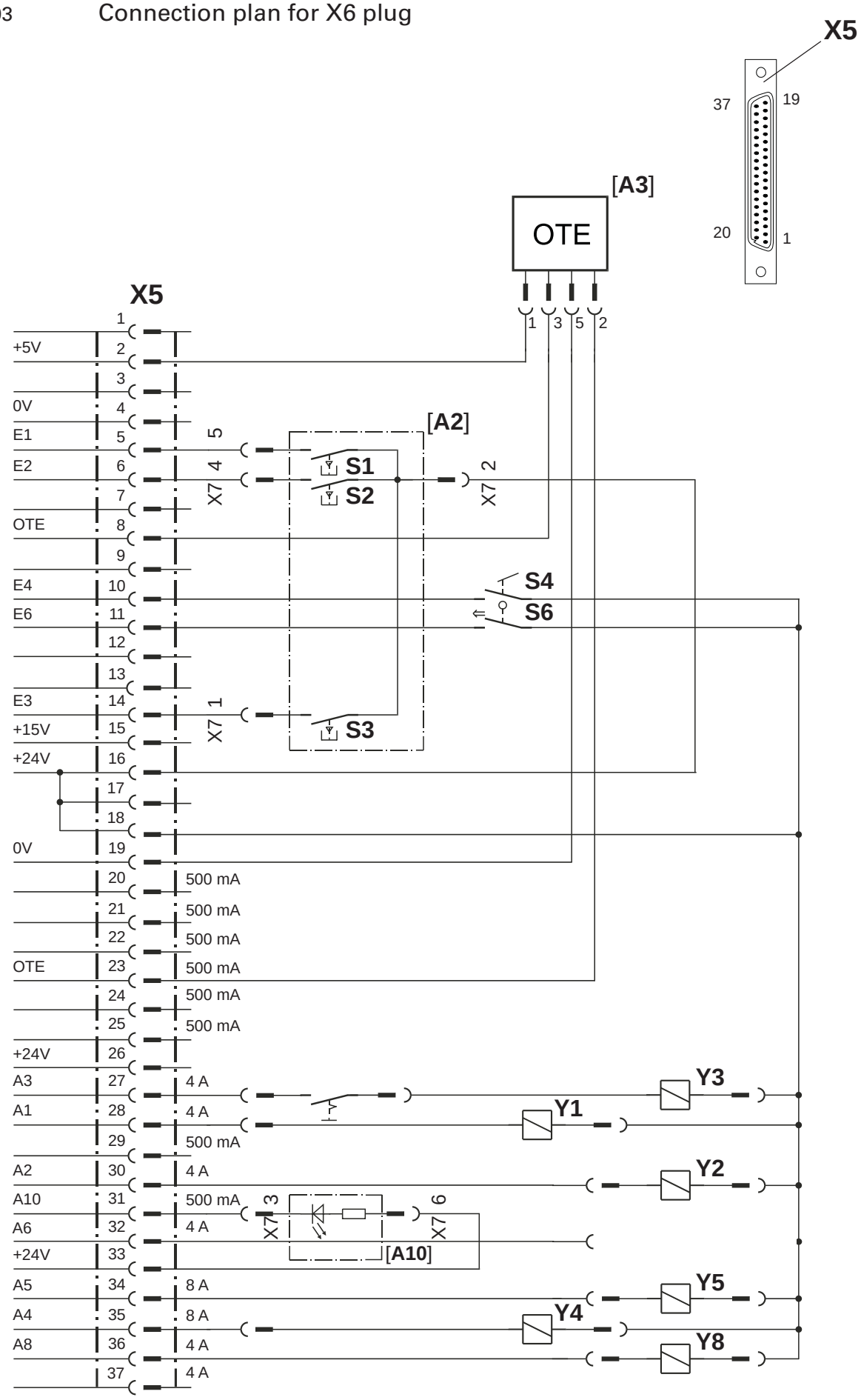
3.02.08 Test block 7 – data transfer



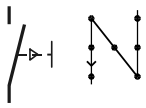
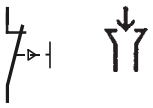
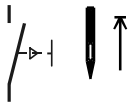
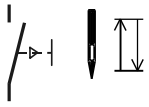
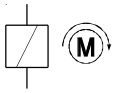
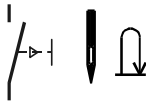
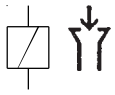
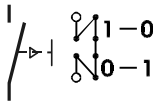
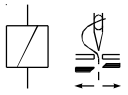
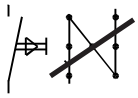
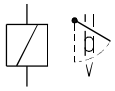
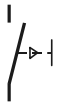
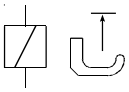
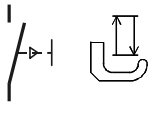
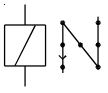
- With the **B+ key** all data is transferred from the control unit to the "Quick-Prog.-Device".
- With the **D+ key** all data is transferred from the "Quick-Prog.-Device" to the control unit.

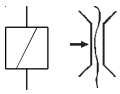
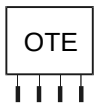
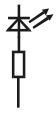
Before transferring data please observe the "Quick-Prog.-Device" instruction manual.

3.03 Connection plan for X6 plug



3.04 Meaning of magnets and/or solenoids and keys

S1 	Manual feed reverse	**S4**  <356> = II	Vacuuming
S2 **S3**  S2 <446> = 1 S3 <748> = 1	Needle raised without thread trimming	**S6**	STOP/start inhibitor
S2 **S3**  S2 <446> = 2 S3 <748> = 2	Needle position change-over	**Y1** I max 4 A * <356> = I 	Motor running
S2 **S3**  S2 <446> = 3 S3 <748> = 3	Single stitch	**Y1** I max 4 A * <356> = II 	Vacuuming
S2 **S3**  S2 <446> = 5 S3 <748> = 5	Invert subsequent backtack function	**Y2** I max 4 A * 	Thread trimmer
S2 **S3**  S2 <446> = 6 S3 <748> = 6	Backtack suppression	**Y3** I max 4 A * 	Thread wiper
S2 **S3**  S2 <446> = 7 S3 <748> = 7	Change-over position	**Y4** I max 8 A * 	Lift presser foot
S4  <356> = I	Presser foot	**Y5** I max 8 A * 	Feed reverse

Y8 I max 4 A * 	Thread tension release	**[A3]** 	Sewing head recognition
[A2]	Key case on sewing machine	**A10** 	Signal bobbin thread monitor

* The total of the load currents of all simultaneously active control elements (magnets, solenoids) must not exceed the 4A value.

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