1   Operation

1.1   Switching on

– The control is switched on by the green toggle switch on the front side of the appliance.
– After switching on the current version of the software is displayed.
– Then the display shows the current program number, provided P00 has not been selected.
  The control is then ready for operation and displays the current machine speed. If the control is used without an encoder but with a fixed machine speed then the machine speed is displayed as vmax from parameter 182.
– When switching on, the control checks the amount of memory still available. Therefore the time taken to switch on can vary.

1.2   Access blockage

In order to prevent unintended or unauthorised changes to the data all the values can only be changed after the access block has been lifted. "Loc1" or "Loc2" appears when changing the values.

Lifting "Loc1"

Changes all data up to the configuration of the glue pressure control, the glue level monitor and the entering the software key.
Press these buttons together:

Lifting "Loc2"

Changes all data.
Press these buttons together:

Activate "Loc 1 and 2"

Press these buttons together:

– If no button has been pressed within two minutes the access block is automatically activated.

Messages

1.2.1   Status codes

Status	Description
A18	Break in communication on the Ethernet connection
A19	Manual operating mode is active (display – – – –)
A20	Warning glue fill level low (current glue level < para. 324)

1.2.2 Error messages

Besides the following messages related to the AS-50 pattern control please also note the standard appliance messages described in the operating manual for the basic application unit.

Errors E100...E109, E120, E123, E124, E128-E143 are reset by pressing the (+) button.

| Error	Description	Cause and cure
E90	Error in software key (appears when switched on 2s)	Test operation finished or wrong software key loaded
E100 ... E107	Application head-output 1...8 overloaded	Short circuit in valve or cable. Unplug cable. Measure out cable and valve with ohmmeter.
E108	Outputs 1 overloaded (Aux-Output, P-Release 1 und 2)	
E110	Excess temperature	Temperature in casing > 65°C. Ambient temperature too high.
E111	Voltage of the internal 48 VDC supply too low	Supply voltage is < 40Volt. Check mains supply
E112	Voltage of the internal 24 VDC supply too low	Supply voltage is < 20Volt. Check mains supply
E120	Length error: The glue image is deleted	A glue image was entered which is not executable on account of the internal calculations. It is possible that parameters such as T_{ON}, T_{OFF} or V_{max} were altered after the glue image had already been programmed. Levels or glue image to be revised afterwards.
E121	Encoder 1: speed higher than permissible maximum speed v_{max}	Measured encoder speed higher than level in Para. 182. Adjust encoder transfer in Parameter 160 and/or maximum speed in Parameter 182.
E122	Encoder 2: speed higher than permissible maximum speed v_{max}	
E123	Maximum permissible pressure deviation period 1 (parameter 212) exceeded	Possible blockages in the system Rinse system with cleaner.
E124	Maximum permissible pressure deviation period 2 (parameter 212) exceeded	
E125	Tank empty (current filling level < Para. 325)	Refill with glue or defective filling level sensor.
E128 ... E131	Trigger monitoring error on trigger input - 1...4	Trigger to be repositioned since product not always detected or defective trigger sensor.
E140 ... E143	Measured product length < P170. (with automatic length adjustment |--|)	- Trigger sensor has not measured the entire product. - Product was defective (too short) - P170 (minimum product length) is wrongly set.

Manual valve actuation

- In manual operating mode the application heads can be tested for their functioning.
- During manual mode the normal tape application is interrupted and all photoelectric detector trigger inputs are blocked.

Manual activation will cause the cutting blade to be exposed, use caution.

1.2.3 Switching ON via pattern control

- Pressing button (1) switches the control to manual mode. The LED on the button lights up.

- Use the buttons (2) to select the desired application head Display (3)

- Pressing button (4) activates the desired application head.

- Pressing button (1) again exits manual mode.
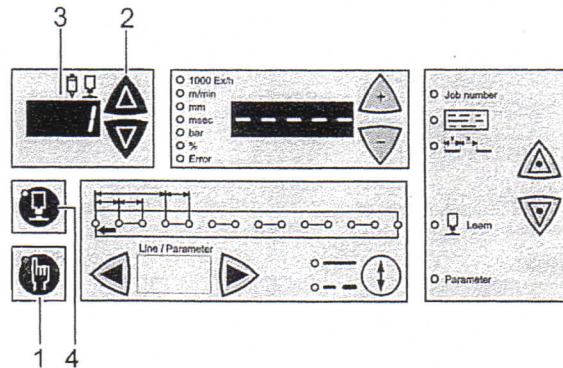
1.2.4 Switching ON via solenoid valve key

The solenoid valve can also be switched ON manually without the pattern controller:

- Press in the activation button directly on the solenoid valve (refer to picture). With button pressed the solenoid valve switches ON.
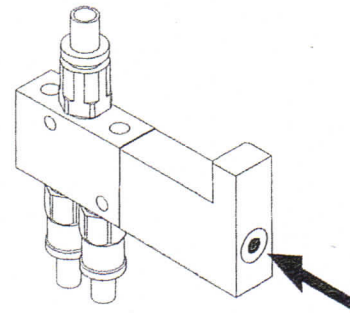
1.2.5 Retrieving and altering parameters

The parameters are protected against unintended or unauthorised alteration by the access blocks »Loc1« and »Loc2« . The parameters are retrieved and altered as follows:

> **Always make sure that all changed values are entered in the table of parameters.**

- Select function **Parameter** with the keys (1)

- Select the parameter number with the keys (2). The number comes up in the display (3).

- With certain parameters, values must be entered for each individual application head, trigger or channel. The desired number or »A« for all is selected with the keys (4) and displayed in the field (5).

- Display (6) shows the set parameter value. After lifting of the access blockage »Loc1 or Loc2« the value can be altered with the keys (7).

- Beware of wrong inputs! The new value is automatically active after every alteration. An abortion of the input is not possible. This is why all data must always be recorded in the parameter list!
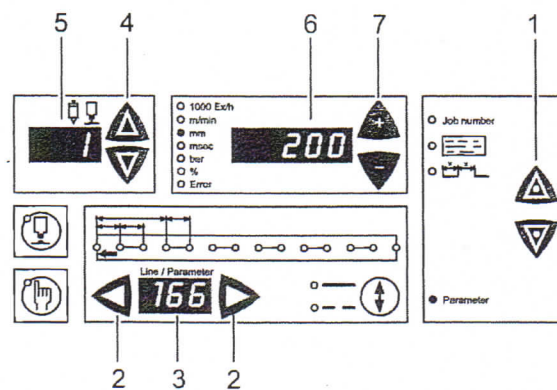
1.3   Programs

−   The pattern control has place for more than 90 programs for storing the parameters and application patterns. The number of possible programs can diversity from software version to version.

−   All input always refers to the current program number.

−   In the interest of convenient handling the parameters can be stored under a selectable program number, copied to a new program number or cleared completely.

### 1.3.1   Selecting a program

●   Use the select buttons (1) to select the **job number** function.

●   The display (2) shows the number of the current program. A-Once the access block "Loc1" has been lifted another program can be selected using the buttons (3).

●   After quitting the program selection the last program displayed is selected and all input then refer to this number.
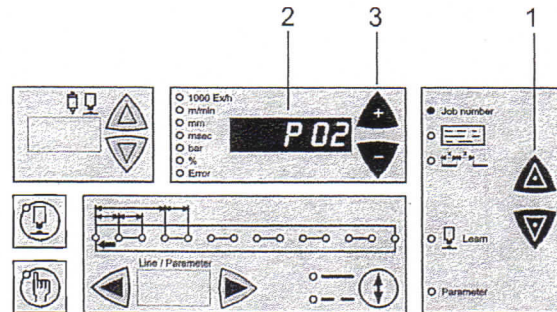
1.3.2   Saving parameter settings as the basic setting

The parameter settings in the current program can be saved as the basic settings. The command "Copy b1" can always be used to load the basic setting stored into a program again.

●   Use the buttons (1) to select **parameter**.

●   In field (2) select parameter **101** and in field (3) select the **STORE** function.

●   In parameter **103** select the value **56**.

●   Pressing the button (4) stores the data in the program "b1". Successfully storing the program is confirmed by the display **2222**.
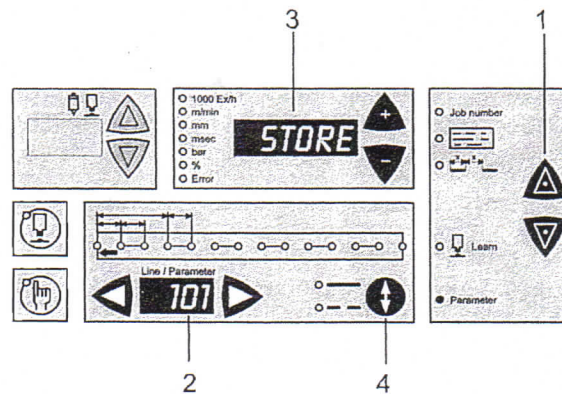
1.3.3   Copying programs

All the settings in the current program can be saved to a different program number. Small program changes can thus be made very quickly, leaving the original data unchanged.
*Function Copy: the program defined in parameter 102 is copied into the current program.*
Function Copy2: the program defined in parameter 102 is copied into the program which is selected in parameter 103. .

●   Use the buttons (1) to select **parameter**.

●   In panel (2) select parameter **101** and in panel (3) select the function **COPY or COPY2**.

●   In parameter **102** select the program number **P XX**

or the basic setting **b1** which is to be copied (original).

- In COPY2 the target must be defined in parameter 103.

- In parameter **104** select value **1**.

- Pressing the button (4) copies the data to the target. the display **5555** confirms the data has been copied successfully.
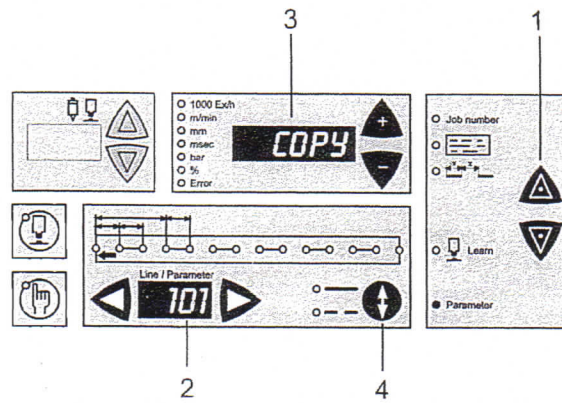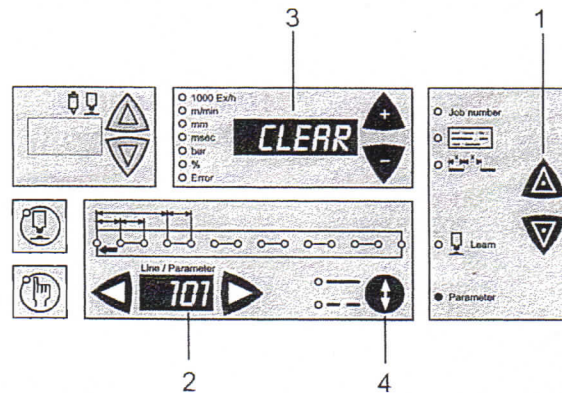
1.3.4 Deleting programs

The data of a program can be deleted.
*Function CLEAR: the data f the current program are deleted.*
Function CLEAR2: The data in parameter 103 of the selected program are deleted.

- Use the buttons (1) to select **parameter**.

- In panel (2) select parameter **101** and in panel (3) the function **CLEAR** and/or CLEAR2.

- In CLEAR2 in parameter 103 select the program which is to be deleted. .

- In parameter **104** select value **1**.

- Pressing the button (4) deletes the data. The display **1111** confirms the delete process was successful.

1.3.5 Deleting all programs and setting parameters to the default values

- **Attention!** This command deletes all stored program data. It cannot be undone. The parameters entered will also be reset to their default values! Duration of the delete process can be up to 1 minute! This process is needed when larger software update changes take place.

- Use the buttons (1) to select **parameter**.

- In field (2) select parameter **101** and in field (3) select the **InitA** function.

- In parameter **104** select the value **363**.

- Pressing the button (4) deletes all data for good. The display **8888** confirms the delete process was successful.
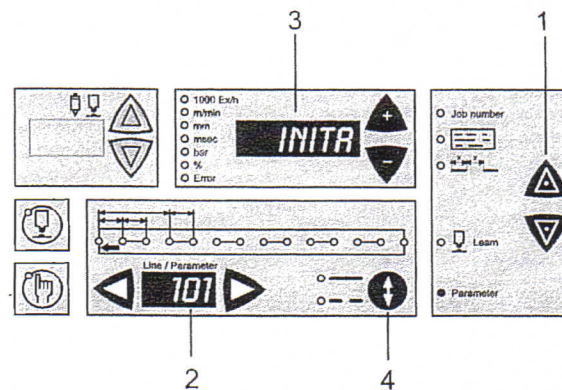
1.4   Command parameters

1.4.1   Parameter 101: Command

Parameters 101...103 can be used to copy the program data, store it and delete it (see also chapter 5.7).

Input range	Function	Default
Copy	Copies all the data from the selected program using parameter 102 into the current program	
Clear	Deletes all data in the current program	
Store	Stores the current program as the basic setting b1	
InitA	Deletes all stored data, parameters reset to default	
CoPY2	Program selected in Pa102 is copied in the program selected Pa103	
· CLEA2	Program selected in Pa103 is deleted.	

1.4.2   Parameter 102: »Copy« command

Parameter 102 is only used together with the "Copy or Copy 2" command in parameter 101.

Input range	Function	Default
P 00...P111	The program defined here is copied into the current program number.	
b 1	The basic setting of the parameters (see parameter 101, "Store") is copied into the current program number.	

1.4.1   Parameter 103: Program memory

Parameter 103 is only used in connection with the commands «Copy2» and «Clear2» in parameter.

Input range	Function	Default	Input range
P xxx	- Target – program under ‚copy2' (program is saved) - Program is deleted under ‚Clea2'		

1.4.2   Parameter 104: Execute command

When the appropriate codes have been entered the function selected in parameter 101 is carried out.

Input range	Function	Default
1	Copy, on completion display shows »5555«	
1	Clear, on completion display shows »1111«	
1	Copy2, on completion display shows «5552»	
1	Clear2, on completion display shows «1112»	0
56	Store, on completion display shows »2222«	
363	InitA, on completion display shows »8888«	

1.4.3   Parameter 110: Current program number

Input range	Function	Default

P 00...P111	The current program can be selected via parameter 110 instead of via the function "Job number". If the program is selected via the external inputs a right decimal point lights up on the program display.	P 00

1.4.4   Parameter 165: Trigger source

The application heads are activated by a trigger signal. A trigger source must be assigned to each active application channel.

Input range	Function	Default
OFF	Activation of the application head is switched off	1
1...4	This trigger input activates the application head	

1.4.5   Parameter 166: Distance between trigger and application head

The distance between the trigger photoelectric detector and the application head must be defined separately for each head. This means that the application of glue for each application head can always be set starting from the edge of the product. The shortest distance depends on the maximum speed.

Input range	Unit	Function	Default
5...9,999	mm	Distance between trigger source and application head	200

1.5   Glue application

1.5.1   Entering the application pattern

The entry of an application pattern is always related to the current program number and the application head selected.

- Use the buttons (1) to select the "   " function.

- Use the buttons (2) to select the application head to be programmed Display (3) If an application has already been programmed the LEDs in field (7) start to flash

- Press the button (4). The number "1" appears on the display (5) for the first glue application. The flashing LEDs on display (7) visualise the selected distance.

- The buttons (8) are used to register the desired distance [mm] which is displayed in field (9)

- Pressing the button (4) calls up the next dimension, button (6) the previous dimension

- Delete: individual glue applications are deleted by setting the last length to " "
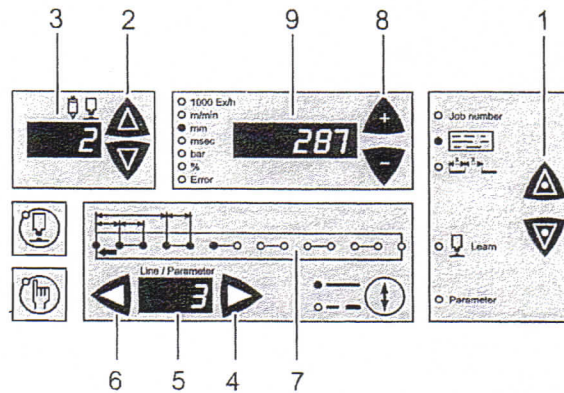
1.5.2 Stitching the application pattern

The glue strokes in the intermittent and continuous modes of operation can be stitched still further. The stitching affects the whole application pattern, individual glue strokes cannot be stitched. The individual dimensions can however be different for each application head.

- Condition: a valid application pattern must have been programmed Check: The LEDs in field (1) must light up

- button (2) is used to select between: continuous glue application or stitching The LED (3) indicates the selection made.

- Use the buttons (4) to select the "   " function.

- The display (5) shows parameters 300, display (6) shows the value "On". The stitching is then switched on. The individual dimensions such as pause length or application length are programmed using parameters 300 to 304.
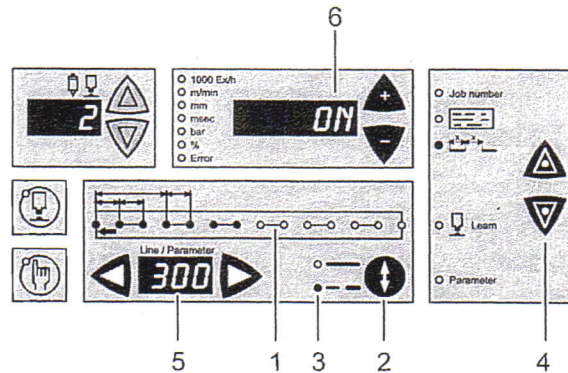

Stitching of a glue stroke

Parameters 301 to 303 define the distances of the stitching The glue length can be stored as length and/or time

\# Parameter 301 = repeating pause length

\# Parameter 302 = repeating glue length

\# Parameter 303 = repeating application duration
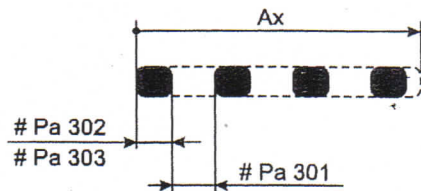
Automatically switching between stitching and stroke

Above a specified speed the stitching can automatically be switched to stroke application. Parameter 304 defines this speed If the speed is exceeded the current application will continue to be made in stitch mode, the next application of glue in stroke application.
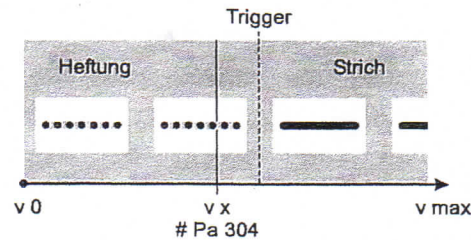
The following parameters 300 to 305 do not appear under the normal parameters. They must be activated over the function ⊏⊐⌐.

1.5.2.1 Parameter 300: Switching stitching on and off

Besides parameter 300 the stitching can also be switched on and off via button ⦂—(↕).

Value range	Function	Default
OFF	Stitching switched off	OFF
On	Stitching switched on	

1.5.2.2 Parameter 301: Pause length

Value range	Unit	Function	Default
1...100	mm	Stitching: repeating pause length	10

1.5.2.3 Parameter 302: Application length

With stitching the repeating glue length can either be set using parameter 302 [mm] or using parameter 303 in [msec]. If both parameters are defined the glue application is switched on as long as the application length and the application duration have not been exceeded.

Value range	Unit	Function	Default
OFF		Stitching: repeating application length switched off	10
1...100	mm	Stitching: repeating application length	

1.5.2.4 Parameter 303: Application duration

With stitching the repeating glue length can either be set using parameter 302 [mm] or using parameter 303 in [msec]. If both parameters are defined the glue application is switched on as long as the application length and the application duration have not been exceeded.

Value range	Unit	Function	Default
OFF		Stitching: repeating application duration switched off	OFF
1.00...100.00	msec	Stitching: repeating application duration	

1.5.2.5 Parameter 304: Maximum speed

Above this speed + parameter 305 the stitching is switched to stroke application, below this speed the stitching is switched on.

Value range	Unit	Function	Default
OFF		Stitching: switch-over switched off	OFF
0.0...150.0	m/min	Stitching: maximum speed	

1.5.2.6 Parameter 305: Switching hysteresis

Switching hysteresis for switching from stitch to stroke application (see parameter 304). Where speeds vary greatly this avoids the constant changing between stitch and stroke application.

Value range	Unit	Function	Default
0.1...10.0	m/min	Stitching: switching hysteresis	1.0