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## Parameters and alarms

# Mobics APM(L) V0200

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# 1) Machineparameters

## 1.1) *Overview machine parameters*

- 01 Distance photocell to 1st lengthfold
- 02 Distance 1st to 2nd lengthfold
- 03 Distance photocell to 3rd lengthfold
- 04 Reserved
- 05 Moment 1st lengthfold fingers up
- 06 Moment 1st lengthfold fingers down
- 07 Reserved
- 08 Reserved
- 09 Reserved
- 10 Minimum piece length
- 11 Pieces until wax cloth warning
- 12 Use clutch standby time
- 13 Reserved
- 14 Reserved
- 15 Max. length at small piece crossfold
- 16 Conveyor time small piece stacker
- 17 Conveyortime prog.change/push button
- 18 Extra turn time small piece stacker
- 19 Delay start conveyor small piece stacker
- 20 Delay start knife small piece stacker
- 21 Stack when conveyor is busy
- 22 Delay stop belts / start rollfold
- 23 Reserved
- 24 Type of speedcontrol
- 25 Relative speed AMD (%)
- 26 Speed change limit changing AMD speed
- 27 AMD stopposition on time or pulses
- 28 AMD time waiting rack up
- 29 AMD delay waiting rack up / start knife
- 30 Ironer length
- 31 Maximum speed of folding machine
- 32 Minimum speed of ironer
- 33 Maximum speed of ironer
- 34 Maximum speed of feeder
- 35 Limit switch speed control
- 36 Debounce ironer speed
- 37 Folding machine on fixed speed
- 38 CAN-bus stationnumber this PLC
- 39 CAN-bus baudrate
- 40 Reaction time fingers
- 41 Reaction time clutches
- 42 Reaction time small piece stacker
- 43 Reaction time 1st crossfold
- 44 Pulse size ironercountwheel
- 45 Pulse size maincountwheel
- 46 Pulse size lanecountwheel
- 47 Relative speed feeder (%)
- 48 Relative speed folder (%)
- 49 Reserved
- 50 Reset counters without password
- 51 Automatic reset of warnings
- 52 Enable customer separation system
- 53 Touchscreens online per lane
- 54 Signal time if customer/article change

55 Send customer/article data on startup  
56 Maximum piecelength at 1st lengthfold  
57 Dist. last lengthfold to stackphoto cell  
58 Dist. last lengthfold to bed start  
59 Dist. last lengthfold to in-line stacker  
60 Dist. crossfoldunit to in-line stacker  
61 Delay start clamping in-line stacker  
62 Delay start overturn in-line stacker  
63 Act.time overturn in-line stacker  
64 Reserved  
65 Moment 2nd lengthfold fingers up  
66 Moment 2nd lengthfold fingers down  
67 Moment 3rd lengthfold fingers up  
68 Moment 3rd lengthfold fingers down  
69 Reserved  
70 Reserved  
71 Speed of central conveyor  
72 Length of central conveyor  
73 Max run time conveyor after stacker  
74 Run time put stack on central conveyor  
75 Reserved  
76 Location reject small dirty pieces  
77 Location reject small broken pieces  
78 Location reject big dirty pieces  
79 Location reject big broken pieces  
80 Reserved  
81 Distance 1st cross to 2nd cross pc.  
82 Folddistance 2nd crossfold  
83 Distance to stacker 1  
84 Distance to stacker 2  
85 Distance to stacker 1, right side  
86 Distance to stacker 2, right side  
87 Decisionpoint make 2nd crossfold  
88 Reserved  
89 Reserved  
90 Reserved  
91 Maximum length at sheet stacker  
92 Conveyortime sheetstacker normal  
93 Conveyortime sheetstacker with button  
94 Extra turn time sheetstacker  
95 Delay start conveyor sheetstacker  
96 Time move conveyor up sheetstacker  
97 Transporttime throw out piece at stacker  
98 Delay stop transport/open stacker flaps  
99 Time open flaps sheetstacker  
100 Reserved  
101 Handling of a crossfold alarm  
102 Speed of the crossfold  
103 Distance between pieces at stacker  
104 Reverse stacker selection  
105 Delay start knife 1st crossfold  
106 Time knife down 2nd crossfold  
107 Delay reverse 2nd cross after knife  
108 Time blowpipe 2nd crossfold  
109 Reserved  
110 Reserved  
111 Always try to use 1st crossfold  
112 Maximum number of pieces in ironer  
113 Moment activate WSD reject outputs  
114 Extra time WSD reject outputs on

- 115 Reserved
- 116 Delay return to home screen
- 117 Prog to use when switch on position 1
- 118 Prog to use when switch on position 2
- 119 Prog to use when switch on position 3
- 120 Prog to use when switch on position 4

## **1.2) Machine parameters details**

### **01 Distance photocell to 1st lengthfold**

The distance from the photocell of the 1st lengthfold to the folding point of the first lengthfold. Steps of mainwheelpulses.

### **02 Distance 1st to 2nd lengthfold**

The distance between the folding point of the 1<sup>st</sup> and the 2nd lengthfold. Steps of mainwheelpulses.

### **03 Distance photocell to 3rd lengthfold**

The distance between the photocell of the 3<sup>rd</sup> and the folding point of the 3rd lengthfold. Steps of mainwheelpulses.

### **05 Moment 1st lengthfold fingers up**

The moment the fingers of the 1st lengthfold go up. The higher the value, the earlier the fingers will go up. Steps of mainwheelpulses.

### **06 Moment 1st lengthfold fingers down**

The moment the fingers of the 1st lengthfold go down. The higher the value, the earlier the fingers will go down. Steps of mainwheelpulses.

### **10 Minimum piece length**

The minimum length in cm a piece must have to be handled as a piece. This parameter can be used to suppress the photocell of the 1st lengthfold in case a belt covers this photocell accidentally.

### **11 Pieces until wax cloth warning**

This parameter indicates after how many pieces the machine should give a warning that it's time for the wax cloth. Value 0 means that the warning is disabled.

### **12 Use clutch standby time**

Value 1 is switching off clutches of the reverse folds if the lane isn't used. If the value is 0 the clutches will not be switched off.

### **15 Max. length at small piece crossfold**

Maximum length in cm a piece can have at the small piece crossfold. Pieces longer than this length will not be crossfolded.

### **16 Conveyor time small piece stacker**

The time (steps of 0,01s) the conveyor of a small piece stacker is activated in case of shifting a stack.

### **17 Conveyortime prog.change/push button**

The time (steps of 0,01s) the conveyor of a small piece stacker is activated in case of a program change or when the button for shifting has been pushed.

### **18 Extra turn time small piece stacker**

When the clamp of a small piece stacker passes the reed switch of the upper position, it will continue to turn for the time adjusted here, until it returns. Time is in steps of 0,01s.

### **19 Delay start conveyor small piece stacker**

When a stack on a small piece stacker has reached the adjusted height, this is the delay before shifting the conveyor. This delay allows the clamp to return far enough before the conveyor is started. Steps of 0,01s.

### **20 Delay start knife small piece stacker**

The delay between stopping the belts of a small piece stacker and starting the knife. Steps of 0,01s.

### **21 Stack when conveyor is busy**

Value 1 means that the small piece stackers will stack, even if the conveyor is still running. Value 0 will bypass the piece when the conveyor is running.

### **22 Delay stop belts / start rollfold**

The delay between stopping the belts and starting the rollfold crossfoldunit. Steps of 10ms (0,01s).

### **24 Type of speedcontrol**

With this parameter the type of speed control can be configured.

0 = No speed control

1 = Folder follows ironer with ironer countwheel

2 = Folder controls complete ironer street

### **25 Relative speed AMD (%)**

The relative speed of the belts of the small piece stackers, in relation to the speed of the main motor (value in %).

### **26 Speed change limit changing AMD speed**

If the speed of the main belts changes more than the value in this parameter, the speed of the AMD will be recalculated. Used to keep the AMD on a more steady speed. Steps of 0,1m/min.

### **27 AMD stopposition on time or pulses**

A value of 1 means that the stop/stack position of the small piece stacker is calculated in time and not on pulses (value 0). In some cases this can result in a more accurate position.

### **28 AMD time waiting rack up**

The time the waiting rack of the AMD small piece stacker will go up in case of stacking. Value is in steps of 0,01s and will only work if the function is activated in the subprogram parameters.

### **29 AMD delay waiting rack up / start knife**

The delay between the moment the waiting rack goes up and the moment the knife of the AMD stacker is started. Value is in steps of 0,01s and will only work if the function is activated in the subprogram parameters.

### **30 Ironer length**

The length of the ironer in centimeters. Is used for changing speed, changing program and for the reject system.

### **31 Maximum speed of folding machine**

The maximum speed of the folding machine in steps of 0,1 meters/minute. Is used to be able to control the speed of the folder in the right way.

### **32 Minimum speed of ironer**

The speed of the ironer when 0V is sent to the inverter. This is the minimum speed the ironer can run when it's operating.

### **33 Maximum speed of ironer**

The speed of the ironer when 10Volts is sent to the inverter. Is the maximum speed the ironer can run.

### **34 Maximum speed of feeder**

The speed of the feeding machine when 10 Volts is sent to the inverter. Is the maximum speed the feeding machine can run.

### **35 Limit switch speed control**

Limit (m/min) for switching from/to speed control with time between pulses and nr. of pulses in time. High value is fast but inaccurate speed control.

### **36 Debounce ironer speed**

The speed of the ironer may change for this value before the speed of the machine is adapted to the ironer speed. Steps of dm/min.

### **37 Folding machine on fixed speed**

When the speed of the ironer varies, but the folding machine has to run on a fixed speed, this parameter should be on a non-zero value, which equals the machine speed in m/min. Otherwise, the value of this parameter should be 0.

### **38 CAN-bus stationnumber this PLC**

Stationnumber of this PLC. Every PLC in a CAN network has to have a unique stationnumber.

### **39 CAN-bus baudrate**

Baudrate/communication-speed of this PLC. Every PLC in a CAN network has to be adjusted to the same baudrate.

### **40 Reaction time fingers**

The time the fingers need to go up in steps of 0,001s. ATTENTION!!! By changing this parameter in the wrong way, the fingers can stop functioning.

### **41 Reaction time clutches**

The time the clutches of the reversefolds need to reverse, in steps of 0,001s. ATTENTION!!! By changing this parameter in the wrong way, the machine can stop functioning.

### **42 Reaction time small piece stacker**

The time a small piece stacker needs to pick up a piece, in steps of 0,001s. ATTENTION!!! By changing this parameter in the wrong way, the stacker can stop functioning.

### **43 Reaction time 1st crossfold**

The time the belts of the 1st crossfold need to stop. (steps of 0,001s). ATTENTION!!! By changing this parameter in the wrong way, the machine can stop working.

### **44 Pulse size ironercountwheel**

The size of a pulse of the ironer countwheel in steps of 0,1mm. ATTENTION!!! Changing this parameter can cause a complete machine stop.

### **45 Pulse size maincountwheel**

The size of a pulse of the main countwheel in micrometers. ATTENTION!!! Changing this parameter can cause a complete machine stop.

### **46 Pulse size lanecountwheel**

The size of a pulse of the lane countwheel in micrometers. ATTENTION!!! Changing this parameter can cause a complete machine stop.

### **47 Relative speed feeder (%)**

The relative speed of the feeding machine in relation to the ironer (%).

### **48 Relative speed folder (%)**

The relative speed of the folding machine in relation to the ironer (%).

### **50 Reset counters without password**

When this parameter has a value of 1, counters per program can be reset without the need of a password.

### **51 Automatic reset of warnings**

A value of 1 means that warnings are automatically reset when the next piece doesn't cause the warning. In case of a value of 0, warnings can only be reset with the startbutton on the control panel.

### **52 Enable customer separation system**

A value of 1 means that the touchscreens per lane are activated and that the customer separation system is active. When the customer separation system has to be disabled, this parameter should be set to 0.



**53 Touchscreens online per lane**

Binary indication of screens online. E.g. 4-lane machine and all online is a value of  $1+2+4+8=15$ . When screen 3 is broke, so not online, the value is  $1+2+8=11$ .

**54 Signal time if customer/article change**

In case of a machine with customer separation system, this parameter is the time a signal will be given in case of a customer/article change.

**55 Send customer/article data on startup**

This parameter indicates if customer/article data has to be sent to the touchscreens per lane on startup (value 1) or not (value 0).

**56 Maximum piecelength at 1st lengthfold**

When, at the 1st lengthfold, a piece is detected which exceeds the length adjusted in this parameter, the folder will go in alarm. Steps of centimeters.

**57 Dist. last lengthfold to stackphotocell**

The distance in cm from the last lengthfold to the photocell of the small piece stacker. In case of stackers with start/stopbelts, this parameter is also the moment the belts are started.

**58 Dist. last lengthfold to bed start**

The distance in cm from the last lengthfold to the moment the belts of the small piece crossfold unit start.

**59 Dist. last lengthfold to in-line stacker**

The distance in cm from the last lengthfold until the piece is just in front of the in-line stacker. Is also the moment the bypass of the in-line stacker is (dis)activated.

**60 Dist. crossfoldunit to in-line stacker**

The distance in cm from the small piece crossfold until the piece is just in front of the in-line stacker. Is also the moment the bypass of the in-line stacker is (dis)activated.

**61 Delay start clamping in-line stacker**

The delay between the moment the piece is at the stackposition and the moment the clamping starts in steps of 10ms (0,01s).

**62 Delay start overturner in-line stacker**

The delay between the moment the piece is at the stackposition and the moment the overturner starts in steps of 10ms (0,01s).

**63 Act.time overturner in-line stacker**

The time the overturner of the in-line stackers are activated when a piece is stacked. Steps of 10ms (0,01s).

**65 Moment 2nd lengthfold fingers up**

The moment the fingers of the 2nd lengthfold go up. The higher the value, the earlier the fingers will go up.

**66 Moment 2nd lengthfold fingers down**

The moment the fingers of the 2nd lengthfold go down. The higher the value, the earlier the fingers will go down. Steps of mainwheelpulses.

**67 Moment 3rd lengthfold fingers up**

The moment the fingers of the 3rd lengthfold go up. The higher the value, the earlier the fingers will go up.

**68 Moment 3rd lengthfold fingers down**

The moment the fingers of the 3rd lengthfold go down. The higher the value, the earlier the fingers will go down. Steps of mainwheelpulses.

**71 Speed of central conveyor**

The speed of the central conveyor in meters/minute. Is used to calculate when there are stacks in front of a telescope conveyor.

**72 Length of central conveyor**

The length of the central conveyor in steps of 10 cm.

**73 Max run time conveyor after stacker**

Maximum time conveyor after stacker runs. When no stack is detected with the photocell after running for this time, the conveyor stops. Steps of 0,01s.

**74 Run time put stack on central conveyor**

The time the telescopes are activated when putting a stack on the conveyor. In case of bufferbelts, the time the motor runs when a stack has to be put onto the conveyor. Steps of 0,01s.

**76 Location reject small dirty pieces**

The location where small dirty pieces are rejected.

0=Don't reject

1=Folded at last lengthfold

2=Folded on table

3=Unfolded at last lengthfold

4=Unfolded on table

**77 Location reject small broken pieces**

The location where small broken pieces are rejected.

0=Don't reject

1=Folded at last lengthfold

2=Folded on table

3=Unfolded at last lengthfold

4=Unfolded on table

**78 Location reject big dirty pieces**

The location where big dirty pieces are rejected.

0=Don't reject

1=Folded at last lengthfold

2=Folded on table

3=Unfolded at last lengthfold

4=Unfolded on table

5=At stacker

**79 Location reject big broken pieces**

The location where big broken pieces are rejected.

0=Don't reject

1=Folded at last lengthfold

2=Folded on table

3=Unfolded at last lengthfold

4=Unfolded on table

5=At stacker

**81 Distance 1st cross to 2nd cross pc.**

The distance from the stoppositionphotocell(s) of the 1st crossfold to the photocell of the 2nd crossfold. Use to adjust width measurement (together with parameter 102).

**82 Folddistance 2nd crossfold**

The distance from the 2<sup>nd</sup> crossfold photocell to the folding point of the 2<sup>nd</sup> crossfold. Adjust only when the measured length is ok (see parameters 81 and 102).

**83 Distance to stacker 1**

The distance from the photocell of the stacker(s) on the left or only side to the folding point of the 1st stacker (stacker 1).

**84 Distance to stacker 2**

The distance from the photocell of the stacker(s) on the left or only side to the folding point of the 2nd stacker (stacker 2).

**85 Distance to stacker 1, right side**

The distance from the photocell of the stacker(s) on the right feed-out side to the folding point of the 1st stacker (stacker 3).

**86 Distance to stacker 2, right side**

The distance from the photocell of the stacker(s) on the right feed-out side to the folding point of the 2nd stacker (stacker 4).

**87 Decisionpoint make 2nd crossfold**

The moment the 2nd crossfold flap decides to fold the piece or not in case of an automatic fold. This is the moment the flap of the 2nd crossfold goes up in case of a no-fold.

**91 Maximum length at sheet stacker**

Maximum length in cm a piece can have at the sheetstackers. Pieces longer than this length will not be stacked.

**92 Conveyortime sheetstacker normal**

The time (steps of 0,01s) the conveyor of a sheetstacker is activated in case of shifting a stack when the stacking height is reached.

**93 Conveyortime sheetstacker with button**

The time (steps of 0,01s) the conveyor of a sheetstacker is activated in case of shifting a stack when the button for feeding off is pushed.

**94 Extra turn time sheetstacker**

When the clamp of a sheetstacker passes the reed switch of the upper position, it will continue to turn for the time adjusted here, until it returns. Time is in steps of 0,01s.

**95 Delay start conveyor sheetstacker**

When a stack on a sheetstacker has reached the adjusted height, this is the delay before shifting the conveyor. This delay allows the piece to be on the stack before the conveyor is started. Steps of 0,01s.

**96 Time move conveyor up sheetstacker**

When shifting off, this is the time the conveyor is sent up, before the conveyor motor is started. Steps of 0,01s. Value 0 means don't wait with start of conveyor.

**97 Transporttime throw out piece at stacker**

When a piece is rejected at the sheetstacker, this is the time the motor is activated to throw out the piece. Steps of 0,01s.

**98 Delay stop transport/open stacker flaps**

The delay between stopping the motor and opening the flaps of the sheetstacker. Steps of 0,01s.

**99 Time open flaps sheetstacker**

The time the flaps of a sheetstacker will be activated to stack a piece. Steps of 0,01s.

**101 Handling of a crossfold alarm**

Handling of a crossfold alarm.

0 = Stop on 1st fault.

1 = Stop on 2nd fault.

**102 Speed of the crossfold**

The speed of the crossfold in 0,1 m/min. Use this parameter to adjust the measured width (in combination with parameter 81).

**103 Distance between pieces at stacker**

Piece will wait at the 1st crossfold until the previous piece has passed this crossfold for the time adjusted in this parameter.

**104 Reverse stacker selection**

A value of 0 means that in case of automatic stacker selection, the largest pieces will be stacked on the 2nd stacker. A value of 1 inverts this selection.

**105 Delay start knife 1st crossfold**

The delay between stopping the belts of the 1st crossfold and starting the knife. So, this is the time the 1st crossfold belts need to stop (steps of 0,001s).

**106 Time knife down 2nd crossfold**

The time the knife of the 2nd crossfold (only on center lane) is activated. Steps of 0,01s.

**107 Delay reverse 2nd cross after knife**

Delay between starting the knife/blowpipe and reversing the belts of the 2nd crossfold. In case of a knife, the moment of reversing should be when knife reaches downposition. Steps of 0,001s.

**108 Time blowpipe 2nd crossfold**

The time the blowpipe of the 2nd crossfold (only on center lane) is activated. Steps of 0,01s.

**111 Always try to use 1st crossfold**

A value of 1 means that the 1st crossfold will be made when possible (e.g. in case of 4 lanes and only lane 2 and 3 coupled). In case of value 0, all lanes have to be coupled to crossfold.

**112 Maximum number of pieces in ironer**

The maximum number of pieces in the ironer. When the feeder has fed this number of pieces and no pieces were detected at the folder, the machine will be stopped. A value of 0 disables this watchdog function.

**113 Moment activated WSD reject outputs**

The moment the outputs for rejecting a dirty or broken piece are activated. Is distance from the small piece stacker photocell in main countwheel pulses.

**114 Extra time WSD reject outputs on**

The time the outputs for for rejecting a dirty or broken piece are activated, added to the length of the piece. Is in steps of main countwheel pulses.

**116 Delay return to home screen**

When the main screen is not activated, and the screen isn't used for this time, the main screen will be activated again. Steps of seconds (0=disabled).

**117 Prog to use when switch on position 1**

The working program which is used in case the multi-position switch at the feeder is set to position 1.

**118 Prog to use when switch on position 2**

The working program which is used in case the multi-position switch at the feeder is set to position 2.

**119 Prog to use when switch on position 3**

The working program which is used in case the multi-position switch at the feeder is set to position 3.

**120 Prog to use when switch on position 4**

The working program which is used in case the multi-position switch at the feeder is set to position 4.

## **2) Program parameters, general adjustments**

### **2.1) Overview program parameters, general adjustments**

- 01 Lanecoupling lane 1 and 2
- 02 Lanecoupling lane 2 and 3
- 03 Lanecoupling lane 3 and 4
- 04 Lanecoupling lane 4 and 5
- 05 Automatic lanecoupling
- 06 Use switches per lane
- 07 Reserved
- 08 Reserved
- 09 Reserved
- 10 Machine speed
- 11 Relative speed feeder (%)
- 12 Relative speed folder (%)
- 13 Reserved
- 14 Hole compensation
- 15 Reserved

## **2.2) Program parameters, general adjustments details**

### **01 Lanecoupling lane 1 and 2**

With this parameter, the lanecoupling between lane 1 and 2 can be (re)set. A value of 1 means that the lanes are coupled,

### **02 Lanecoupling lane 2 and 3**

With this parameter, the lanecoupling between lane 2 and 3 can be (re)set. A value of 1 means that the lanes are coupled,

### **03 Lanecoupling lane 3 and 4**

With this parameter, the lanecoupling between lane 3 and 4 can be (re)set. A value of 1 means that the lanes are coupled,

### **04 Lanecoupling lane 4 and 5**

With this parameter, the lanecoupling between lane 4 and 5 can be (re)set. A value of 1 means that the lanes are coupled,

### **05 Automatic lanecoupling**

With this parameter, automatic lanecoupling can be enabled (1) or disabled (0). All other lanecoupling-parameters should be 0.

### **06 Use switches per lane**

This parameter indicates if the multi position switches for program choice at the feeding side should be used (value 1) or not (value 0).

### **10 Machine speed**

When the machine is behind an ironer, this parameter is the ironer speed. In case of a stand-alone machine, this parameter is the speed of the folding machine.

### **11 Relative speed feeder (%)**

The relative speed of the feeding machine in relation to the ironer (%).

### **12 Relative speed folder (%)**

The relative speed of the folding machine in relation to the ironer (%).

### **14 Hole compensation**

The maximum size of a hole to be corrected automatically is this parameter (cm). This is also the minimum distance between the pieces.

### **3) Program parameters, adjustments per lane**

#### **3.1) Overview program parameters, adjustments per lane**

- 01 Lengthfold short pieces
- 02 Lengthfold long pieces
- 03 Limit short/long length
- 04 Reserved
- 05 Overlap 1st lengthfold
- 06 Overlap 2nd lengthfold
- 07 Overlap 3rd lengthfold
- 08 Reserved
- 09 Reserved
- 10 Blowtime 1st lengthfold
- 11 Blowtime 2nd lengthfold
- 12 Blowtime 3rd lengthfold
- 13 Reserved
- 14 Use rollfold crossfold
- 15 Stackheight
- 16 Stopposition small pieces
- 17 Use stopbelt/wait rack small pieces
- 18 Use blowpipe in clamp
- 19 Conveyortime stacker
- 20 Stackposition in-line stacker
- 21 Stopposition rollfold
- 22 Folding time rollfold
- 23 Push time ILS stacker
- 24 Reserved
- 25 Reserved

## **3.2) Program parameters, adjustments per lane details**

### **01 Lengthfold short pieces**

Type of lengthfold for pieces smaller than the limit adjusted in parameter 3.

### **02 Lengthfold long pieces**

Type of lengthfold for pieces longer than the limit adjusted in parameter 3. Or the type of lengthfold when no limit is used or adjusted.

### **03 Limit short/long length**

Limit (in cm) to distinguish between short and long pieces. Pieces shorter than this limit will be folded according to parameter 1. Other pieces according to parameter 2.

### **05 Overlap 1st lengthfold**

The overlap or folding point of the first lateral fold. The standard value of this parameter is 100.

### **06 Overlap 2nd lengthfold**

The overlap or folding point of the 2nd lateral fold. The standard value of this parameter is 100.

### **07 Overlap 3rd lengthfold**

The overlap or folding point of the 3rd lateral fold. The standard value of this parameter is 100.

### **10 Blowtime 1st lengthfold**

The time the blowpipe of the 1st lateral fold is activated when folding. Steps of 0,01s.

### **11 Blowtime 2nd lengthfold**

The time the blowpipe of the 2nd lateral fold is activated when folding. Steps of 0,01s.

### **12 Blowtime 3rd lengthfold**

The time the blowpipe of the 3rd lateral fold is activated when folding. Steps of 0,01s.

### **14 Use rollfold crossfold**

Value 0 means that the rollfold crossfold for small pieces isn't used. Value 1 means that this fold is used.

### **15 Stackheight**

The stacking height of the small piece stackers. When the stack reaches this number of pieces, the conveyor will shift. A value of 0 means no stacking.

### **16 Stopposition small pieces**

In case of stopbelts at the small piece stacker, this parameter is the moment the belts are stopped. In case of no stopbelts, this parameter is the moment the stacker is started.

### **17 Use stopbelt/wait rack small pieces**

Enable/disable the stopbelts or the waiting rack of the small piece stackers, whichever one is available. A value of 0 disables the stopbelt/waiting rack, a value of 1 will activate this function.

### **18 Use blowpipe in clamp**

Enable/disable the blowpipe in the clamp of the small piece stackers. A value of 0 means that the blowpipe isn't used, a value of 1 will activate function of the blowpipe.

### **19 Conveyortime stacker**

The time (steps of 0,01s) the conveyor of a small piece stacker is activated in case of shifting a stack.



**20 Stackposition in-line stacker**

The distance between the photocell of the in-line stacker and the moment the stacker is started. Steps of mainwheelpulses.

**21 Stopposition rollfold**

The stopposition of the rollfold crossfold for small pieces. Steps of main counting wheel pulses.

**22 Folding time rollfold**

The time the cylinder of the rollfold is activated to make the crossfold for small pieces. Value 0 means cylinder stays on until end position. Steps of 10ms (0,01s).

**23 Push time ILS stacker**

The time the lowerator of the ILS stacker goes up to push the stack against the flap to get better stacks. Value of 0 means pushing disabled. Steps of 0,01s.

## **4) Program parameters, adjustments crossfold**

### ***4.1) Overview program parameters, adjustments crossfold***

- 01 Number of crossfolds
- 02 Stackfunction
- 03 Stackheight 1st stacker
- 04 Stackheight 2nd stacker
- 05 Limit 1 or 2 crossfolds
- 06 Overlap 2nd crossfold
- 07 Limit stacker 1 or 2
- 08 Overlap 1st stacker
- 09 Overlap 2nd stacker
- 10 Stopposition 1st crossfold
- 11 Sensitivity crookdetection
- 12 Knifetime 1st crossfold
- 13 Conveyortime stacker(s)
- 14 Pick-up moment 2nd crossfold
- 15 Delay return knife stacker

## **4.2) Program parameters, adjustments crossfold details**

### **01 Number of crossfolds**

Number of crossfolds:

0 = No crossfolds

1 = 1 crossfolds

2 = 2 crossfolds

Attention!! The crossfold made at the stacker is not included.

### **02 Stackfunction**

Sheetstacker to use:

0 = Don't stack

1 = Use stacker 1

2 = Use stacker 2

3 = Automatic on length

4 = Automatic on width

5 = Sequential

### **03 Stackheight 1st stacker**

The stacking height of the 1st sheetstacker. When the stack reaches this number of pieces, the conveyor will shift.

### **04 Stackheight 2nd stacker**

The stacking height of the 2nd sheetstacker. When the stack reaches this number of pieces, the conveyor will shift.

### **05 Limit 1 or 2 crossfolds**

The limit for 1 or 2 crossfolds in cm. In case of a piece smaller than this limit, the 2nd crossfold will be bypassed.

### **06 Overlap 2nd crossfold**

The overlap or folding point of the second crossfold. The standard value of this parameter is 100.

### **07 Limit stacker 1 or 2**

The limit for the stacker selection in cm. When the stackfunction is adjusted to 3 or 4, a stacker will be selected using the value of this parameter.

### **08 Overlap 1st stacker**

The overlap or folding point of the 1st sheetstacker. The standard value of this parameter is 100.

### **09 Overlap 2nd stacker**

The overlap or folding point of the 2nd sheetstacker. The standard value of this parameter is 100.

### **10 Stopposition 1st crossfold**

The stopposition at the 1st crossfold. The higher the value of this parameter, the later the belts will stop.

### **11 Sensitivity crookdetection**

A value of 0 means that the crookdetection at the 1<sup>st</sup> crossfold is disabled. The higher the value, the more the pieces can be crooked without being dropped at the 1st crossfold.

### **12 Knifetime 1st crossfold**

This is the time the knife of the 1st crossfold is activated, in steps of 0,01s.

### **13 Conveyortime stacker(s)**

The time (steps of 0,01s) the conveyor of a sheetstacker is activated in case of shifting a stack when the stacking height is reached.

**14 Pick-up moment 2nd crossfold**

The moment the flap of the 2<sup>nd</sup> crossfold goes up to pick-up the front of the piece and make the fold.

**15 Delay return knife stacker**

The time the knife of the stacker will stay in the upper position before it's sent back. Steps of 10ms (0,01s).

## 5) Alarms

### 001 EMERGENCY STOP

One of the emergency stops on the machine is/has been pushed. When no emergency switch is active anymore, the emergency stop can be reset with the 'reset' button.

### 002 MOTOR THERMICAL OFF

The thermal protection of one of the motors is active. Check if the concerning motor is jammed and release the protection again.

### 003 VARAN-BUS ERROR

The connection with one or more backplanes on the varan IO-bus is lost. As soon as connection is re-established, message will disappear.

### 004 STACKER NOT IN POSITION

The stackerframe is not in the right position (against the machine). This is detected by a reedswitch.

### 006 ERROR INVERTER MAINMOTOR

The frequency inverter of the main motor is in alarm (motor stuck?). Reset can be done by switching of the inverter with the emergency stop and wait for about 20 seconds.

### 007 ERROR INVERTER STOPBELTS

One of the inverters of the stopbelts is in alarm (motor stuck?). Reset can be done by switching off the inverter with the emergency stop and wait for about 20 seconds.

### 008 ERROR INVERTER ROLLFOLD

One of the inverters of the stopbelts of the small piece crossfold is in alarm. Reset can be done by switching off the inverter with the emergency stop and wait 20 secs.

### 010 PIECE TOO LONG AT ROLLFOLD

At one of the rollfolds a piece is too long (both the stopposition and the lengthcheck photocell are covered). This piece has to be removed manually.

### 011 SHEET STUCK 1ST LENGTH LN1

The photocell of the 1st lengthfold has measured a length longer than the maximum adjusted in the parameters. Can be caused by a jammed sheet at the photocell or counting wheel.

### 012 SHEET STUCK 1ST LENGTH LN2

The photocell of the 1st lengthfold has measured a length longer than the maximum adjusted in the parameters. Can be caused by a jammed sheet at the photocell or counting wheel.

### 013 SHEET STUCK 1ST LENGTH LN3

The photocell of the 1st lengthfold has measured a length longer than the maximum adjusted in the parameters. Can be caused by a jammed sheet at the photocell or counting wheel.

### 014 SHEET STUCK 1ST LENGTH LN4

The photocell of the 1st lengthfold has measured a length longer than the maximum adjusted in the parameters. Can be caused by a jammed sheet at the photocell or counting wheel.

### 015 SHEET STUCK 1ST LENGTH LN5

The photocell of the 1st lengthfold has measured a length longer than the maximum adjusted in the parameters. Can be caused by a jammed sheet at the photocell or counting wheel.

### 016 PIECE TOO LATE 2ND LENGTH LANE 1

A piece arrived too late at the photocell of the 2nd lengthfold of lane 1 for the 2nd time. This can be caused by a jam in the lengthfold.

**017 PIECE TOO LATE 2ND LENGTH LANE 2**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 2 for the 2nd time. This can be caused by a jam in the lengthfold.

**018 PIECE TOO LATE 2ND LENGTH LANE 3**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 3 for the 2nd time. This can be caused by a jam in the lengthfold.

**019 PIECE TOO LATE 2ND LENGTH LANE 4**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 4 for the 2nd time. This can be caused by a jam in the lengthfold.

**020 PIECE TOO LATE 2ND LENGTH LANE 5**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 5 for the 2nd time. This can be caused by a jam in the lengthfold.

**021 PIECE TOO LATE STACKER LANE 1**

Two pieces didn't arrive (in time) at the photocell of the stacker of lane 1 Cause can be a jam in the lengthfold. After checking the machine can be restarted with the startbutton.

**022 PIECE TOO LATE STACKER LANE 2**

Two pieces didn't arrive (in time) at the photocell of the stacker of lane 2 Cause can be a jam in the lengthfold. After checking the machine can be restarted with the startbutton.

**023 PIECE TOO LATE STACKER LANE 3**

Two pieces didn't arrive (in time) at the photocell of the stacker of lane 3 Cause can be a jam in the lengthfold. After checking the machine can be restarted with the startbutton.

**024 PIECE TOO LATE STACKER LANE 4**

Two pieces didn't arrive (in time) at the photocell of the stacker of lane 4 Cause can be a jam in the lengthfold. After checking the machine can be restarted with the startbutton.

**025 PIECE TOO LATE STACKER LANE 5**

Two pieces didn't arrive (in time) at the photocell of the stacker of lane 1 Cause can be a jam in the lengthfold. After checking the machine can be restarted with the startbutton.

**026 CLAMP NOT HOME STACKER LANE 1**

When a piece arrived at the stacker, the clamp was not in home position. Because this happened two times, this can be caused by a jam at the stacker, so the machine is stopped.

**027 CLAMP NOT HOME STACKER LANE 2**

When a piece arrived at the stacker, the clamp was not in home position. Because this happened two times, this can be caused by a jam at the stacker, so the machine is stopped.

**028 CLAMP NOT HOME STACKER LANE 3**

When a piece arrived at the stacker, the clamp was not in home position. Because this happened two times, this can be caused by a jam at the stacker, so the machine is stopped.

**029 CLAMP NOT HOME STACKER LANE 4**

When a piece arrived at the stacker, the clamp was not in home position. Because this happened two times, this can be caused by a jam at the stacker, so the machine is stopped.

**030 CLAMP NOT HOME STACKER LANE 5**

When a piece arrived at the stacker, the clamp was not in home position. Because this happened two times, this can be caused by a jam at the stacker, so the machine is stopped.

**031 CLAMP NOT UP STACKER LANE 1**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. Because this happened 2 times, this can be caused by a jam, so the machine is stopped.

**032 CLAMP NOT UP STACKER LANE 2**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. Because this happened 2 times, this can be caused by a jam, so the machine is stopped.

**033 CLAMP NOT UP STACKER LANE 3**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. Because this happened 2 times, this can be caused by a jam, so the machine is stopped.

**034 CLAMP NOT UP STACKER LANE 4**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. Because this happened 2 times, this can be caused by a jam, so the machine is stopped.

**035 CLAMP NOT UP STACKER LANE 5**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. Because this happened 2 times, this can be caused by a jam, so the machine is stopped.

**036 TIME-OUT ROLLFOLD MOVEMENT 1**

During the movement of the crossfold for small pieces of lane 1, an error occurred in the detection of the reedswitches. Because this happened twice, the machine is stopped.

**037 TIME-OUT ROLLFOLD MOVEMENT 2**

During the movement of the crossfold for small pieces of lane 2, an error occurred in the detection of the reedswitches. Because this happened twice, the machine is stopped.

**038 TIME-OUT ROLLFOLD MOVEMENT 3**

During the movement of the crossfold for small pieces of lane 3, an error occurred in the detection of the reedswitches. Because this happened twice, the machine is stopped.

**039 TIME-OUT ROLLFOLD MOVEMENT 4**

During the movement of the crossfold for small pieces of lane 4, an error occurred in the detection of the reedswitches. Because this happened twice, the machine is stopped.

**040 TIME-OUT ROLLFOLD MOVEMENT 5**

During the movement of the crossfold for small pieces of lane 5, an error occurred in the detection of the reedswitches. Because this happened twice, the machine is stopped.

**041 PIECE TOO LATE ROLLFOLD LANE 1**

Two pieces didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 1. Cause can be a jam in the lengthfold.

**042 PIECE TOO LATE ROLLFOLD LANE 2**

Two pieces didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 2. Cause can be a jam in the lengthfold.

**043 PIECE TOO LATE ROLLFOLD LANE 3**

Two pieces didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 3. Cause can be a jam in the lengthfold.

**044 PIECE TOO LATE ROLLFOLD LANE 4**

Two pieces didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 4. Cause can be a jam in the lengthfold.

**045 PIECE TOO LATE ROLLFOLD LANE 5**

Two pieces didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 5. Cause can be a jam in the lengthfold.

**046 PIECE TOO LATE ROLLFOLD LANE 1**

Two pieces didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 1. Cause can be a jam in the rollfold section.

**047 PIECE TOO LATE ROLLFOLD LANE 2**

Two pieces didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 2. Cause can be a jam in the rollfold section.

**048 PIECE TOO LATE ROLLFOLD LANE 3**

Two pieces didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 3. Cause can be a jam in the rollfold section.

**049 PIECE TOO LATE ROLLFOLD LANE 4**

Two pieces didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 4. Cause can be a jam in the rollfold section.

**050 PIECE TOO LATE ROLLFOLD LANE 5**

Two pieces didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 5. Cause can be a jam in the rollfold section.

**052 SAFETY SWITCH 1st LENGTH FOLD**

The safety switch for the clutches of the 1st length fold is active (contact not closed). This can be caused by jammed pieces at one of the switches at the 1st length fold.

**053 SAFETY SWITCH 2nd LENGTH FOLD**

The safety switch for the clutches of the 2nd length fold is active (contact not closed). This can be caused by jammed pieces at one of the switches at the 2nd length fold.

**056 PCE.TOO LATE 2nd CROSS**

A piece didn't arrive at the photocell of the 2nd crossfold (directly underneath the 1st crossfold of the middle lane). This can be caused by a jam in the crossfold.

**057 PCE.TOO LATE, STACKER LEFT**

A piece didn't arrive at the photocell of the stackers on the left (or only) side. This can be caused by a jam in the crossfold.

**058 PCE.TOO LATE, STACKER RIGHT**

A piece didn't arrive at the photocell of the stackers on the right side. This can be caused by a jam in the crossfold.

**059 2nd CROSSPC. COVERED TOO LONG**

The photocell of the 2nd crossfold (directly underneath the 1st crossfold of the middle lane) is covered too long. In most cases this is caused by a jammed piece.

**060 STACKPC.COVERED TOO LONG**

The photocell of the stacker(s) on the left (or only) side is covered too long. In most cases this is caused by a jammed piece.

**061 STACKPC.COVERED TOO LONG**

The photocell of the stacker(s) on the right side is covered too long. In most cases this is caused by a jammed piece.

**062 PCE TOO LATE STACKER 1**

A piece arrived too late at the stopposition photocell of the 1st stacker. This can be caused by a jam at the stacker.



**063 PCE TOO LATE STACKER 2**

A piece arrived too late at the stopposition photocell of the 2nd stacker. This can be caused by a jam at the stacker.

**064 PCE TOO LATE STACKER 3**

A piece arrived too late at the stopposition photocell of the 3rd stacker. This can be caused by a jam at the stacker.

**065 PCE TOO LATE STACKER 4**

A piece arrived too late at the stopposition photocell of the 4th stacker. This can be caused by a jam at the stacker.

**066 PCE TOO LATE LENGTHPC. LANE 2**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold of lane 2. Cause can be a jam in the lengthfold. Because this is the 2nd time, the machine stops.

**067 PCE TOO LATE LENGTHPC. MIDDLE**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold in the middle. Cause can be jam in the lengthfold. Because this is the 2nd time, the machine stops.

**068 PCE TOO LATE LENGTHPC. LANE 3**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold of lane 3. Cause can be a jam in the lengthfold. Because this is the 2nd time, the machine stops.

**069 PCE TOO LATE STOPPC. LANE 2**

A piece didn't arrive at the stopposition photocell of the 1st crossfold of lane 2. Cause can be a jam in the lengthfold. Because this is the 2nd time, the machine stops.

**070 PCE TOO LATE STOPPC. MIDDLE**

A piece didn't arrive at the stopposition photocell of the 1st crossfold in the middle. Cause can be a jam in the lengthfold. Because this is the 2nd time, the machine stops.

**071 PCE TOO LATE STOPPC. LANE 3**

A piece didn't arrive at the stopposition photocell of the 1st crossfold of lane 3. Cause can be a jam in the lengthfold. Because this is the 2nd time, the machine stops.

**076 CLAMP NOT HOME SHEETSTACKER 1**

The last piece at the 1st sheetstacker couldn't be stacked because the clamp wasn't in the home position. Because this is the 2nd time, the machine is stopped.

**077 CLAMP NOT HOME SHEETSTACKER 2**

The last piece at the 2nd sheetstacker couldn't be stacked because the clamp wasn't in the home position. Because this is the 2nd time, the machine is stopped.

**078 CLAMP NOT HOME SHEETSTACKER 3**

The last piece at the 3rd sheetstacker couldn't be stacked because the clamp wasn't in the home position. Because this is the 2nd time, the machine is stopped.

**079 CLAMP NOT HOME SHEETSTACKER 4**

The last piece at the 4th sheetstacker couldn't be stacked because the clamp wasn't in the home position. Because this is the 2nd time, the machine is stopped.

**080 CLAMP TOO LATE SHEETSTACKER 1**

The clamp of the 1st sheetstacker did not reach the reedswitch for the upper position in the estimated time. Because this is the 2nd time, the machine is stopped.

**081 CLAMP TOO LATE SHEETSTACKER 2**

The clamp of the 2nd sheetstacker did not reach the reedswitch for the upper position in the estimated time. Because this is the 2nd time, the machine is stopped.

**082 CLAMP TOO LATE SHEETSTACKER 3**

The clamp of the 3rd sheetstacker did not reach the reedswitch for the upper position in the estimated time. Because this is the 2nd time, the machine is stopped.

**083 CLAMP TOO LATE SHEETSTACKER 4**

The clamp of the 4th sheetstacker did not reach the reedswitch for the upper position in the estimated time. Because this is the 2nd time, the machine is stopped.

**086 IRONER JAMMED LANE 1**

The feeder has been feeding pieces which never arrived at the folder. This can be caused by a jam in the ironer or at the 1st lateral fold.

**087 IRONER JAMMED LANE 2**

The feeder has been feeding pieces which never arrived at the folder. This can be caused by a jam in the ironer or at the 1st lateral fold.

**088 IRONER JAMMED LANE 3**

The feeder has been feeding pieces which never arrived at the folder. This can be caused by a jam in the ironer or at the 1st lateral fold.

**089 IRONER JAMMED LANE 4**

The feeder has been feeding pieces which never arrived at the folder. This can be caused by a jam in the ironer or at the 1st lateral fold.

**090 IRONER JAMMED LANE 5**

The feeder has been feeding pieces which never arrived at the folder. This can be caused by a jam in the ironer or at the 1st lateral fold.

**091 Piece too late 2nd length lane 1**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 1. If this happens 2 times in a row, the machine will be stopped.

**092 Piece too late 2nd length lane 2**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 2. If this happens 2 times in a row, the machine will be stopped.

**093 Piece too late 2nd length lane 3**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 3. If this happens 2 times in a row, the machine will be stopped.

**094 Piece too late 2nd length lane 4**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 4. If this happens 2 times in a row, the machine will be stopped.

**095 Piece too late 2nd length lane 5**

A piece arrived too late at the photocell of the 2nd lengthfold of lane 5. If this happens 2 times in a row, the machine will be stopped.

**096 Piece too late stacker lane 1**

A piece didn't arrive (in time) at the photocell of the stacker of lane 1. This can be caused by a jam in the lengthfold. When this happens 2 times, the machine will be stopped.

**097 Piece too late stacker lane 2**

A piece didn't arrive (in time) at the photocell of the stacker of lane 2. This can be caused by a jam in the lengthfold. When this happens 2 times, the machine will be stopped.

**098 Piece too late stacker lane 3**

A piece didn't arrive (in time) at the photocell of the stacker of lane 3. This can be caused by a jam in the lengthfold. When this happens 2 times, the machine will be stopped.

**099 Piece too late stacker lane 4**

A piece didn't arrive (in time) at the photocell of the stacker of lane 4. This can be caused by a jam in the lengthfold. When this happens 2 times, the machine will be stopped.

**100 Piece too late stacker lane 5**

A piece didn't arrive (in time) at the photocell of the stacker of lane 5. This can be caused by a jam in the lengthfold. When this happens 2 times, the machine will be stopped.

**101 Time-out rollfold movement lane 1**

During the movement of the crossfold for small pieces of lane 1, an error occurred in the detection of the reedswitches. If this happens twice, the machine will be stopped.

**102 Time-out rollfold movement lane 2**

During the movement of the crossfold for small pieces of lane 2, an error occurred in the detection of the reedswitches. If this happens twice, the machine will be stopped.

**103 Time-out rollfold movement lane 3**

During the movement of the crossfold for small pieces of lane 3, an error occurred in the detection of the reedswitches. If this happens twice, the machine will be stopped.

**104 Time-out rollfold movement lane 4**

During the movement of the crossfold for small pieces of lane 4, an error occurred in the detection of the reedswitches. If this happens twice, the machine will be stopped.

**105 Time-out rollfold movement lane 5**

During the movement of the crossfold for small pieces of lane 5, an error occurred in the detection of the reedswitches. If this happens twice, the machine will be stopped.

**106 Piece too long, crossfold lane 1**

The last piece at the small piece crossfold of lane 1 hasn't been folded, because the piece was longer than the adjusted machineparameter limit or the photocell was still covered.

**107 Piece too long, crossfold lane 2**

The last piece at the small piece crossfold of lane 2 hasn't been folded, because the piece was longer than the adjusted machineparameter limit or the photocell was still covered.

**108 Piece too long, crossfold lane 3**

The last piece at the small piece crossfold of lane 3 hasn't been folded, because the piece was longer than the adjusted machineparameter limit or the photocell was still covered.

**109 Piece too long, crossfold lane 4**

The last piece at the small piece crossfold of lane 4 hasn't been folded, because the piece was longer than the adjusted machineparameter limit or the photocell was still covered.

**110 Piece too long, crossfold lane 5**

The last piece at the small piece crossfold of lane 5 hasn't been folded, because the piece was longer than the adjusted machineparameter limit or the photocell was still covered.

**112 Wax cloth request**

The number of pieces until the ironer should be waxed is done. When waxing is done, this message can be reset with the startbutton on this panel.

**114 Thermal off conveyor**

The thermal protection of one of the feed-off conveyor(s) is activated.

**116 Clamp not home, stacker lane 1**

The last piece at the small piece stacker of lane 1 couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**117 Clamp not home, stacker lane 2**

The last piece at the small piece stacker of lane 2 couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**118 Clamp not home, stacker lane 3**

The last piece at the small piece stacker of lane 3 couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**119 Clamp not home, stacker lane 4**

The last piece at the small piece stacker of lane 4 couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**120 Clamp not home, stacker lane 5**

The last piece at the small piece stacker of lane 5 couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**121 Knife too late up, stacker lane 1**

While stacking a piece, the knife of the small piece stacker wasn't in the upper position in the estimated time. Check if the conveyor is up, and if the reedswitch and valve still work ok.

**122 Knife too late up, stacker lane 2**

While stacking a piece, the knife of the small piece stacker wasn't in the upper position in the estimated time. Check if the conveyor is up, and if the reedswitch and valve still work ok.

**123 Knife too late up, stacker lane 3**

While stacking a piece, the knife of the small piece stacker wasn't in the upper position in the estimated time. Check if the conveyor is up, and if the reedswitch and valve still work ok.

**124 Knife too late up, stacker lane 4**

While stacking a piece, the knife of the small piece stacker wasn't in the upper position in the estimated time. Check if the conveyor is up, and if the reedswitch and valve still work ok.

**125 Knife too late up, stacker lane 5**

While stacking a piece, the knife of the small piece stacker wasn't in the upper position in the estimated time. Check if the conveyor is up, and if the reedswitch and valve still work ok.

**126 Clamp up too late, stacker lane 1**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**127 Clamp up too late, stacker lane 2**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**128 Clamp up too late, stacker lane 3**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**129 Clamp up too late, stacker lane 4**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**130 Clamp up too late, stacker lane 5**

The clamp of the small piece stacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**131 Time-out conveyor up lane 1**

The reedswitch for detecting if the conveyor of the small piece stacker of lane 1 is in the upper position, wasn't detected in the estimated time.

**132 Time-out conveyor up lane 2**

The reedswitch for detecting if the conveyor of the small piece stacker of lane 2 is in the upper position, wasn't detected in the estimated time.

**133 Time-out conveyor up lane 3**

The reedswitch for detecting if the conveyor of the small piece stacker of lane 3 is in the upper position, wasn't detected in the estimated time.

**134 Time-out conveyor up lane 4**

The reedswitch for detecting if the conveyor of the small piece stacker of lane 4 is in the upper position, wasn't detected in the estimated time.

**135 Time-out conveyor up lane 5**

The reedswitch for detecting if the conveyor of the small piece stacker of lane 5 is in the upper position, wasn't detected in the estimated time.

**136 Conveyor busy stacker lane 1**

The last piece at the small piece stacker of lane 1 couldn't be stacked, because the conveyor was still busy with shifting a stack.

**137 Conveyor busy stacker lane 2**

The last piece at the small piece stacker of lane 2 couldn't be stacked, because the conveyor was still busy with shifting a stack.

**138 Conveyor busy stacker lane 3**

The last piece at the small piece stacker of lane 3 couldn't be stacked, because the conveyor was still busy with shifting a stack.

**139 Conveyor busy stacker lane 4**

The last piece at the small piece stacker of lane 4 couldn't be stacked, because the conveyor was still busy with shifting a stack.

**140 Conveyor busy stacker lane 5**

The last piece at the small piece stacker of lane 5 couldn't be stacked, because the conveyor was still busy with shifting a stack.

**142 Battery almost empty**

The battery in the PLC is almost empty. It has to be replaced every year. Replace the battery as soon as possible to prevent loss of data.

**143 CPU temperature too high**

The temperature of de PLC-procesoor is too high. Reason can be a broken fan or a too high environment temperature.

**144 Lengthlimit too high**

The value of the limit for short and long pieces (subprog.parameter 3) is too high. Because of this value, no automatic lengthfolds can be made.

**146 Pieces too close, stacker lane 1**

The last piece at the small piece stacker of lane 1 couldn't be stacked because the stacker was still busy with stacking the previous piece.

**147 Pieces too close, stacker lane 2**

The last piece at the small piece stacker of lane 2 couldn't be stacked because the stacker was still busy with stacking the previous piece.

**148 Pieces too close, stacker lane 3**

The last piece at the small piece stacker of lane 3 couldn't be stacked because the stacker was still busy with stacking the previous piece.

**149 Pieces too close, stacker lane 4**

The last piece at the small piece stacker of lane 4 couldn't be stacked because the stacker was still busy with stacking the previous piece.

**150 Pieces too close, stacker lane 5**

The last piece at the small piece stacker of lane 5 couldn't be stacked because the stacker was still busy with stacking the previous piece.

**151 Piece too short, 1st length lane 1**

The photocell of the 1st lengthfold of lane 1 has detected a piece which was shorter than the limit in the machine parameters. This can be caused by a belt accidentally covering the photocell.

**152 Piece too short, 1st length lane 2**

The photocell of the 1st lengthfold of lane 2 has detected a piece which was shorter than the limit in the machine parameters. This can be caused by a belt accidentally covering the photocell.

**153 Piece too short, 1st length lane 3**

The photocell of the 1st lengthfold of lane 3 has detected a piece which was shorter than the limit in the machine parameters. This can be caused by a belt accidentally covering the photocell.

**154 Piece too short, 1st length lane 4**

The photocell of the 1st lengthfold of lane 4 has detected a piece which was shorter than the limit in the machine parameters. This can be caused by a belt accidentally covering the photocell.

**155 Piece too short, 1st length lane 5**

The photocell of the 1st lengthfold of lane 5 has detected a piece which was shorter than the limit in the machine parameters. This can be caused by a belt accidentally covering the photocell.

**166 Pieces too close, crossfold lane 1**

The last piece at the rollfold crossfold of lane 1 couldn't be folded because the unit was still busy. The piece will be rejected at the last lengthfold or will be bypassed.

**167 Pieces too close, crossfold lane 2**

The last piece at the rollfold crossfold of lane 2 couldn't be folded because the unit was still busy. The piece will be rejected at the last lengthfold or will be bypassed.

**168 Pieces too close, crossfold lane 3**

The last piece at the rollfold crossfold of lane 3 couldn't be folded because the unit was still busy. The piece will be rejected at the last lengthfold or will be bypassed.

**169 Pieces too close, crossfold lane 4**

The last piece at the rollfold crossfold of lane 4 couldn't be folded because the unit was still busy. The piece will be rejected at the last lengthfold or will be bypassed.

**170 Pieces too close, crossfold lane 5**

The last piece at the rollfold crossfold of lane 5 couldn't be folded because the unit was still busy. The piece will be rejected at the last lengthfold or will be bypassed.

**171 Piece too late rollfold lane 1**

A piece didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 1. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**172 Piece too late rollfold lane 2**

A piece didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 2. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**173 Piece too late rollfold lane 3**

A piece didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 3. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**174 Piece too late rollfold lane 4**

A piece didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 4. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**175 Piece too late rollfold lane 5**

A piece didn't arrive (in time) at the first photocell of the rollfold crossfold of lane 5. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**176 Piece too late rollfold lane 1**

A piece didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 1. Cause can be a jam in the rollfold section. If this happens twice, the machine stops.

**177 Piece too late rollfold lane 2**

A piece didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 2. Cause can be a jam in the rollfold section. If this happens twice, the machine stops.

**178 Piece too late rollfold lane 3**

A piece didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 3. Cause can be a jam in the rollfold section. If this happens twice, the machine stops.

**179 Piece too late rollfold lane 4**

A piece didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 4. Cause can be a jam in the rollfold section. If this happens twice, the machine stops.

**180 Piece too late rollfold lane 5**

A piece didn't arrive (in time) at the second photocell of the rollfold crossfold of lane 5. Cause can be a jam in the rollfold section. If this happens twice, the machine stops.

**186 Piece too late, 2nd cross**

A piece didn't arrive at the photocell of the 2nd crossfold (directly underneath the 1st crossfold of the middle lane). This can be caused by a jam in the crossfold.

**187 Piece too late, stacker left**

A piece didn't arrive at the photocell of the stacker(s) on the left (or only) side. Cause can be a jam in the crossfold. If this happens twice, the machine will stop.

**188 Piece too late, stacker right**

A piece didn't arrive at the photocell of the stacker(s) on the right side. Cause can be a jam in the crossfold. If this happens twice, the machine will stop.

**189 2nd crosspc. covered too long**

The photocell of the 2nd crossfold (directly underneath the 1st crossfold of the middle lane) is covered too long. In most cases this is caused by a jammed piece.

**190 Stackerpc. covered too long**

The photocell of the stacker(s) on the left (or only) side is covered too long. In most cases this is caused by a jammed piece.

**191 Stackerpc. covered too long**

The photocell of the stacker(s) on the right side is covered too long. In most cases this is caused by a jammed piece.

**192 Time-out stoppos. stacker 1**

A piece arrived too late at the stopposition photocel of the 1st stacker. Cause can be jam at the stacker. If this happens twice, the machine will stop.

**193 Time-out stoppos. stacker 2**

A piece arrived too late at the stopposition photocel of the 2nd stacker. Cause can be jam at the stacker. If this happens twice, the machine will stop.

**194 Time-out stoppos. stacker 3**

A piece arrived too late at the stopposition photocel of the 3rd stacker. Cause can be jam at the stacker. If this happens twice, the machine will stop.

**195 Time-out stoppos. stacker 4**

A piece arrived too late at the stopposition photocel of the 4th stacker. Cause can be jam at the stacker. If this happens twice, the machine will stop.

**201 Piece too late lengthpc. lane 2**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold of lane 2. This can be caused by a jam in the lengthfold. If this happens twice, the machine stops.

**202 Piece too late lengthpc. middle**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold in the middle. Cause can be a jam in the lengthfold. If this happens twice, the machine stops.

**203 Piece too late lengthpc. lane 3**

A piece didn't arrive at the lengthcheck photocell of the 1st crossfold of lane 3. This can be caused by a jam in the lengthfold. If this happens twice, the machine stops.

**204 Piece too late stoppc. lane 2**

A piece didn't arrive at the stopposition photocell of the 1st crossfold of lane 2. Cause can be a jam in the lengthfold. If this happens twice, the machine will stop.

**205 Piece too late stoppc. middle**

A piece didn't arrive at the stopposition photocell of the 1st crossfold in the middle. Cause can be a jam in the lengthfold. If this happens twice, the machine will stop.

**206 Piece too late stoppc. lane 3**

A piece didn't arrive at the stopposition photocell of the 1st crossfold of lane 3. Cause can be a jam in the lengthfold. If this happens twice, the machine will stop.

**211 Clamp not home, sheetstacker 1**

The last piece at the 1st sheetstacker couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**212 Clamp not home, sheetstacker 2**

The last piece at the 2nd sheetstacker couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**213 Clamp not home, sheetstacker 3**

The last piece at the 3th sheetstacker couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**214 Clamp not home, sheetstacker 4**

The last piece at the 4th sheetstacker couldn't be stacked because the clamp wasn't in the home position. When this happens 2 times, the machine will be stopped.

**215 Knife too late up, sheetstacker 1**

While stacking a piece, the knife of the 1st sheetstacker wasn't in the upper position in the estimated time. Check if conveyor is up, and if reedswitch and valve still work ok.

**216 Knife too late up, sheetstacker 2**

While stacking a piece, the knife of the 2nd sheetstacker wasn't in the upper position in the estimated time. Check if conveyor is up, and if reedswitch and valve still work ok.

**217 Knife too late up, sheetstacker 3**

While stacking a piece, the knife of the 3rd sheetstacker wasn't in the upper position in the estimated time. Check if conveyor is up, and if reedswitch and valve still work ok.



**218 Knife too late up, sheetstacker 4**

While stacking a piece, the knife of the 4th sheetstacker wasn't in the upper position in the estimated time. Check if conveyor is up, and if reedswitch and valve still work ok.

**219 Clamp up too late, sheetstacker 1**

The clamp of the 1st sheetstacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**220 Clamp up too late, sheetstacker 2**

The clamp of the 2nd sheetstacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**221 Clamp up too late, sheetstacker 3**

The clamp of the 3th sheetstacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**222 Clamp up too late, sheetstacker 4**

The clamp of the 4th sheetstacker did not reach the reedswitch for the upper position in the estimated time. When this happens 2 times, the machine will be stopped.

**226 Piece too long 1st cross lane 2**

The last piece at the 1st crossfold of lane 2 was too long (in stopposition, the lengthcheck photocell was covered). The piece will not be crossfolded.

**227 Piece too long 1st crossfold**

The last piece at the 1st crossfold in the middle lane was too long (in stopposition, the lengthcheck photocell was covered). The piece will not be crossfolded.

**228 Piece too long 1st cross lane 3**

The last piece at the 1st crossfold of lane 3 was too long (in stopposition, the lengthcheck photocell was covered). The piece will not be crossfolded.

**229 Pieces too close 1st cross lane 2**

While a piece was waiting at the 1st crossfold of lane 2, the next piece was already coming. The which was waiting will not be crossfolded.

**230 Pieces too close 1st cross middle**

While a piece was waiting at the 1st crossfold in the middle lane, the next piece was already coming. The piece which was waiting will not be crossfolded.

**231 Pieces too close 1st cross lane 3**

While a piece was waiting at the 1st crossfold of lane 3, the next piece was already coming. The which was waiting will not be crossfolded.

**232 Pcs.too close at stacker**

While a piece was waiting to be stacked at stacker 1 or 2, the next piece already arrived at the stacker. The piece which was waiting, will be thrown out.

**233 Pcs.too close at stacker**

While a piece was waiting to be stacked at stacker 3 or 4, the next piece already arrived at the stacker. The piece which was waiting, will be thrown out.

**236 Piece too long, sheetstacker 1**

The last piece at the 1st sheetstacker hasn't been stacked, because the piece was longer than the adjusted limit in the machine parameters.

**237 Piece too long, sheetstacker 2**

The last piece at the 2nd sheetstacker hasn't been stacked, because the piece was longer than the adjusted limit in the machine parameters.

**238 Conveyor busy stacker 1**

The last piece at the 1st sheetstacker couldn't be stacked, because the conveyor was still busy with shifting a stack.

**239 Conveyor busy stacker 2**

The last piece at the 2nd sheetstacker couldn't be stacked, because the conveyor was still busy with shifting a stack.

**240 Conveyor busy stacker 3**

The last piece at the 3th sheetstacker couldn't be stacked, because the conveyor was still busy with shifting a stack.

**241 Conveyor busy stacker 4**

The last piece at the 4th sheetstacker couldn't be stacked, because the conveyor was still busy with shifting a stack.

**253 Piece crooked crossfold**

At the 1st crossfold a piece is detected which was crooked. This piece will not be folded, but dropped at the 1st crossfold.

**256 Wait until stacker done, lane 1**

A piece is ready on the stopbelts of the small piece stacker. As soon as the clamp of the stacker is in homeposition again, the piece can be stacked.

**257 Wait until stacker done, lane 2**

A piece is ready on the stopbelts of the small piece stacker. As soon as the clamp of the stacker is in homeposition again, the piece can be stacked.

**258 Wait until stacker done, lane 3**

A piece is ready on the stopbelts of the small piece stacker. As soon as the clamp of the stacker is in homeposition again, the piece can be stacked.

**259 Wait until stacker done, lane 4**

A piece is ready on the stopbelts of the small piece stacker. As soon as the clamp of the stacker is in homeposition again, the piece can be stacked.

**260 Wait until stacker done, lane 5**

A piece is ready on the stopbelts of the small piece stacker. As soon as the clamp of the stacker is in homeposition again, the piece can be stacked.

**261 Hole detected in piece lane 1**

Within the adjusted distance the 1st lengthphotocell has been covered twice. The program will correct this as a hole.

**262 Hole detected in piece lane 2**

Within the adjusted distance the 1st lengthphotocell has been covered twice. The program will correct this as a hole.

**263 Hole detected in piece lane 3**

Within the adjusted distance the 1st lengthphotocell has been covered twice. The program will correct this as a hole.

**264 Hole detected in piece lane 4**

Within the adjusted distance the 1st lengthphotocell has been covered twice. The program will correct this as a hole.

**265 Hole detected in piece lane 5**

Within the adjusted distance the 1st lengthphotocell has been covered twice. The program will correct this as a hole.

**266 New program in ironer**

On the feeding side, a new program has been chosen. This program change is now delayed through the ironer. After the program is switched, this notification will disappear.

**271 Piece dirty lane 1**

On lane 1 a piece is/was rejected because for this piece the button for dirty pieces was pushed.

**272 Piece dirty lane 2**

On lane 2 a piece is/was rejected because for this piece the button for dirty pieces was pushed.

**273 Piece dirty lane 3**

On lane 3 a piece is/was rejected because for this piece the button for dirty pieces was pushed.

**274 Piece dirty lane 4**

On lane 1 a piece is/was rejected because for this piece the button for dirty pieces was pushed.

**275 Piece dirty lane 5**

On lane 5 a piece is/was rejected because for this piece the button for dirty pieces was pushed.

**276 Piece broke lane 1**

On lane 1 a piece is/was rejected because for this piece the button for broken pieces was pushed.

**277 Piece broke lane 2**

On lane 2 a piece is/was rejected because for this piece the button for broken pieces was pushed.

**278 Piece broke lane 3**

On lane 3 a piece is/was rejected because for this piece the button for broken pieces was pushed.

**279 Piece broke lane 4**

On lane 4 a piece is/was rejected because for this piece the button for broken pieces was pushed.

**280 Piece broke lane 5**

On lane 5 a piece is/was rejected because for this piece the button for broken pieces was pushed.

**288 Waiting for start**

The machine is waiting for a start signal to be given by the startbutton on this touchscreen.

**290 Operating**

The machine is running, no alarms or other notifications.