4 Structure and function

4.1 Overview

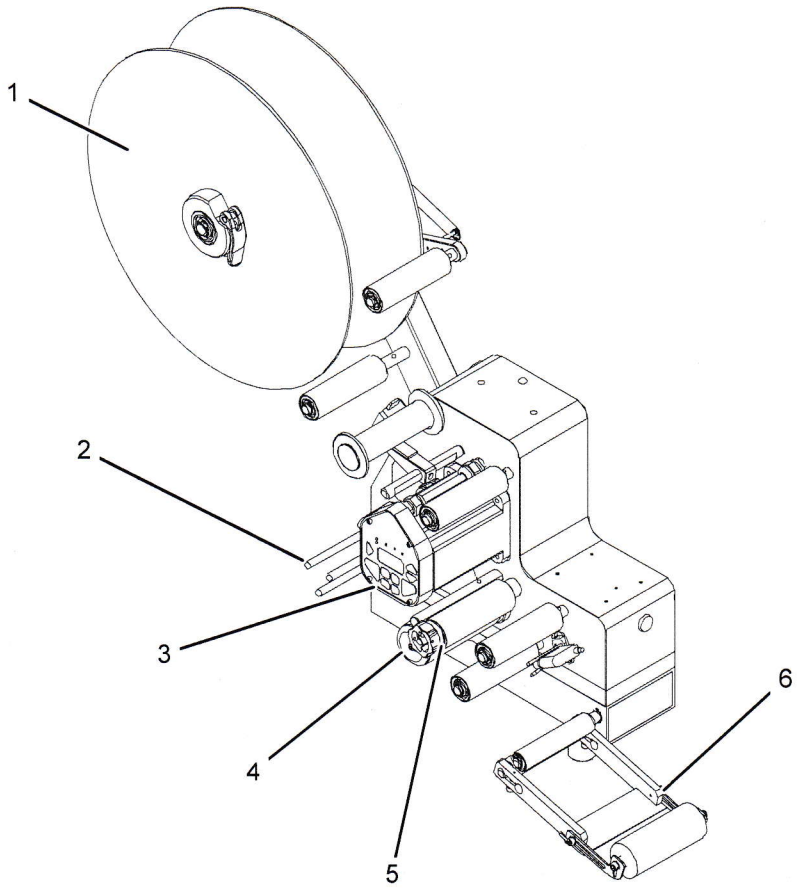


Fig. 4:

1 Unwinder
2 Coiler
3 Controls
4 Backing paper drive assembly
5 Tightening roller
6 Applicator with dispensing edge and press-on roller

The labels are dispensed onto a transport unit in feeding direction. The labels are detached from the backing strip at the dispensing edge and attached to the product by the press-on roller.

4.2 Description of assemblies

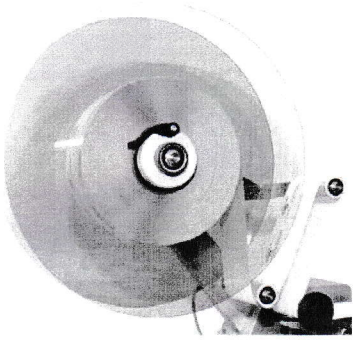


Fig. 5

Unwinder

The unwinder receives the label backing paper. The flanged wheels prevent the label backing paper from shifting. The flanged wheels are secured with quick release buckles.

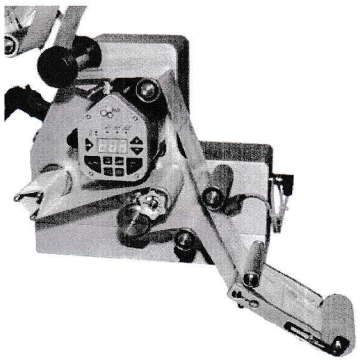


Fig. 6

Labelling station

The labelling station is responsible for transporting the backing strip. When the labels have been removed from the backing strip, the backing strip is wound onto a coiler.

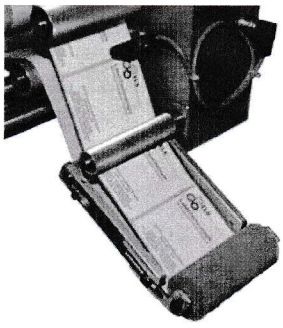


Fig. 7

Applicator with dispensing edge

The applicator detaches the label from the backing strip at the dispensing edge and attaches the label to the product.

4.3 Controls

The integrated controls are used to control all functions of the labelling station.

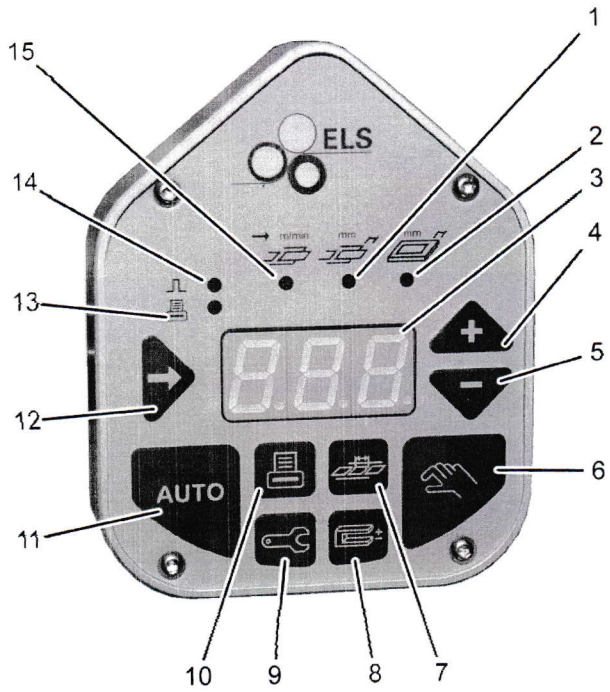


Fig. 8: Controls

1 Input of label position at the dispensing edge in mm
2 Input of the start signal delay in mm
3 LED display
4 Cursor upwards for parameter selection; increase of value in modification mode
5 Cursor downwards for parameter selection; decrease of value in modification mode
6 Key "MANUAL START"
7 Key "MEASURING RUN"
8 Key "ADJUSTMENT"
9 Key "PARAMETER SETTING SERVICE"
10 Printer ON/OFF
11 Key "AUTOMATIC MODE"
12 Selection of the parameter to be modified; termination of input after having changed the value
13 Display Printer ON/OFF
14 Display Input of start signal
15 Input of the dispensing speed in mm

4.4 Connections

The connectors are located on the back of the label dispenser.

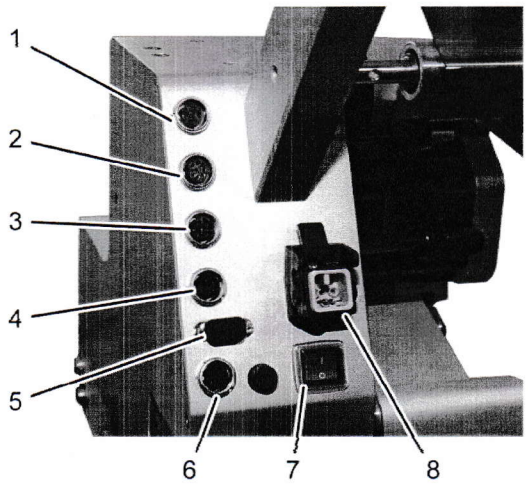


Fig. 9

1	Start signal (3-pin)	5	RS232
2	Connector Potential-free contacts (8-pin)	6	Start signal and ready message (7-pin)
3	Connector Printer signals (6-pin)	7	Main switch
4	Encoder (4-pin)	8	230 V AC power input

4.5 Operation modes

The following operating modes can be selected:

Manual start

Use the "Manual start" key to manually dispense a label.

Automatic operation

At every start signal of the packaging machine, a complete label dispensing cycle is carried out.

7.2 Switching on

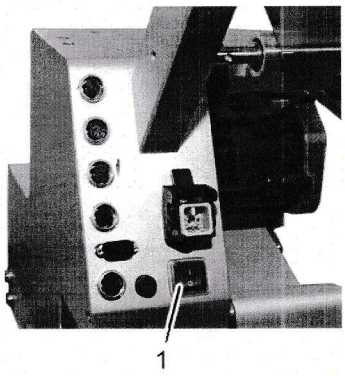


Fig. 11

1. Press the main switch (1).

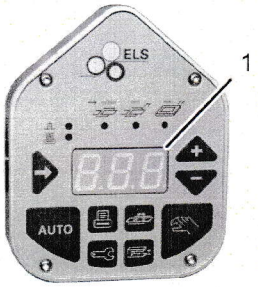


Fig. 12

2. The LED display (1) shows the following program information one at a time:
   - ELS (manufacturer)
   - -8x (software version)
   - P1 (machine sequence)
   - OFF (machine status)

7.3 Switching off

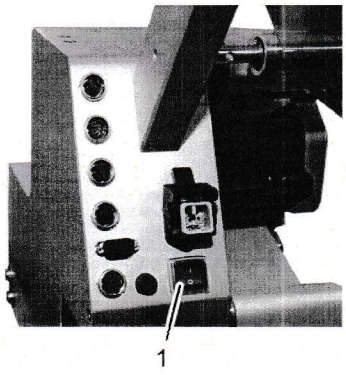


Fig. 13

1. Press the main switch (1).

7.4 Menu overview

The ELS 200SC lets the user select two different menus.

- Menu MACHINE
- Menu SERVICE

7.4.1 Menu MACHINE

Fig. 14

After turning the device on by pressing the key (1), you can browse through the MACHINE menu.

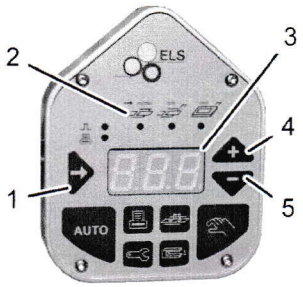


Fig. 15

- Press the key (1) once:
  The LED under the symbol (2) is lit, while the LED display (3) shows the current value for the dispensing speed in m/min.
  To change the parameter value:
  - Keep pressing the keys (4) or (5) until the desired value is shown on the LED display.

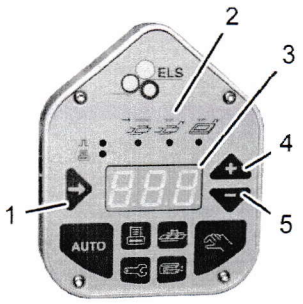


Fig. 16

- Press the key (1) twice:
  The LED under the symbol (2) is lit, while the LED display (3) shows the current label position at the dispensing edge in m/min.
  To change the parameter value:
  - Keep pressing the keys (4) or (5) until the desired value is shown on the LED display.

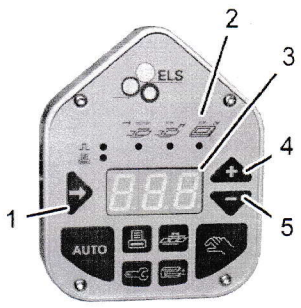


Fig. 17

- Press the key (1) three times:
  The LED under the symbol (2) is lit, while the LED display (3) shows the current value for the start signal delay in m/min.
  To change the parameter value:
  - Keep pressing the keys (4) or (5) until the desired value is shown on the LED display.

Overview Menu MACHINE

Symbol	Parameter	ELS Default
	DISPENSER SPEED	20.0 m/min
	POSITION EDGE	0 mm
	STARTDELAY	25 mm

7.4.2 Menu SERVICE

Fig. 18

After turning the device on by pressing the key (1), you can open the SERVICE menu.

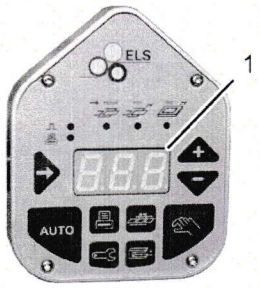


Fig. 19

The parameter numbers are shown on the LED display (1).

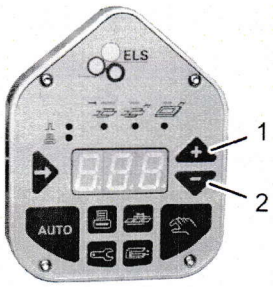


Fig. 20

Press the keys (1) or (2) to browse through the SERVICE menu.

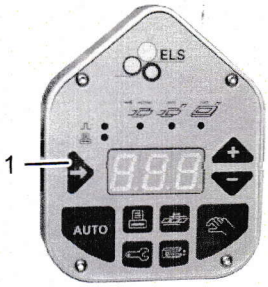


Fig. 21

To select the parameter, press the key (1).

Overview Menu SERVICE

No.	Parameter	ELS Default
447	JOB	0
201	DISPLAY CONTRAST	31
407	APPLICATOR	OFF
428	PASSWORD	112
228	MODE OF OPERATION	1 STANDARD
234	STARTSIGNAL LENGTH MINIMUM	10 ms
235	DISTANCE PEC DISP.EDGE	188 mm
236	MISSING LABEL PROCEDURE	ALARM3/OFF
241	ENCODER DIRECTION	OFF
244	OFFSET PEC ADJUSTMENT	5 %
250	PRINTER	OFF
252	ERROR EXTERNAL PRINTER	OFF
253	PRINTER PRESS-DOWN TIME	100 ms
254	PRINTER RUN-UP TIME	100 ms
255	PRINTPOSITION	TOP
259	PRINTER READY MESSAGE	OFF
261	CONTACT 1	READY
262	CONTACT 2	ALARM
265	APLIKATOR PRESS-DOWN TIME	200 ms
266	APPLICATOR RUN-UP TIME	250 ms
267	START EDGE	FALLING
277	DISPENSER ACCELERATION	25 m/s²
278	DISPENSER STEP WIDTH	0.2 mm/s
279	SPEED OFFSET +/-	0 %
280	DISPENSER MAX.FREQUENCY	4,000 Hz
207	EXTERN REWINDING	OFF

No.	Parameter	ELS Default
335	APPLICATOR BLOWING TIME	100 ms
212	QUANTITY OF LABELS	3
215	DELETE JOB	0
290	LABELS DISTANCE	40 mm
299	APLIKATOR STARTDELAY	250 ms
443	CHANGE PASSWORD	123
445	J-S	0

7.5 Overview Membrane Keyboard

The following diagram shows the functions of the membrane keyboard at a glance.

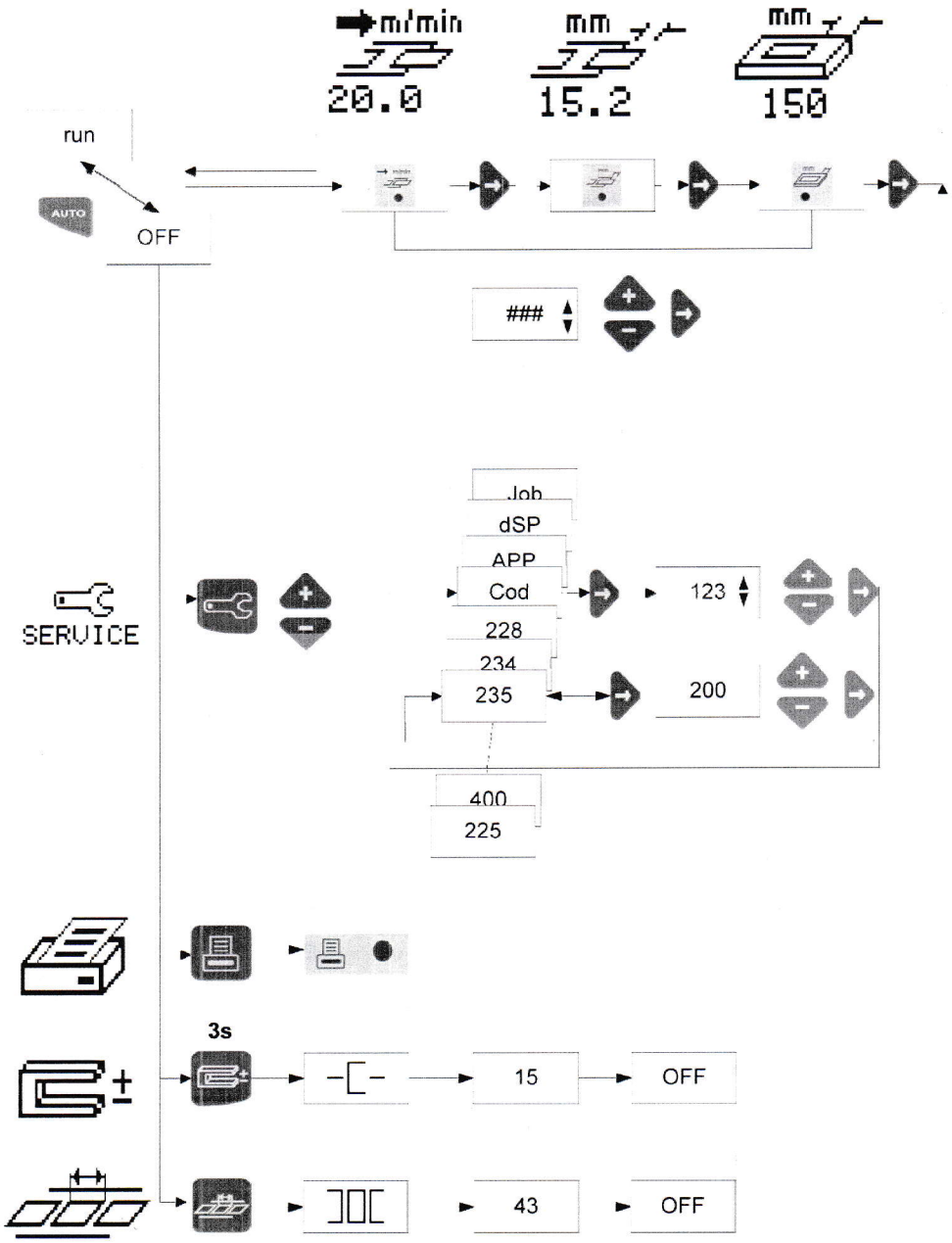


Fig. 22

7.6 Parameter

Overview of parameters

The following table provides an overview of all parameters. The right column contains the symbols of the corresponding menus.

ELS 200 SC	ELS 200 SC/2	ELS 200	ELS 500	ELS 620
				

MACHINE	SETUP	SERVICE	INFO	JOB
			i	

No.	Parameter text	ELS Default		ELS 200-SC	ELS 200-SC/2	ELS 200	ELS 500	ELS 620
Job	LOAD JOB	---						
dSP	DISPLAY CONTRAST	888						
APP	APLIKATOR	OFF	0					-
Cod	PASSWORD SERVICE	000				-	-	-
J-S	JOB SAVE	0						
J-d	JOB DELETE	---						
207	EXTERN REWINDING	OFF	0					-
210	OFFSET PRINTPOSITION	5 mm		-	-	-	-	
211	MOTION CONTROL SWITCH OFF	OFF	0	-				-
212	QUANTITY OF LABELS	3					-	-
213	IP-ADDRESS	192.168.0.0		-		i	i	i
218	HARDWAREVERSION	CPU06-1		-	-	i	i	i
220	PROGRAM VERSION	V01-11-9e		-	-	i	i	i
228	MODE OF OPERATION	1 STANDARD	1					
230	MODE QUANTITY COUNTER	OFF		-				
232	QUANTITY SELECTION	1000		-				
234	STARTSIGNAL LENGTH MINIMUM	10 ms					-	-

No.	Parameter text	ELS Default	ELS 200-SC	ELS 200-SC/2	ELS 200	ELS 500	ELS 620
235	DISTANCE PEC DISP.EDGE	188 mm					-
236	MISSING LABEL PROCEDURE	ALARM3/ OFF 0					-
241	ENCODER DIRECTION	OFF 0				-	-
243	OFFSET DIST. PEC DISP.EDGE	0 mm	-	-	-		-
244	OFFSET PEC ADJUSTMENT	5 %					-
245	STARTDELAY	20 mm					
246	POSITION EDGE	0 mm					-
248	TRANSPORT UNIT STBY DELAY	OFF	-	-	-		-
250	PRINTER	OFF 0					
252	ERROR EXTERNAL PRINTER	OFF 0					
253	PRINTER PRESS-DOWN TIME	100 ms					-
254	PRINTER RUN-UP TIME	100 ms					-
255	PRINT POSITION	TOP 0				-	-
256	PRINTER STARTSIGNAL LENGTH	20 ms	-	-	-	-	
259	PRINTER READY MESSAGE	OFF 0					
260	MONITORING REEL	OFF	-				-
261	CONTACT 1	READY 1					
262	CONTACT 2	ALARM 2					
263	CONTACT 3	LAMP	-				
264	INPUT 1	OFF	-				
265	APLIKATOR PRESS-DOWN TIME	200 ms					-
266	APLIKATOR RUN-UP TIME	250 ms					-
267	START EDGE	FALLING 0					
268	PRINTER CLOCK MULTIPLIK.	2.0	-	-	-	-	
273	AC1 DRIVE	0.0	-	-		-	-
274	AC1 STOP DELAY	OFF	-	-		-	-
276	DISPENSER SPEED	20 m/s					
277	DISPENSER ACCELERATION	25 m/s²					
278	DISPENSER STEP WIDTH	0.2 mm					
279	SPEED OFFSET +/-	0 %					
280	DISPENSER MAX.FREQUENCY	4,000 Hz				-	-

No.	Parameter text	ELS Default	ELS 200-SC	ELS 200-SC/2	ELS 200	ELS 500	ELS 620
283	LONGITUDINAL STROKE SPEED	16 m/s	-	-	-	🔧	🔧
284	LONGITUDINAL STROKE ACCEL	2 m/s²	-	-	-	🔧	🔧
285	TRANSPORT UNIT SPEED	20 m/s	-	-	-	🔧	-
286	TRANSPORT UNIT ACCEL	25 m/s²	-	-	-	🔧	-
290	LABELS DISTANCE	40 mm	🔧	🔧	📋	-	-
299	APPLICATOR START DELAY	250 ms	🔧	🔧	📋	-	-
300	TRANSPORT UNIT ADVANCE	520 mm	-	-	-	🔧	🔧
335	APPLICATOR BLOWING TIME	100 ms	🔧	🔧	📋	-	-
402	PCMCIA-CARD	OFF	-	-	i	i	i
403	SPEED SM1 MAX	20.0 m/min	-	-	i	i	i
404	QUANTITY COUNTER	0	-	-	i	i	i
409	CYCLETIME BEST OF	0.0 T/min	-	-	i	i	i
410	DATE / TIME	dd.mm.yy hh.mm	-	🔧	i 🔧	i 🔧	i 🔧
419	PCMCIA-CARD BACKUP	ENTER = OK	-	🔧	🔧	🔧	🔧
420	PCMCIA-CARD RESTORE	ENTER = OK	-	🔧	🔧	🔧	🔧
421	ERROR MEMORY	99 0	-	-	i	i	i
428	PASSWORD SERVICE	0000	-	-	🔧	🔧	🔧
433	SYSTEM SETUP	ENTER = OK	-	-	🔧	🔧	🔧
434	QUANTITY COUNTER=00000	ENTER = OK	-	-	i	i	i
441	AUTOMATIC MODE	1 h	-	🔧	i	i	i
442	LABEL MATERIAL ADVANCE	0 m	-	🔧	i	i	i
443	CHANGE PASSWORD	123	🔧	🔧	🔧	🔧	🔧

Parameter description

The following is a description of the individual parameters. The checkmarks indicate for which model series these parameters can be set.

7.6.1 Job / LOAD JOB

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Load job, all machine settings which were stored under the job number are loaded. (- no job stored)

7.6.2 dSP / DISPLAY CONTRAST

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

The brightness of the display can be adjusted with the "+" or "-" keys.

7.6.3 APP / APLIKATOR

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

The optional applicator for manual start can be switched on or off with the "+" or "-" keys.

7.6.4 J-S / STORE JOB

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Store job, all machine settings are stored under the selected job number.

7.6.5 J-d / DELETE JOB

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Delete job, all machine settings which were stored under the job number are deleted.

7.6.6 207 EXTERN REWINDING

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

If a pneumatic backing paper rewinder is fitted, this can be switched on or off during the test run for measuring the label length.

With narrow label material this should be switched off to avoid tearing of the label material.

0	**Off**	Switched off during the test run.
1	On	Switched on during the test run.

7.6.7 212 QUANTITY OF LABELS

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

In the operational sequence "Multiple dispense", the number of labels per start signal to be dispensed can be entered with this setting value.

7.6.8 224 ERROR MEMORY

ELS200-SC	ELS200	ELS500	ELS620
	✓	✓	✓

Display of the last 100 error messages (important for service work).

0	Last error message, further error messages can be displayed with the keys "+" or "-".

7.6.9 228 MODE OF OPERATION (OP, UP, EF, OU, CONTINUOUS PRINTING)

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Pre-selection of the labelling machine type, determined by the mechanical design of the machine.

7.6.10 230 MODE QUANTITY COUNTER

ELS200-SC	ELS200	ELS500	ELS620
	✓	✓	

Pre-selection of the operating mode of the integrated label counter.

OFF	The label counter is switched off.
TOTAL	The label counter works by counting *upwards* on an aggregate basis.
LIMIT	The label counter works by counting *upwards starting with 0*. If the label counter has reached the setting "232 QUANTITY SELECTION" (Setup menu), the machine stops.

7.6.11 232 QUANTITY SELECTION

ELS200-SC	ELS200	ELS500	ELS620
	✓	✓	

Pre-selection of the operating mode of the integrated label counter.

1000 The required quantity, which is processed when the label counter is switched on, is entered with this setting.

7.6.12 234 STARTSIGNAL LENGTH MINIMUM

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

Pre-selection of the minimum length of the start signal. Its purpose is to avoid any false tripping by, for example, bouncing relay contacts.

7.6.13 235 DISTANCE PEC DISP.EDGE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Adjustment setting of the distance from the label PEC to the dispensing edge. This setting value helps the label dispenser controls to position the label at the dispensing edge.

7.6.14 236 MISSING LABEL PROCEDURE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Pre-selection of the operating mode in case of missing labels on the label reel.

0	**ALARM3/OFF**	Error message after 3 consecutively missing labels; the missing labels are *not* dispensed afterwards.
1	ALARM3/ON	Error message after 3 consecutively missing labels; the missing label is dispensed afterwards.
2	ALARM1/OFF	Error message after 1 missing label.

7.6.15 241 ENCODER DIRECTION

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

The rotating direction of the rotary encoder is analysed. If the rotating direction is incorrect, an error message is issued.

0	OFF	Encoder not present or switched off.
1	ON ↷	Clockwise rotating direction of the encoder. ↷
2	ON ↶	Counterclockwise rotating direction of the encoder ↶.

7.6.16 244 OFFSET PEC ADJUSTMENT

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

During the PEC adjustment, the controls measure the transparency of the backing paper. The measured value is then increased by the offset to guarantee a safe margin in the measuring of the backing paper.

If, after the successful PEC adjustment has been carried out, the light beam LED flickers *when the backing paper is moved*, increase this value.

If, after the successful PEC adjustment has been carried out, the light beam LED flickers *when the backing paper is moved with the label* (not within the label gap!), reduce this value.

7.6.17 245 / STARTDELAY

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Adjustment of the delay time of the start signal in automatic operation.

7.6.18 246 / POSITION EDGE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Input of label position at the dispensing edge in mm.

7.6.19 248 TRANSPORT UNIT STBY DELAY

ELS200-SC	ELS200	ELS500	ELS620
		✓	

Setting of the time after which the transport unit fans are switched off if no start signal is received from the packaging machine.

7.6.20 250 PRINTER

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Pre-selection of an optional printer.

0	OFF	No printer fitted.
1	EXTERN	An external printer is fitted.
2	RDW-1	An *integrated rotary printer* with a printing cylinder diameter of 42 mm and a *dispensing length of 142 mm* (single cam).
3	RDW-2	An *integrated rotary printer* is fitted with a printing cylinder diameter of 42 mm and a *dispensing length of 71 mm* (double cam).
4	ELS190/ELS191	A TT-ELS190 / ELS191 printer is fitted.
5	INKJET	An INKJET printer is fitted.

7.6.21 252 ERROR EXTERNAL PRINTER

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Evaluation of an error signal of the external printer.

0	OFF	No evaluation of the error signal from the external printer.
1	ALARM NC	Error signal evaluation is switched on; the signal is evaluated as a*closed contact*. The error signal is given via plug connector X4.
2	ALARM NO	Error signal evaluation is switched on; the signal is evaluated as an *open contact*. The error signal is given via plug connector X4.

7.6.22 253 PRINTER PRESS-DOWN TIME

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Adjustment of the press-on time of the printer block in the case of a hot foil or stamp printing unit.

7.6.23 254 PRINTER RUN-UP TIME

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Adjustment of the run-up time of the printer block in the case of a hot foil or stamp printing unit.

7.6.24 255 PRINT POSITION

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Adjustment of the print position in the case of a hot foil or stamp printing unit.

0	**begin**	Print on the first part of the label.
1	end	Print on the second part of the label.
2	both	Print on both parts of the label.

7.6.25 256 PRINTER STARTSIGNAL LENGTH

ELS200-SC	ELS200	ELS500	ELS620
			✓

Adjustment of the start signal length for an external inkjet printer.

7.6.26 260 MONITORING REEL

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Activation of the optional reel end monitoring.

OFF	No reel end monitoring.
WARNING	The input signal of the reel end monitoring is evaluated as *an end reel warning.*
ERROR	The input signal of the reel end monitoring is evaluated as an *error.*

7.6.27 261 CONTACT1, 262 CONTACT2, 263 CONTACT3

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Potential-free relay contacts for evaluation in machines synchronised before or after the labeller.

0	OFF	No signal output.
1	READY	The contact is opened *during the labelling cycle.*
2	ALARM	The contact is closed *in the event of an error* in the controls.
3	DISPENSING	The contact is closed *during the label dispensing process.*
4	STOCK	The contact is closed *when the min. reel diameter is reached.*
5	LAMP	The contact is closed *in the event of an error*; it flashes periodically every second if there are any displayed *error messages.*
6	AUTO	The contact is closed in *automatic operation.*
7	APLIKATOR	The contact is closed in parallel to the *press-on [OUT1]* output.

7.6.28 264 INPUT 1

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Potential-free optocoupler input.

OFF	No signal evaluation.
ALARM NC	The input works as an error input; the *error signal is evaluated as a closed contact.*
ALARM NO	The input works as an error input; the error signal is evaluated *as an open contact.*
START NC	The input is combined with the start signal; at an *active* input, the start signal is evaluated.
START NO	The input is combined with the start signal; at an *inactive* input, the start signal is evaluated.
HAND/CYCLE	*ELS5xx:* If an optional pushbutton has been connected, a brief push on this button will launch a manual start while a prolonged push on the button will initiate a complete cycle process. *ELS2xx:* If an optional pushbutton has been connected, a brief push on this button will launch a manual start while a prolonged push on the button will initiate a measuring run for measuring the label length.
LABELCHECK	The sensor for monitoring the label spacing is activated for the ELS521/ELS531 machine types.

7.6.29 265 APLIKATOR PRESS-DOWN TIME

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Adjustment of the press-on time of an applicator that may have been fitted.

7.6.30 266 APLIKATOR RUN-UP TIME

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Adjustment of the run-up time of an applicator that may have been fitted.

7.6.31 267 START EDGE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

Adjustment of the start trigger for the automatic operation with which the labelling cycle is started.

0	FALLING	Start with falling edge of trigger signal (from active to inactive)
1	RISING	Start with rising edge of trigger signal (from inactive to active)

7.6.32 268 PRINTER CLOCK MULTIPLIK.

ELS200-SC	ELS200	ELS500	ELS620
			✓

The readout of the stepper motor increments is given in a resolution of 0.1mm steps. Should the Inkjet printer require another stepper resolution, this can be entered in this setting value.

7.6.33 273 AC1 DRIVE

ELS200-SC	ELS200	ELS500	ELS620
	✓		

If this value is greater than zero, the conveyor is switched on. The set value (15/30/45/60/M/MIN) gives the maximum speed achievable.

7.6.34 274 AC1 STOPDELAY

ELS200-SC	ELS200	ELS500	ELS620
	✓		

In the event of an error or a machine stop, this setting value gives the time between the switching off of the conveyor and actual stopping of it.

OFF	No switch off delay, drive keeps running.
1s	Switch off delay of 1sec.
2s	Switch off delay of 2sec.
5s	Switch off delay of 5sec.
10s	Switch off delay of 10sec.

7.6.35 276 / m/min DISPENSER SPEED

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Pre-selection of the dispensing speed in m/min.

7.6.36 277 DISPENSER ACCELERATION

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Pre-selection of the maximum acceleration of the dispenser stepper motor (depending on the motor type and on the label material).

7.6.37 278 DISPENSER STEP WIDTH

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	

Pre-selection of the resolution of the mechanical transmission of the drive within the labelling head (determined by the manufacturer, must not be changed).

0.1MM	One step of the stepper motor corresponds to 0.1 mm of label advance.
0.2MM	One step of the stepper motor corresponds to 0.2 mm of label advance.
0.3MM	One step of the stepper motor corresponds to 0.3 mm of label advance.

7.6.38 279 SPEED; OFFSET +/-

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

With this parameter the labelling speed can be adjusted slower or faster. The value is given in a percentage of the actually set labelling speed.

7.6.39 280 DISPENSER MAX.FREQUENZ

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

Pre-selection of the maximum dispensing speed in m/min (determined by manufacturer, must not be changed).

400 = 4,000Hz V_{max} SW=0.2mm = 48 m/min;
V_{max} SW=0.3mm = 72 m/min.

7.6.40 283 LONGITUDINAL STROKE SPEED

ELS200-SC	ELS200	ELS500	ELS620
		✓	✓

Pre-selection of the speed of the longitudinal shift unit in m/min.

7.6.41 284 LONGITUDINAL STROKE ACCEL

ELS200-SC	ELS200	ELS500	ELS620
		✓	✓

Pre-selection of the speed of the longitudinal shift unit in m/min.
Pre-selection of the maximum acceleration of the stepper motor of the longitudinal shift unit (depending on the motor type).

7.6.42 285 TRANSPORT UNIT SPEED

ELS200-SC	ELS200	ELS500	ELS620
		✓	

Pre-selection of the speed of the transport unit in m/min.

7.6.43 286 TRANSPORT UNIT ACCEL

ELS200-SC	ELS200	ELS500	ELS620
		✓	

Pre-selection of the maximum acceleration of the stepper motor of the transport unit (depending on the motor type).

7.6.44 290 LABELS DISTANCE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

In the operational sequence "Multiple dispense", the distance between the labels to be dispensed can be entered with this setting value.

7.6.45 299 APLIKATOR STARTDELAY

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

In the operational sequence "Pneumatic applicator" ⇨ *Dispense-Delay-Press-on [OUT1]* , the time between the start signal and OUT1 (Press-on) can be entered with this setting value.

7.6.46 300 TRANSPORT UNIT ADVANCE

ELS200-SC	ELS200	ELS500	ELS620
		✓	✓

Pre-selection of the maximum transport unit advance of the packaging machine (actual physical width). The sum of the parameter  in the menu MACHINE and of the parameter  must not exceed this setting value.

7.6.47 335 APPLICATOR BLOWING TIME

ELS200-SC	ELS200	ELS500	ELS620
✓	✓		

In the operational sequences nos. 10+11+12+13, the blow-on time can be entered with this setting value.

7.6.48 404 QUANTITY COUNTER

ELS200-SC	ELS200	ELS500	ELS620
	✓	✓	

Display of the current count rate of the label counter.

7.6.49 419 PCMCIA CARD BACKUP

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

With an integrated PCMCIA SRAM backup card (optional), all parameters and control settings can be stored. In case of service work, the original condition of the controls can be restored quickly after having replaced the mainboard.

ENTER=OK With Enter all parameters are stored on the PCMCIA SRAM card.

7.6.50 420 PCMCIA CARD RESTORE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

With an integrated PCMCIA SRAM restore card (optional), all parameters and control settings can be transferred from the restore card to the controls. In case of service work, the original condition of the controls can be restored quickly after having replaced the mainboard.

ENTER=OK With Enter, all parameters are transferred from the PCMCIA SRAM card to the controls.

7.6.51 428 / Cod PASSWORD SERVICE

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

With the input of the password the parameters in the SERVICE menu can be altered.

7.6.52 434 QUANTITY COUNTER=00000

ELS200-SC	ELS200	ELS500	ELS620
	✓	✓	

ENTER=OK By activating this key ↵ the label counter is reset.

7.6.53 443 CHANGE PASSWORD

ELS200-SC	ELS200	ELS500	ELS620
✓	✓	✓	✓

With the SERVICE menu unlocked, the password can be changed. After the controls have been switched on again, the SERVICE menu can be unlocked with this new password

7.7 PEC Adjustment

During the PEC adjustment, the controls measure the transparency of the backing paper. The measured value is then increased by the offset to guarantee a safe margin in the measuring of the backing paper.

If, after the successful PEC adjustment has been carried out, the light beam LED flickers when the backing paper is moved, increase this value.

If, after the successful PEC adjustment has been carried out, the light beam LED flickers when the backing paper is moved with the label (not within the label gap!), reduce this value.

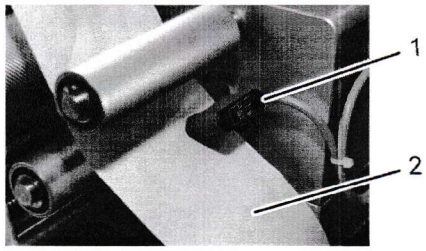


Fig. 23

1. Hold the backing paper (2) *without* the label into the PEC (1).

Fig. 24

2. At the same time, press and hold the key (1) on the membrane keyboard until the flashing "-C-" on the LED display is followed by the adjusted value.

7.8 Insert the label backing paper

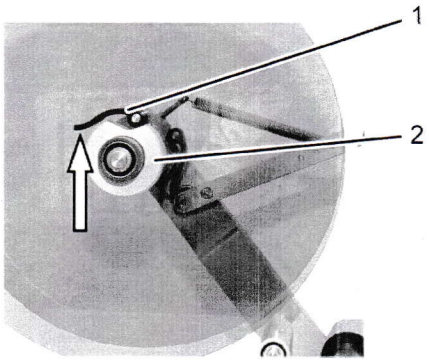


Fig. 25

1. Release the clamping element (2) of the front flange wheel by pressing the lever (1) in arrow direction.

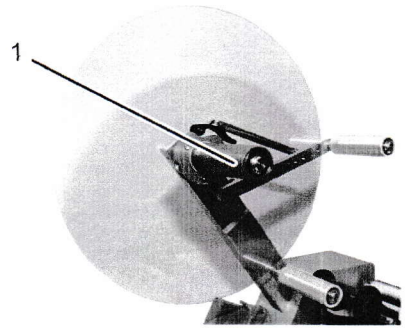


Fig. 26

2. Remove the flanged wheel from the unwind reel (1).

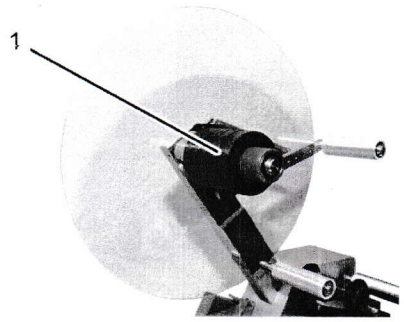


Fig. 27

3. Slip as many filling discs (1) onto the unwind reel as required by the width of the label backing paper.

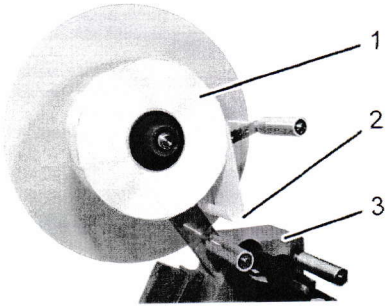


Fig. 28

4. Slip the label backing paper reel (1) with the leading edge of the paper (2) onto the filling discs towards the label dispenser.

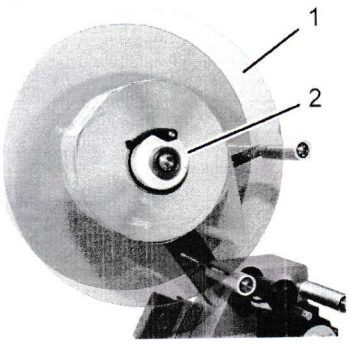


Fig. 29

5. Slip the front flanged wheel (1) onto the unwind reel and tighten it using the clamping element (2).

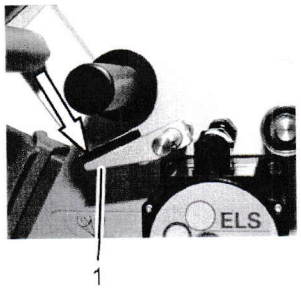


Fig. 30

6. Release the paper bracket (1): push the paper bracket (1) down in arrow direction.

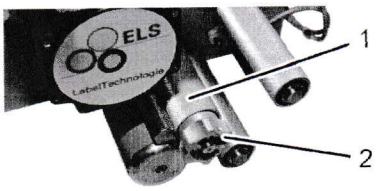


Fig. 31

7. Release the tightening roller (1): use the rotary knob (2) to turn the tightening roller counterclockwise all the way before pulling the rotary knob out as far as it will go.

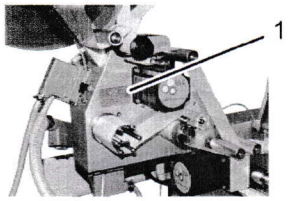


Fig. 32

8. Insert the label backing paper following the insertion scheme (1) on the labelling station. For the insertion scheme, see the Appendix.

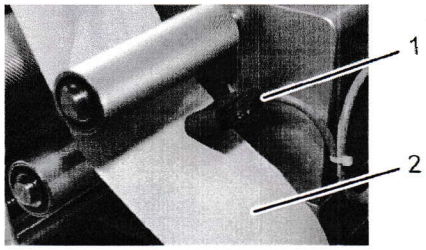


Fig. 33

9. Make sure that the label backing paper is guided through the PEC (1).

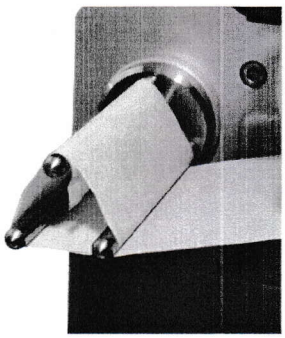


Fig. 34

10. Guide the end of the backing strip through the coiler.

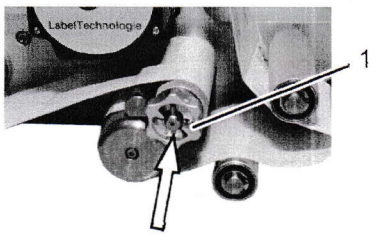


Fig. 35

11. Close the tightening roller: push the rotary knob (1) in arrow direction

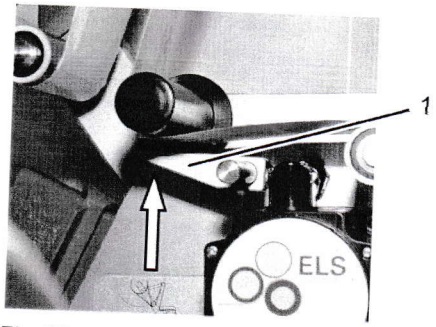


Fig. 36

12. Close the paper bracket (1): push the paper bracket (1) up in arrow direction.

7.9 Test run Label dispenser

Fig. 37

1. To measure the length of the labels, press the key "TEST RUN" (1).

7.10 Position Dispensing edge

After the "Test run Label dispenser", the label must be even (± 5 mm) with the dispensing edge. If this is not the case, adjust the position as necessary.

To do so:

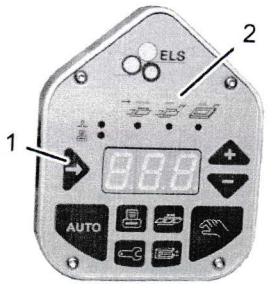


Fig. 38

1. Press the key (1) repeatedly until the LED under the symbol (2) is lit.

2. Use the keys (1) or (2) to adjust the value accordingly.

Fig. 39

3. Confirm the value by pressing the key (1).

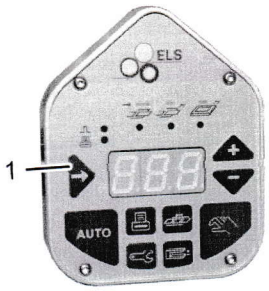


Fig. 40

7.11 Manual start Label dispenser

To trigger a dispensing cycle:

1. Press the "MANUAL START" (1) key.

Fig. 41

7.12 Automatic operation

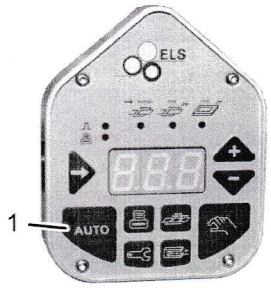


Fig. 42

1. To activate automatic operation:
   Press the "AUTOMATIC MODE" (1) key. At every start signal, a complete label dispensing cycle is carried out.

7.13 Shut-down in events of emergency

In dangerous situations machine movements must be stopped and the power supply switched off as quickly as possible.

Shut-down in events of emergency

In dangerous situations proceed as follows:

1. Use the nearest emergency stop switch to trigger an emergency stop.
2. Inform responsible persons at the place of action.
3. Call for medical help and fire brigade.
4. Rescue persons from the danger zone, apply First Aid measures.
5. Switch off the main switch and secure against switching on again.
6. Keep access ways clear for rescue vehicles.

After rescue measures

7. Inform the responsible authorities, if required by the severity of the incident.
8. Deploy expert personnel to rectify the fault.

WARNING!
Danger to life caused by too early switching on again!

Danger to life for all persons in the danger zone when switching the machine back on.

Therefore:

– Before switching on again make sure that no persons are inside the danger zone.

9. Check the machine and ensure that all safety features have been installed and are fully functional before restarting the machine.

8.2 Malfunction Indicators

The following devices indicate malfunctions:

- The LED display (1) of the controls shows the error number.

Fig. 43

8.3 *Error and information messages*

Main error groups

No.	Error/Note
20	SYSTEM ERROR
30	ERROR LONGITUDINAL STROKE
40	ERROR TRANSPORT UNIT
50	NOTE
60	ERROR ENCODER
70	ERROR DATA INPUT
80	ERROR LABELLER
150	NOTE

8.4 Trouble shooting chart

Message/Description	Possible cause	Troubleshooting	Execution
21 +24V MISSING – FUSE CHECK! Defective fuse on the 24V load and sensor voltage circuit	■ Short circuit or overload of the 24 V voltage circuit ■ e.g. valve in transport unit defective or cable break ■ Incorrect connection of an external unit or units	■ Replace fuse ■ Replace valve ■ Check connection of external units	Trained electrician
22 EXTERNAL ERROR SIGNAL External error signal at the plug connector input "INPUT"	■ external error reported by the plug connector "INPUT"	⇨ Operating instructions for the external source	Machine setter, Operator
23 INTERNAL ERROR A fault has occurred in the internal programme sequence	■ Error in the program sequence	■ Switch off the controls and switch them on again ■ If the fault reoccurs, call the service line	Operator

Message/Description	Possible cause	Troubleshooting	Execution
31 NO FUNCTION! On the measuring run of the longitudinal shift unit, the sliding block used to set the machine zero point has not been cleared or the sensor is still in the engaged position.	■ The initiator is set incorrectly or faulty ■ The longitudinal shift unit is not carrying out any movement due to a fault in the stepper motor power amplifier ■ Controls Quick stop switched on	■ Set the initiator ■ Check the sliding block of the longitudinal shift unit ■ Check the stepper motor	Machine setter, operator
32 MACHINE ZERO NOT REACHED! On the measuring run of the longitudinal shift unit, the zero point has not been reached.	■ The initiator used for final position detection is set incorrectly or faulty ■ The longitudinal shift unit is not carrying out any movement due to a fault in the stepper motor power amplifier	■ Set the initiator ■ Check the sliding block on the rail ■ Check the stepper motor	Machine setter, operator
33 FINAL POSITION REACHED! The longitudinal shift unit is travelling to its outermost limit.	■ The distance from the machine zero position to its final position is smaller than the sum of the row distances selected	■ Change positioning parameters	Machine setter, operator
34 NO SYNCHRONISATION ! On the measuring run of the longitudinal shift unit, the middle synchronisation point has not been travelled over.	■ The initiator is set incorrectly or faulty ■ Incorrect input for the length and offset of the longitudinal shift unit	■ Check initiator ■ Check positioning parameters	Machine setter, operator
35 NO BASIC POSITION! With selection of "Automatic mode ON", the longitudinal shift unit is not in its basic start position.	■ No "Test run Longitudinal shift unit" has been carried out ■ "Manual start Longitudinal shift unit" has been carried out	■ Carry out a test run of the longitudinal shift unit	Operator
36 MEASURING RUN NOT CARRIED OUT! With selection of "Automatic mode ON", no test run of the longitudinal shift unit has yet been carried out.	■ No "Test run Longitudinal shift unit" has been carried out	■ Carry out a test run of the longitudinal shift unit	Operator

Message/Description	Possible cause	Troubleshooting	Execution
41 POSITION NOT POSSIBLE ! A set value for positioning is incorrect and cannot be reached.	■ one of the selected values is greater than the operating range of the machine	■ Change value	Machine setter, operator
42 OFFSET TRANSPORT UNIT TO SMALL! The offset of the transport unit is smaller than half of the measured label length.	■ incorrect input value or the measuring run for label length has altered the positional values	■ Alter input value or carry out measuring run for label length	Machine setter, operator
43 QUICK STOP BUTTON ACTUATED !	The quick stop button was pressed		
51 PRESELECTED QUANTITY REACHED !	The pre-selected number counter was switched on, and the counter has reached the pre-selected number		
62 PRODUCT SPEED TO HIGH ! The product flow speed at the time of the start signal is higher than the permitted dispensing speed	■ Product flow speed higher than configured dispensing speed	■ Change product flow speed ■ Change parameter	Operator
63 FALSE ENCODER DIRECTION! The encoder is turning in the wrong direction.	■ Encoder installed incorrectly ■ Cable break	■ Alter parameter "241 ENCODER DIRECTION" ■ Alter the fitting direction of the encoder ■ Check cable	Machine setter
72 PCMCIA BACKUP NOT READY! Backup or Restore was selected and there is no PCMCIA card fitted	■ Backup or Restore was selected and there is no PCMCIA card fitted	■ Insert memory card	Trained electrician
73 PCMCIA WRITE PROTECT! Backup was selected and the Write Protect of the memory card is switched on	■ Backup was selected and the Write Protect of the memory card is switched on	■ Switch off Write Protect	Trained electrician

Message/Description	Possible cause	Troubleshooting	Execution
74 FALSE JOB TYPE! A Restore operation from an invalid machine configuration is being attempted	■ An ELS500 backup is being tried to be saved on a ELS200 configuration or vice versa	■ Technically not possible!	
75 PCMCIA ERROR! Defective memory card	■ An error was detected while writing to the memory card.	■ Exchange memory card	Trained electrician
81 SENSOR LABELJAM NOT READY The sensor for monitoring the label spacing has not recognised any gaps between labels during the measuring run for label length	■ Wrong light guide settings ■ Light guide soiled	■ Check light guide setting ■ Clean light conductor with suitable cleaning agent	Machine setter, operator
82 PEC ADJUSTMENT – DARK!	■ No backing paper in the photocell ■ Parameter "247 OFFSET PEC ADJUSTMENT" set too high ■ Cable break to the PEC (LED 1 on membrane keyboard does not switch) ■ No optical sensor has been connected	■ Insert backing paper ■ Set parameter ■ Check cable ■ Connect optical sensor	Machine setter or trained electrician
83 PEC ADJUSTMENT – LIGHT! Photocell has dirt or debris on it or is faulty.	■ Cable break to the PEC (LED 1 on membrane keyboard does not switch) ■ No optical sensor has been connected	■ Check cable ■ Connect optical sensor	Machine setter or trained electrician

Message/Description	Possible cause	Troubleshooting	Execution
84 ERROR MEASURING RUN! Incorrect photocell adjustment (LED 1 on membrane keyboard does not switch)	■ Backing paper drive assembly not closed ■ Label backing paper threaded up incorrectly ■ Label detection photocell incorrectly positioned ■ Label detection photocell has dirt or debris on it	■ Close drive assembly ■ Check label backing paper ■ Check label detection photocell ■ Clean label detection photocell	Machine setter, operator
85 MAX. QUANTITY OF LABELS REACHED! The number of labels exceeds the length of the transport unit	■ Incorrect measuring run for label length ■ Parameters for film width are incorrect	■ Reduce the value	Machine setter
86 PRODUCT SPACING TOO SMALL! At least 3 products could not be labelled since the product flow gap is too close	■ Check the photocell for product detection to ensure that it is not giving several signals per product	■ Increase the distance between products ■ Check the sensitivity of the photocell for product detection	Machine setter, operator
87 POSITION DISP.EDGE NOT POSSIBLE! The value for label position on the dispensing edge is not possible	■ Value for position on dispensing edge is greater than label length ■ Incorrect position on dispensing edge following change of label format ■ The stored job for the incorrect label has been loaded	■ Change value ■ select different job	Machine setter
89 ERROR PRINTER EXTERN! External printer gives an error signal	■ Clear printer error (e.g end of ribbon on a hot film or thermal transfer printer unit)	⇨ Operating instructions Printer	Machine setter
90 ERROR INITIATOR ROTARY PRINTER! The initiator on the rotary printer does not switch	■ The initiator is faulty or the switching distance too great ■ Cable break in the labelling head connecting cable	■ Check initiator ■ Check cable	Machine setter or trained electrician

Message/Description	Possible cause	Troubleshooting	Execution
91 TOO MANY START SIGNALS! At least 3 start signals could not be processed	■ Product flow gap is too close or several signals from the product detection photocell	■ Check product flow gap ■ Check product detection photocell	Machine setter
92 TOO MANY CONSEC. LABELS MISSING! The label detection photocell has not recognised any label gaps	■ End of label reel or label backing paper torn ■ Too many missing labels on the backing paper	■ Change label reel ■ Carry out label detection photocell adjustment ■ Clean label detection photocell	Machine setter
93 MEASURING RUN NOT CARRIED OUT! The measuring run of the label length was not carried out	■ The measuring run of the label length was not carried out	■ Carry out measuring run for label length	Operator
94 STRIP END The sensor for the end of label backing paper has recognised the end of the label reel	■ The sensor for the end of label backing paper has recognised the end of the label reel	■ Change label reel	Operator
95 LABELJAM DISPENSING EDGE The sensor for monitoring the label spacing has not recognised any gaps between labels	■ Label jam up at the dispensing edge ■ Label spacing sensor does not switch	■ Remove labels ■ Check label spacing sensor	Machine setter, operator
153 ONLY LOADING OF JOB POSSIBLE JOB can only be loaded (factory installed and fixed job)			
154 DELETE JOB?	Confirmation request before permanently deleting a job		
155 JOB NAME REQUIRED	■ No job name assigned	■ Assign job name	Machine setter
156 PROCEED? Confirmation request			

Message/Description	Possible cause	Troubleshooting	Execution
157 TOO MANY STARTSIGNALS! At least 1 start signal could not be processed	■ Product flow gap is too close or several signals from the product detection photocell	■ Check product flow gap	Machine setter
159 ENCODER ERROR SIGNAL! Faulty rotary encoder signal	■ Rotary encoder defective	■ Replace rotary encoder	Trained electrician
160 PARAMETER NOT POSSIBLE! The input value lies outside of the valid error detection range	■ The definition of the maximum range of input values is calculated inside the controls and can be the result of a number of interconnected parameters	■ Check parameter settings	Machine setter, operator
161 BELOW MIN. REEL DIAMETER! The minimum reel diameter was reached	■ End of reel alarm was switched	■ Replace label reel as soon as possible	Operator
162 OFFSET TRANSPORT UNIT TO SMALL! A set value for positioning is incorrect and cannot be reached.	■ one of the selected values is greater than the operating range of the machine	■ Change value	Machine setter
163 LABEL NOT RECOGNIZED! This error message is displayed after label dispense if the presence of a label is not detected. Automatic operation is not interrupted	■ Missing labels on the reel	■ Check label reel	Operator
170 STANDBY ACTIV ! ENTER = OFF ! Stand-by mode has been activated, the vacuum generators of the transport unit switch themselves off in order to reduce noise level	■ At the next start signal, stand-by mode is deactivated.		

Message/Description	Possible cause	Troubleshooting	Execution
171 JOB CAN'T BE LOADED! In Automatic mode no job can be loaded	■ Switch on automatic operation	■ Switch to manual operation	Operator
172 JOB CAN'T BE SAVED! The password for the operating access has not been given, the menus are still locked	■ No password assigned ■ Wrong password entered	■ Enter correct password	Machine setter

8.5 Startup after eliminating fault

After remedying the fault, the following steps should be taken to re-start the system:

1. Reset the Emergency Off devices.
2. Acknowledge the fault at the control unit.
3. Ensure that no one is in the danger zone.
4. Start up in accordance with the instructions in the "Operating" chapter.

9 Maintenance

9.1 Safety

Personnel

- The maintenance work described here cannot be executed by the operator unless otherwise indicated.
- Some maintenance tasks can only be executed by trained qualified personnel, or only by the manufacturer. In these cases this is separately indicated in the description of the specific maintenance tasks.
- All work on the electrical equipment should only be executed by a qualified electrician.

Personal protective equipment

Wear the following protective equipment when performing any maintenance on the machine:

- Safety shoes
- Protective work clothes

NOTE!

The warnings provided in this chapter will point out any additional protective equipment that may be required for performing certain operations.

WARNING!
Injury hazard posed by improperly executed maintenance work!

Improper maintenance can cause severe injury or property damage.

Consequently:

- Prior to starting work ensure that there is sufficient assembly space.
- Ensure order and cleanliness at the assembly site! Loose parts and tools, parts and tools placed on top of each other are hazard sources.
- If components have been removed, ensure that they are properly mounted; re-install all mounting elements and comply with all screw tightening torque specifications.

Electrical system

DANGER!
Electric power poses a fatal risk!

Contact with live parts may prove fatal. When switched on, electric components may be subject to uncontrolled movements and may cause very serious injury.

Therefore:

- Switch off the power supply before starting maintenance work, and make sure that it cannot be switched on accidentally.

Securing against switching on

DANGER!
Danger to life caused by uncontrolled switching on again!

There is a risk of the electric power supply being switched on again when performing maintenance work. This imposes danger to the life of persons in the danger zone.

Therefore:

- Before starting work, switch off all power supplies and secure against switching on again.

Pneumatics

WARNING!
Danger of injury caused by pneumatic energies!

Pneumatic energies can cause severe injuries.

Pneumatically driven parts may start to move unexpectedly.

In the event of damage to individual components, air can escape under high pressure and e.g. damage the eyes.

Therefore:

- Have work on the pneumatic system carried out only by trained expert personnel.
- Before starting work on the pneumatic system, shut down the system and relieve the pressure. Be careful of pressure accumulators. Relieve also the pressure in accumulators.
- Do not change pressures to values higher than the specified maximum values.

9.2 Cleaning

Differences in label quality may result in dirt on the paper bracket, the drive assembly and the dispensing edge caused by adhesive residue. Remove any such residue with non-abrasive cleaning agents.

9.3 Maintenance Schedule

Maintenance tasks that are required for optimum and trouble-free operation are described in the sections below.

If increased wear is detected at regular inspections then the required maintenance intervals must be shortened by the customer to correspond with the actual signs of wear.

Contact the manufacturer for questions on maintenance work, see the service address on page 2.

The following table shows when, where, how and by how the required maintenance work is to be performed.

Interval	Component	Measures	To be performed by
daily	Components coming into contact with the label backing paper	Visual inspection of the components coming into contact with the label backing paper. Remove adhesive and label residue (biological cleaning agent).	Operator
	Components coming into contact with the product	Visual inspection of the components coming into contact with the product. Check when corrective maintenance is necessary to prevent the product from becoming damaged by the machine.	Operator
	Thermal strip	Visual inspection Thermal strip. Clean with cotton swab and alcohol.	Operator
	Optical sensors	Visual inspection of the optical sensors. Clean with soft cloth.	Machine setter
weekly	Maintenance unit	Visual inspection Maintenance unit Drain condensation.	Machine setter
monthly	Belt drives	Visual inspection of fitted belt drives.	Machine setter

9.4 Measures after maintenance

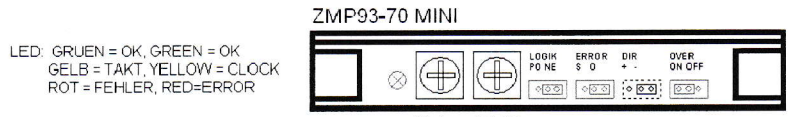
Perform the following steps after completing maintenance and before switching on the machine:

1. Check all previously loosened screw connections for a tight fit.
2. Check whether all previously removed protective devices and covers are properly installed again.
3. Make sure that all tools, materials and other equipment used were removed again from the work area.
4. Clean up work area and remove any substances left over, such as fluids, processing material or the like.
5. Make sure that all safety features on the machine are fully functional.

10 Appendix

10.1 Stepper motor power amplifier ZMX93-70/ZMP92-70

106381 SCHRITTMOTORENDSTUFE ZMX93-70 MINI
STEPPERMOTOR DRIVER CARD ZMX93-70 MINI

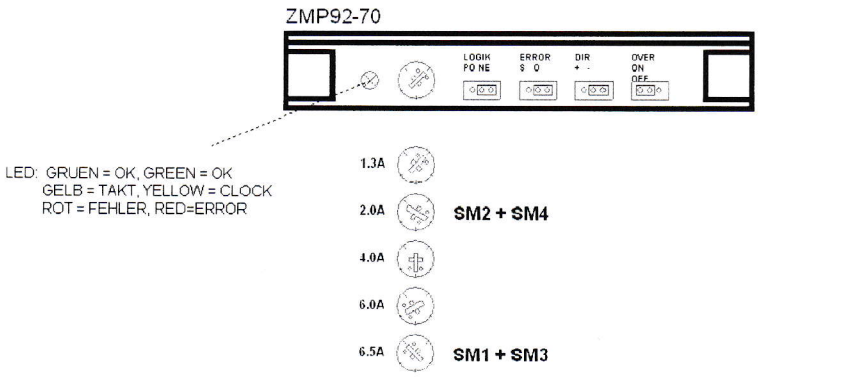


Kodierschalter coding-switch	Motorstrom current adjustment	Schrittauflösung / Drehrichtung step-width / direction	
0	0.7 A_{eff}	Vollschritt	+
1	1.0 A_{eff}	Halbschritt	+
2	1.3 A_{eff}	1/2.5	+
3	1.6 A_{eff}	1/4	+
4	1.8 A_{eff}	1/5	+
5	2.1 A_{eff}	1/8	+
6	2.4 A_{eff}	1/10	+
7	2.7 A_{eff}	1/20	+
8	3.0 A_{eff}	Vollschritt	-
9	3.3 A_{eff} (SM2+SM4)	Halbschritt	-
A	3.6 A_{eff}	1/2.5	-
B	3.9 A_{eff}	1/4	-
C	4.1 A_{eff}	1/5	-
D	4.4 A_{eff}	1/8	-
E	4.7 A_{eff}	1/10	-
F	5.0 A_{eff} (SM1+SM3)	1/20	-

Motorstrom entsprechend der Maschinenkarte einstellen.
Adjust motor current according to machine data sheet.
Ajustez le courant du moteur correspondant á la fiche de machine.

Fig. 44

100488 SCHRITTMOTORENDSTUFE ZMP92-70
STEPPERMOTOR DRIVER CARD ZMP92-70



Motorstrom entsprechend der Maschinenkarte einstellen.
Adjust motor current according to machine data sheet.
Ajustez le courant du moteur correspondant á la fiche de machine.

Fig. 45

11 Index

Index

ELS-GmbH & Co.KG

Dammstrasse 21

D-33824Werther

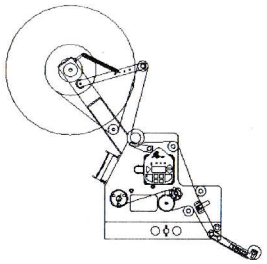
Tel. 05203/9196-0

Firma / Kunde	ELS
	28279
	Dammstrasse 21
Hersteller (Firma)	ELS-GmbH & Co.KG
Art.- Bezeichnung	SMC
Art.- Nummer	
Projektnummer	
Maschinentyp	ELS200-SC
Masch.-Schlüssel:	ELS201SC
Projekttyp	Schaltplanprojekt
Projektverantwortlicher	
Erstellt am	Bearbeitet am 24.11.2014 Anzahl der Seiten 21

Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

F06_001



CPU11

X19

-T1
101345

,75 mm²
bk

230VAC

WH

YE

BU

GN

RD

-Z1
3A
109046

-Q1
107928

-F1
4A
101296

-X10

-PE

6,3

4,8

L

N

PE

POWER

			Datum	24.11.2014	ELS	Kom.:	powersupply maincontaktterminal	ELS200-SC	=
			Bearb	ulrich					+
			Gepr		ELS201SC			SHC	Blatt
Änderung	Datum	Name	Urspr		Ersatz von	Ersatzt durch			Bl

RS232		
	RX	2
	TX	3
	0V	5

-X4		
	+24VL	A
	L	B
Start_PRT1+		C
Start_PRT1-		D
ERR_PRT1		E
RDY_PRT1		F
PRT_DIR+		G
PRT_DIR-		H
PRT_CLK+		I
PRT_CLK-		K
		L
		M

-X3			
	+24VL	1	BN
	L	2	WH
ENCODER_A		3	GN
ENCODER_B		4	YE

X5		
	+24VL	A
	L	C
Contact1 N		E
Contact1 NC		G
Contact2 N		J
Contact2 NC		L
		M
		N
Contact3 N		O
Contact3 NC		P
START1		R
	+24VL	S
	INPUT+	T
	+24VL	U

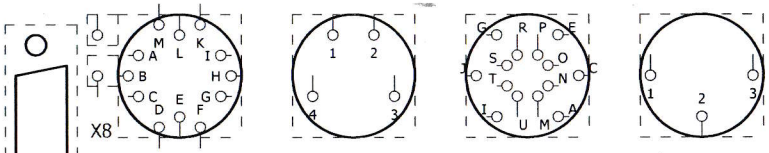
-X2		
	+24VL	1
	L	2
	Start	3

/22.4
+ITF/6.5
+ITF/8.5
+ITF/8.5
+ITF/10.5
/22.1
+ITF/17.4
/30.7

/30.7 /30.7 /22.9 /30.7

BUS11
109562
/22.0
+ITF/17.0

RS232 X7 X4 X3 X5 X2



X1
/22.4
/22.1
/30.7

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			Bearb	ulrich			Interface connectors		
			Gepr		ELS201SC			SMC	Blatt 20
Änderung	Datum	Name	Urspr		Ersatz für:	Ersetzt durch:			Bl 21

CPU11

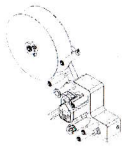
D25 D27 D28

-24V /24.1
-GNDLS /24.1

max 48V 200mA max 48V 200mA

D14 D7

Contact1	D25
Contact2	D27
Contact3	D28
START1	D14
INPUT+	D7



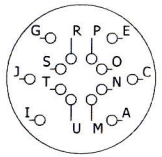
-X1

1 18 3 4 5 6 7 8 = 17 18 13 14

107591

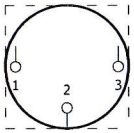
X1
/20.3

BUS11
/20.2



1 18 3 4 5 6 7 8 = 17 18 13 14

/20.5
/30.7
X2



X5
/20.4

A C E G J L M N O P = R S T U 1 2 3

112879
5 m
14x

X5		
	+24VL	A
	L	C
	Contact1 N	E
	Contact1 NC	G
	Contact2 N	J
	Contact2 NC	L
		M
		N
	Contact3 N	O
	Contact3 NC	P
	START1	R
	+24VL	S
	INPUT+	T
	+24VL	U

MACHINE_EXTERN

WH BN GN YE GY PK BU RD BK VL GY/PK RD/BU WH BN

A1 A2 A1 A2 A1 A2

24V 0V 24V 0V 24V 0V

Achtung !
24V vom Etikettierkopf
für externe Initiatoren/Sensoren
24V Powersupply from
Labekkinghead for extern
Initiators/Sensors

passiv

-X2		
	+24VL	1
	L	2
	Start	3

20 24

			Datum	10.07.2014	ELS	Kom.:	ELS201-SC- PFA Interface machine-interface	ELS200-SC
			bearb.	ulrich				
			gepr.		ELS201SC			SMC
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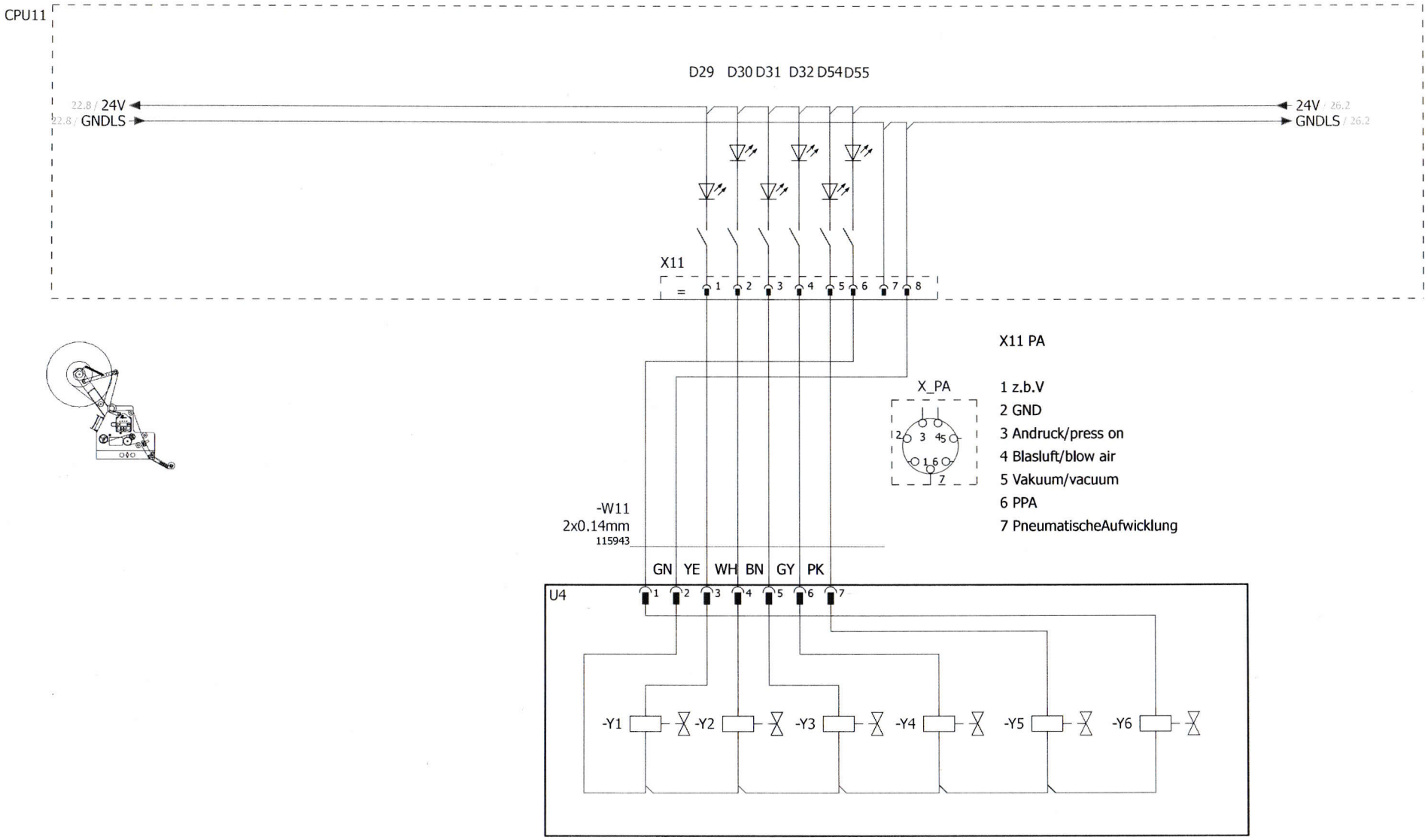


			Datum	10.07.2014	ELS	Kom.:	ELS201SC	ELS200-SC	=	
			Bearb	ulrich					+	
			Gepr					SMC	Blatt	21
Änderung	Datum	Name	Urspr		Ersatz für	Ersetzt durch	PA Interface		Bl	21

Grundeinstellung:
1. Empfindlichkeit auf max. stellen (Potentiometer nach rechtsdrehen),
   anschließend 1/2 Umdrehung nach links drehen.
2. Basisabgleich ohne Etikettenmaterial so eistellen,daß beide LEDgleich hell leuchten.
3. Gegebenfalls die Empfindlichkeit vermindern (schrittweise 1/4Umdrehung nach links drehen).

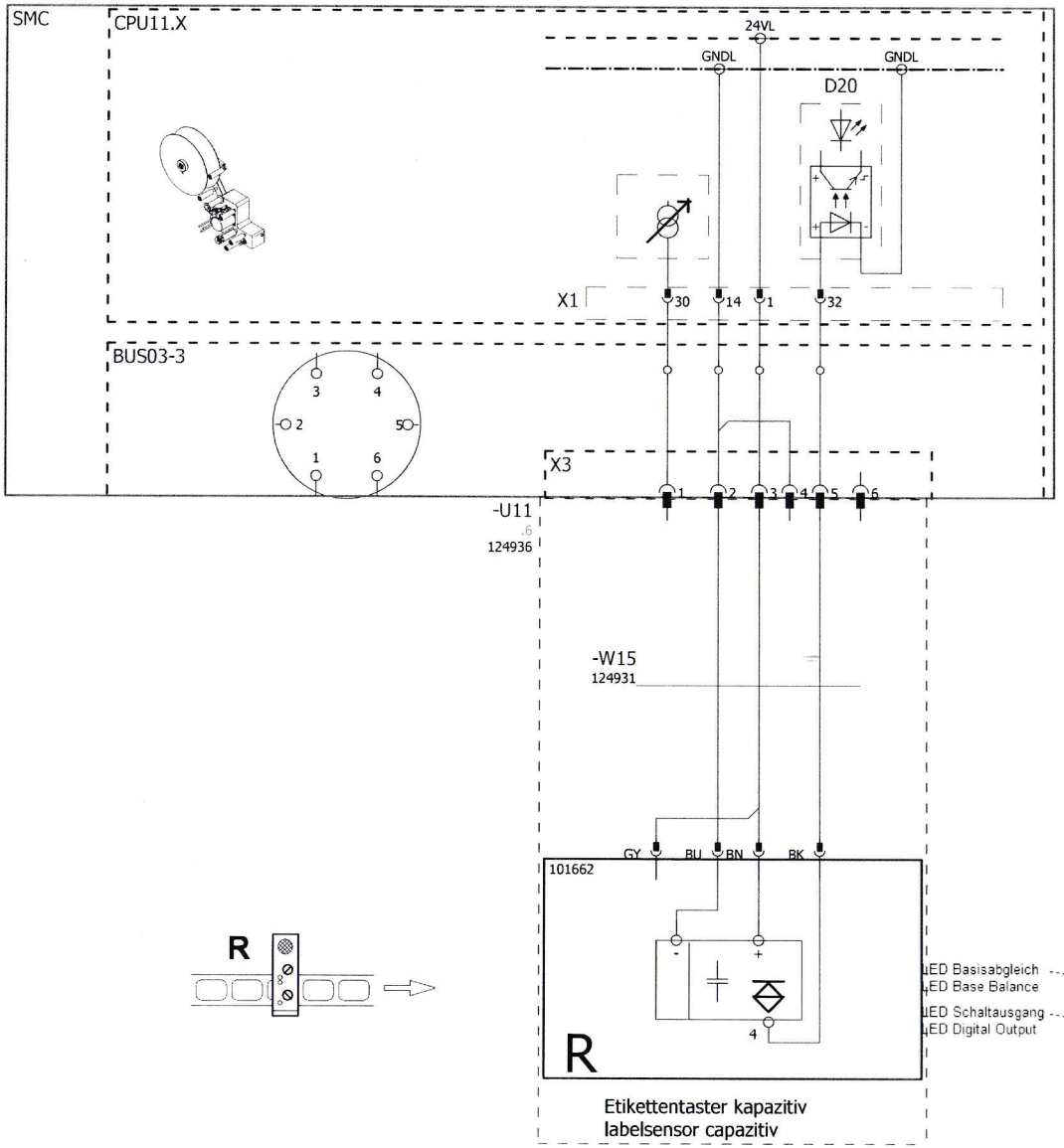
Basisabgleich:
Durchführen nach Neumontage, Reinigung, Empfindlichkeitserhöhung.

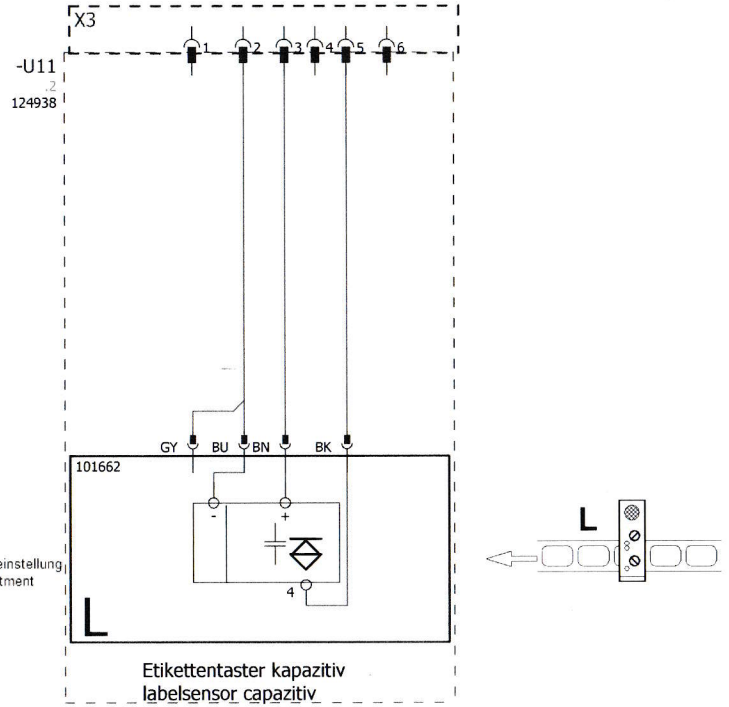
Schaltverhalten:
Signalwechsel am Schaltausgang erfolgt beiMindesteinfahrgeschwindigkeit der Etiketten.
Ausgangssignal bleibtkonstant bis zur nächsten ein- bzw. ausfahrenden Etiketenflanke.

Basic adjustment
1. Adjust sensitivity to maximum (turn adjustment screw clockwise tomaximum position),
   then counter clockwise ½ turn (180°) back.
2. Adjust base balance screw until both base balance LED's light upwith the same brightness.
3. If necessary reduce the sensitivity by turning the sensitivity adjustmentscrew counter
   clockwise step by step (each time a ¼ turn).

Basic balance adjustment
Has to be done after mounting, cleaning and to increase the sensitivity.

Working behavior of the digital output
A change of the digital output is performed each time the label gab, orthe label itself is passing the sensor.
The output signal is constant aslong as the label or the label gab is in the sensor.





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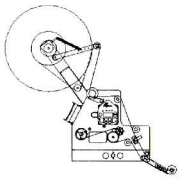
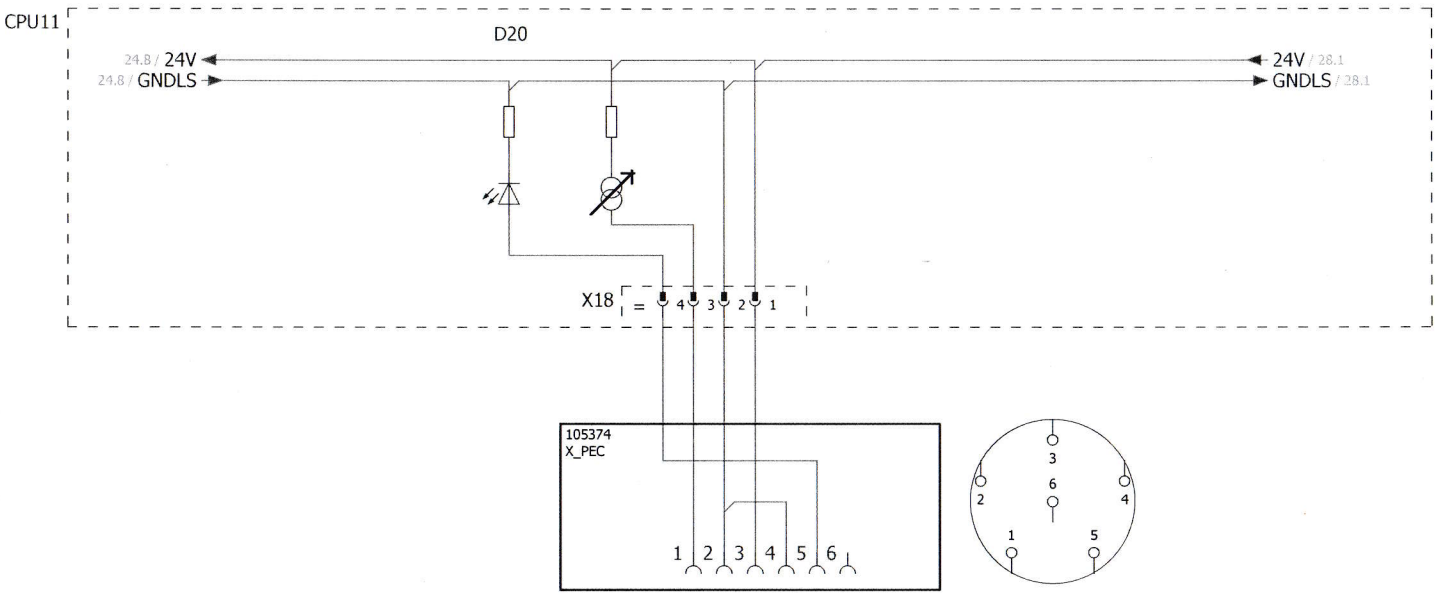
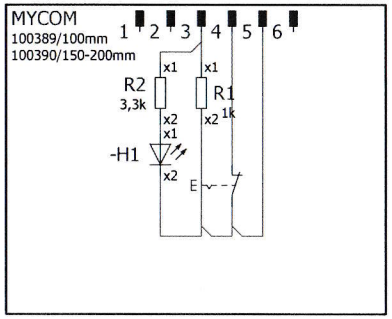
			Bearb	ulrich				
			Gepr		ELS2015C			SMC
Änderung	Datum	Name	Urspr		Ersatz für:	Ersetzt durch		

Blatt 25
Bl 24

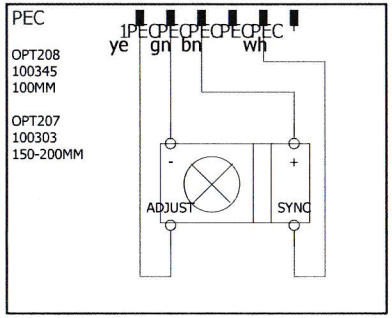






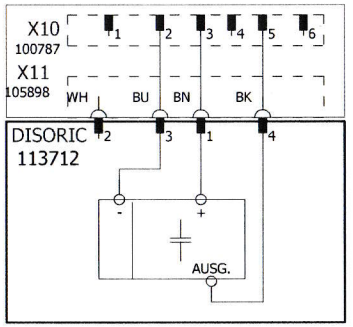
Etikettentaster mechanisch

Labeldetector mechanical



Etikettentaster optisch

Labeldetector optical



Etikettentaster kapazitiv

Labeldetector capacitiv

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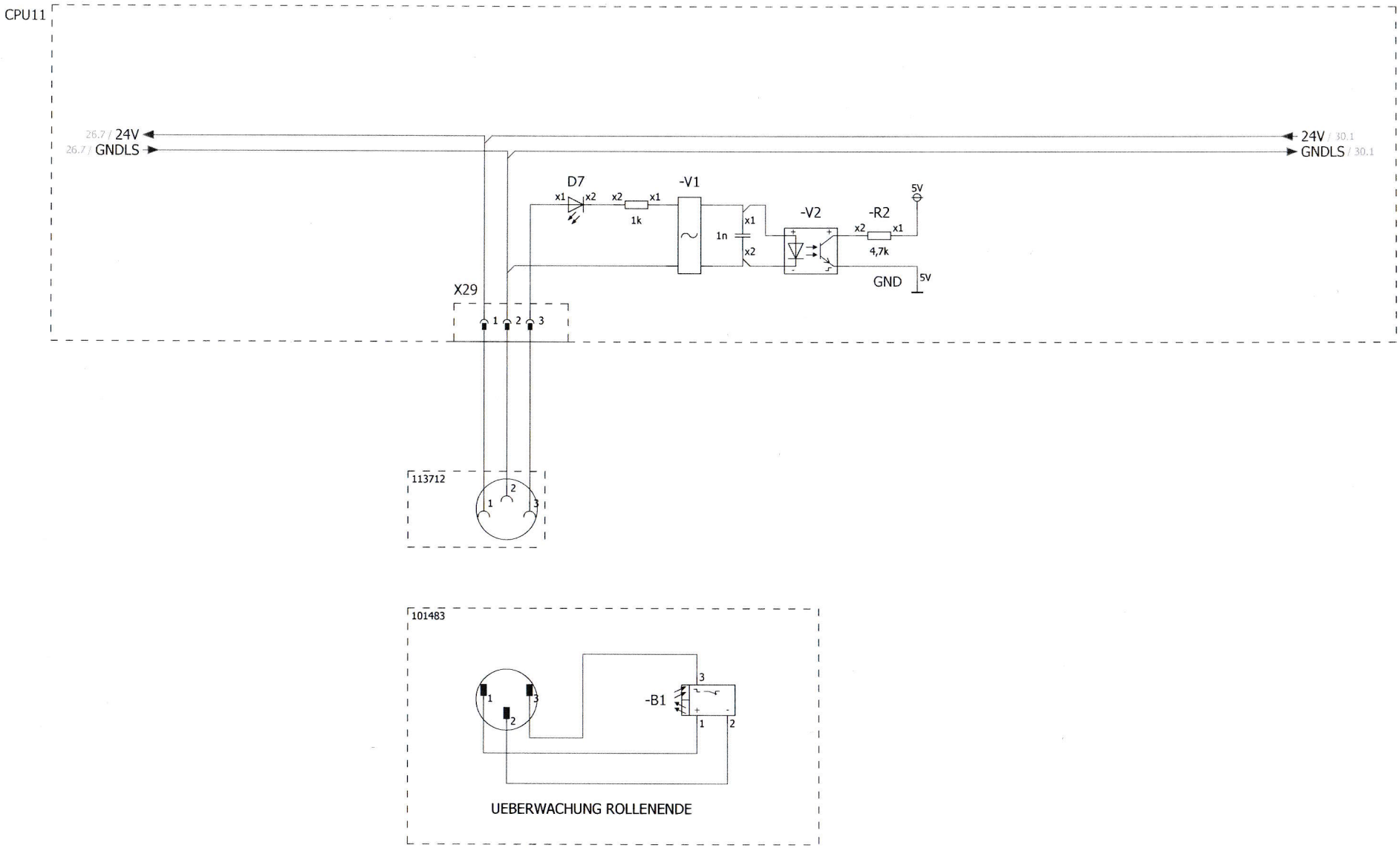
			Bearb.	ulrich				Etikettentaster		
			Gepr.		ELS2015C				SMC	Blatt 26
Änderung	Datum	Name	Ers. von		Ersetzt durch					Bl 21



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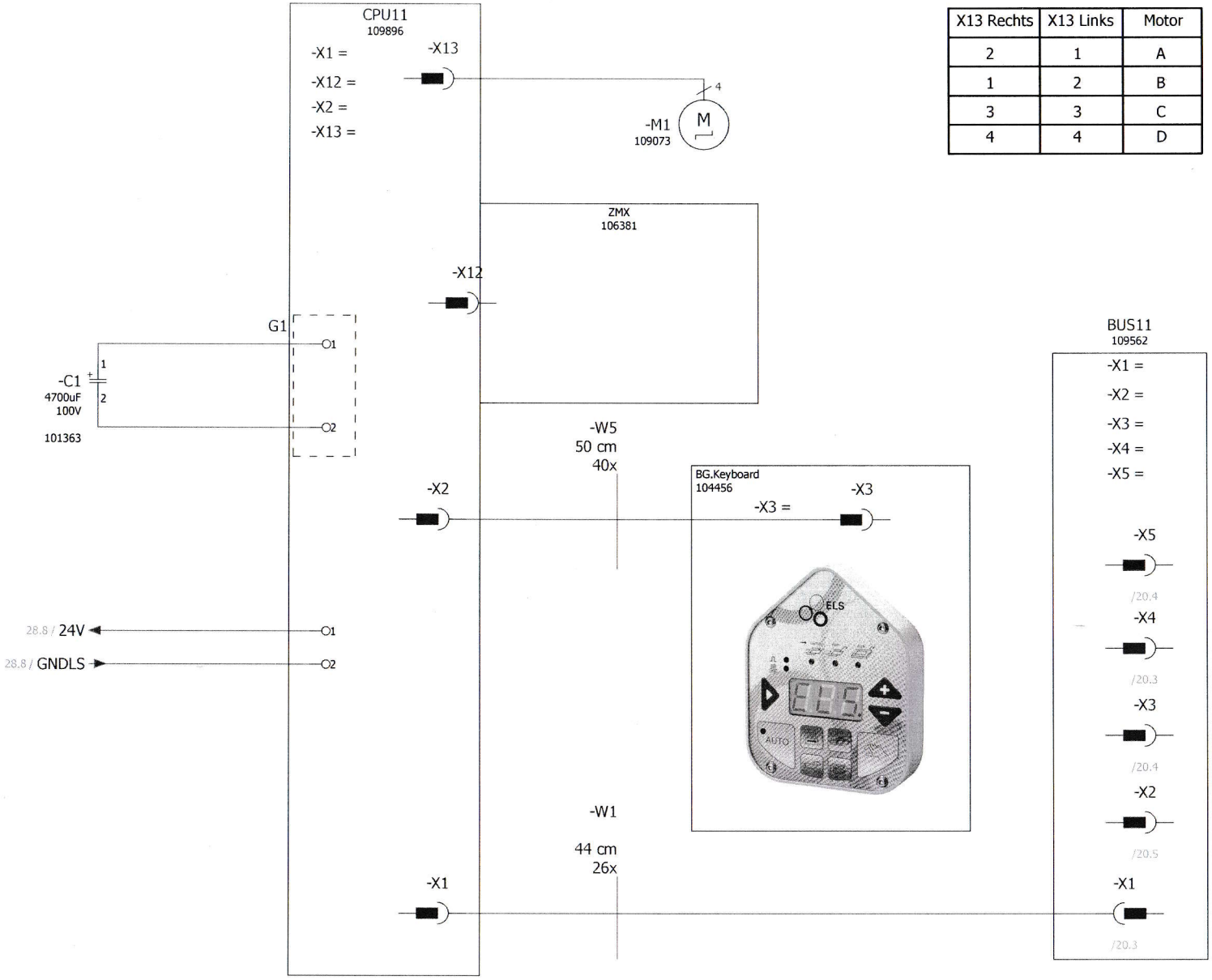
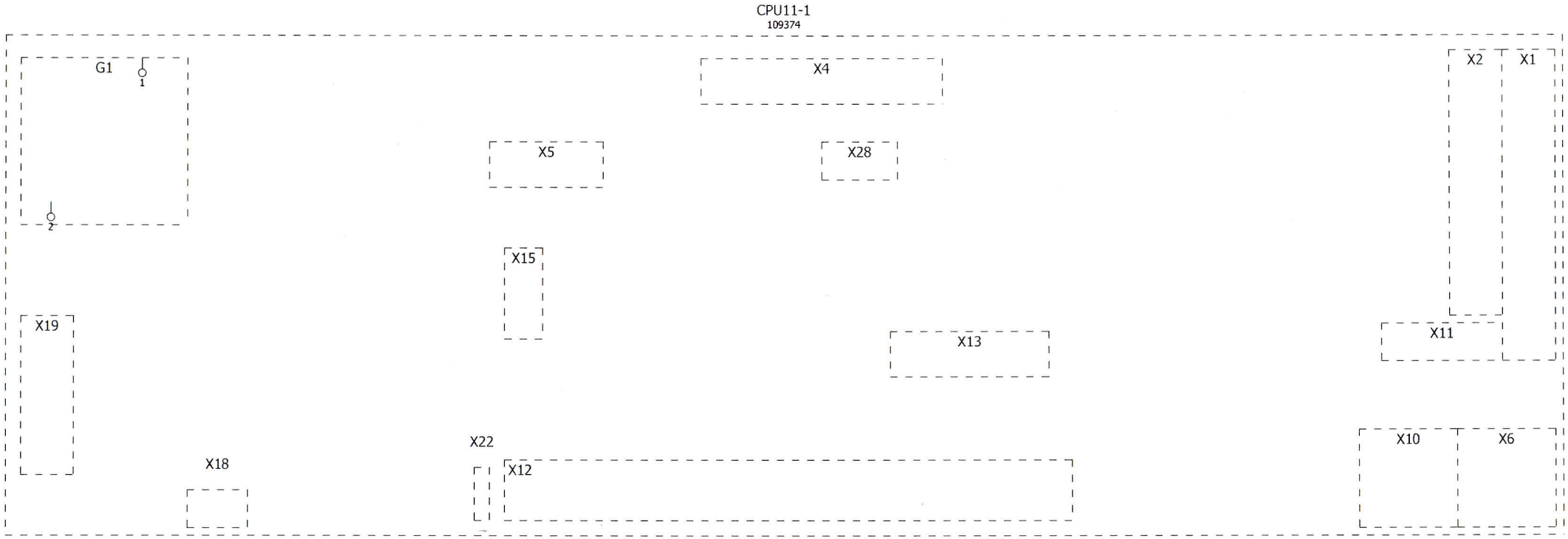
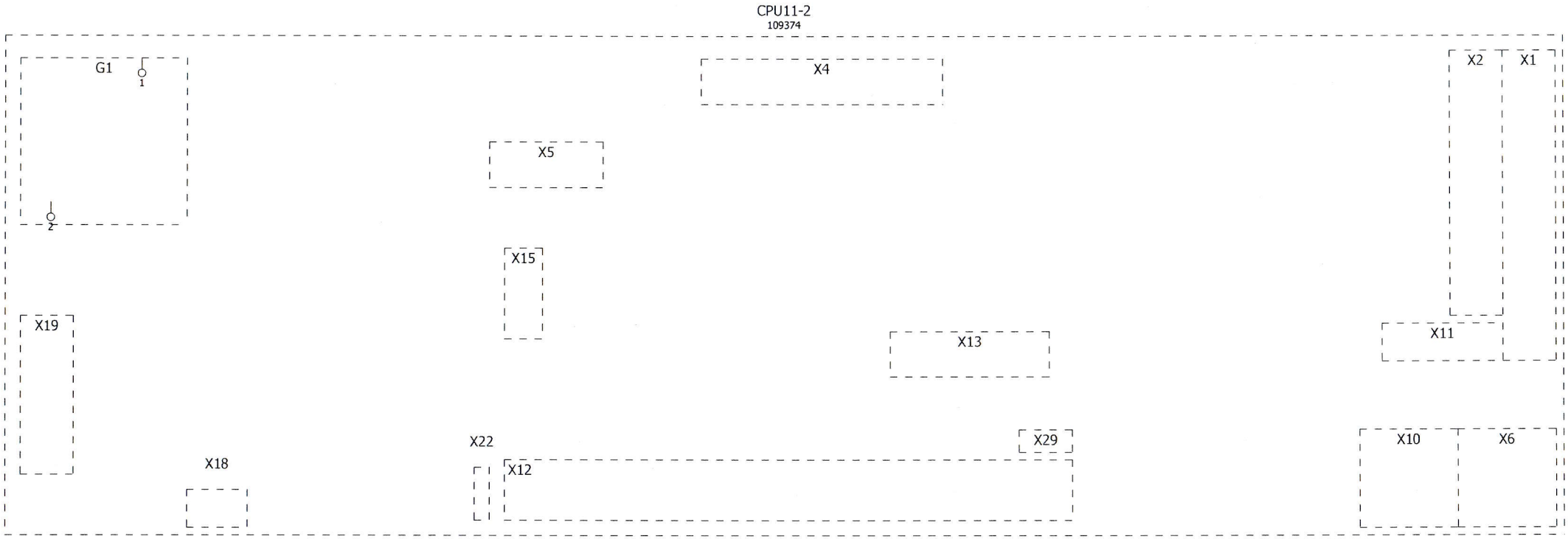


X13 Rechts	X13 Links	Motor
2	1	A
1	2	B
3	3	C
4	4	D



G1	Leistungsgleichrichter 70V	X5	PLD_Prog	X4	BDI2000	X1	IO_PRT_ENCODER
X19	Betriebsspannung	X15	SM2	X28	RS232	X2	Keyboard_Display
X18	PEC	X22	PE	X13	SM1_Phasen	X11	IO_PA
				X12	ZMX	X10	IO_PA
						X6	Ethernet

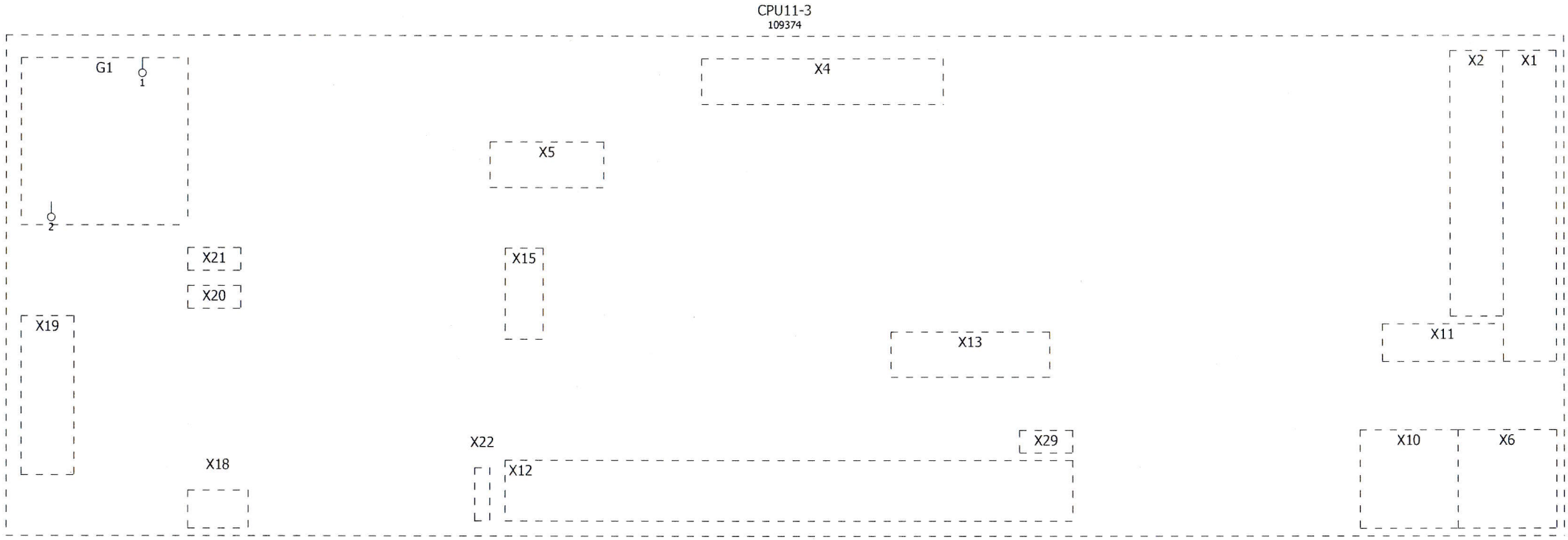
			Datum	26.09.2014	ELS	Kom.:	CPU11-1	ELS200-SC
			Bearb.	ulrich				
			Gepr.		FLS2015C			SMC
Änderung	Datum	Name	Urspr.			Ersetzt durch		



G1	Leistungsgleichrichter 70V	X5	PLD_Prog	X4	BDI2000	X29	ROLLENENDESENSOR
X19	Betriebsspannung	X15	SM2				
X18	PEC	X22	PE	X13	SM1_Phasen		
				X12	ZMX		

X1	IO_PRT_ENCODER
X2	Keyboard_Display
X11	IO_PA
X10	CAN
X6	Ethernet

			Datum	26.09.2014	ELS	Kom.:	CPU11-2	ELS200-SC
			Bearb	ulrich				
			Gepr		ELS201SC			SMC
Änderung	Datum	Name	Urspr		Ersetzt durch			



G1	Leistungsgleichrichter 70V	X5	PLD_Prog	X4	BDI2000		
X19	Betriebsspannung	X15	SM2			X29	ROLLENENDESENSOR
X18	PEC	X22	PE	X13	SM1_Phasen		
X20	Kondensator +			X12	ZMX		
X21	Kondensator -						

X1	IO_PRT_ENCODER
X2	Keyboard_Display
X11	IO_PA
X10	CAN
X6	Ethernet

			Datum	26.09.2014	ELS	Kom.:	CPU11-3	ELS200-SC
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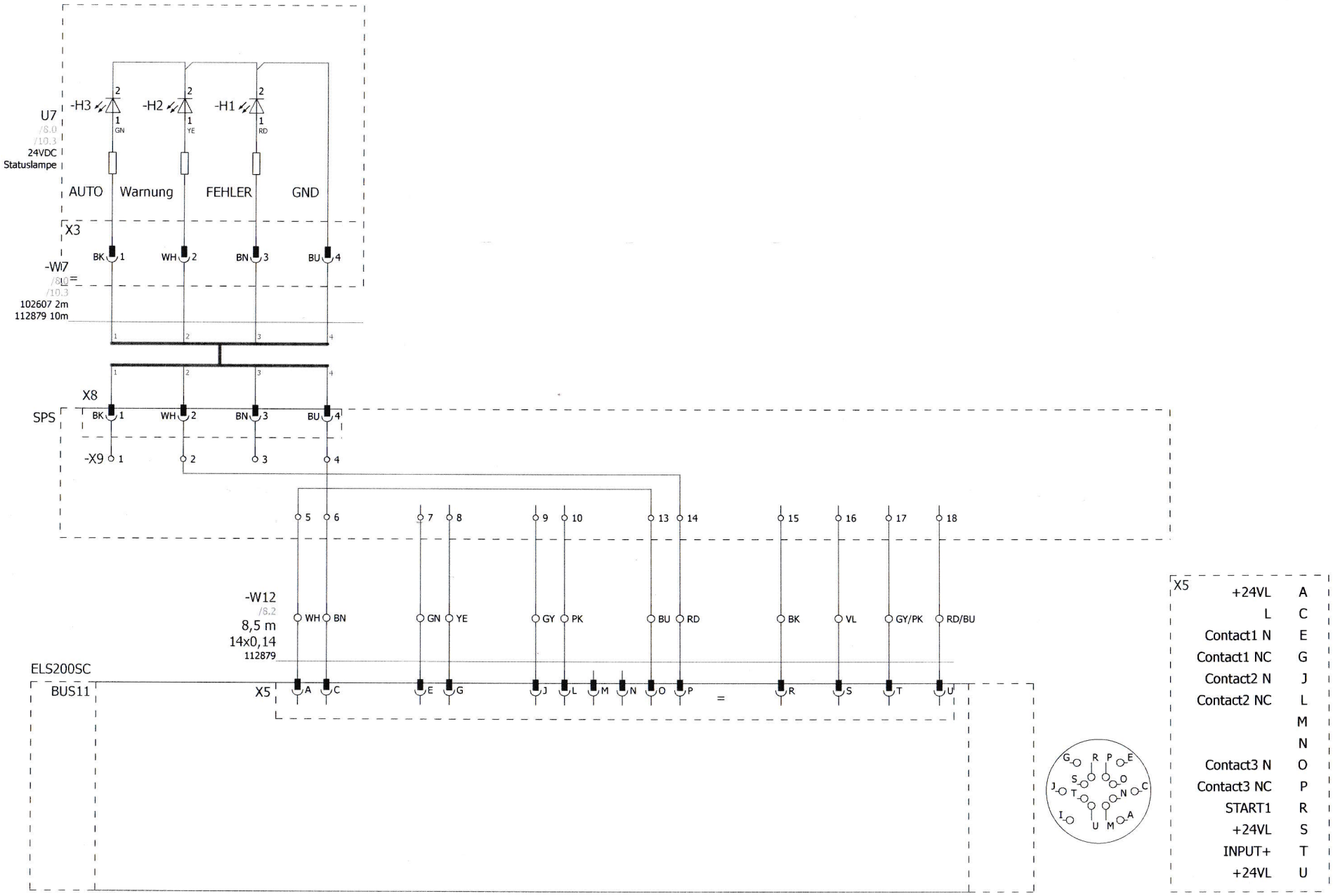
			Gepr		ELS201SC			SMC
Änderung	Datum	Name	Urspr		Ersatz von	Ersetzt durch		Blatt 31 Bl 31



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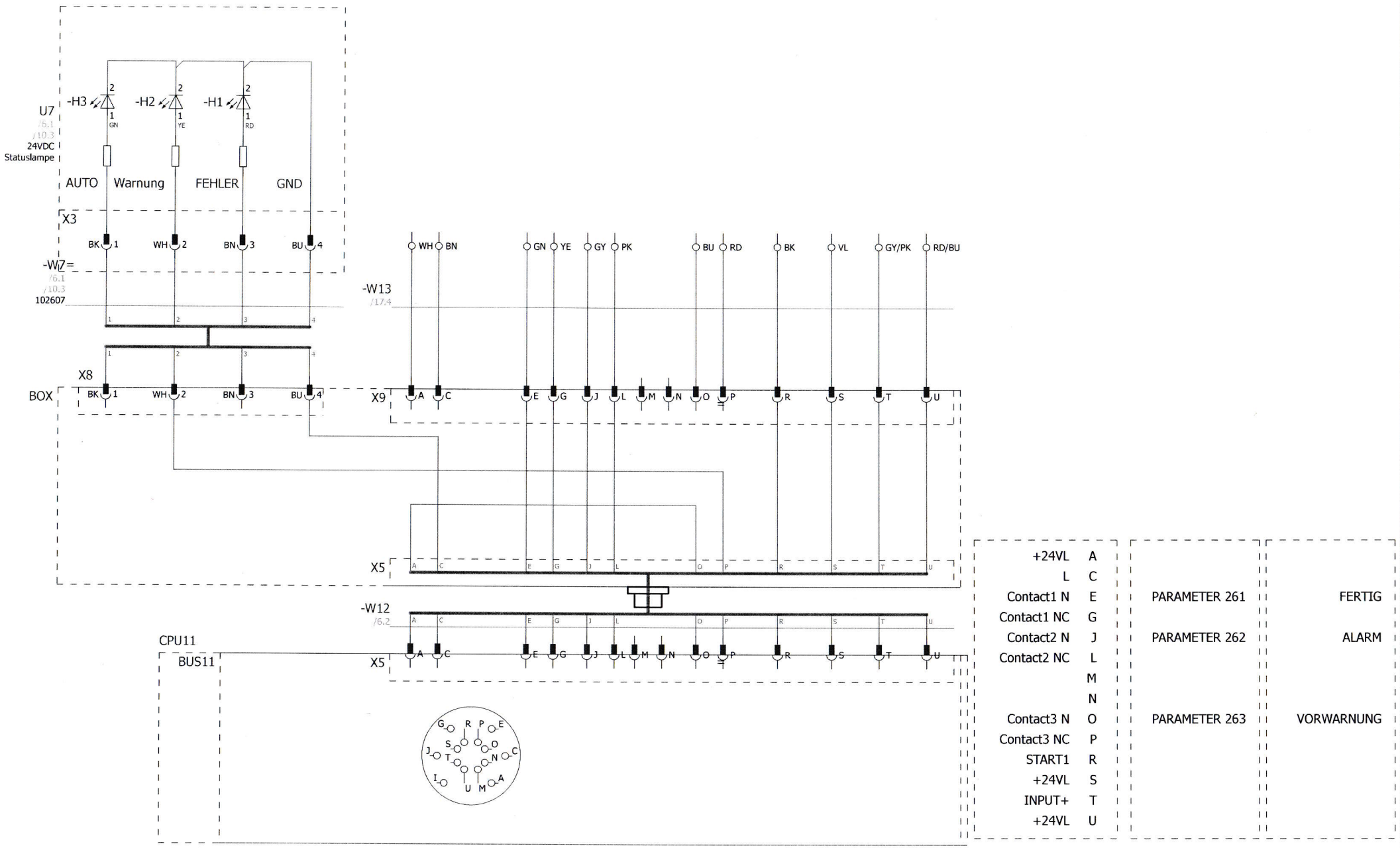
Änderung	Datum	Name			Ersatz von	Ersetzt durch	Interface	SMC	Blatt 6 / 21



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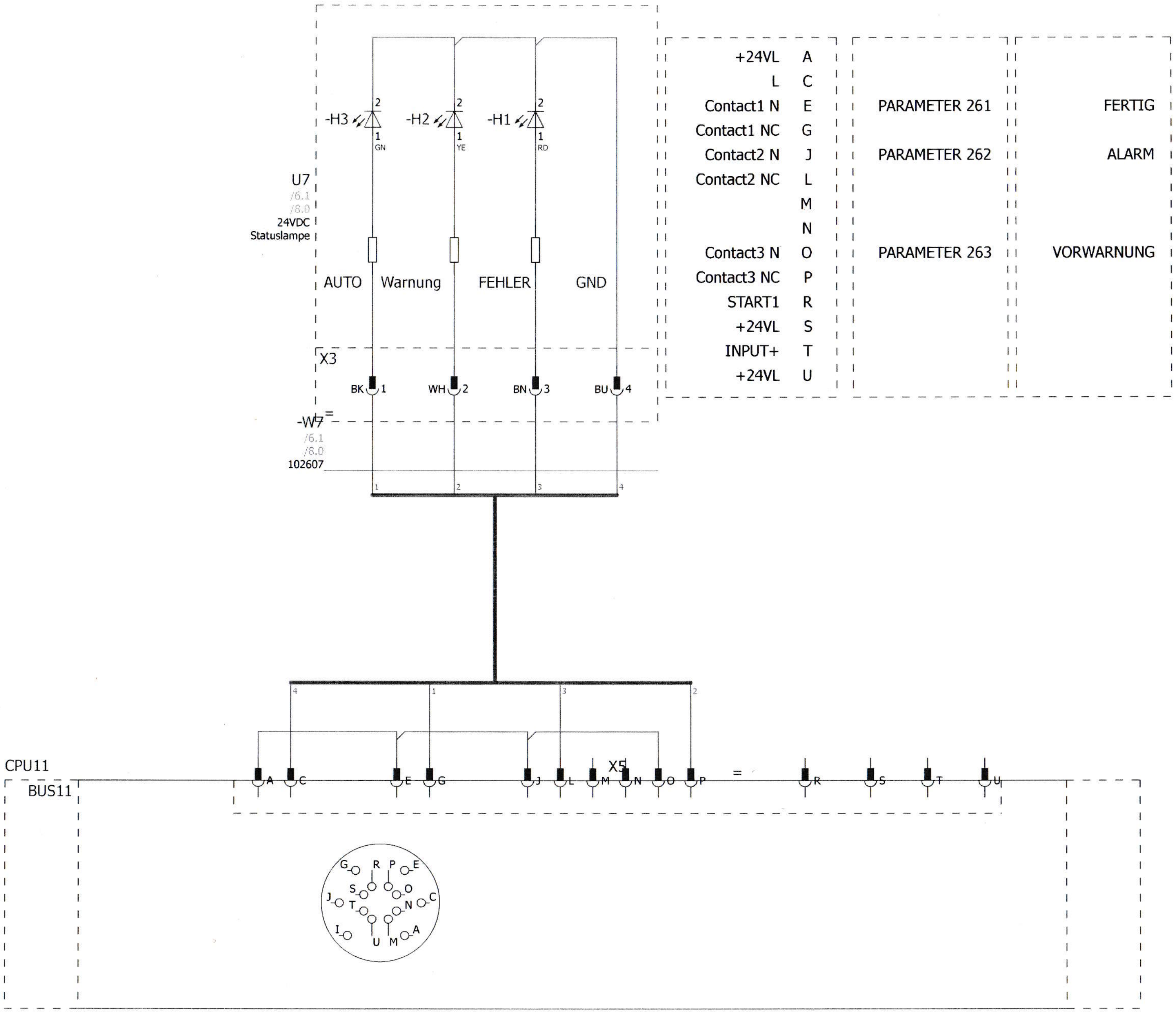
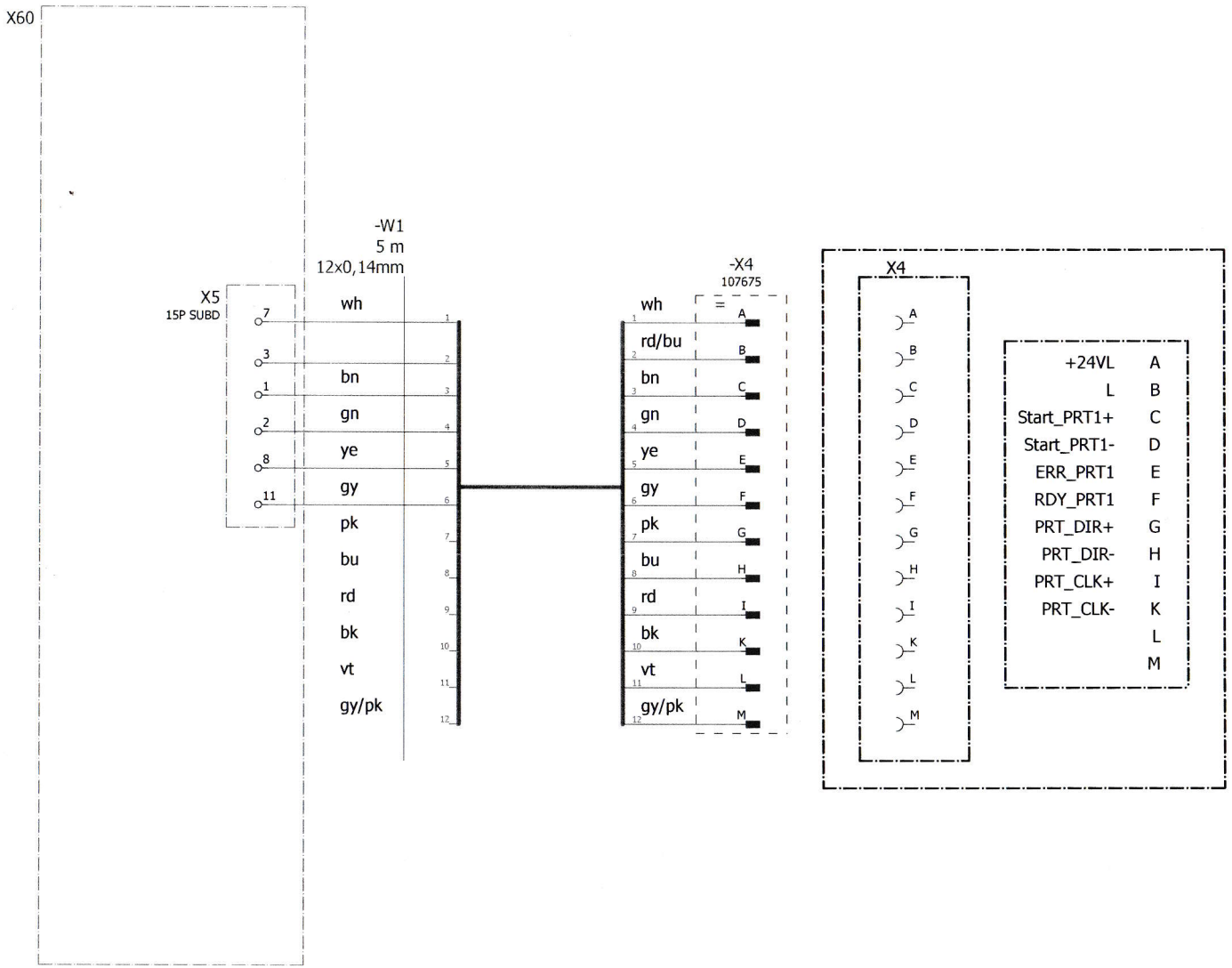
Änderung	Datum	Name	Urspr			Ersatz durch			


-H3
-H2
-H1
GN
YE
RD
U7
/6.1
/8.0
24VDC
Statuslampe
AUTO
Warnung
FEHLER
GND
X3
BK 1
WH 2
BN 3
BU 4
-W7
/6.1
/8.0
102607
+24VL A
L C
Contact1 N E
Contact1 NC G
Contact2 N J
Contact2 NC L
M
N
Contact3 N O
Contact3 NC P
START1 R
+24VL S
INPUT+ T
+24VL U
PARAMETER 261
PARAMETER 262
PARAMETER 263
FERTIG
ALARM
VORWARNUNG
CPU11
BUS11
X5



10

15

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			Bearb.	ulrich				
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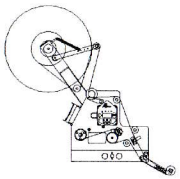
Änderung	Datum	Name	Urspr.		erstellt von			

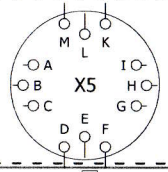
SMC201
107657

CPU11



24VL
GNDL
-D40
-D12
-D13
X1 1 18 9 10 11 12
W1
109498
40x

BUS11-0



X8 1 18 9 10 1 12
-X5 A B C D E F

X5		
	+24VL	A
	L	B
	Start_PRT1-	C
	Start_PRT1+	D
	ERR_PRT1	E
	RDY_PRT1	F
	PRT_DIR+	G
	PRT_DIR-	H
	PRT_CLK+	I
	PRT_CLK-	K
		L
		M

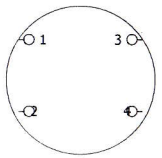
(105539)
12 ADERN
AB 2012

WH YE GY

4 ADERN
BIS 2012

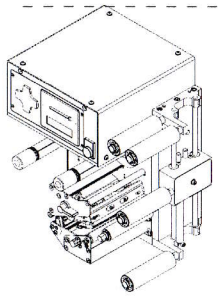
GN WH BN YE

ELS191



2 3 4 1
2 3 4 1

-ERR_PRT1 -RDY_PRT1



12 16

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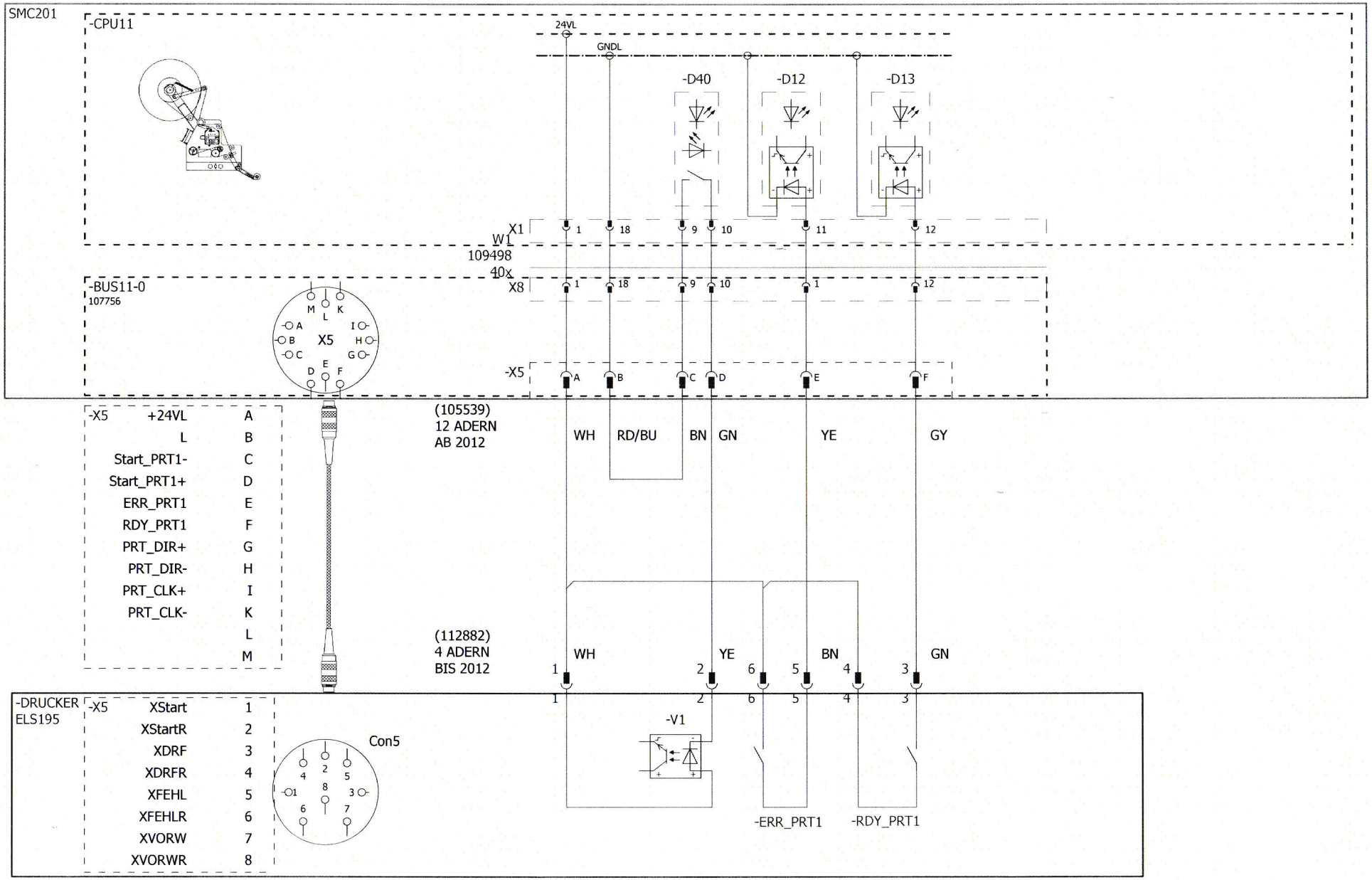
			Gepr		ELS201SC			SMC	Blatt 15
Aenderung	Datum	Name	Urspr		Ersatz von				14 21



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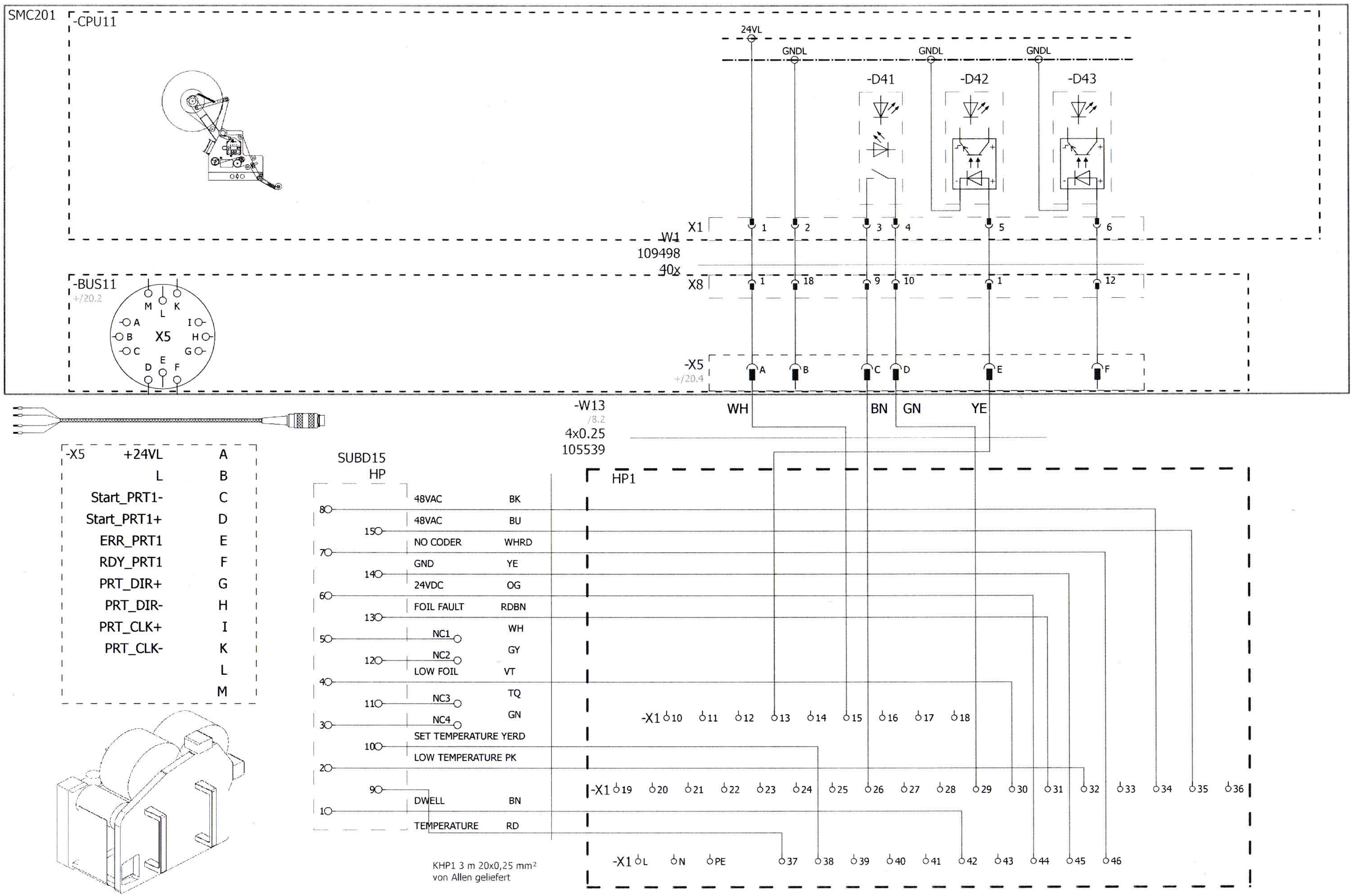
A Änderung	Datum	Name	Ersetzt für:		Ersetzt durch:				



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Bearb ulrich	ELS201SC	ELS	ALLEN S-COMPACT	= + ITF
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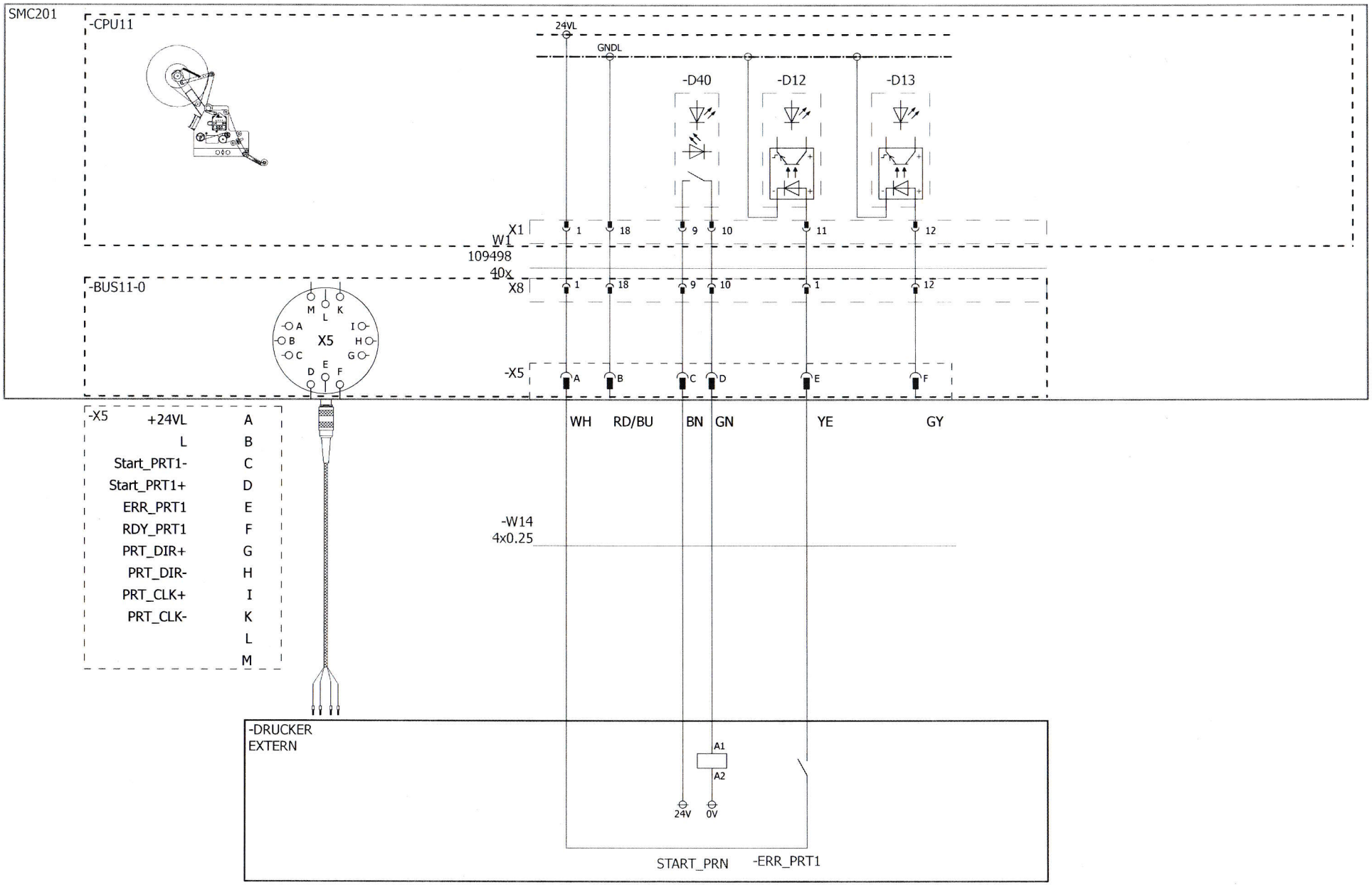
Änderung Datum Name Urspr				Blatt 17 Bl 31



17

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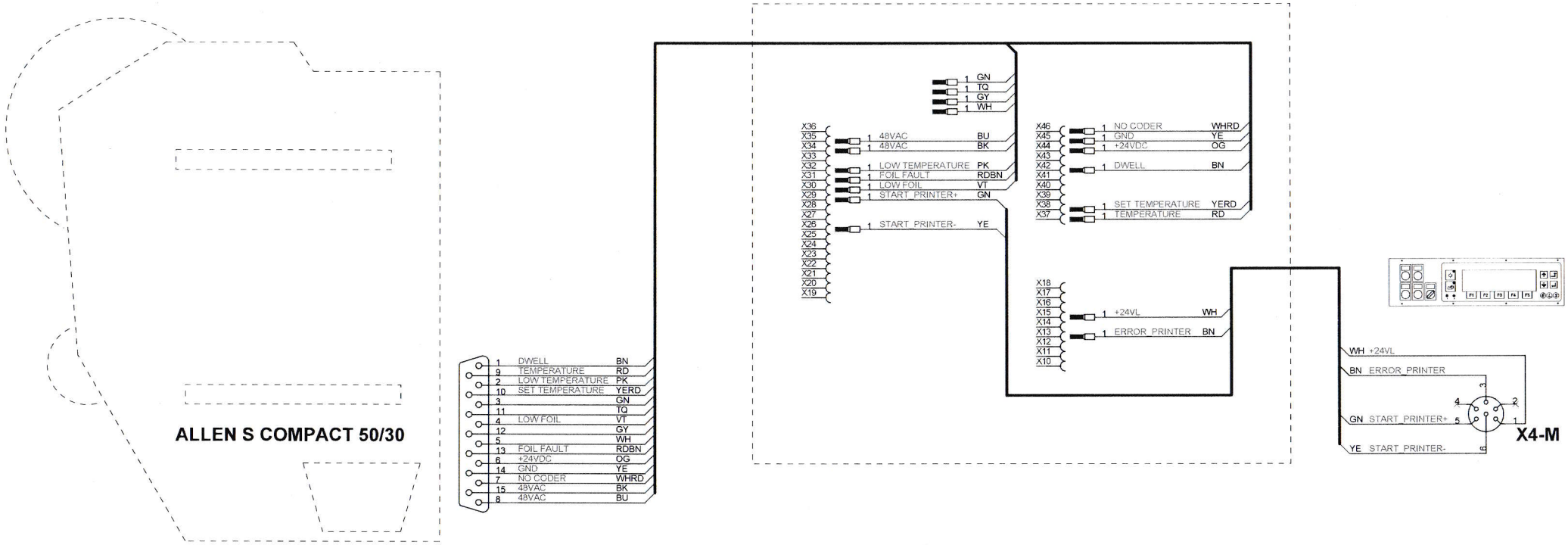
			Bearb	ulrich			Printer Interface Extern	
			Gepr		ELS2015C		Druckeransteuerung Extern	
Änderung	Datum	Name	Urspr		Ersatz für:	Ersatz durch:	intern/ext	SMC

ELS

Blatt 17

DRUCKER INTERFACE ALLEN S COMPACT
PRINTER INTERFACE ALLEN S COMPACT



1	WH:	WEISS	WHITE	11	GYPK:	GRAUROSA	GRAYPINK
2	BN:	BRAUN	BROWN	12	RDBU:	ROTBLAU	REDBLUE
3	GN:	GRUEN	GREEN	13	WHGN	WEISSGRUEN	WHITGREEN
4	YE:	GELB	YELLOW	14	BNGN:	BRAUNGRUEN	BROWNGREEN
5	GY:	GRAU	GRAY	15	WHYE:	WEISSGELB	WHITEYELLOW
6	PK:	ROSA	PINK	16	YEBN:	GELBBRAUN	YELLOWBROWN
7	BU:	BLAU	BLUE	17	WHGY:	WEISSGRAU	WHITEGRAY
8	RD:	ROT	RED	18	GYBN:	GRAUBRAUN	GRAYBROWN
9	BK:	SCHWARZ	BLACK	19	WHPK:	WEISSROSA	WHITEPINK
10	VT:	VIOLETT	VIOLET	20	PKBN:	ROSABRAUN	PINKBROWN

M:\CADORCAD\WINCAPTURE\DESIGN\BETRIEBSANLEITUNG\ELS180 BEDIENUNGSANLEITUNG ALLEN.DSN

EUROPEAN LABELLING SYSTEM GN

D-33824 WERTHER
DAMMSTRASSE 21

Title	ALLEN S-COMPACT50/30 – ELS	
Size A3	Document Number ELS 180 Bedienungsanleitung ALLEN	Rev 1.0
Date: Monday, May 13, 2002	Sheet	of