

# **PFAFF**

## **3568-2/12**

**(Top-side bobbin change)**

**Service hand book for control**

## **Safety instructions**

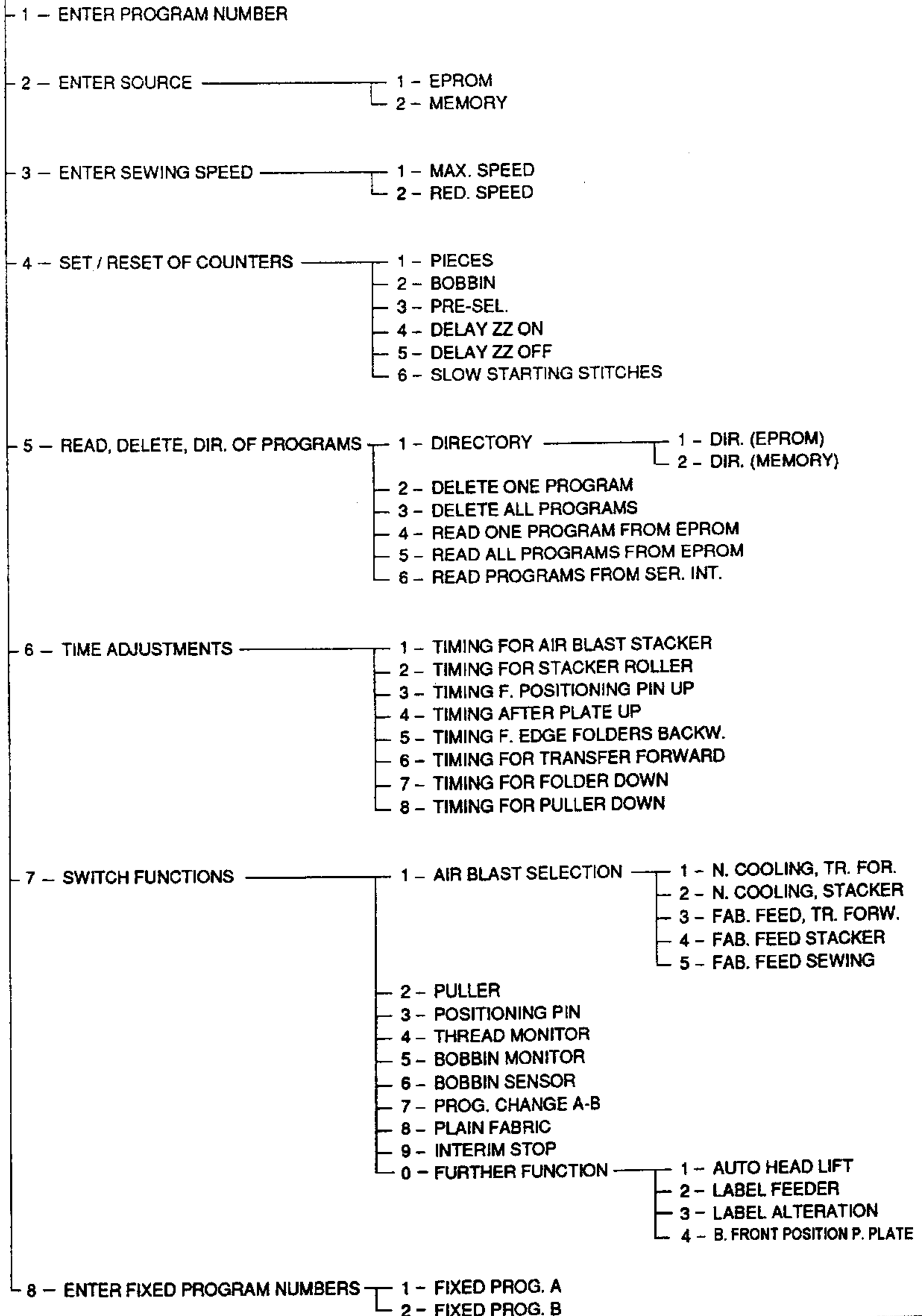
- The machine must only be used for the purpose it was designed for.
- In case of conversion into another version all valid safety instructions have to be considered.
- Do not operate the machine without the safety devices it is equipped with.
- The machine must only be switched on and operated by persons who have been instructed accordingly.
- When exchanging gauge parts (e. g. needle, presser foot, needle plate, feed dog, bobbin), threading the machine or leaving it, and during maintenance work, be sure to disconnect the machine, either by actuating the master switch or by removing the mains plug.  
In case mechanically-actuated clutch motors wait for the motor to stand still.
- When carrying out maintenance- or repair work on pneumatic devices, disconnect the machine from the pneumatic supply source. The only exceptions permitted are adjustments and performance checks made by competent personnel.
- Work on electrical equipment of the machine must only be carried out by electricians or other persons who have been instructed accordingly.
- Apart from the permissible deviations according to DIN VDE 0105, work on live parts an equipment is nit permitted.

### T. Handle allen wrenches

6 mm allen----08-800 303-08  
5 mm allen----08-800 303-07  
4 mm allen----08-800 303-06  
3 mm allen----08-800 303-05  
2.5 mm allen--08-800 303-02  
2 mm allen----08-800 303-01

# List of input functions

BASIC STATE



## General information

In the basic status, all main functions can be indicated together with their function numbers by pressing the "ENTER" key several times. If a valid function number is actuated, the corresponding input function is selected. Main functions may be divided into several part functions, and part functions again into several further part functions. Selection is made simple by the integrated operator guidance system.

The input is concluded by actuation of an operation mode key.

If error messages occur, one of the operation mode keys must be pressed in order to continue work.

In addition to the main functions listed below, there is a monitor function (byte, port) which, however, is only to be used by authorized service personnel.

Function numbers of the main functions:

- 1 - ENTER PROGRAM NUMBER
- 2 - ENTER SOURCE
- 3 - ENTER SEWING SPEED
- 4 - SET / RESET OF COUNTERS
- 5 - READ, DELETE, DIR. OF PROGRAMS
- 6 - TIME ADJUSTMENTS
- 7 - SWITCH FUNCTIONS
- 8 - ENTER FIXED PROGRAM NUMBERS

### Main function 1 - ENTER PROGRAM NUMBER

The input of a program number is only possible when the machine is in its basic position. Otherwise an error message is indicated.

The new program number is accepted with "ENTER".

Furthermore it is important to take note that when an EPROM has been changed it is necessary to reselect a program number, even if the same program number is to be used, provided the current EPROM is the program source.

### Main function 2 - ENTER SOURCE

It is only possible to input the program source when the machine is in its basic position; if it is not, an error message will be indicated.

### Main function 3 - ENTER SEWING SPEED

The maximum sewing speed ("1") and the reduced sewing speed ("2") can be indicated and altered.

The selected sewing speed can be input in speed levels from 1 to 15, whereby each speed level is indicated with the percentage ratio in relation to the maximum possible speed. The setting is accepted with "ENTER" if the value is permissible (otherwise error message).

Furthermore it is important that the sewing speed may be limited by the stitch length or the sewing program.

## **Main function 4 - SET/RESET OF COUNTERS**

Firstly it is possible to turn over the different part functions by pressing "ENTER". The corresponding function numbers in each case are indicated too. When a valid function number is actuated, the chosen part function is selected.

### **Part function 1 - PIECES (piece counter)**

The active value is indicated. The piece counter can be reset by key "0".

### **Part function 2 - BOBBIN (bobbin thread stitch counter)**

(Same as part function 1), the setting is indicated in units of 100 stitches.

### **Part function 3 - PRE-SEL. (setting of bobbin thread stitch counter)**

The active value (units of 100 stitches) is indicated. After that, a new setting can be made and accepted with "ENTER".

### **Part function 4 - DELAY ZZ ON (delay of zigzag "on")**

The active delay value is indicated in stitches. After that, a new setting can be made and accepted with "ENTER".

### **Part function 5 - DELAY ZZ OFF (delay of zigzag "off")**

(Same as part function 4).

### **Part function 6 - SLOW STARTING STITCHES**

The active number of slow starting stitches is indicated. After that, a new setting can be made and accepted with "ENTER".

## **Main function 5 - READ, DELETE, DIR. OF PROGRAMS**

Firstly it is possible to turn over the different part functions by pressing "ENTER". The function numbers to be operated in each case are indicated too. On actuation of a valid function number, the corresponding part function is selected.

### **Part function 1 - DIRECTORY**

It is possible to choose between the directory of the eprom ("1") and the memory ("2"). All existing program numbers are indicated. The list is concluded with "END". If one line is not sufficient to indicate all program numbers, the display can be continued with "ENTER". When all programs and "END" have been displayed, the display returns to the beginning.

### **Part function 2 - DELETE ONE PROGRAM**

Deletion is only permissible in the basic position of the machine, otherwise an error message is indicated.

Firstly, the program number to be deleted is entered. The delete function is carried out with "ENTER" and confirmed afterwards. If the program number is not available an error message is indicated.

### **Part function 3 - DELETE ALL PROGRAMS**

Deleting is only permissible in the basic position of the machine, otherwise an error message is indicated. The delete function is carried out with "ENTER" and confirmed afterwards.

### **Part function 4 - READ ONE PROGRAM FROM EPROM (read single programs from eprom into memory)**

Firstly, the program number to be read is input. Reading is begun by pressing "ENTER". If the program to be read is not found in the eprom, if a program with the same number in the memory already exists, or if the storage capacity is not sufficient, this is indicated with a corresponding error message. After correct reading, a confirmation is indicated.

### **Part function 5 -READ ALL PROGRAMS FROM EPROM (read all programs from eprom into memory)**

Firstly, the part function is indicated. Reading is begun by pressing "ENTER". If no eprom or an empty one is inserted in the reading unit, a program with the same number in the memory already exists or if the storage space is not sufficient, this is indicated with a corresponding error message. Confirmation is indicated after correct reading.

### **Part function 6 -READ PROGRAMS FROM SER. INT. (read programs into memory via serial interface)**

A corresponding display is made. Then the system waits for data.

The following errors are recognized and indicated:

- program with the same number already in memory exists
- insufficient storage space
- wrong data transmitted
- transmission interrupted
- transmission error

Successful transmission is indicated by a message. Interruption of transmission is possible by actuation of an operation mode key.

### **Main function 6 - TIME ADJUSTMENTS**

Firstly it is possible to scroll through the different part functions by pressing "ENTER". The function numbers to be operated in each case are indicated too. By actuation of a valid function number, the corresponding part function is selected.

The following times can be adjusted:

- part function 1 - TIMING FOR AIR BLAST STACKER
- part function 2 - TIMING FOR STACKER ROLLER
- part function 3 - TIME F. POSITIONING PIN UP
- part function 4 - TIMING AFTER PLATE UP
- part function 5 - TIMING F. EDGE FOLDERS BACKW.
- part function 6 - TIMING FOR TRANSFER FORWARD
- part function 7 - TIMING F. COVER OF ST. ROLLER  
(time for stacker roller cover)
- part function 7 - TIMING FOR FOLDER DOWN  
(only for 3588-1/12; -2/12)
- part function 8 - TIMING FOR PULLER DOWN

The input time is accepted with "ENTER".

**Important:** If the time for stacker roller cover is set longer than the time for stacker roller, the stacker roller cover will not be triggered.

## **Main function 7 - SWITCH FUNCTIONS**

Firstly it is possible to scroll through the different part functions by pressing "ENTER". The function number to be operated in each case is indicated too. By actuation of a valid function number the corresponding part function is selected.

### **Part function 1 - AIR BLAST SELECTION**

By pressing "ENTER" the different part functions of airblast selection can be scrolled through. If a part function is selected by its function number, the corresponding air blast can be enabled by "1" or disabled by "0".

The following part functions are possible:

part function 1 - N. COOLING, TR. FOR. (air blast, needle cooling on during feed forward)

part function 2 - N. COOLING, STACKER (air blast, needle cooling on during stacking)

part function 3 - FAB. FEED, TR. FORW. (air blast, auxiliary fabric feed on during feed forward)

part function 4 - FAB. FEED STACKER (air blast, auxiliary fabric feed on during stacking)

part function 5 - FAB. FEED SEWING (air blast, auxiliary fabric feed on during sewing)

### **Part function 2 - PULLER**

The puller function can be enabled ("1") or disabled ("0").

### **Part function 3 - POSITIONING PIN**

It is possible to choose between edge folder with positioning pins ("1") and edge folder without positioning pins ("0").

### **Part function 4 - THREAD MONITOR**

The needle thread monitor can be enabled ("1") or disabled ("0").

### **Part function 5 - BOBBIN MONITOR**

The bobbin thread monitor can be enabled ("1") or disabled ("0").

### **Part function 6 - BOBBIN SENSOR**

The bobbin thread sensor can be enabled ("1") or disabled ("0"). If the bobbin thread monitor and the bobbin thread sensor are enabled, the bobbin thread is monitored by the sensor. If the bobbin thread monitor is enabled and the bobbin thread sensor is disabled, the bobbin thread is monitored by stitch counting.

### **Part function 7 - PROG. CHANGE A - B**

Automatic program change can be enabled ("1") or disabled ("0").

**Part function 8 - PLAIN FABRIC** (changed start of folder unit for plain fabric)

The folder unit is started with the dual starting buttons.  
The function of the foot switch is inactive.  
This changed start can be enabled ("1") or disabled ("0").

**Part function 9 - INTERIM STOP**

The interim stop can be switched on ("1") or off ("0").

**Part function 0 - FURTHER FUNCTIONS**

Press "ENTER" to access and scroll through further part functions with their function numbers.  
After selecting a part function with its function number you can select the required function with "1" or de-select with "0".

The following part functions are possible:

- Part function 1 - AUTO HEAD LIFT
- Part function 2 - LABEL FEEDER
- Part function 3 - ALTERN. LABEL SEWING

**Main function 8 - ENTER FIXED PROGRAM NUMBERS**

Firstly it is possible to scroll through the different part functions by pressing "ENTER". The function numbers to be operated in each case are indicated too. By actuation of a valid function number, the corresponding part function is selected.

- Part function 1 - FIXED PROG. A
- Part function 2 - FIXED PROG. B

A program number may be given to the program station selected.



**Service - brief description**

To make a master reset on the Quick Synchro motor, press and hold all 4 switches on the Qucik controller and turn on the machine.

All parameters are set to the correct value as follow

#### Parameter

116 = 0000	705 = 0125
117 = 0400	706 = 0125
521 = II	718 = 0003
601 = I	722 = 0030
603 = I	723 = 0018
605 = II	733 = English
606 = 0180	800 = I
607 = 4100	884 = 0010
608 = 0030	
609 = 0180	
610 = 0180	
700 = 0	
701 = I	
702 = 0075	

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## General information

In the basic status all different functions with their function numbers can be indicated by pressing the "ENTER" key. If a valid function number is actuated, the corresponding service - function is selected.

Service is exited by pressing an operation mode key.

### Function numbers:

- 1 - SET / RESET OF OUTPUTS
- 2 - STEPPING MOTOR (X AXIS)
- 3 - STEPPING MOTOR (Y AXIS)
- 4 - SEWING MOTOR
- 5 - THREAD TRIMMING SEQUENCE
- 6 - DISPLAY OF INPUTS

### 1 - SET / RESET OF OUTPUTS

Outputs can be set or reset. Both interlocks and the are checked.

The output to be controlled verifications is characterized by a three-digit index. The highest digit determines whether the output is to be set or reset  
(\* = 1 for set, \* = 0 for reset ).

In the following list, the names of the outputs refer to set outputs in each case.

### 2 - STEPPING MOTOR (X - AXIS)

Indexes					
Output	Name	Index	Output	Name	Index
Y1	Presser foot down	*08	Y50.1	OUT 7 (sewing head down) On	*46
Y2	Trimming (900) on	*09	Y50.2	OUT 8 (sewing head up) On	*47
Y3	Air blast needle cooling on	*10	Y20.1	Pocket plate back	*12
Y5	Thread puller function	*04	Y20.2	Pocket plate forward	*11
Y10	OUT 1 (zig-zag) on	*40	Y21.1	Pocket holder up	*14
Y11	OUT 2 (Thread tension ampl.) on	*41	Y21.2	Pocket holder down	*13
	OUT 3 On	*42	K22	Retaining solenoid edge folder on	*15
	OUT 4 On	*43	Y23.1	Edge folder and plate up	*17
	OUT 5 On	*44	Y23.2	Edge folder and plate down	*16
SPWOUT	OUT 6 (bobbin change) On (indication only)	*45	24.1	Edge folders back	*19

Output	Name	Index	Output	Name	Index
24.2	Edge folders forward	*18	Y40	Suction, fabric feed roller, on	*32
Y25	Positioning pins up	*20	Y41	Puller down	*33
Y26.1	Template down	*22	Y42	Stacker forward	*34
Y26.2	Template up	*21	Y43	Air blast, stacker, on	*35
Y27.1	Feed forward (to sewing pos.)	*48	K44	Fabric feed roller on	*36
Y27.2	Feed back (to edge folding pos.)	*49	Y45	Air blast, auxiliary fabric feed, on	*06
Y28.1	Locating pin sewing on	*01	K60	Main contactor on	*37
Y28.2	Locating pin feed on	*02	Y70	Label clamp pressure	*52
Y29.1	Edge folders forward	*03	H101	Start lamp on	*38
Y29.2	Edge folders backward	*07	H102	Stop lamp on	*39
Y31	Pocket plate up	*05	H103	Manual lamp on	*24

Output	Name	Index	
H104	Automatic mechanism lamp on	*25	
H105	Power-on lamp on	*26	
H106	Error reset lamp on	*27	
H120	Feed label - lamp on	*51	
SGRD	Carriage in bas. pos. (only report)	*28	
ETSTART	Label feeder start	*50	

### 3 - STEPPING MOTOR (X - AXIS)

The stepping motor of the X-axis is moved in the positive direction by pressing the " forward " key, in the negative direction by pressing the " backward " key. The interlocks are respected. If the thread is not cut, it can be cut by pressing the " needle position " key. If the needle is not in position 2, it can be positioned by pressing the same key too.

**Remark:** The passage of the needle has to be free, because thread trimming and positioning need one rotation of the sewing machine. ( Needle over sewing slot)!

### 3 - STEPPING MOTOR (Y - AXIS)

Same function as (2), but for the stepping motor of the Y-axis.

### 4 - SEWING MOTOR

The sewing motor can be switched on with a pre-selected speed at the " start " key. The " stop " key stops the motion and the sewing machine positions with the needle "up". Renewed selection of speed and start of machine is possible. During the motion, the presser foot is switched down and the measured actual speed is displayed.

**Remark:** The passage of the needle must be free (Needle over sewing slot)!

### 5 - THREAD TRIMMING SEQUENCE

By pressing the " start " key a thread trimming sequence is carried out.

**Remark:** Passage of the needle must be free (Needle over the sewing slot)!

### 6 - DISPLAY OF INPUTS

24 inputs are illustrated at the same time on the display. Enabled inputs ( LED on ) are represented by "1", disabled ones by "0". Terminals, which are not used for inputs, are marked with "\*". The display is arranged in 3 groups of 8 inputs, beginning with terminal no. 1 at the left side. The status is displayed continuously, i.e. a change of status is shown at once.

When the function is called up, the inputs of M-OX ( A21 ) are indicated firstly. By pressing the "ENTER" key another pinboard can be selected. M-OX ( A21 ) is followed by M-IN (A25), M-OE (A26) and M-OE (A27). Then the sequence starts from the beginning again, i.e. with display of M-OX (A21).

If a label station is fitted:  
A21/5 = "1", after M-OE (A27), M-OX (A24) is indicated  
It is not until then that sequence M-OX (A21) can start again.



List of interlocks

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### General information

Label "1" on LED means LED is lighted, "0" means LED is not lighted.

ERROR LIST IN MODE:		AUT, MAN, SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
Y1 S PRESS.FOOT DOWN NOT READY		A22/1 I	A26/1 0	
Y1 R PRESSER FOOT UP NOT READY		A22/1 0	A26/1 I	
Y2 S THREAD TRIMMING LOCKED	A25/14 I POS.2 A25/13 0 MOT.DR			
Y2 S THREAD TRIMMING NOT READY		A22/2 I	A26/2 I	
Y20.1 POCKET PLATE BACK LOCKED	A26/8 I S23.1 A22/4 0 Y20.2			FOLDER WITHOUT POS.PINS
Y20.1 POCKET PLATE BACK N.READY		A22/5 I	A26/5 I A26/4 0	
Y20.2 POCKET PLATE FORW. LOCKED	A26/8 I S23.1 A22/5 0 Y20.1  A26/14 0 B27.1			FOLDER WITHOUT POS.PINS  ONLY WITH LOCATING PIN, FEED, ON
Y20.2 POKET PLATE FORW. N. READY		A22/4 I	A26/4 I	

ERROR LIST IN MODE:		AUT, MAN, SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
Y21.1 POCKET HOLDER UP LOCKED	A26/10   S24.1 A22/6 0 Y21.2			
Y21.1 POCKET HOLDER UP NOT READY		A22/7	A26/6	
Y21.2 POCKET HOLDER DOWN LOCKED	A22/7 0 Y21.1 A26/10   S24.1  A26/14 0 B27.1			ONLY WITH LOCATING PINS, FEED, ON
Y21.2 POCKET HOLDER DOWN N.READY		A22/6	A26/6 0	
Y23.1 FOLDER UP LOCKED	A22/9 0 Y23.2			FOLDER WITHOUT POS.PINS
Y23.1 FOLDER UP NOT READY		A22/10	A26/8   A26/18	
Y23.2 FOLDER/PLATE DOWN LOCKED	A26/14 0 B27.1 A22/10 0 Y23.1  A24/2   ETRDY			FOLDER WITHOUT POS.PINS  (if A21/5   ET)
Y23.2 FOLDER/PLATE DOWN N.READY		A22/9	A26/7   A26/18 0	

ERROR LIST IN MODE:		AUT, MAN, SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
Y24.1 EDGE FOLDERS BACK LOCKED	A22/11 0 Y24.2			
Y24.2 EDGE FOLDERS FORW. LOCKED	A22/12 0 Y24.1			
Y24.2 EDGE FOLDERS FORW. N.READY		A22/11 I	A26/18 I	FOLDER WITHOUT POS.PINS
Y25 S POSITIONING PIN UP LOCKED	A26/14 0 B27.1			ONLY WITH LOCATING PINS, FEED, ON
Y26.1 TEMPLATE DOWN LOCKED	A26/14 I B27.1 OR A26/13 0 B27.2 A22/14 0 Y26.2 A27/4 I S50.1	Check when the transfer is in the back position	A26/14 0 A26/13 1	Check when the transfer is in the forward position
Y26.1 TEMPLATE DOWN NOT READY		A22/15 I A26/11 0	A26/12 I	
Y26.2 TEMPLATE UP LOCKED	A25/14 I POS.2 A25/13 0 MOT.DR. A26/16 0 B28.4 A26/3 I B28.5 A26/24 I B28.8 A26/17 I S28.2 A27/2 I S41.1 A23/21 I SGRD A22/15 0 Y26.1			
Y26.2 TEMPLATE UP NOT READY		A22/14 I	A26/11 I A26/12 0	

ERROR LIST IN MODE:		AUT, MAN, SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
Y27.1 FEED FORWARD LOCKED	A26/1   S1 A26/4 0 S20.2 A26/13 1 B27.2 A26/8   S23.1 A27/2   S41.1 A27/3 0 S42 A23/21   SGRD  A27/4   S50.1 A27/13   S98 A27/14   S99			LOCATING PIN, FEED, ON          SICHDI = I
Y27.1 FEED FORWARD NOT READY		A23/22   A23/23 0	A26/14 0 A26/13   A26/20 0	
Y27.2 FEED BACKWARD LOCKED	A26/11   S26.2 A26/12 0 S26.1 A26/8   S23.1  A27/2   S41.1    A24/2   ETRDY   A27/13   S98 A27/14   S99			LOCATING PINS, FEED, ON          ONLY BEFORE START          (if A21/5   ET)          SICHDI = I
Y27.2 TRANSFER BACKWARD N. READY		A23/22   A23/23	A26/13 0 A26/14	
Y28.1 LOCATING PINS, SEW., LOCKED	A26/14 0 B27.1 A26/12   S26.1 A26/11 0 S26.2 A23/21   SGRD A22/19 0 Y28.2			
Y28.1 LOCATING PINS, SEW., N. READY		A22/18	A26/15   A26/24 0 A26/3 0 A26/16	
Y28.2 LOCATING PINS, FD., LOCKED	A26/14 0 B27.1 A26/12   S26.1 A26/11 0 S26.2 A23/21   SGRD A22/18 0 Y28.1			

ERROR LIST IN MODE:		AUT, MAN, SER			
DISPLAY	INTERLOCK		OUTPUT	VERIFICATION	REMARKS
	LED	SIGNAL	LED	LED	
Y28.2 LOCATING PINS, FD, N. READY			A22/19 I	A26/16 0 A26/17 I A26/3 I A26/24 I	
Y29.1 FOLDER FORWARD LOCKED	A26/8 I A22/24 0	S23.1 Y29.2			ONLY WHEN FOLDER BACK
Y29.1 FOLDER FORWARD NOT READY			A22/20 I	A27/23 I	
Y29.2 FOLDER BACKWARD LOCKED	A26/8 I A22/20 0	S23.1 Y29.1			
Y29.2 FOLDER BACKWARD N. READY			A22/24 I	A27/24 I	
Y41 S PULLER DOWN LOCKED	A26/14 0	B27.1			
Y41 S PULLER DOWN NOT READY			A23/10 I	A27/1 I	
Y41 R PULLER UP NOT READY			A23/10 0	A27/2 I	
Y42 S STACKER FORWARD NOT READY			A23/11 I	A27/3 I	
Y42 R STACKER BACKWARD NOT READY			A23/11 0	A27/3 0	
K60 S MAIN CONTACTOR NOT READY			A23/14 I	A27/11 0	
Y50.1 SEWING HEAD DOWN LOCKED	A23/8 0	Y50.2			
Y50.1 SEWING HEAD DOWN NOT			A23/7 I	A27/4 I	

ERROR LIST IN MODE:		AUT, MAN, SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
Y50.2 SEWING HEAD UP LOCKED	A26/13 0 B27.2 A26/17 1 S28.2 A26/16 0 B28.4 A26/24 1 B28.3 A26/3 1 B28.5 A23/7 0 Y50.1			SEWING IN BASIC CONDITION NIGRD = 1
Y50.2 SEWING HEAD UP NOT FINISHED		A23/8 1	A27/4 0	
ETSTART START, LABEL INTERLOCK	A26/13 1 B27.2 A26/14 0 B27.1 A26/8 1 S23.1			



ERROR LIST IN MODE:		AUT, MAN. SER
DISPLAY	REMARKS	
*ERR: POWER SUPPLY, 12V, EXT.	A27/16 = 1	
*ERR: NO COMPRESSED AIR	A27/12 = 1	
*ERR: STEPPING MOTOR DRIVE	A27/22 should be on(1) this is the voltage monitor for the stepper drive. Check the fuse on each of d650 units inside the stepper drive.	
*ERR: NEEDLE DOES NOT GET TO POS	Check the sewing motor control panel. Check T1 transformer for the correct voltage output.	
*ERR: -900 NOT IN BAS.-POSITION	A26/2 should be on(1). If B2 sensor is uncovered the input is on (1) and covered the input is off (0).	
*ERR: SEWING MOTOR DOES NOT STOP	Check synchronizer.	
*ERR: NO START OF CARRIAGE (NIS)	A21/13 in the input controlled by B50.1 sensor. If the sensor is covered the input should be on (1) or uncovered the input should be off (0).	

ERROR LIST IN MODE:		AUT, MAN			
DISPLAY	INTERLOCK		OUTPUT	VERIFICATION	REMARKS
	LED	SIGNAL	LED	LED	
*ERR: CAR. MOVEMENT LOCKED / BAS	A25/14	I POS.2			
	A25/13	O MOT.DR			
	A26/15	I S28.1			
	A26/24	O B28.3			
	A26/3	O B28.5			
	A26/16	I B28.4			
	A26/12	I S26.1			
	A26/11	O S26.2			
	A27/2	I S41.1			
	A27/6	I B51.2			
	A27/7	I B51.3			
	A27/9	I B52.2			
	A27/10	I B52.3			
	A27/4	I S50.1			
*ERR: BAS MOVEMENT LOCKED / BAS	A25/14	I POS.2			
	A25/13	O MOT.DR			
	A26/1	I S1			
	A27/6	I B51.2			
	A27/9	I B52.2			
	A27/10	I B52.3			
		UND,AND, ET, Y			LOCATING PIN TO SEWING
	A26/15	I S28.1			
	A26/24	O B28.3			
	A26/3	O B28.5			
	A26/16	I B28.4			
		ODER,OR			LOCATING PIN, FEED, ON
	A26/16	O B28.4			
	A26/3	I B28.5			
	A26/24	I B28.3			
	A26/17	I S28.2			
*ERR: FWD/BACK LOCKED / BAS	A26/15	I S28.1			
	A26/24	O B28.3			
	A26/3	O B28.5			
	A26/16	I B28.4			
	A26/12	I S26.1			
	A26/11	O S26.2			
	A27/2	I S41.1			
	A27/6	I B51.2			
	A27/7	I B51.3			
	A27/9	I B52.2			
	A27/10	I B52.3			
	A27/4	I S50.1			
*ERR: SEWING LOCKED / BAS	A26/15	I S28.1			
	A26/24	O B28.3			
	A26/3	O B28.5			
	A26/16	I B28.4			
	A26/12	I S26.1			
	A26/11	O S26.2			
	A27/2	I S41.1			
	A27/6	I B51.2			
	A27/7	I B51.3			
	A27/9	I B52.2			
	A27/10	I B52.3			
	A27/4	I S50.1			

ERROR LIST IN MODE:		AUT, MAN
DISPLAY		REMARKS
*ERR: BATTERY EMPTY	Check the memory battery on the A3 board	
POWER OFF / EMERGENCY STOP		
STEPPING MOTORS NOT IN POSITION	Check all slotted sensors under the cover for the stepper motors	
THREAD ERROR		
THREAD ERROR / CHANGE BOBBIN		
*ERR: THREAD NOT CUT	Operater switch # 132, if no response check motor control panel	
*ERR: NEEDLE NOT IN UPPER POS.	Operate needle positioning switch (#132) Check motor control panel, check T1 transformer, A27/4 should be (1), this is the input from S50.1 switch therefore K50 relay should be energized.	
SAFETY GUARD		
COVER OF CARRIAGE OPEN !		
CHANGE BOBBIN		
*ERR: LIMIT SWITCH OF CAR. / BAS	Check all slotted sensors under the cover for the stepper motors	
*ERR: WRONG SEWING DATA / BAS	Remove and re-insert the E-Prom	
*ERR: CAR NOT IN BAS.-POS. / BAS	Check all slotted sensors under the cover for the stepper motors	
*ERR: CAR. MOVE. NOT READY / BAS	Check all slotted sensors under the cover for the stepper motors	

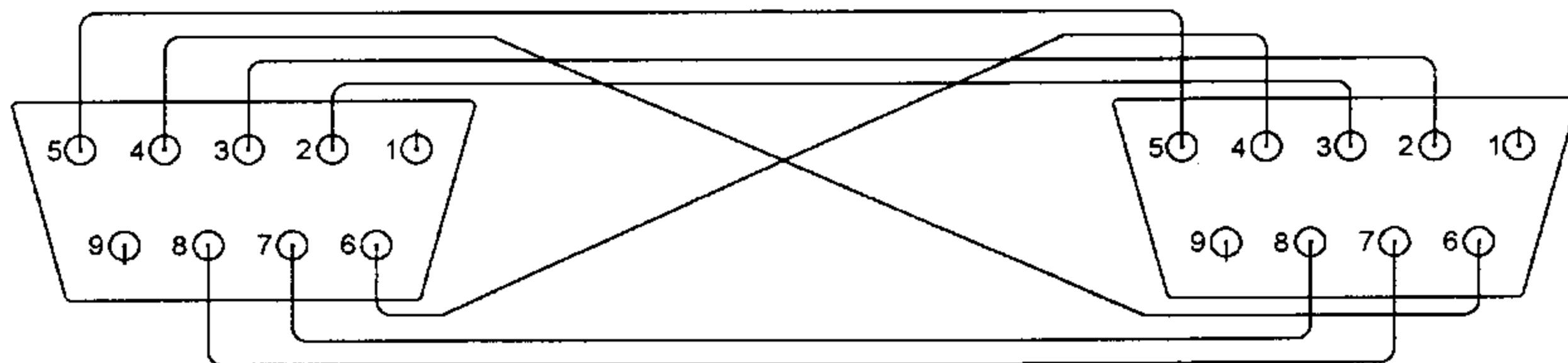
ERROR LIST IN MODE:		AUT, MAN
DISPLAY		REMARKS
*ERR: THREAD TRIM. NOT READY/BAS	Check the synchronizer setting.	
*ERR: NEEDLE NOT IN UP.POS / BAS	Check motor control panel Check T1 transformer for correct voltage output.	
*ERR: RAMP NOT FINISHED / BAS	Check B50.1 sensor setting, Check the voltage supplied the machine, Check machine RPM for 4020, Replace A 5 board, Check X 6 plug on the A 5 board	
*ERR: WRONG POS. AT END OF PROG.	Check the flag setting on the handwheel	
*ERR: NO SUCH PROGRAM		
*ERR: SEWING MOTOR TOO FAST	Check the machine making sure it is running 4020 RPM. Make a master reset. Check the V belt, Oil on V Belt, and Pulley.	

ERROR LIST IN MODE:		SER		
DISPLAY	INTERLOCK	OUTPUT	VERIFICATION	REMARKS
	LED      SIGNAL	LED	LED	
*ERR: CARRIAGE MOVEMENT LOCKED	A25/14 I POS.2 A25/13 0 MOT.DR. A26/1 I S1			

ERROR LIST IN MODE:		SER		
DISPLAY	VERIFICATION    REMARKS			
	LED			
*ERR: THREAD TRIMMING NOT READY				

ERROR LIST IN MODE:		INP
DISPLAY	REMARKS	
*ERR: MACHINE IS NOT IN BAS-POS.	Turn the machine off and on again, Check the transfer forward position	
*ERR: PROG. CHANGE A-B SELECTED		
*ERR: WRONG INPUT		
*ERR: NO SUCH PROGRAM (NO. )		
*ERR: EXISTING PROGRAM (NO. )		
*ERR: LIMITED SPACE IN MEMORY		
*ERR: EMPTY OR WRONG EPROM		
*ERR: TRANSMISSION (WRONG DATA)		
*ERR: TRANSMISSION (MALFUNCTION)		

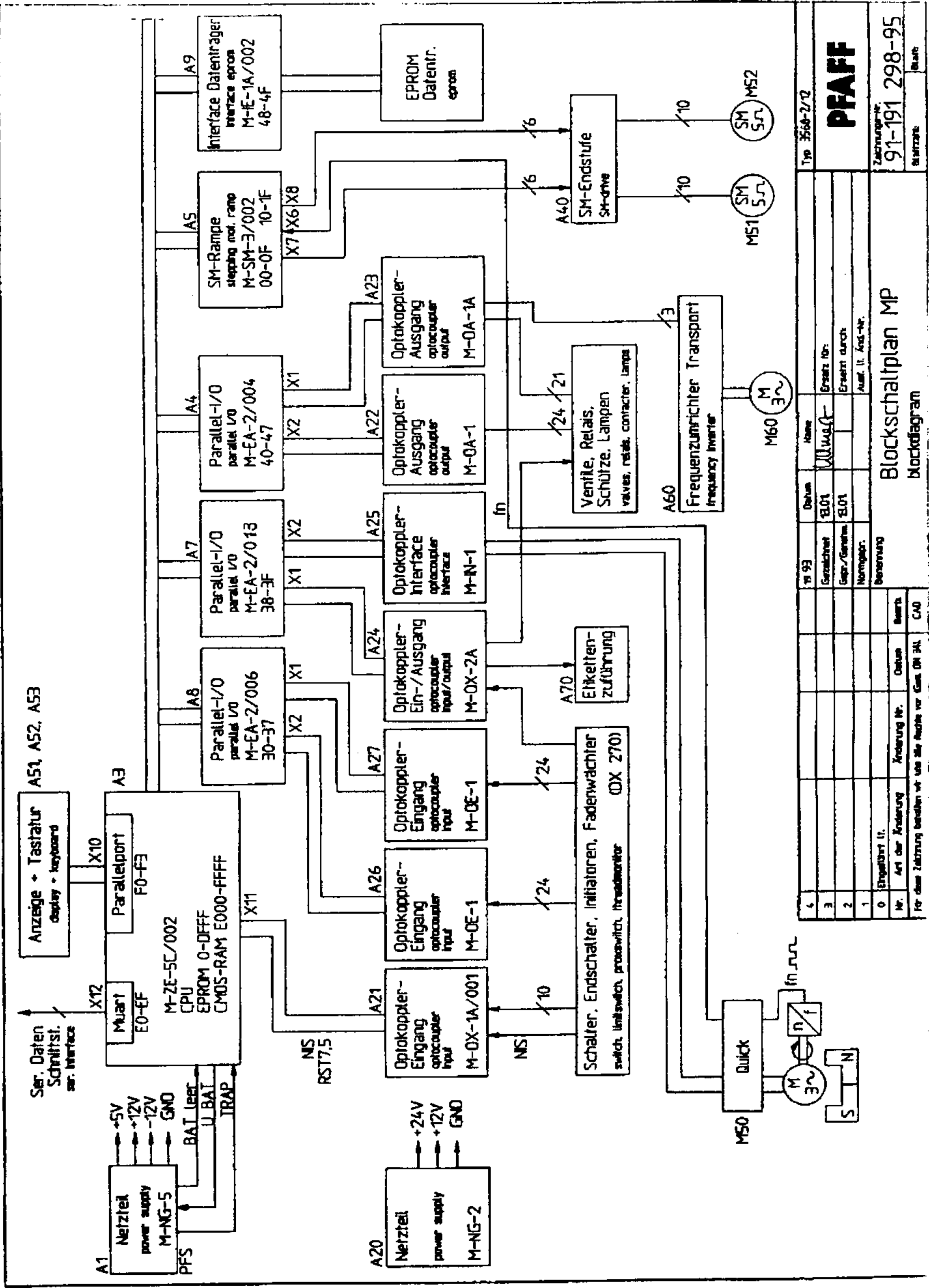
ERROR LIST IN MODE:		INP, AUT, MAN, SER
DISPLAY	REMARKS	
PF - SWITCH OFF MACHINE SHORTLY!	SWITCH POWER SUPPLY OFF AND ON AGAIN	



Wiring connections for the interface cable  
used on the Pfaff System 3000 program unit







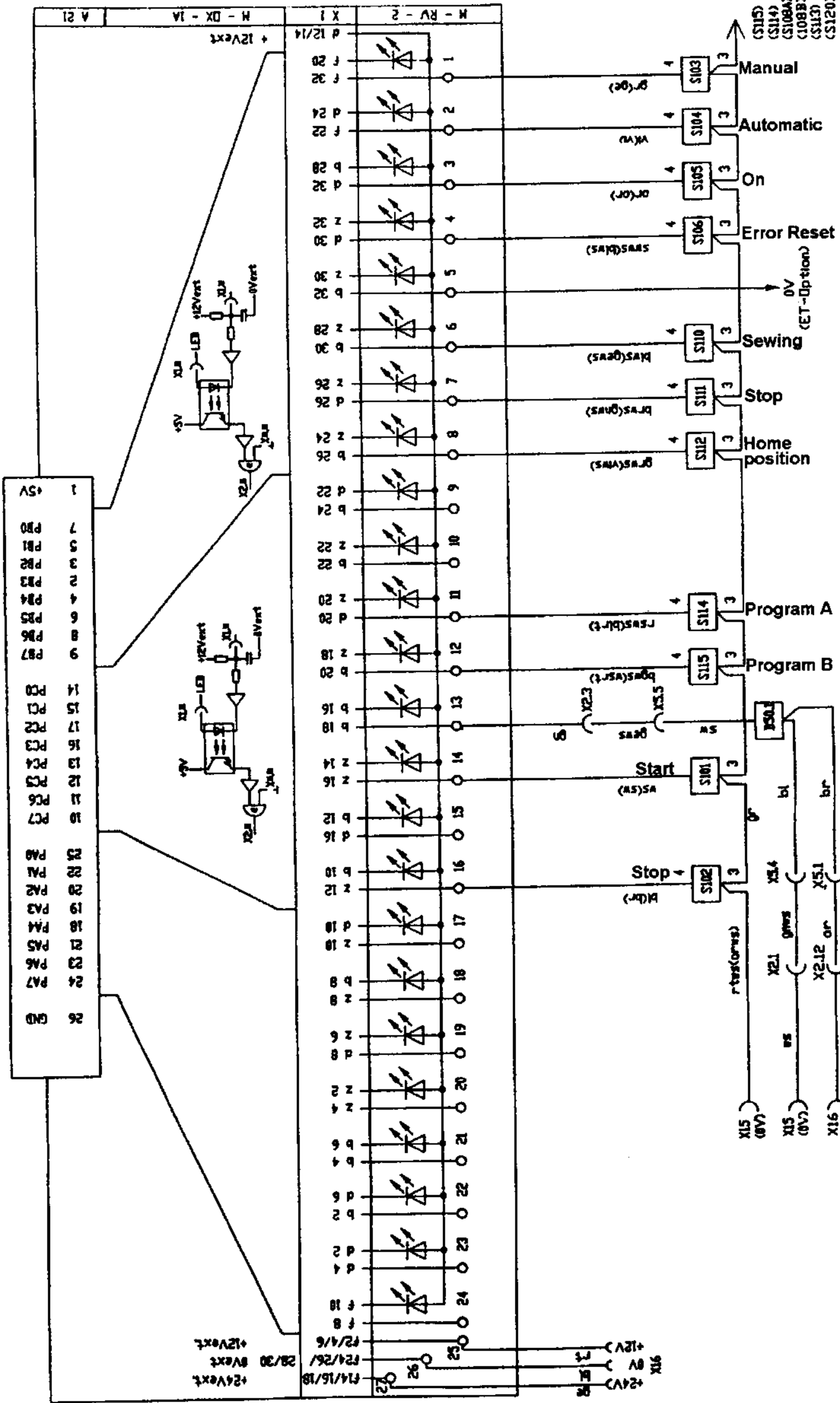
Typ 3560-2/2	
1	Erstellt durch
2	Gezeichnet
3	Geprüft
4	Datum
Name	
Erstellt durch	
Ausf. lt. Änd.-Nr.	
Zachungs-Nr.	
91-191 298-95	
Blatt	
Blatt	

**PFAFF**

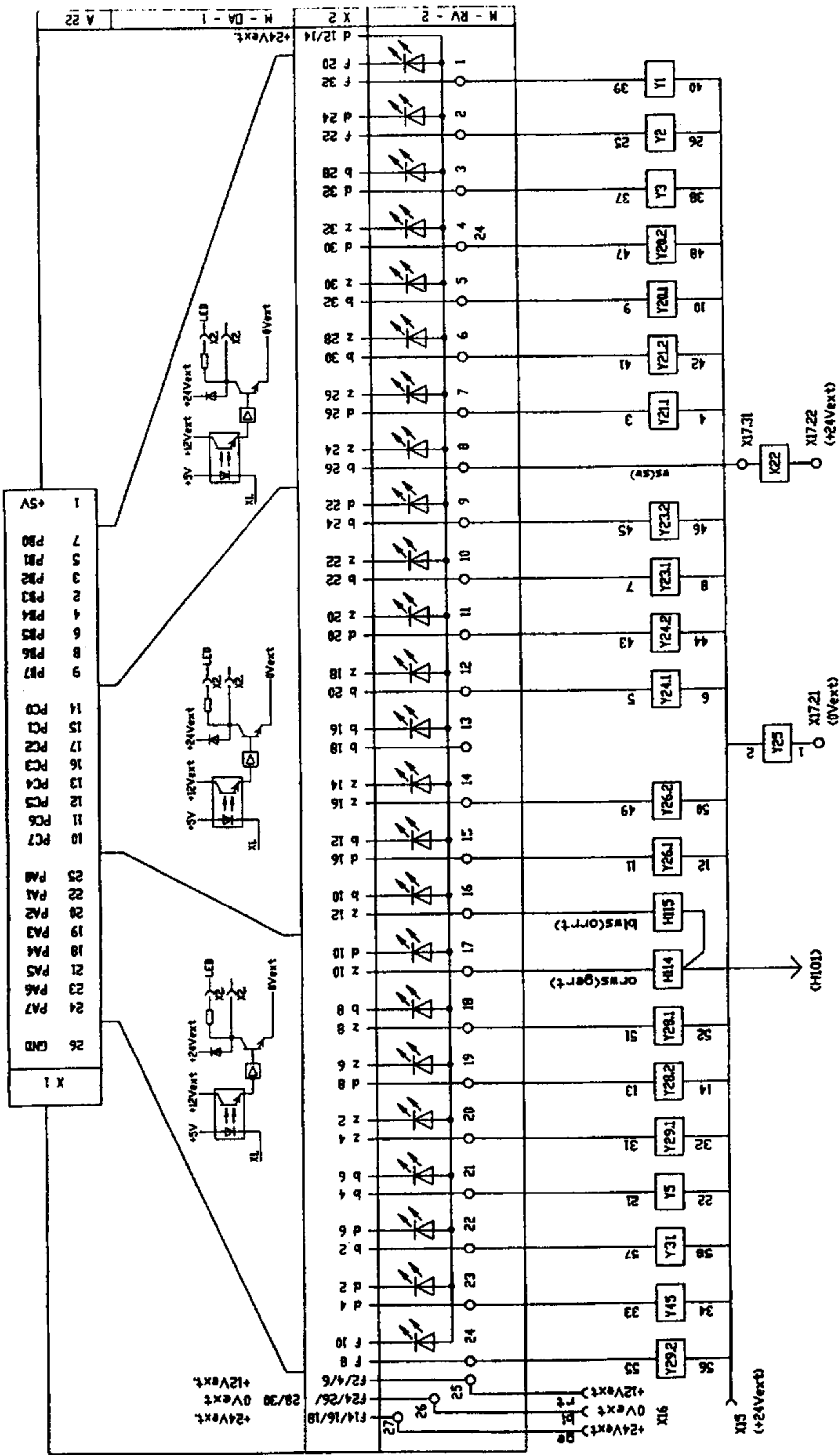
**Blockschaltplan MP**  
Blockdiagram



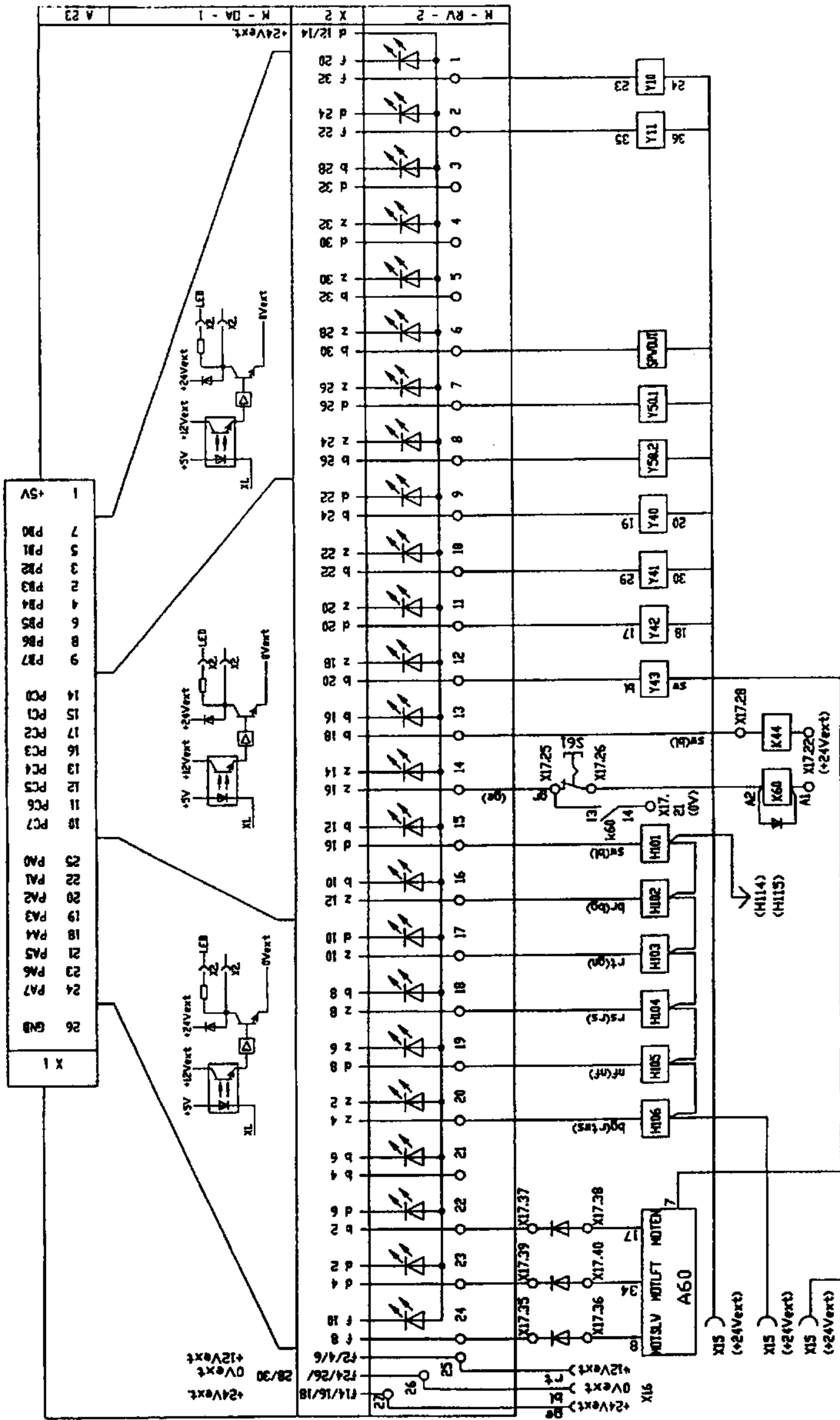
**Circuit diagrams**



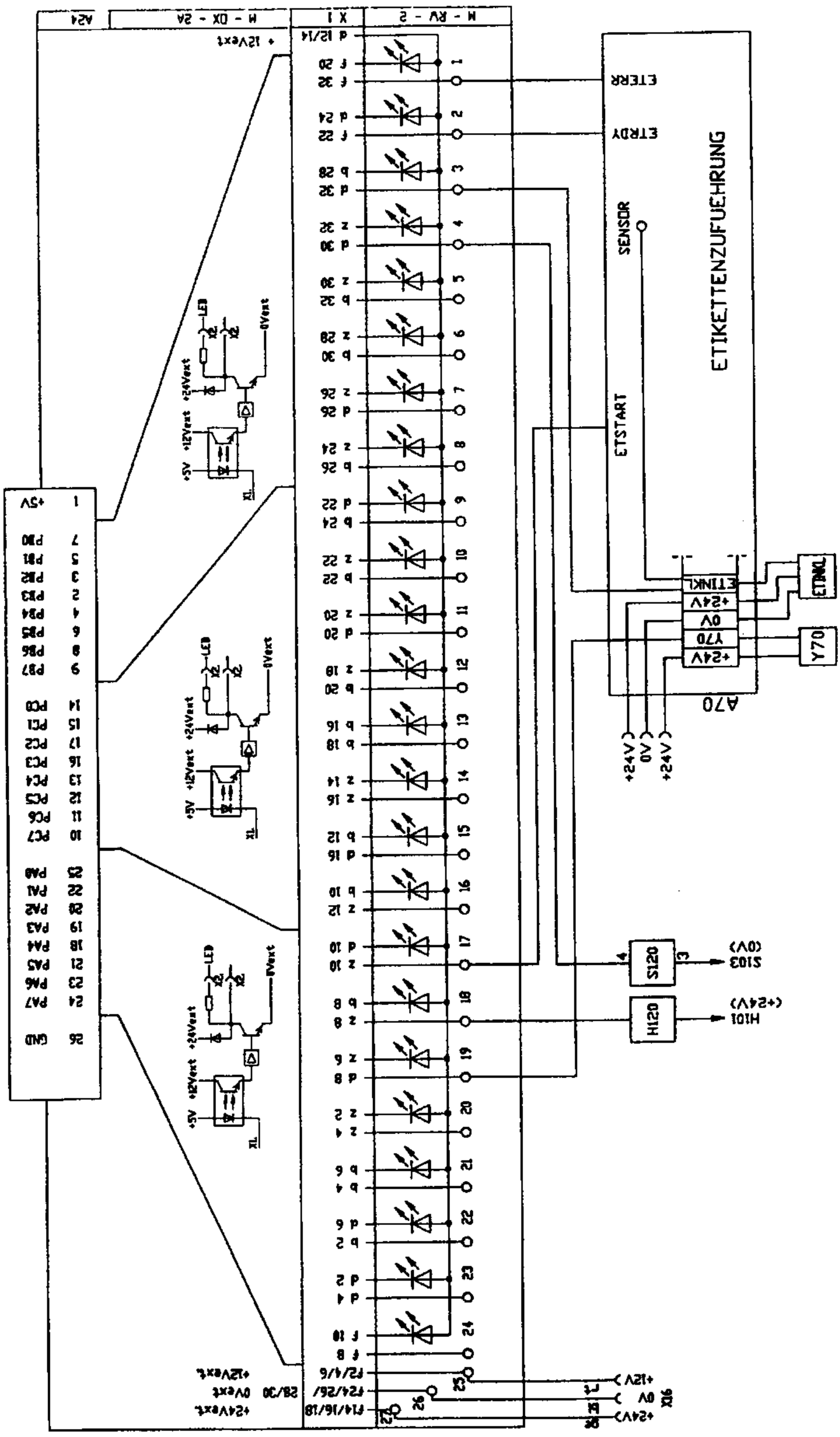
Typ 3568-2/12		Name		Jahr		Zweck	
PFAFF		13.01.1993		13.01.		13.01.	
Zustands-Nr. 91-191 291-95		Erstatt. durch		Erstatt. durch		Auftr. Nr. / Anst.-Nr.	
Wartung-Nr. 91-191 291-95		Erstatt. durch		Erstatt. durch		Auftr. Nr. / Anst.-Nr.	
STP 3568-2/12 (A21)		Erstatt. durch		Erstatt. durch		Auftr. Nr. / Anst.-Nr.	
Wartung-Nr. 91-191 291-95		Erstatt. durch		Erstatt. durch		Auftr. Nr. / Anst.-Nr.	



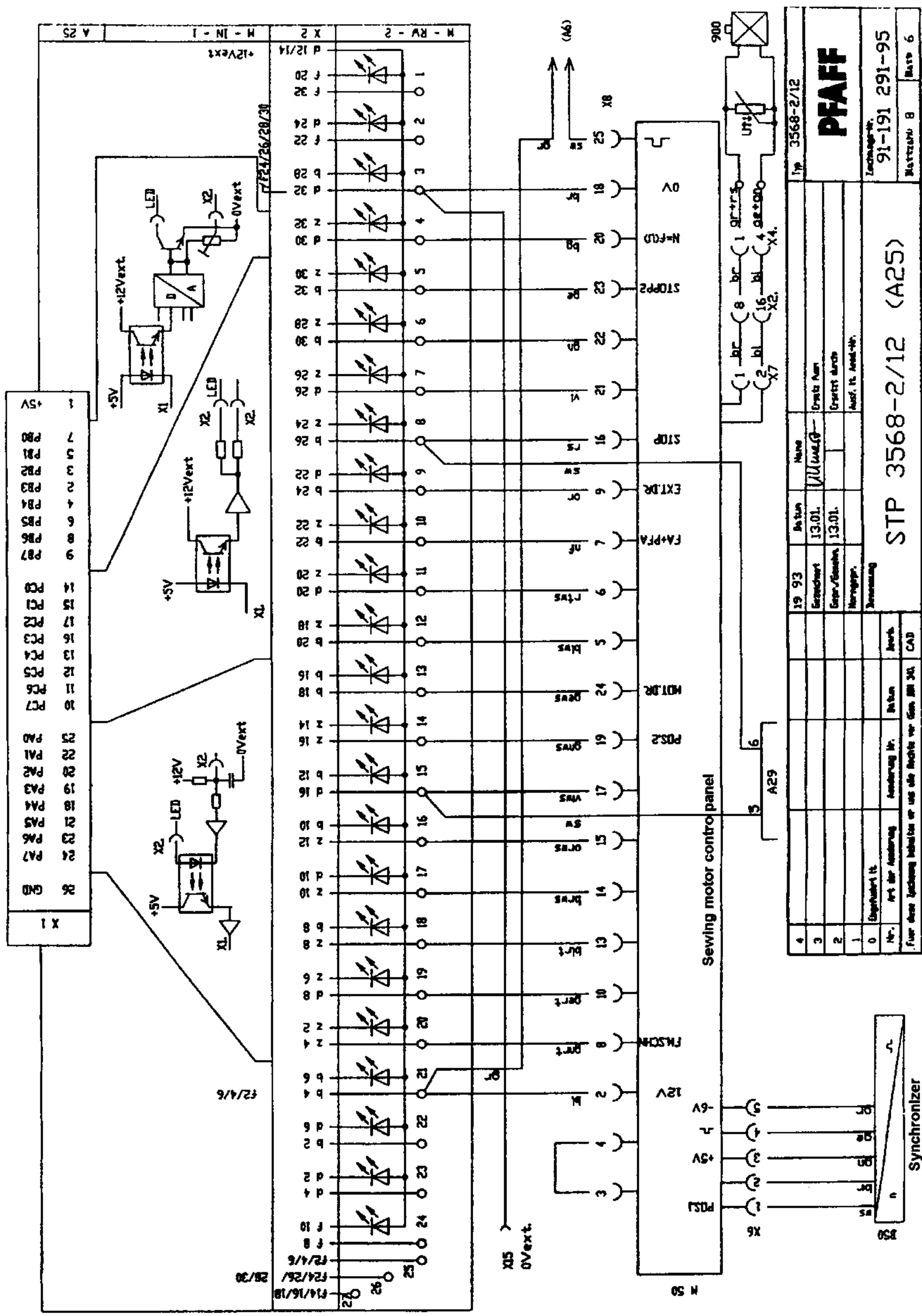
Typ 3568-2/12		Name	
<b>PFAFF</b>		Erstellt für	
Zachungs-Nr. 91-191 291-95		Erstellt durch	
Blattzahl 8		Ausl. Nr. / Änd.-Nr.	
Blatt 3		Benennung	
STP 3568-2/12 (A22)			
4	19 93	Datum	13.01.
3	Bezeichnet	13.01.	Erstellt durch
2	Exp./Genehm.	13.01.	Ausl. Nr. / Änd.-Nr.
1	Mo/gerg.		
0	Ergebnis II.		
Nr.	Art der Änderung	Änderung Nr.	Datum
Für diese Zeichnung behalten wir uns alle Rechte vor Gem. DR 34.			
	CAU		



Typ 3568-2/12		Name		Erstellt Nr.	
PFaff		Ulmer			
Zachnungs-Nr.		Gezeichnet		Ersetzt durch	
91-191 291-95		13.01.		13.01.	
Blatt-Nr.		Normgeber		Ausf. lt. Arb.-Nr.	
Blatt: 4		Bemerkung			
STP 3568-2/12 (A23)		Datum		Bezeichnet	
		Änderung Nr.		Datum	
		Für diese Zeichnung bestehen vor uns alle Rechte vor dem DRG 341		CAM	

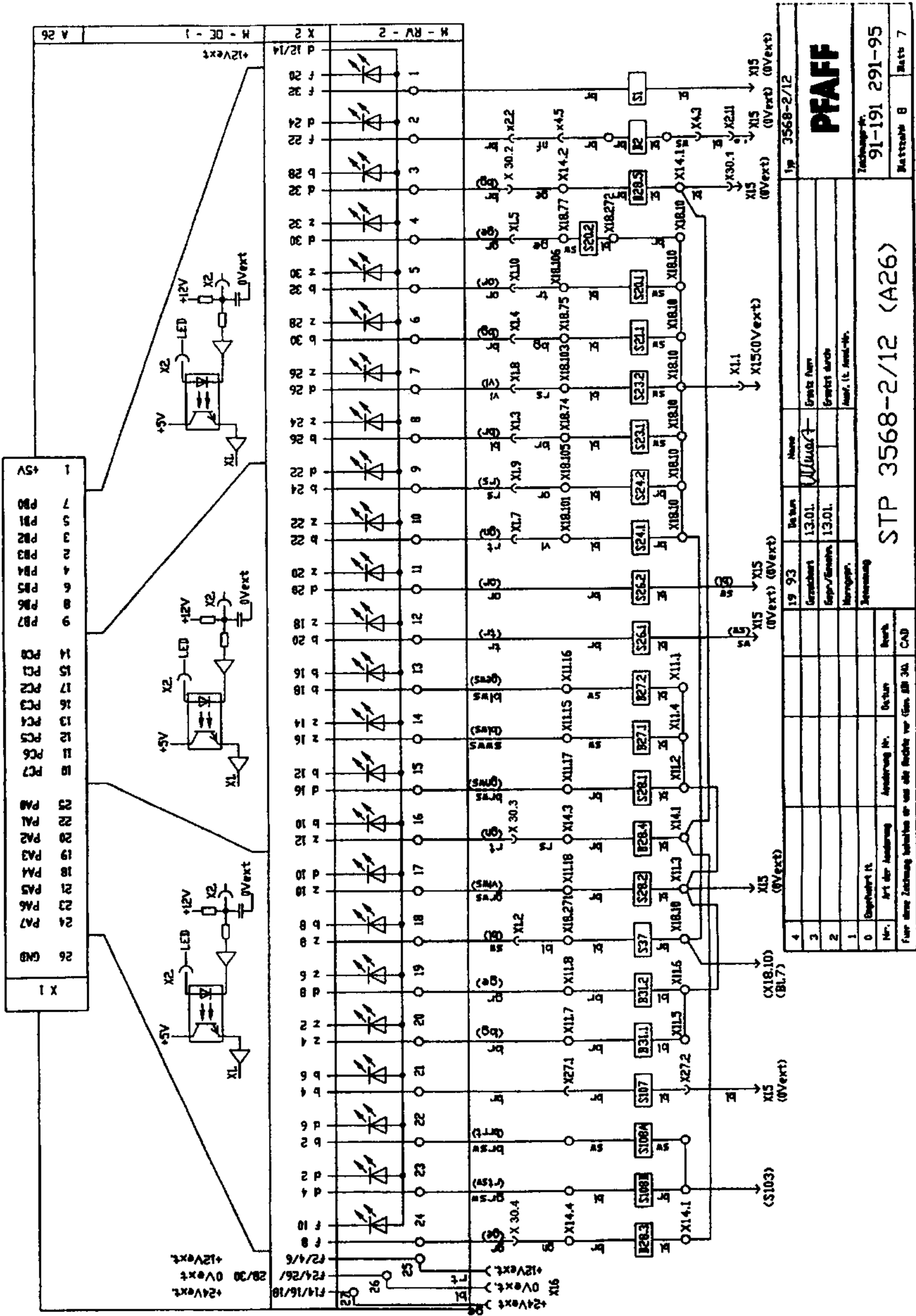


4	1993	Datum	Name	Typ	3568-2/12
3	10.02.	Gezeichnet	Erstellt von	<b>PFAFF</b>	
2	10.02.	Gepr./Geprüft	Erstellt durch		
1		Montiert	Mont. Nr. / Rev.-Nr.		
0		Geprüft	Zerlegung		
Nr.	Art der Änderung	Änderung Nr.	Datum	bearb.	
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STP 3568-2/12 (A24)			91-191 291-95		
Blattzahl 8			Blatt 5		



Name		Date		Erstellt durch		Ausf. lt. Hand-Nr.	
19	93	13.01.	13.01.	U/L			
2	Erstellt durch						
3	Erstellt durch						
4	Erstellt durch						
STP 3568-2/12 (A25)							
Typ 3568-2/12							
<b>PFAFF</b>							
Leuchte-Nr. 91-191 291-95							
Material-Nr. 8 Blatt 6							



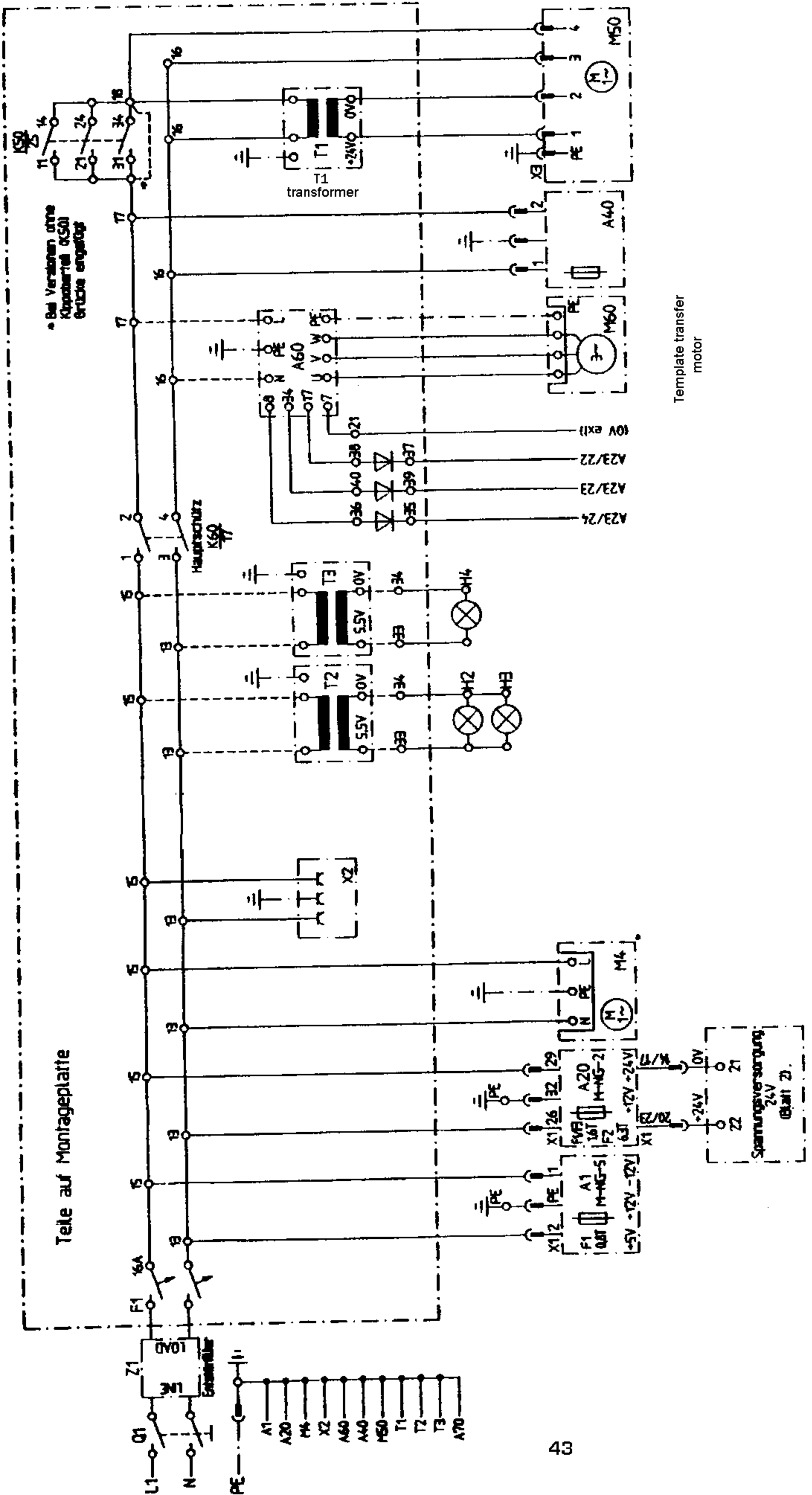


**PFAFF**

Zeichnungs-Nr.  
91-191 291-95  
Matr.Nr. 8 Blatt 7

STP 3568-2/12 (A26)					
4	19.93	Beitrag	13.01.	U. Müller	Erstellt durch
3		Gezeichnet	13.01.		Erstellt durch
2		Begr./Genehm.	13.01.		Rev. (t. Anm.-Nr.)
1		Überprüft			
0		Art der Änderung			
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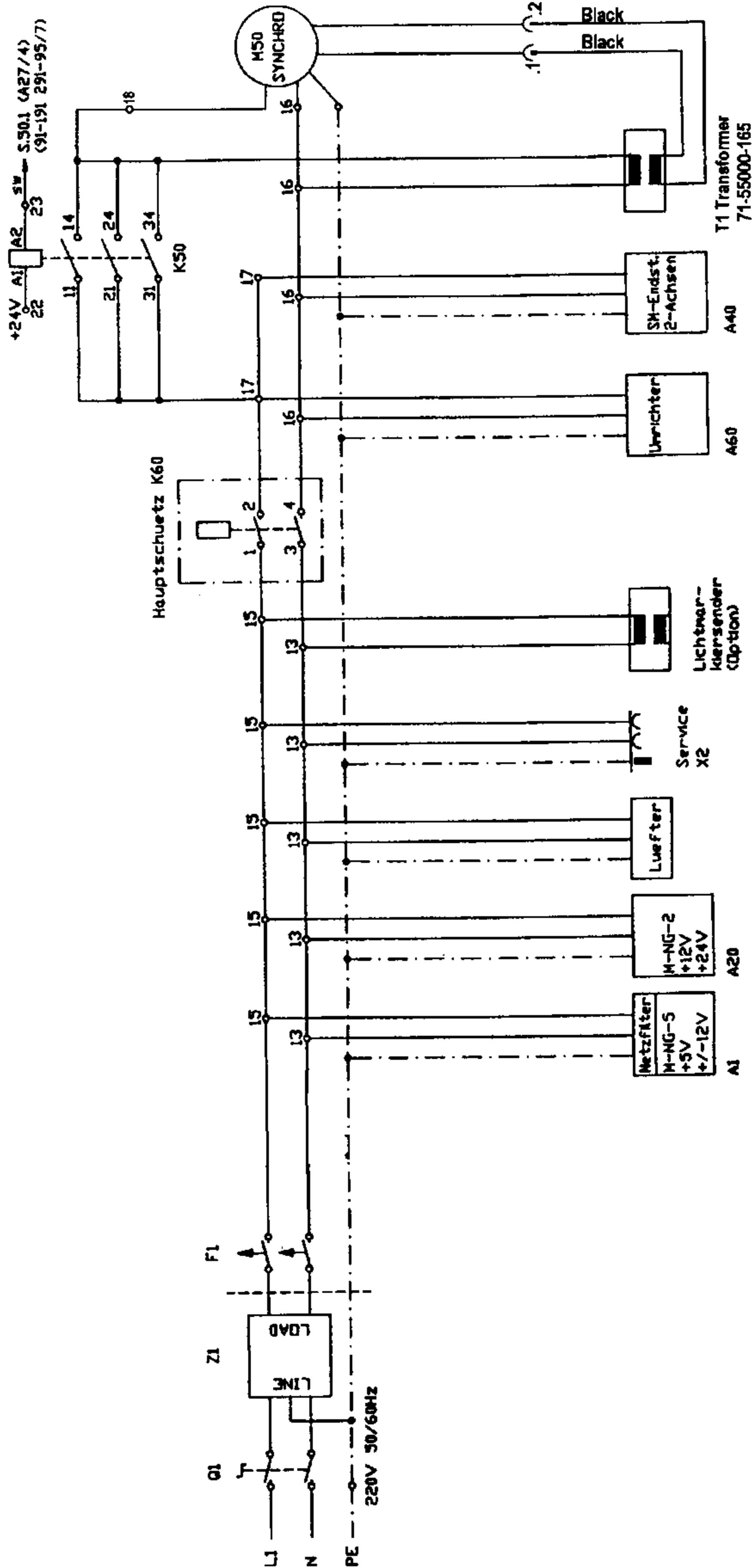


Teile auf Montageplatte

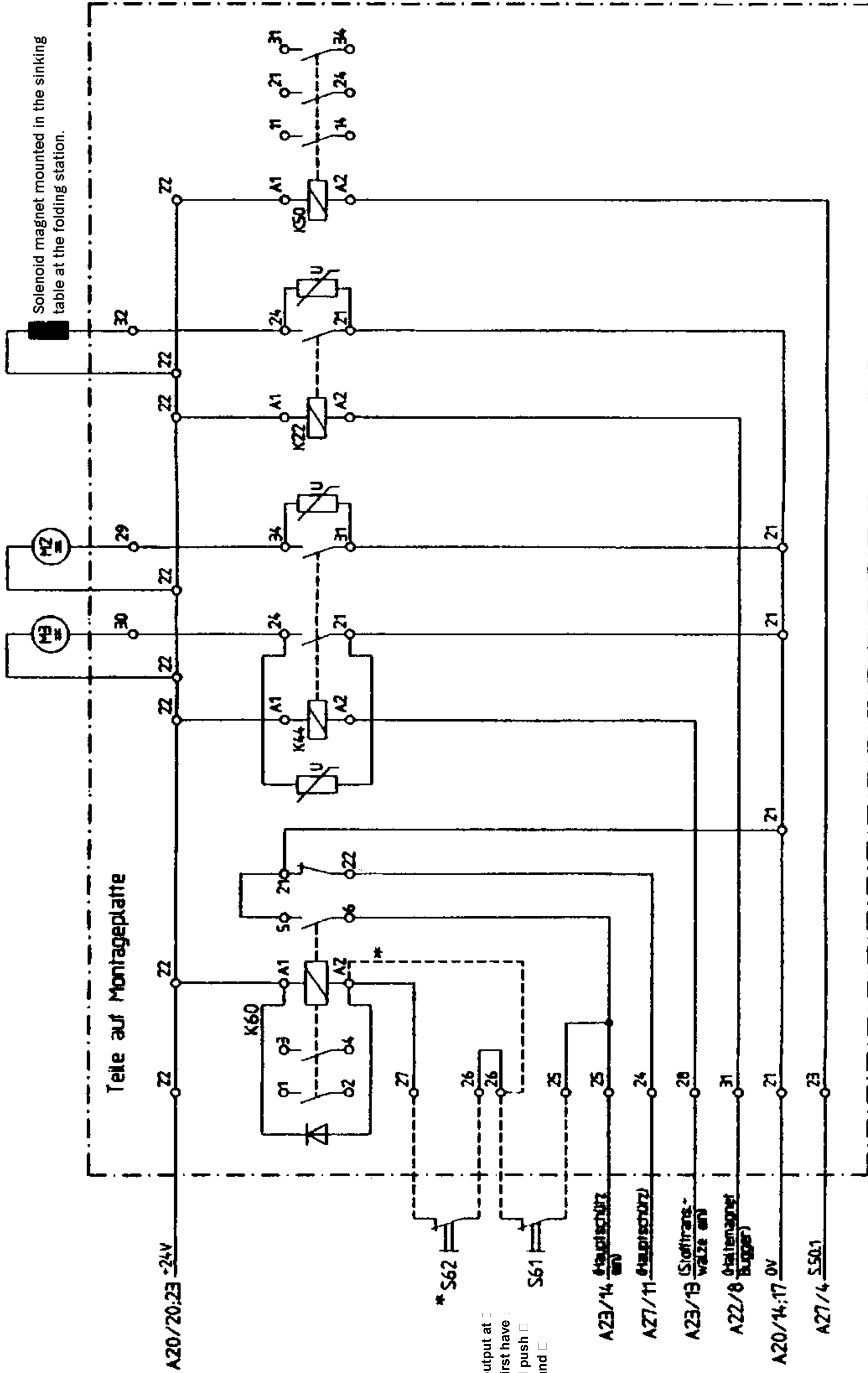
Bei Variation ohne Kopiertrieb (K50) Brücke eingepflegt

control for stepper motors X & Y  
 Template transfer motor  
 Cross light for positioning the work piece  
 cooling fan  
 220 volt AC outlet  
 Syncro sewing motor

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Typ 3568-2/2													
<b>PFAFF</b>													
Zeichnungs-Nr. 91-191 294-95													
Blattzahl 2 Blatt 1													
Netzversorgung													
4	79 93	Datum	16.02	Ullmann	Erstellt von								
3	Gezeichnet	16.02			Erstellt durch								
2	Gepr./Geprüft	16.02			Auß. u. Änd.-Nr.								
1	Montageplan												
0	Benennung												
Nr.	Art der	Änderung Nr.	Datum	Beauf.									
Für diese Zeichnung					ausgegeben von Gsm. Dr. J.M. CAD								



4	19 93	Datum	Name	Typ	3568-2/12
3	Gezeichnet	12.01.	M. Müller	<b>PFAFF</b>	
2	Gepr./Genehm.	12.01.		Erstellt durch	
1	Überprüft			auf. It. Anordn.	
0	Digitalisiert			Zacheng-Nr.	
Nr.	Art der Änderung	Änderung Nr.	Datum	91-191 294-95	
Für diese Zeichnung sind alle Rechte vor Gem. 888 241.				Best-Nr.	
				STP-Netzversorgung	
				Blatt	



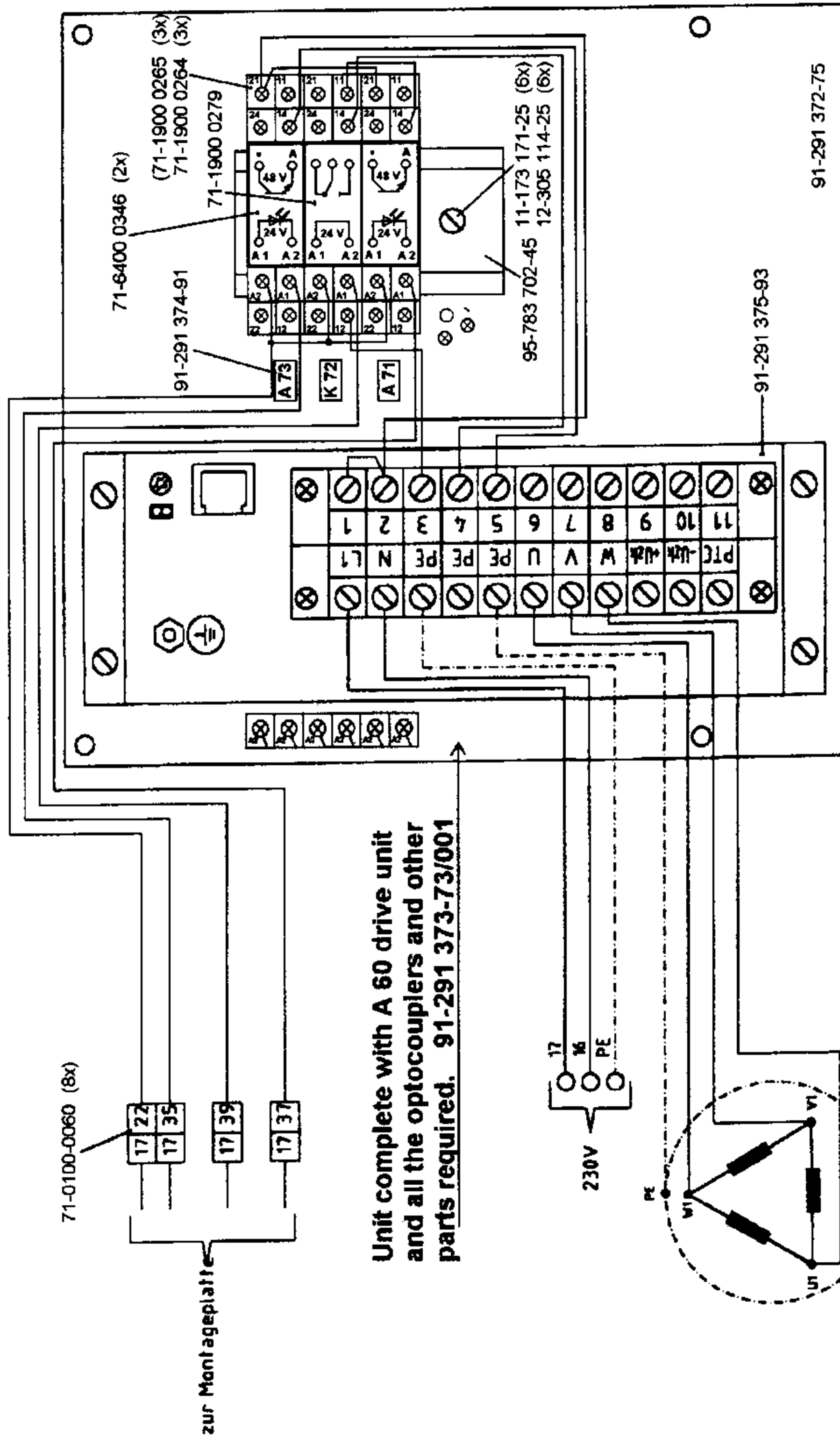
In order to get an output at A23/14, you must first have two inputs, manual push button control on and A27/11 from S60.

\* S62 not used on version -2/12 a connecting wire goes from (K60 A2) to X17 terminal 26

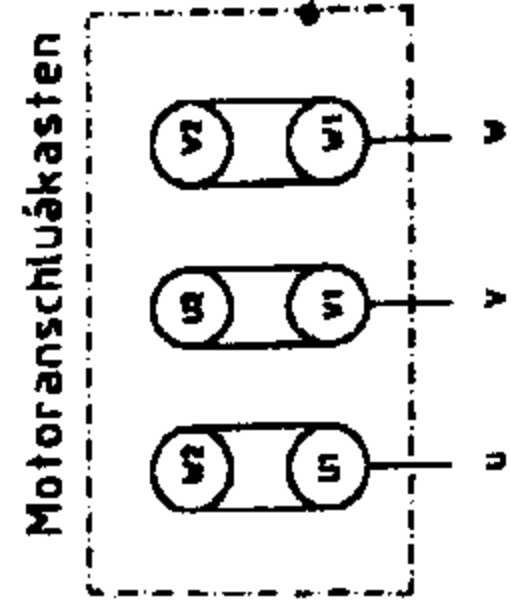
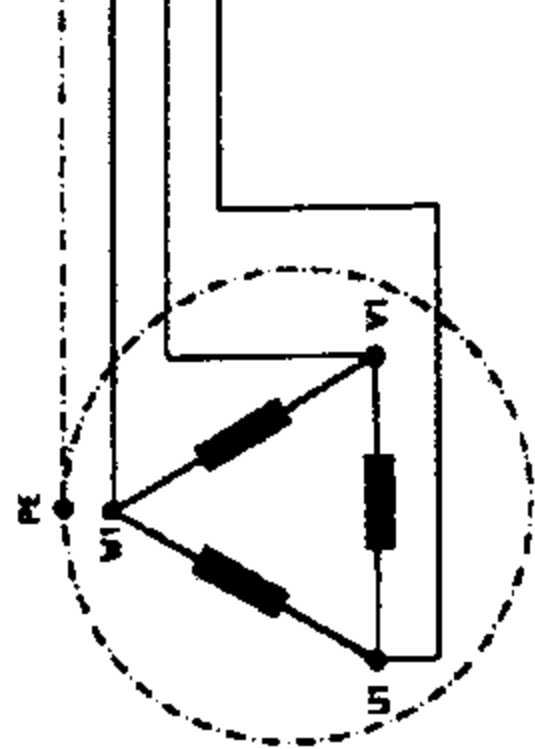
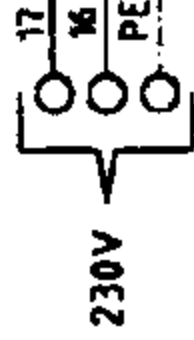
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

4	19 93	Typ	3568-2/12
3	Gezeichnet	Name	PFAFF
2	Gepr./Genehm.	Erstellt von	
1	Montage	Erstellt durch	
0	Ergebnis	Auf. II. Änd.-Nr.	
Nr.	Ä-1 in	Zachung-Nr. 91-191 294-95	
Für diese Zeichn. ...			
S		24V Versorgung	
CAD		Blatt 2	





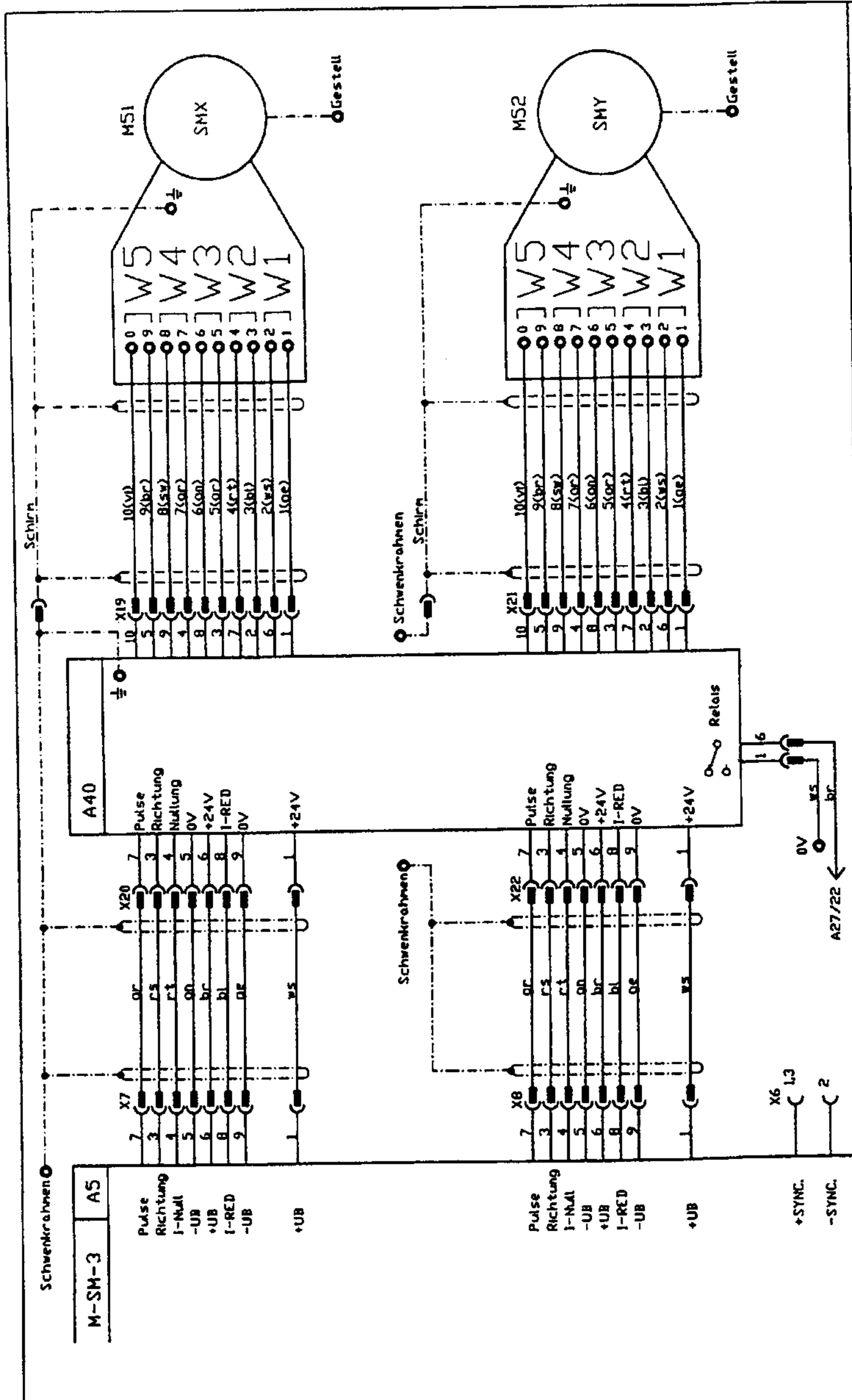
Unit complete with A 60 drive unit and all the optocouplers and other parts required. 91-291 373-73/001



- (11-173 171-25 (4x))
- (12-305 114-25 (4x))
- (11-724 300-55 (4x))
- (12-024 151-25 (4x))
- (71-3700-0217 (6x))
- (71-3700-0353 (3x))
- 71-3100-0006 (5x)
- 71-3100-0008 (4x)
- 71-3100-0009 (3x)
- 71-3100-0010
- 71-0100-0141

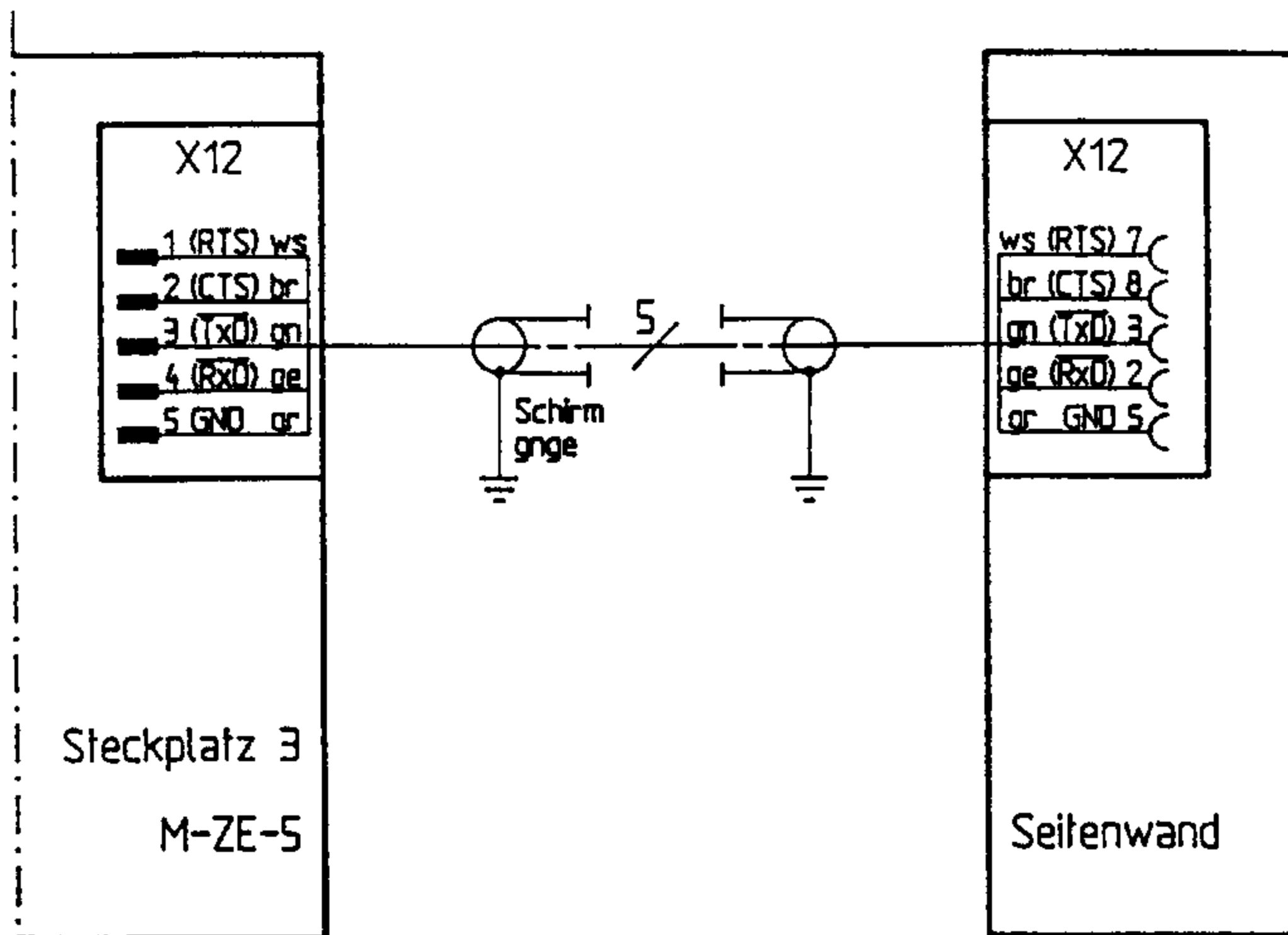
Dazu STP 91-191 364-95

4	3	2	1	0	Einzel-Nr.	Yederung Nr.	Datum	Bearb.	Oberflächenzustand	Seit- genst.
					1-36 519					
<b>Alleinzelangaben:</b> Typ: 3568-a/12 Tolerierung DIN ISO 9015 Werkstoff: Material: 1302 Werkstoffkennzeichen: Fert. geogr.: Hersteller: Genehmigt: 06.11. Maßstab: Benennung:										
<b>Montageplatte Frequenzumrichter 91-291 373-95</b> Ersatz für: Zeichn. v. 5.12.94 Ersetzt durch: Ausf. lt. Fed.-Nr. 1-36 921 Zeichnungs-Nr.: Blattzahl:										
Schutzmerkmale nach DIN 34 beachten. Copyright reserved. CAD										



19 90	Datum	Name	Erstausführung	Erstausführung
23.03.		<i>Hilke</i>		
23.63	Gepr./Geprüft		Erstausführung	Erstausführung
	Herzogr.		Auf. lt. Anord.-Nr.	
	Benennung	STP Schrittmotor		
	Zeichn.-Nr.	91-191 206-95		
	Blattzahl	Blatt		
	Typ	3568		
		<b>PFAFF</b>		





		4						
		3						
		2						
		1						
		0	Eingef. lt.					
Paßmaß	Abmaße	Nr.	Zahl kommt vor	Änderung Nr.	Datum	Bearb.	Oberflächenzustand	Schl.-zahl x
Allgemeintoleranzen: —							Typ: 3568	
19 86	Datum	Name	Oberflächen	Werkstoff:		<b>PFAFF</b>		
Gezeichnet	17.11.	<i>Ullmer</i>	DIN ISO 1302					
Geprüft	17.11.	<i>B</i>	Werkstückkanten:	Hergestellt aus:		Ersatz für:		
Fkt. gepr.						Ersetzt durch:		
Normgepr.						Ausf. lt. Änd.-Nr.		
Genehmigt	17.11.	<i>Bosch</i>	DIN 6784			Zeichnungs-Nr.		
Maßstab			Benennung:			91-190 873-95		
Schutzvermerke nach DIN 34 beachten. Copyright reserved.				CAD	Blattzahl:		Blatt:	



**Component list**

Part	Used for
A0	Solid state circuit board SMP - BUS
A1	Solid state circuit board, power pack
A3	Solid state circuit board CPU
A4	Solid state circuit board parallel-I/O
A6	Solid state circuit board parallel-I/O
A5	Solid state circuit board, stepping motor ramp
A7	Solid state circuit board parallel-I/O
A8	Solid state circuit board parallel-I/O
A9	Solid state circuit board interface eprom data carrier
A20	Solid state circuit board, power pack
A21	Solid state circuit board, optocoupler inputs, outputs
A22	Solid state circuit board optocoupler outputs
A23	Solid state circuit board, optocoupler outputs

Part	Used for
A24	Solid state circuit board, optocoupler inputs/outputs
A25	Solid state circuit board, optocoupler interface, sewing motor
A26	Solid state circuit board, optocoupler inputs
A27	Solid state circuit board, optocoupler inputs
A28	Solid state circuit board, optocoupler inputs
A29	Solid state circuit board thread monitor
A40	Stepping motor - drive
A51	Solid state circuit board, interface keyboard display
A52	Solid state circuit board, keyboard
A53	Solid state circuit board, display unit
A60	Frequency converter
A70	Label feeder
B2	-900 not in basic position

Part	Used for
B26.1	Jig down [Sewing template]
B26.2	Jig up [Sewing template]
B27.1	Feed forward [template transfer]
B27.2	Feed back [template transfer]
B28.3	Locating pins, feed off (left) [template changeover for transfer off]
B28.4	Locating pins, feed, on [template changeover for transfer on]
B28.5	Locating pins, feed, off (right) [template changeover for transfer off]
B31.1	Feed prior to sewing position (ramp down on) [template transfer]
B31.2	Feed prior to folding position (ramp down on) [template transfer]
B50	Synchronizer
B50.1	Needle into fabric
B51.1	Zero position SM X
B51.2	End position + SM X

Part	Used for
B51.3	End position - SM X
B52.1	Zero position SM Y
B52.2	End position + SM Y
B52.3	End position - SM Y
BOBERR	Bobbin thread disturbance
ET	Label feeder fitted
ETINKL	Label in clamp
ETRDY	Label feeder ready
ETERR	Label feeder error
ETSTART	Label feeder start
EXTDR	External speed on
F1	Main fuse
F2	Fuse power pack ( A20 )

Part	Used for
F3	Fuse power pack ( A1 )
F4	Fuse stepping motor - final stage ( A40 )
FA+PFA	Autom. presser foot lift "on"
FMSCHN	Cutting finished
H101	Lamp "start"
H102	Lamp "stop"
H103	Lamp "manual"
H104	Lamp "automatic"
H105	Lamp "control on"
H106	Lamp "error reset"
H114	Lamp "program A"
H115	Lamp "program B"
H120	Lamp "label transfer"



Part	Used for
K22	Retaining solenoid, folder
K40	Puller up (option)
K44	Stacker roller on
K60	Main contactor on
KASTEN	Enable cold start
KONTIN	Enable continuous
KST	Small-parts stacker, fitted
M2	Stacker feed roller
M3	Puller motor
M50	Sewing motor
M51	Stepping motor, X-axis
M52	Stepping motor, Y-axis
M60	Feed drive motor

Part

Used for

MOTDR	Motor turns
MOTEN	Release feeding motor
MOTLFT	Feeding motor turning left
MOTSLW	Feeding motor slow
NM	Sewing motor
N=F(U)	Speed control, sewing motor
POS1	Position 1 attained
POS2	Position 2 attained
Q1	Master switch
S1	Presser foot up
S9	Needle thread monitor
S20.1	Pocket plate back
S20.2	Pocket plate forward

<b>Part</b>	<b>Used for</b>
<b>S20.3</b>	<b>Pocket plate down</b>
<b>S21.1</b>	<b>Pocket holder up</b>
<b>S23.1</b>	<b>Folding unit up</b>
<b>S23.2</b>	<b>Folding unit down</b>
<b>S24.1</b>	<b>Edge folders back</b>
<b>S24.2</b>	<b>Edge folders forward</b>
<b>S26.1</b>	<b>Template down</b>
<b>S26.2</b>	<b>Template up</b>
<b>S27.1</b>	<b>Feed forward</b>
<b>S27.2</b>	<b>Feed back</b>
<b>S28.1</b>	<b>Indexing sewing on</b>
<b>S28.2</b>	<b>Indexing sewing off</b>
<b>S29.1</b>	<b>Folding station front</b>

<b>Part</b>	<b>Used for</b>
S29.2	Folding station rear
S37	Plate up
S38	Pocket plate swung in
S39	Folding unit swung in
S41.1	Puller up
S41.2	Puller down
S42	Stacker forward
S50.1	Sewing head down
S60	Main contactor off
S61	Emergency stop
S62	Emergency stop
S70.1	Label feeder top
S70.2	Label feeder bottom

Part	Used for
S80	Label magazine empty
S90	Safety control disabled
S97	Pressure monitor
S98	Safety guard rear
S99	Carriage cover closed
S101	Key "start"
S102	Key "stop"
S103	Key "manual"
S104	Key "automatic"
S105	Key "control on"
S106	Key "error reset"
S107	Pocket plate down
S107	Foot switch "pocket plate front"

Part	Used for
S108A	Key "folding unit start"
S108B	Key "folding unit start"
S109	Key "clamping cylinder retracted"
S110	Key "sewing"
S111	Key "push button"
S112	Key "delete"
S113	Key "no sewing"
S114	Key "program A"
S115	Key "program B"
S120	Key "bring label"
SGRD	Carriage in basic position
SMOK	Stepping-motor end phases o.k.
SPGTST	Power supply +12 V external

Part

Used for

<b>SPWOUT</b>	<b>Bobbin change</b>
<b>STOP</b>	<b>Stop without position</b>
<b>STOP P1</b>	<b>Stop, 1st position</b>
<b>STOP P2</b>	<b>Stop, 2nd position</b>
<b>THERR</b>	<b>Needle thread disturbance</b>
<b>X1.</b>	<b>Plug-in connection for folding unit</b>
<b>X2.</b>	<b>Plug-in connection for sewing head</b>
<b>X3.</b>	<b>Plug-in connection, synchronizer sewing head</b>
<b>X4.</b>	<b>Plug-in connection, -900 at sewing head</b>
<b>X5.</b>	<b>Plug-in connection B50.1</b>
<b>X6.</b>	<b>Plug-in connection, synchronizer - Quick</b>
<b>X7.</b>	<b>Plug-in connection, -900 - Quick</b>
<b>X8.</b>	<b>Plug-in connection control signals Quick</b>

Part	Used for
X9.	Plug-in connection S1 (presser foot)
X10	Terminal strip in distributor, jig feed
X11.	Terminal strip in distributor, carriage
X12.	Plug-in connection, serial interface Prog.
X13.	Plug-in connection serial interface CPU
X14.	Terminal strip in distributor at jig
X15.	Terminal strip in control box 12/24 V left
X16.	Terminal strip in control box 12/24 V right
X17.	Terminal strip, control box, contactor board
X18.	Terminal strip in folding unit
X19.	Plug-in connection, stepping motor x-drive
X20.	Plug-in connection, control x-drive
X21.	Plug-in connection, stepping motor y-drive



Part	Used for
X22.	Plug-in connection, control y-drive
X23.	Plug-in connection, puller
X24.	Push-in connection, thread monitor
X27.	Plug-in connection for foot switch
X28.	Plug-in connection for small part stacker (mains)
X29.	Plug-in connection for small part stacker (signal)
X50	Terminal strip in control box, left
Y1	Presser foot down
Y2	Cutting "on"
Y3	Air blast, needle cooling
Y5	Thread puller engaged
Y10	Zigzag engaged
Y11	Increase of thread tension

Part

Used for

Y20.1	Pocket plate backwards
Y20.2	Pocket plate forwards
Y21.1	Pocket holder upwards
Y21.2	Pocket holder downwards
Y23.1	Folding unit and table up
Y23.2	Folding unit and table down
Y24.1	Edge folders backwards
Y24.2	Edge folders forwards
Y25	Positioning pins upwards
Y25	Suction folding station on (only for 3568-2/12)
Y26.1	Jig downwards
Y26.2	Jig upwards
Y27.1	Feed forwards

<b>Part</b>	<b>Used for</b>
<b>Y27.2</b>	<b>Feed backwards</b>
<b>Y28.1</b>	<b>Locating pin sewing</b>
<b>Y28.2</b>	<b>Locating pins, feed</b>
<b>Y29.1</b>	<b>Folding station forward</b>
<b>Y29.2</b>	<b>Folding station backward</b>
<b>Y30</b>	<b>Clamping cylinder, folding unit, extend</b>
<b>Y31</b>	<b>Pocket plate up</b>
<b>Y40</b>	<b>Fabric feed roller (not for 3568-1/12)</b>
<b>Y40</b>	<b>Suction fabric feed roller on (only for 3568-1/12)</b>
<b>Y41</b>	<b>Puller down</b>
<b>Y42</b>	<b>Stacker forward</b>
<b>Y43</b>	<b>Air blast, stacker</b>
<b>Y45</b>	<b>Air blast, auxiliary fabric feed</b>

Part

Used for

Y46.1      Turning cylinder, puller, right

Y46.2      Turning cylinder, puller, left

Y50.1      Sewing head down

Y50.2      Sewing head up

Y70        Label feeder clamp pressure

Part	Description	Part number
A0	Solid state circuit board	M-BU-7 91-094 453-93/001
A1	Solid state circuit board	M-NG-5 91-094 753-91
A3	Solid state circuit board	M-ZE-5C 91-094 521-93/002
A4	Solid state circuit board	M-EA-2 91-092 767-93/004
A5	Solid state circuit board	M-SM-3 91-093 459-93/002
A7	Solid state circuit board	M-EA-2 91-092 767-93/005
A8	Solid state circuit board	M-EA-2 91-092 767-93/006
A9	Solid state circuit board	M-IE-1A 91-093 331-93/002
A20	Solid state circuit board	M-NG-2 91-093 329-91
A21	Solid state circuit board	M-OX-1A 91-093 330-93/001
A22	Solid state circuit board	M-OA-1 91-092 323-91
A23	Solid state circuit board	M-OA-1 (not for 3568-1/12) 91-092 323-91
A23	Solid state circuit board	M-OA-1A (only for 3568-1/12) 91-094 878-91

Part	Description	Part number
A24	Solid state circuit board	M-OX-2A 91-290 916-91
A25	Solid state circuit board	M-IN-1 91-092 490-91
A26	Solid state circuit board	M-OE-1 91-092 321-91
A27	Solid state circuit board	M-OE-1 91-092 321-91
A29	Solid state circuit board	DX 270 (mechanical) 91-094 591-93/001
A29	Solid state circuit board	DX 270A(visual) 91-094 792-93/001
A40	Stepping motor - drive	71-75 00-0173
A51	Solid state circuit board	91-094 419-91
A52	Solid state circuit board	91-094 541-93/001
A53	Solid state circuit board	91-093 929-91
A60	Control unit (only for 3568-1/12; -2/12)	71-7500-0149
A70	Control unit	
B2	Proximity switch	(only for 3568-2/12) 71-13 00-0448

Part	Description	Part number
B26.1	Proximity switch	71-13 00-0448
B26.2	Proximity switch	71-13 00-0448
B27.1	Proximity switch	71-63 00-0202
B27.2	Proximity switch	71-63 00-0202
B28.3	Proximity switch	71-13 00-0448
B28.4	Proximity switch	71-13 00-0448
B28.5	Proximity switch	71-13 00-0448
B31.1	Proximity switch	71-63 00-0202
B31.2	Proximity switch	71-63 00-0202
B50	Proximity switch	71-14 00-0041
B50.1	Proximity switch	91-290 120-91
B51.1	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)
B51.2	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)

Part	Description	Part number
B51.3	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)
B52.1	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)
B52.2	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)
B52.3	Proximity switch	71-13 00-0473 (71-13 00-0483 m. Fastenan.)
F1	Automatic cut-out      16A	71-15 00-0082
F2	Fuse                      T1,6	70-15 24-0018
F3	Fuse                      T0,8	70-15 24-0015
F4	Fuse                      T8	70-15 15-0025
F5	Fuse                      T1	70-15 15-0016
H1	Light bulb	70-25 21-7234
H101	Light bulb	71-25 00-0267
H102	Light bulb	71-25 00-0267
H103	Light bulb	71-25 00-0267



Part	Description	Teilenummer Part number N° de pièce N° de pieza
H104	Light bulb	71-25 00-0267
H105	Light bulb	71-25 00-0267
H106	Light bulb	71-25 00-0267
H114	Light bulb	71-25 00-0267
H115	Light bulb	71-25 00-0267
H120	Light bulb	71-25 00-0267
K22	Relay	71-19 00-0060
K22	Varistor	71-63 00-0058
K40 K44	Relay	71-19 00-0060
K40 K44	Varistor	71-63 00-0058
K60	Contactor	71-19 00-0224
K60	Switching diodes	71-63 00-0159
M2	Motor	See pneum. parts list

Part	Description	Part number
M3	Motor	See pneum. parts list
M50	Motor	See pneum. parts list
M51	Motor	See pneum. parts list
M52	Motor	See pneum. parts list
M60	Motor	See pneum. parts list
Q1	Master switch (only for 3568-1/12)	71-11 00-0308
Q1	Master switch (not for 3568-1/12)	71-11 00-0307
S1	Solenoid switch	71-13 00-0479
S9	Thread monitor	91-094 036-91
S20.1	Proximity switch	99-135 051-91
S20.2	Proximity switch	99-135 051-91
S20.3	Pneum./electr. converter	99-136 122-91
S21.1	Limit switch	71-12 00-0413

Part	Description	Part number
S23.1	Proximity switch	99-135 051-91
S23.2	Proximity switch	99-135 051-91
S24.1	Pneumatic/electrical converter	99-136 122-91
S24.2	Pneumatic/electrical converter	99-136 122-91
S26.1	Solenoid switch	71-13 00-0479
S26.2	Solenoid switch	71-13 00-0479
S27.1	Solenoid switch	99-135 051-91
S27.2	Solenoid switch	99-135 051-91
S28.1	Solenoid switch	71-13 00-0527
S28.2	Solenoid switch	71-13 00-0527
S29.1	Solenoid switch	99-135 051-91
S29.2	Solenoid switch	99-135 051-91
S37	Limit switch	71-12 00-0413

Part	Description	Part number
S38	Limit switch	71-12 00-0420
S41.1	Solenoid switch	71-13 00-0527
S41.2	Solenoid switch	71-13 00-0527
S42	Limit switch	71-12 00-0532
S50.1	Solenoid switch	99-13 5 051-91
S61	Push-button	71-13 00-0497
S62	Push-button	71-13 00-0498
S70.1	Push-button	71-13 00-0498
S70.2	Push-button	71-13 00-0498
S80	Push-button	71-13 00-0498
S90	Push-button	71-13 00-0216
S97	Pressure monitor	95-629 723-71/993
S98	Limit switch	71-12 00-0413

Part	Description		Teilenummer Part number N° de pièce N° de pieza
S99	Limit switch		71-12 00-0413
S101	Push-button		71-13 00-0374
S102	Push-button		71-13 00-0374
S103	Push-button		71-13 00-0374
S104	Push-button		71-13 00-0374
S105	Push-button		71-13 00-0374
S106	Push-button		71-13 00-0374
S107	Limit switch		71-12 00-0413
S108A	Push-button	(only for 3568-2/12)	71-12 00-0413
			Plastic cap 71-13 00-0440
S108A	Limit switch	(only for 3568-2/12)	71-12 00-0439
S108A	Push-button	(not for 3568-1/12)	71-13 00-0374
S108B	Limit switch	(not for 3568-1/12)	71-12 00-0413
S109	Limit switch		71-12 00-0532

Part	Description	Part number
S110	Push-button	71-13 00-0374
S111	Push-button	71-13 00-0374
S112	Push-button	71-13 00-0374
S113	Push-button	71-13 00-0375
S114	Push-button	71-13 00-0374
S115	Push-button	71-13 00-0374
S120	Push-button	71-13 00-0374
Y1 Y2 Y3 Y5 Y10 Y11 Y20.1 Y20.2 Y21.1 Y21.2 Y23.1 Y23.2 Y24.1 Y24.2 Y25 Y26.1 Y26.2 Y27.1 Y27.2 Y28.1 Y28.2 Y29.1 Y29.2 Y30 Y31 Y40 Y41 Y42 Y43 Y45	Solenoid valve	See pneum. parts list
	T 1 transformer	71-5500 0165

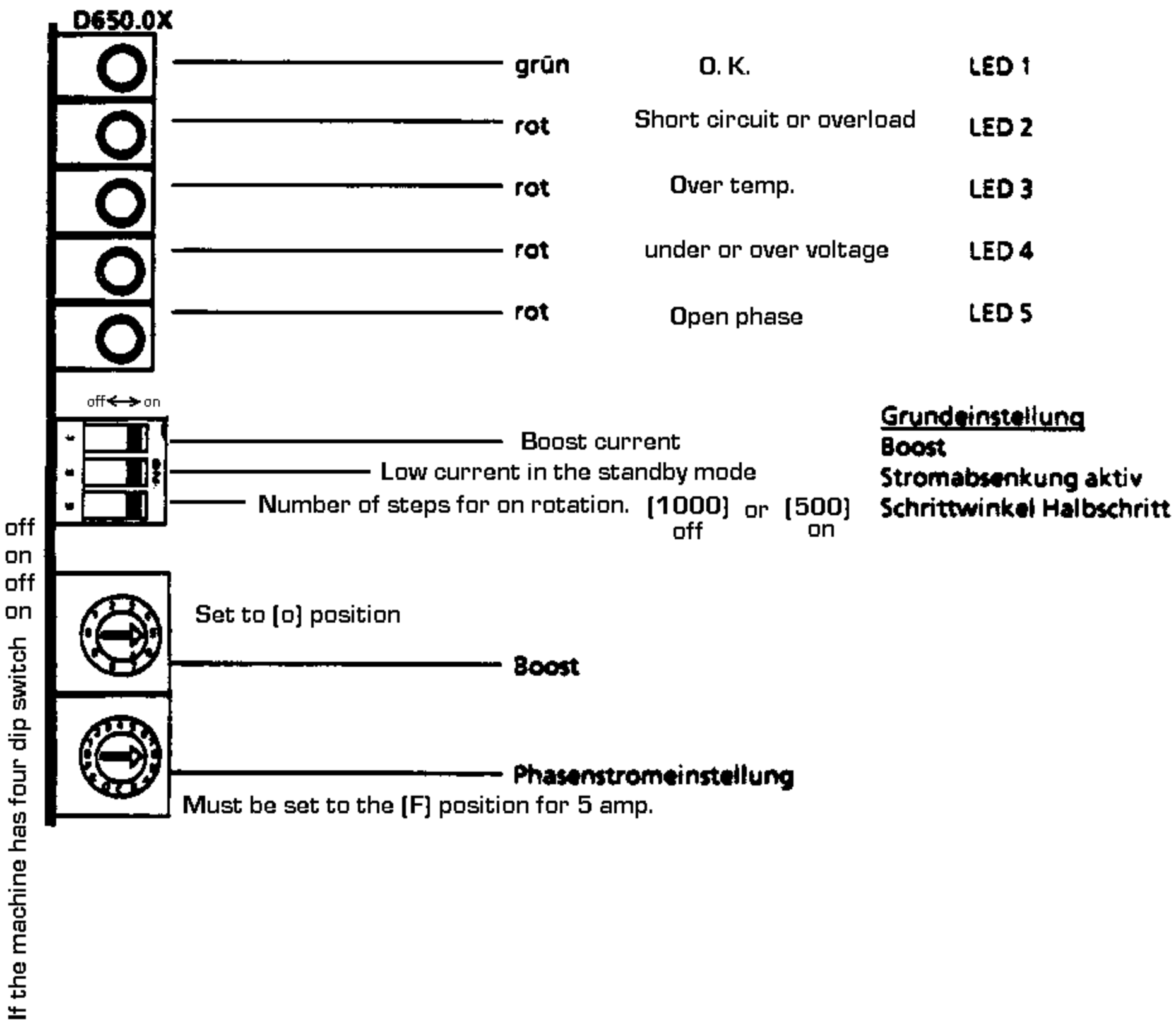
Part	Description	Part number
Y46.1		
Y46.2		
Y50.1		
Y50.2		
Y70		

1.4.2 Steuerkarte D 650.0X

1.4.2.1 Betriebsdaten

Betriebsspannung	70 - 130 VDC ± 10%
Phasenströme einstellbar	2,0 - 5,0 A
Boost einstellbar	1,0 - 1,9xI <sub>N</sub> (max.6A)
Anzeige für Bereitschafts- und Störungsanzeigen	LEDs
Drehschalter zur Einstellung des Boost	
Drehschalter zur Einstellung des Phasenstroms	

1.4.2.2 Anzeige und Programmierschalter





**1.4.2.3 Boost (Grenzwert  $I_{\text{Boost}} = 6 \text{ A max.}$ )**

$I_{\text{Boost}}$	$1,0 \times I_N$	$1,1 \times I_N$	$1,2 \times I_N$	$1,3 \times I_N$	$1,4 \times I_N$	$1,5 \times I_N$	$1,6 \times I_N$	$1,7 \times I_N$	$1,8 \times I_N$	$1,9 \times I_N$
Stellung	0	1	2	3	4	5	6	7	8	9

top rotary dial switch must point to the 0 position

**1.4.3.3 Phasenstrom (Angabe in A)**

$I \text{ (A)}$	2,0	2,2	2,4	2,6	2,8	3,0	3,2	3,4	3,6	3,8
Stellung	0	1	2	3	4	5	6	7	8	9

$I \text{ (A)}$	4,0	4,2	4,4	4,6	4,8	5,0				
Stellung	A	B	C	D	E	F				

bottom rotary dial switch must point to the F position

**1.4.3.4 Stromabsenkung**

Schalterstellung	OFF		ON	
Pulsfrequenz	< 10 Hz	> 10 Hz	< 10 Hz	> 10 Hz
Motorstrom $I$	$I_{\text{Nenn}} \times 0,6$	$I_{\text{Nenn}}$	$I_{\text{Nenn}}$	$I_{\text{Nenn}}$

**1.4.3.5 Schrittwinkel**

Schalterstellung	OFF	ON
Schrittwinkel	Halbschritt 1000 Schritte pro Umdrehung	Vollschritt 500 Schritte pro Umdrehung

switch # 3

Half step

Full step

# PFAFF

PFAFF  
Postfach 3020/3040  
Königstraße 154  
D-6750 Kaiserslautern

Telefon: (0631) 200-0  
Telefax: (0631) 17202  
Telex: 45763

Gedruckt in der BRD  
Printed in Germany  
Imprimé en R.F.A.  
Impreso en la R.F.A.  
Stampato in R.F.G.  
отпечатано ФРГ