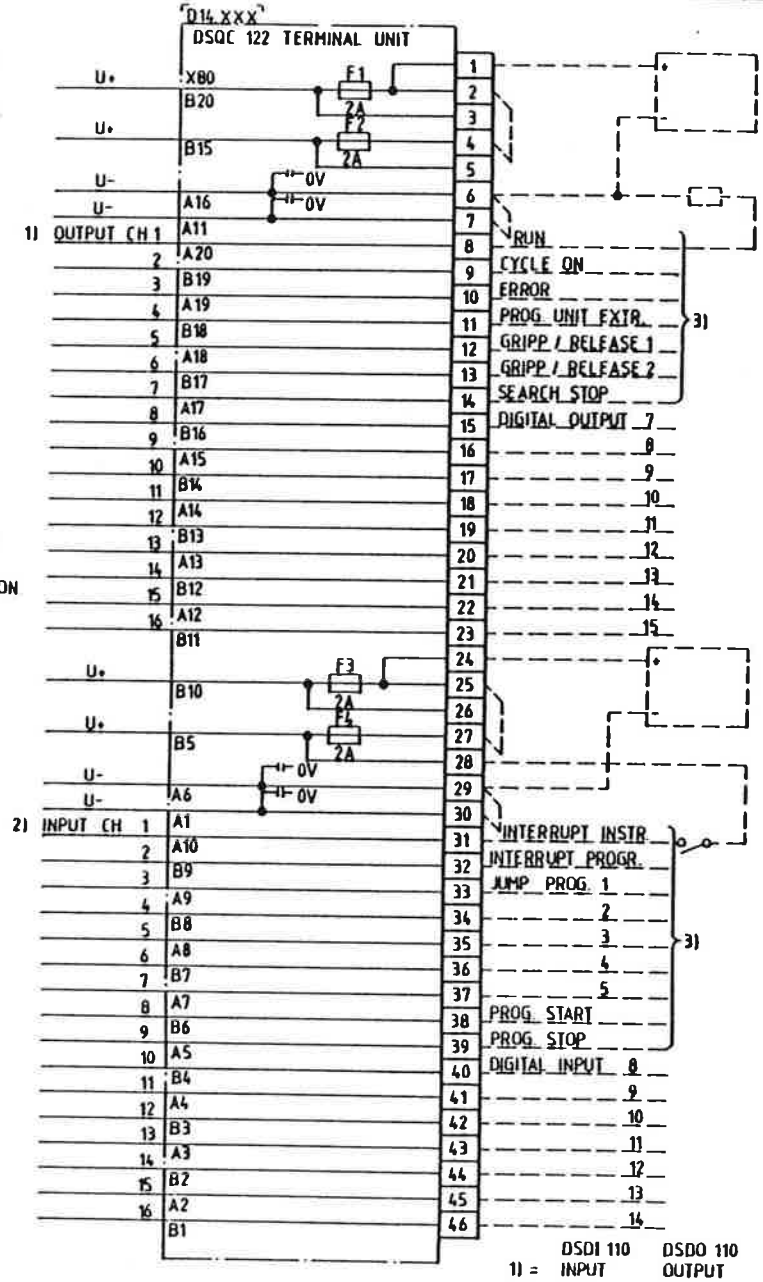
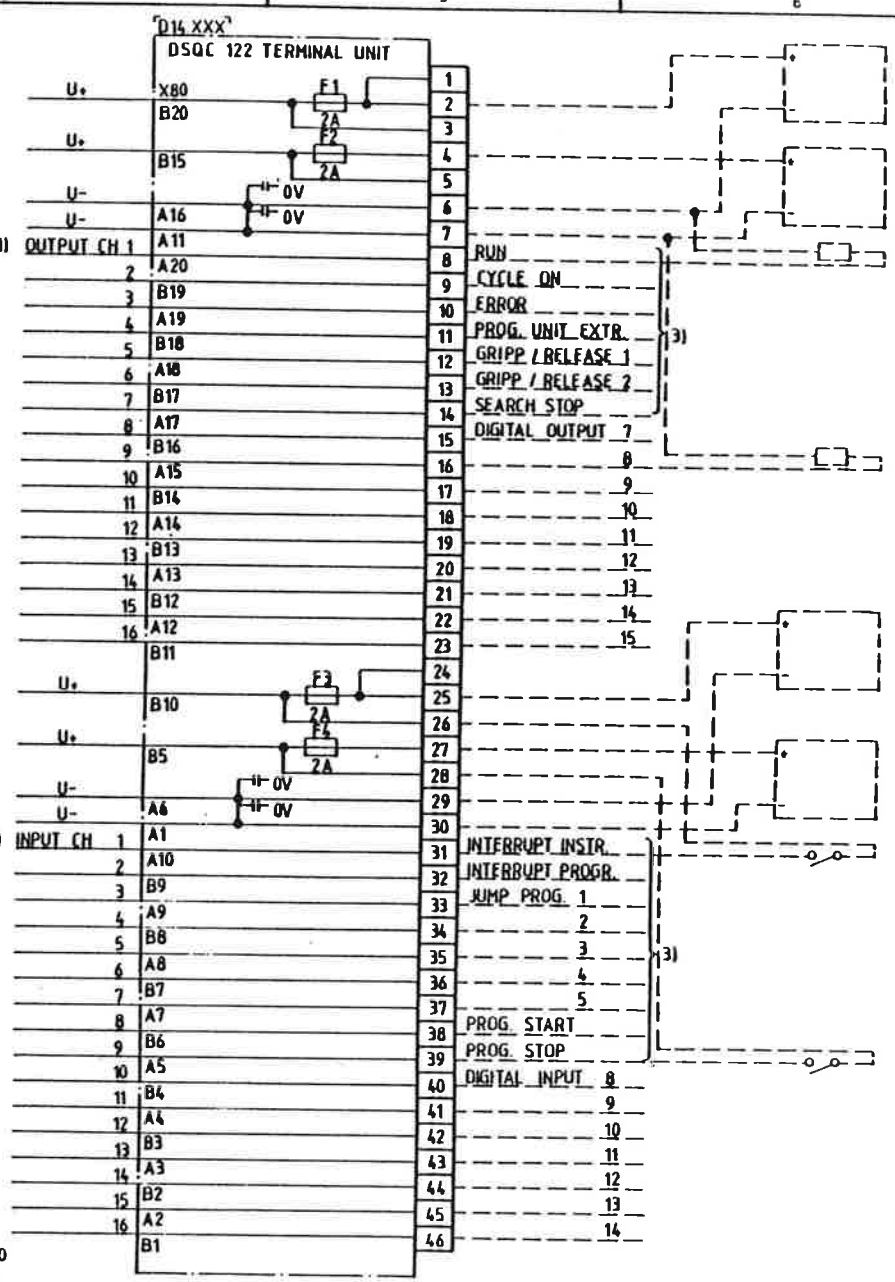
DSQC 122 replaces
DSTD 160,150,110
during autumn 1985

ATTENTION!
THE BOARD IS
PLACED ON
POSITION ACCORDING
TO THE ACTUAL
SYSTEM CONFIGURATION





	DSDI 110	DSDO 110	DSDX 110
1) =	INPUT	OUTPUT	OUTPUT
2) =	INPUT	OUTPUT	INPUT

3) SIGNAL FUNCTIONS IF FIRST OPTIONAL BOARD

Drawn by | Order No | Sheet
Design checked by | TID No | Year Week Cont
Rev Ind Dept | Rev Ind Dept

Design checked by Hardegård
Drawing checked by Pettersson
Drawn by Lindström

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90/2
ASEA
Doc by Dept Year Week
JSAK 85 31

6704 100-BEA

Rev Ind | Sheet
Rev Ind | Sheet 22,5 Cont 23

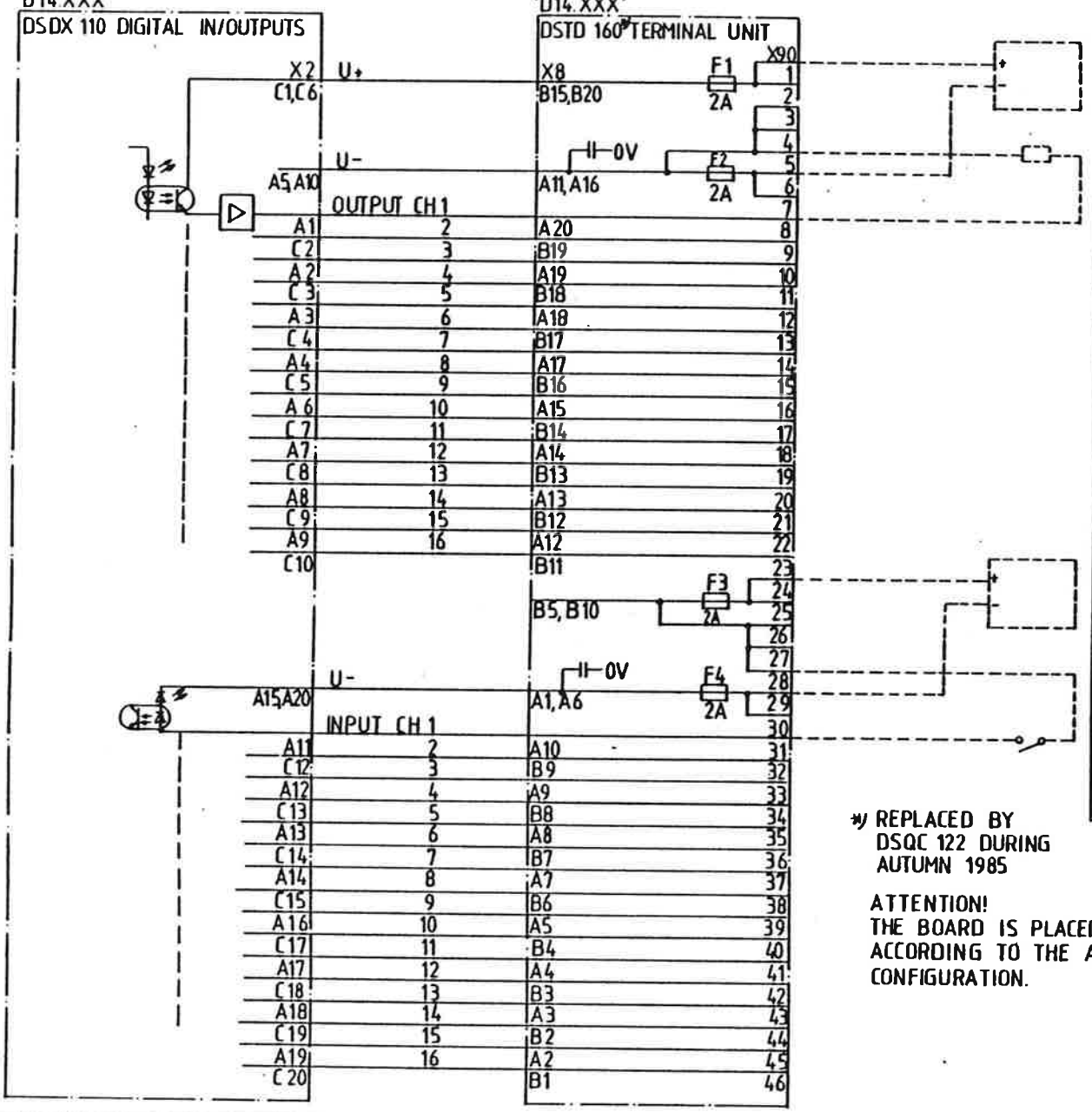
'D14.XXX'

DSDX 110 DIGITAL IN/OUTPUTS

'D14.XXX'

DSTD 160 TERMINAL UNIT

DIGITAL IN/OUTPUTS 24V DC
(DSDX 110 OPTION)



SIGNAL FUNCTIONS IF FIRST OPTIONAL BOARD	
CHANNEL	OUTPUT SIGNAL
1	RUN
2	CYCLE ON
3	ERROR
4	PROG. UNIT EXTRACTED
5	GRIPP/RELEASE 1
6	GRIPP/RELEASE 2
7	SEARCH STOP
8	DIGITAL OUTPUT 7
⋮	⋮
16	DIGITAL OUTPUT 15
	INPUT SIGNALS
1	INTERRUPT INSTR.
2	INTERRUPT PROGR.
3	JUMP PROG. 1
4	JUMP PROG. 2
5	JUMP PROG. 3
6	JUMP PROG. 4
7	JUMP PROG. 5
8	PROG. START
9	PROG. STOP
10	DIGITAL INPUT 8
⋮	⋮
16	DIGITAL INPUT 14

*) REPLACED BY DSQC 122 DURING AUTUMN 1985

ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.

Bildkort

Rev Ind	Note / Revision	Appd	Year	Week
6	Note add		85	31
5	SHEET REDRAWN	SQ	84	19

Drawn checked by LINDQVIST
Drawing checked by JKEM
Drawn by QUICK/TS

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA

Ass by Dept Year Week JKCP 83 20

6704 100 - BEA

Rev Ind Sheet 23 Cont 24

'D14.XXX'
DSDI 110 DIGITAL INPUTS

'D14.XXX'
DSTD 150*) TERMINAL UNIT

DIGITAL INPUTS 24V D.C.
DSDI 110 (OPTION)

SIGNAL FUNCTIONS IF FIRST OPTIONAL INPUT BOARD	
CHANNEL	INPUT SIGNAL
1	INTERRUPT INSTR.
2	INTERRUPT PROGR.
3	JUMP PROG. 1
4	JUMP PROG. 2
5	JUMP PROG. 3
6	JUMP PROG. 4
7	JUMP PROG. 5
8	PROG START
9	PROG STOP
10	DIGITAL INPUT 8
⋮	⋮
32	DIGITAL INPUT 30

				X80	X90
			F1 2A	B15, B20	1
					2
					3
					4
	U-		0V F2 2A		5
A5, A10				A11, A16	6
	INPUT CH 1				7
	A1	2		A20	8
	C2	3		B19	9
	A2	4		A19	10
	C3	5		B18	11
	A3	6		A18	12
	C4	7		B17	13
	A4	8		A17	14
	C5	9		B16	15
	A6	10		A15	16
	C7	11		B14	17
	A7	12		A14	18
	C8	13		B13	19
	A8	14		A13	20
	C9	15		B12	21
	A9	16		A12	22
	C10			B11	23
			F3 2A		24
				B5, B10	25
					26
					27
	U-		0V F4 2A		28
A15, A20				A1, A6	29
	INPUT CH 17				30
	A11	18		A10	31
	C12	19		B9	32
	A12	20		A9	33
	C13	21		B8	34
	A13	22		A8	35
	C14	23		B7	36
	A14	24		A7	37
	C15	25		B6	38
	A16	26		A5	39
	C17	27		B4	40
	A17	28		A4	41
	C18	29		B3	42
	A18	30		A3	43
	C19	31		B2	44
	A19	32		A2	45
	C20			B1	46

*) REPLACED BY DSQC 122
DURING AUTUMN 1985

ATTENTION!
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Rev Ind	Note	Sign	Year	Week
6	Note add		85	31
4	SHEET REDRAWN	SQ	84	19

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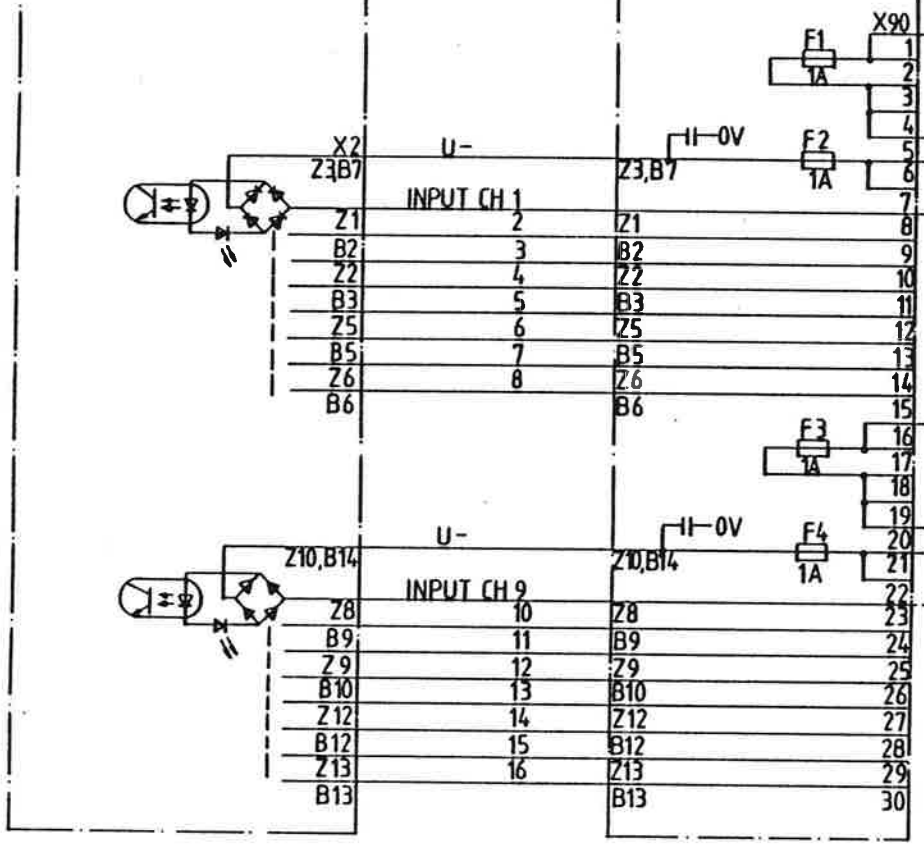
Drawn by: JKEM
Design checked by: QUICK/TS

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
Iss by Dept Year Week: JKCP 83 20

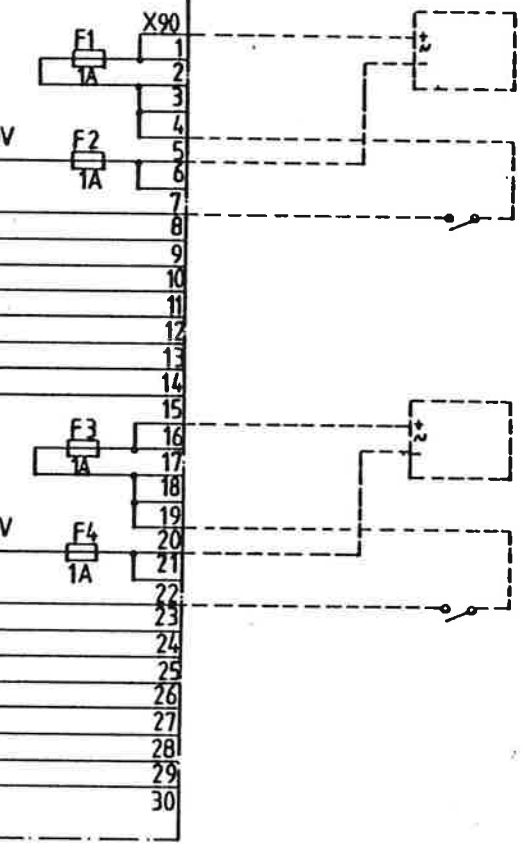
6704 100-BEA

Rev Ind: Sheet 24 Cont 25

D14XXX
DSDI 130 DIGITAL INPUTS



D14XXX
DSTD 140 TERMINAL UNIT



DIGITAL INPUTS 110V A.C.
DSDI 130 (OPTION)

ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.

SIGNAL FUNCTIONS IF FIRST OPTIONAL INPUT BOARD	
CHANNEL	INPUT SIGNAL
1	INTERRUPT INSTR.
2	INTERRUPT PROGR.
3	JUMP PROG. 1
4	JUMP PROG. 2
5	JUMP PROG. 3
6	JUMP PROG. 4
7	JUMP PROG. 5
8	PROG START
9	PROG STOP
10	DIGITAL INPUT 8
16	DIGITAL INPUT 14

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4 SHEET REDRAWN — SQ 84 19

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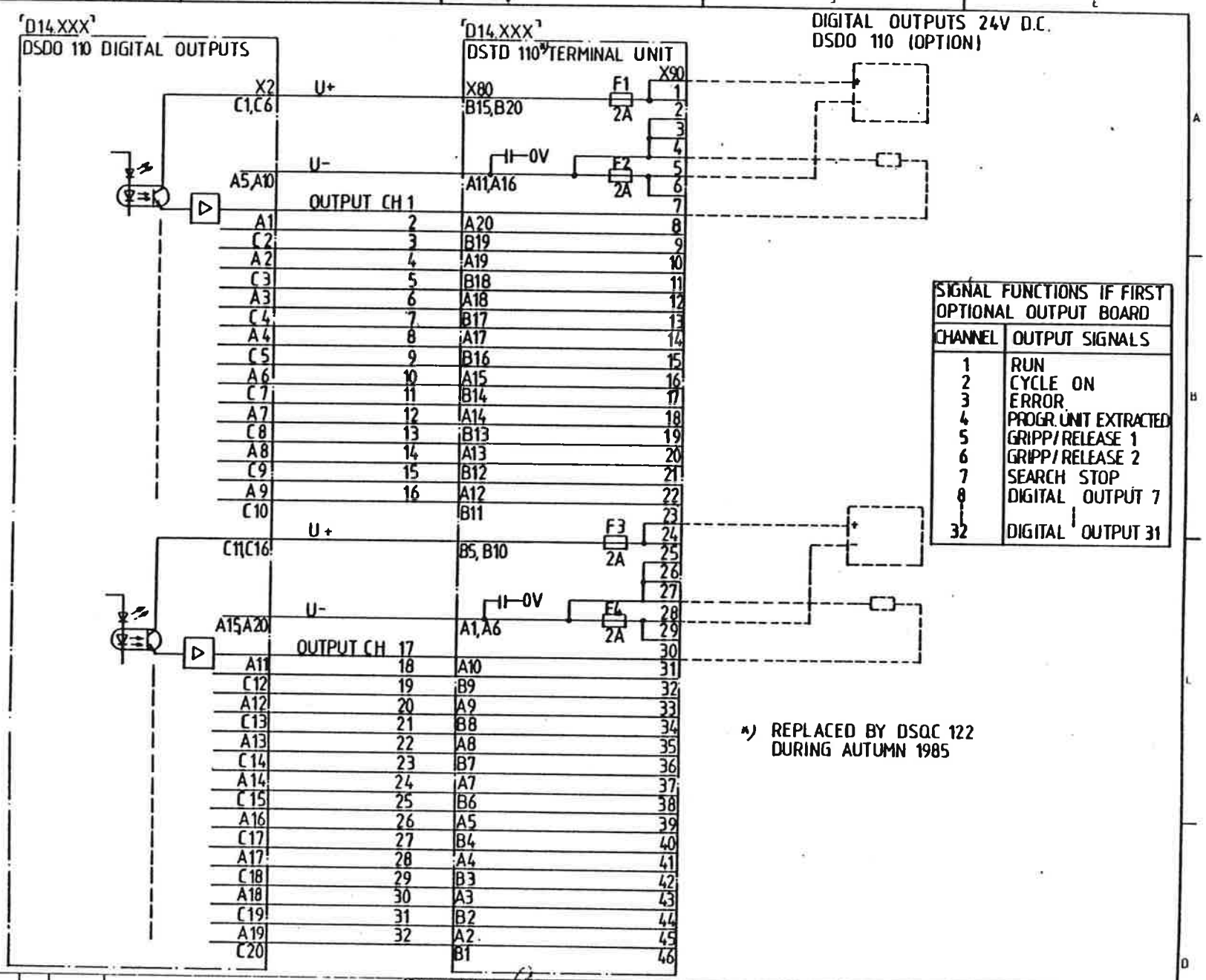
Drawing checked by: JKEM
Drawn by: QUICK/TS

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
JKCP 83 20

6704 100-BEA

Sheet 25
Cont 26



ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.

SIGNAL FUNCTIONS IF FIRST OPTIONAL OUTPUT BOARD	
CHANNEL	OUTPUT SIGNALS
1	RUN
2	CYCLE ON
3	ERROR
4	PROGR. UNIT EXTRACTED
5	GRIPP/RELEASE 1
6	GRIPP/RELEASE 2
7	SEARCH STOP
8	DIGITAL OUTPUT 7
⋮	⋮
32	DIGITAL OUTPUT 31

*) REPLACED BY DSQC 122 DURING AUTUMN 1985

Rev. Ind.	Revision	Appd	Year	Week
6	Note add		85	31
4	SHEET REDRAWN	SQ	84	19

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CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90 S/2
ASEA
Issued by Dept Year Week: JKCP 83 20

6704 100 - BEA

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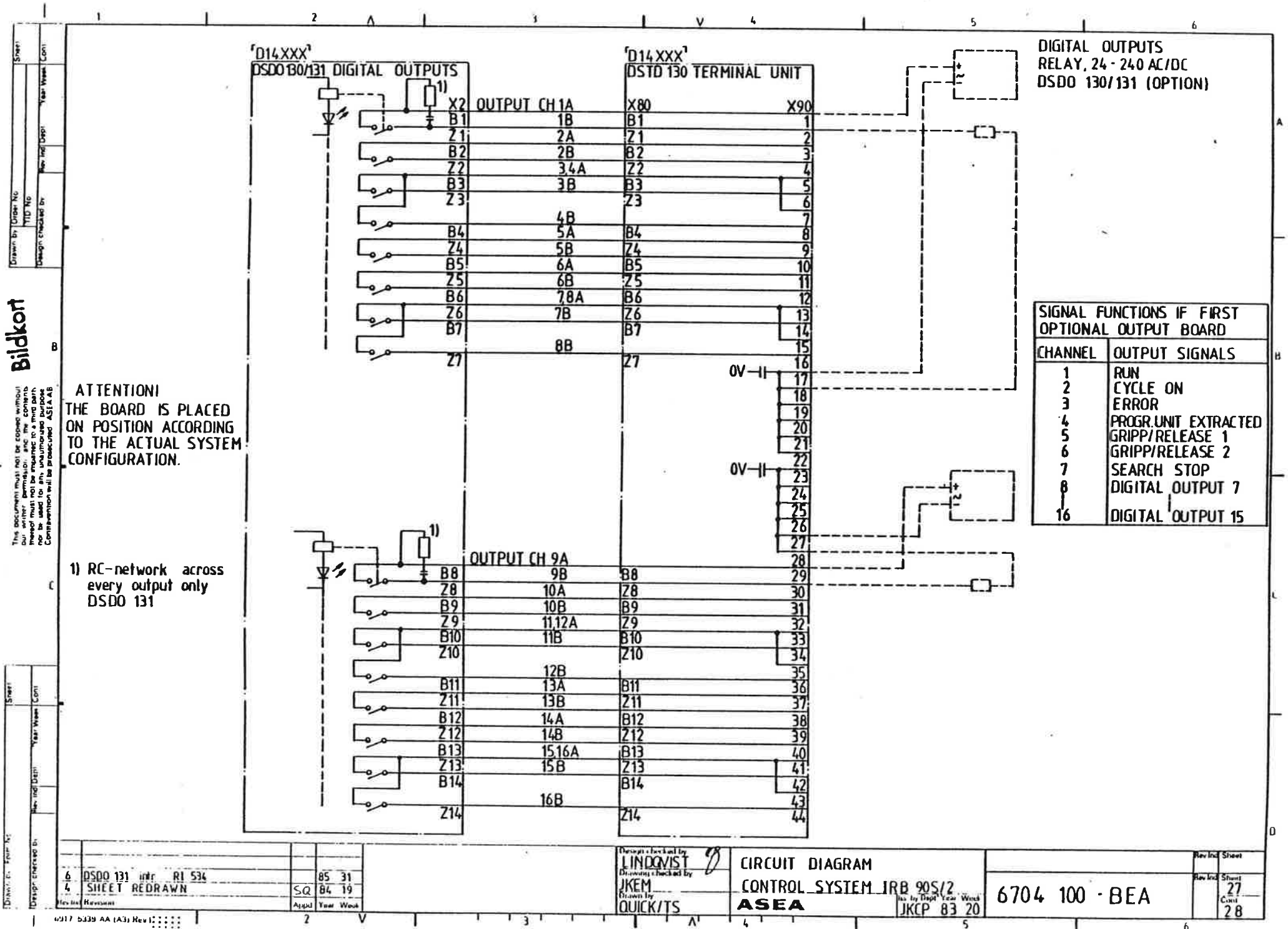
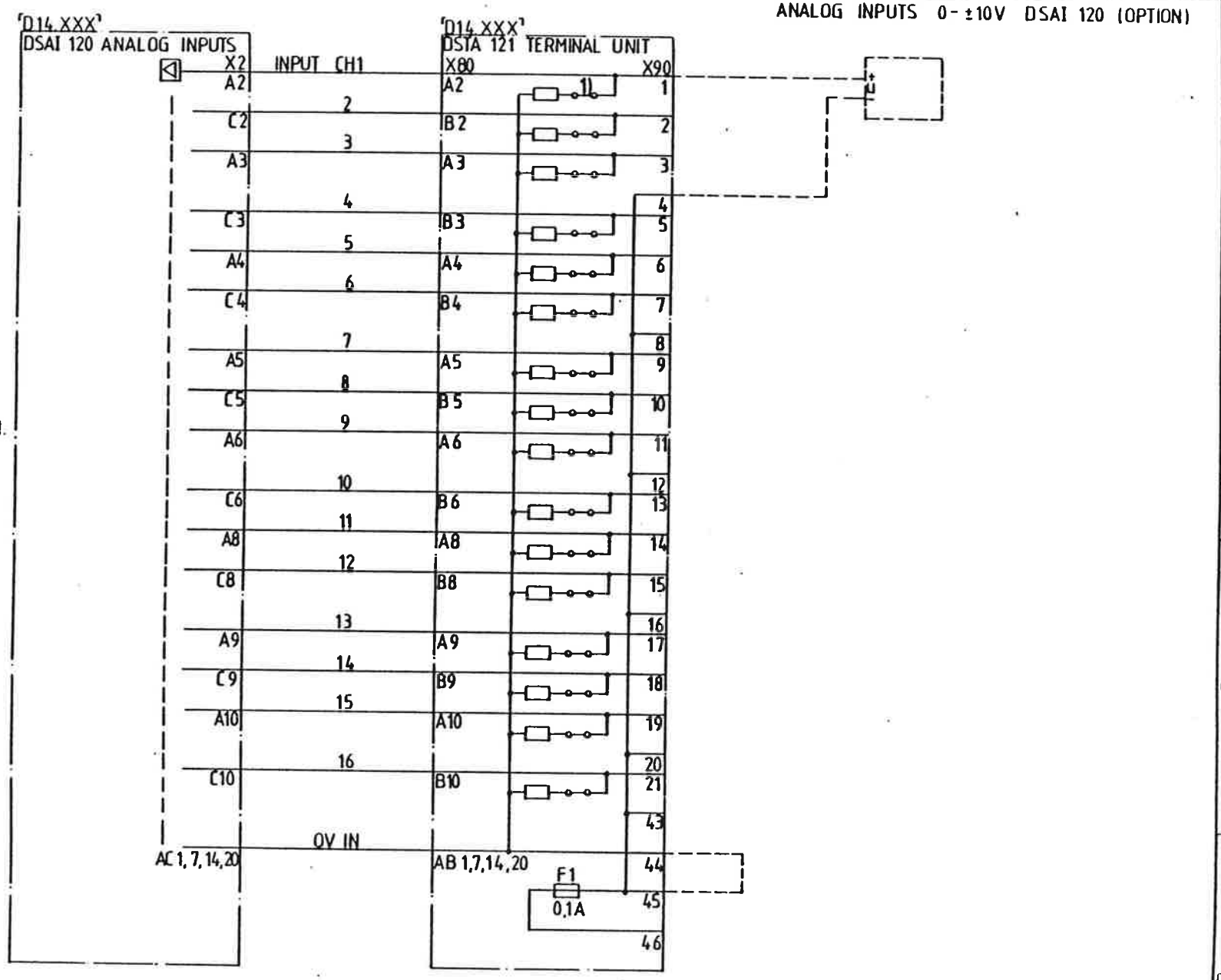
Sheet: 27

6917 5339 AA (A3) Rev1


'D14 XXX'
DSDO 130/131 DIGITAL OUTPUTS
'D14 XXX'
DSTD 130 TERMINAL UNIT
X2
X80
X90
OUTPUT CH 1A
1B
2A
2B
3,4A
3B
4B
5A
5B
6A
6B
7,8A
7B
8B
OUTPUT CH 9A
9B
10A
10B
11,12A
11B
12B
13A
13B
14A
14B
15,16A
15B
16B
1)
0V
DIGITAL OUTPUTS
RELAY, 24 - 240 AC/DC
DSDO 130/131 (OPTION)
SIGNAL FUNCTIONS IF FIRST OPTIONAL OUTPUT BOARD
CHANNEL
OUTPUT SIGNALS
1 RUN
2 CYCLE ON
3 ERROR
4 PROGR.UNIT EXTRACTED
5 GRIPP/RELEASE 1
6 GRIPP/RELEASE 2
7 SEARCH STOP
8 DIGITAL OUTPUT 7
16 DIGITAL OUTPUT 15
ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.
1) RC-network across every output only DSDO 131
Bildkort
6 DSDO 131 intr RI 534
4 SHEET REDRAWN
85 31
SQ 84 19
CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
JKCP 83 20
6704 100 - BEA
Sheet 27
Cont 28


ANALOG INPUTS 0-±10V DSAI 120 (OPTION)
'D14.XXX'
DSAI 120 ANALOG INPUTS
X2
INPUT CH1
A2
2
C2
3
A3
4
C3
5
A4
6
C4
7
A5
8
C5
9
A6
10
C6
11
A8
12
C8
13
A9
14
C9
15
A10
16
C10
0V IN
AC 1,7,14,20
'D14.XXX'
DSTA 121 TERMINAL UNIT
X80
X90
A2
B2
A3
B3
A4
B4
A5
B5
A6
B6
A8
B8
A9
B9
A10
B10
AB 1,7,14,20
1)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
43
44
45
46
F1
0,1A
ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.
1)OPEN STRAPS FOR VOLTAGE SIGNAL
Bildkort
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6 Straps DSTA 121 add
4 SHEET REDRAWN
SQ 85 31
SQ 84 19
LINDQVIST
JKEM
QUICK/TS
CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
JKCP 83 20
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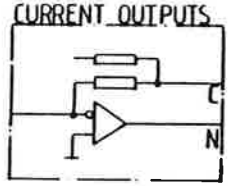
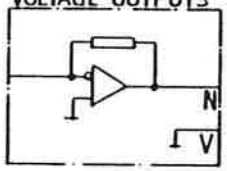
28
29

ANALOG OUTPUTS ±10V
DSAO 110 (OPTION) ±10mA
±20mA

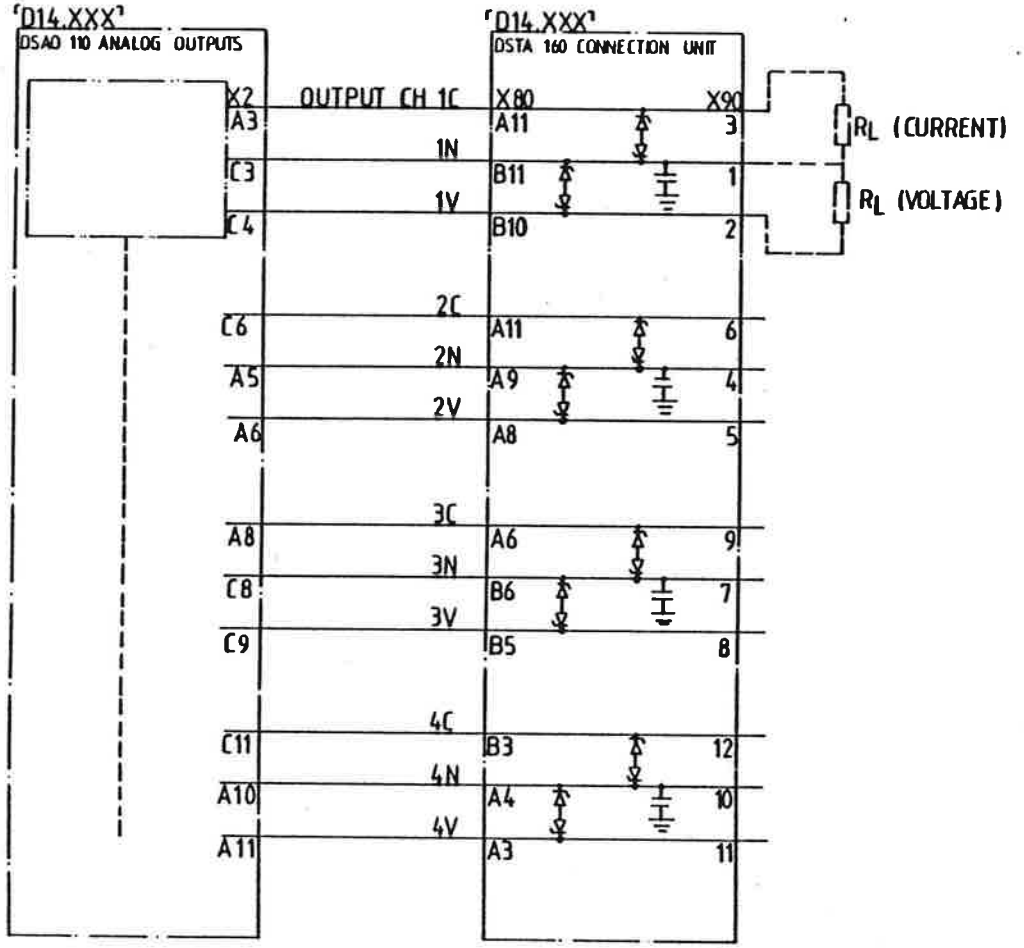
CURRENT OUTPUTS



VOLTAGE OUTPUTS



ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.



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Rev Ind	Revisions	Appd	Year	Week
4	SHEET REDRAWN	SQ	84	19
1	SHEET ADDED	SQ	83	23

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CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
Iss by Dept JKCP Year 83 Week 23

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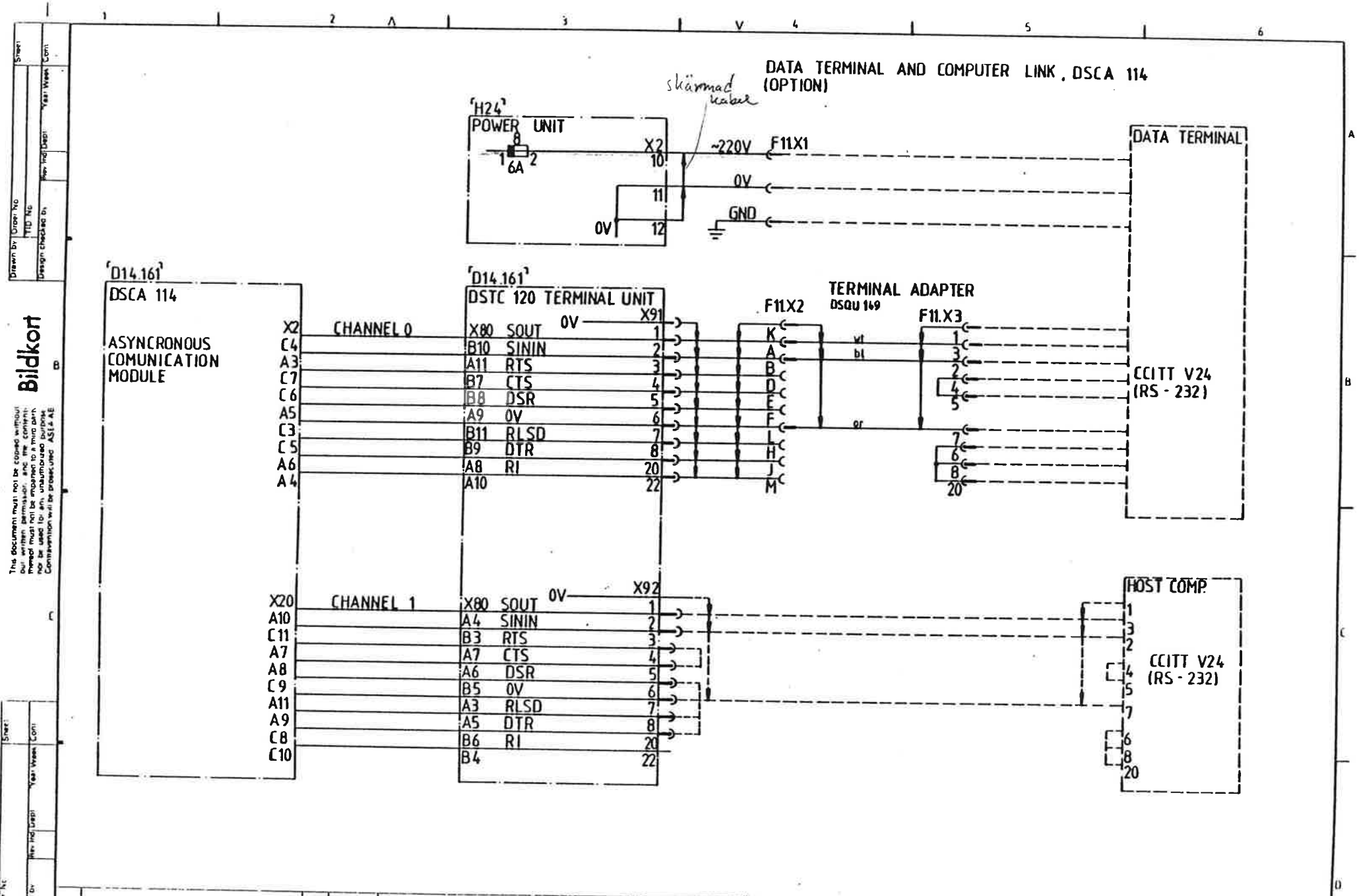
DATA TERMINAL AND COMPUTER LINK, DSCA 114
(OPTION)
skärmad kabel
'H24'
POWER UNIT
8
1
6A
2
X2
10
11
12
0V
~220V
0V
GND
F11X1
DATA TERMINAL
'D14.161'
DSCA 114
ASYNCRONOUS
COMUNICATION
MODULE
X2
C4
A3
C7
C6
A5
C3
C5
A6
A4
CHANNEL 0
'D14.161'
DSTC 120 TERMINAL UNIT
X80 SOUT
B10 SININ
A11 RTS
B7 CTS
B8 DSR
A9 0V
B11 RLSD
B9 DTR
A8 RI
A10
0V
X91
1
2
3
4
5
6
7
8
20
22
F11X2
K
A
B
D
E
F
L
H
J
M
TERMINAL ADAPTER
DSQU 169
wt
bl
or
F11.X3
1
3
2
4
5
7
6
8
20
CCITT V24
(RS - 232)
X20
A10
C11
A7
A8
C9
A11
A9
C8
C10
CHANNEL 1
X80 SOUT
A4 SININ
B3 RTS
A7 CTS
A6 DSR
B5 0V
A3 RLSD
A5 DTR
B6 RI
B4
0V
X92
1
2
3
4
5
6
7
8
20
22
HOST COMP
1
3
2
4
5
7
6
8
20
CCITT V24
(RS - 232)
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4 SHEET REDRAWN SQ 84 19
1 SHEET ADDED SQ 83 23
Rev Ind Revision Appd Year Week
Design checked by LINDQVIST
Drawing checked by JKEM
Drawn by QUICK/TS
CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
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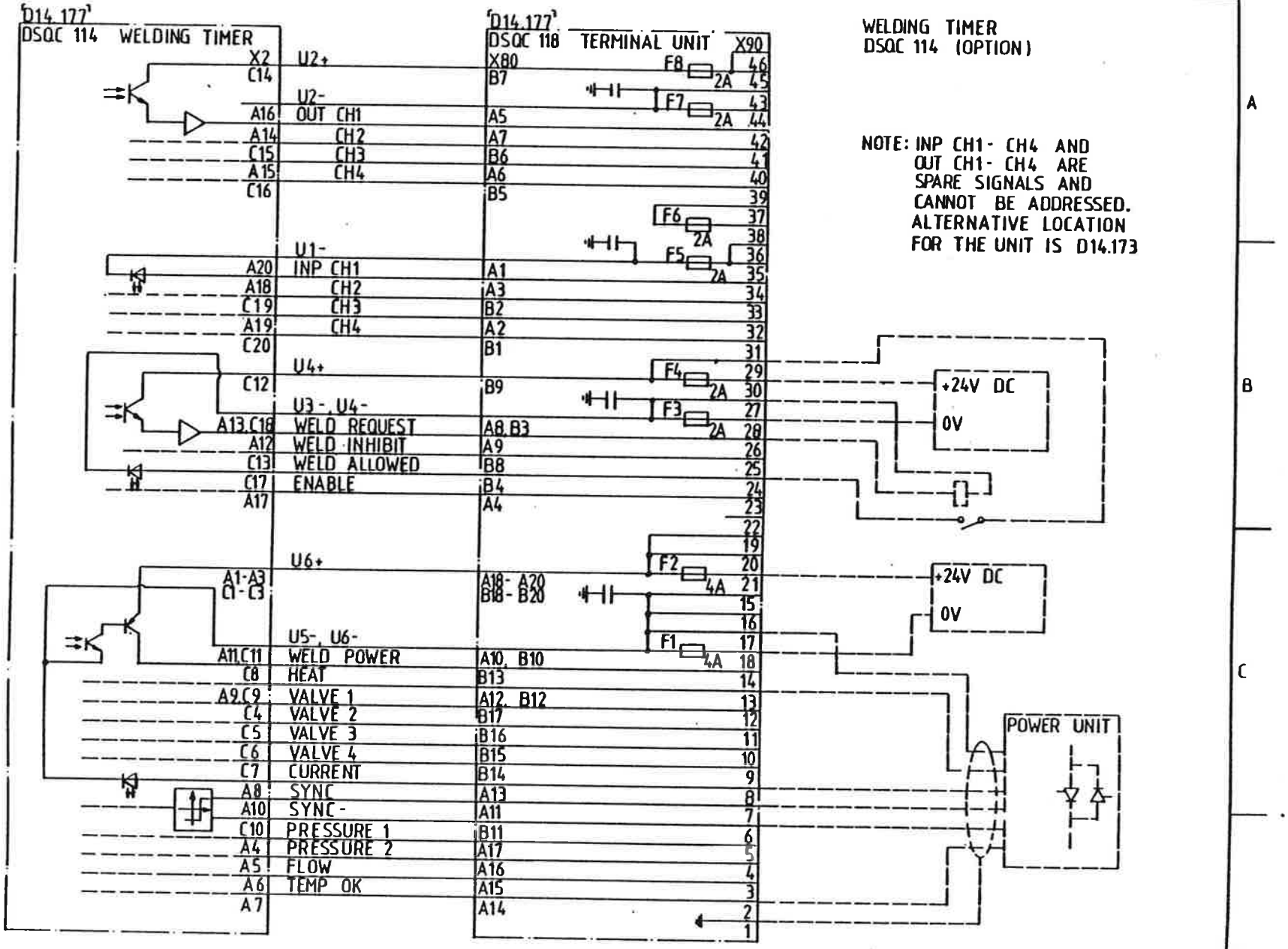
Rev Ind Sheet 30
Count 31



Rev Ind	Reason	Appd	Year	Week
6	Sh 32 add RI 594		85	31
1	SHEET ADDED	SQ	84	19

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CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
Rel by Dept Year Week: JKCP 84 19

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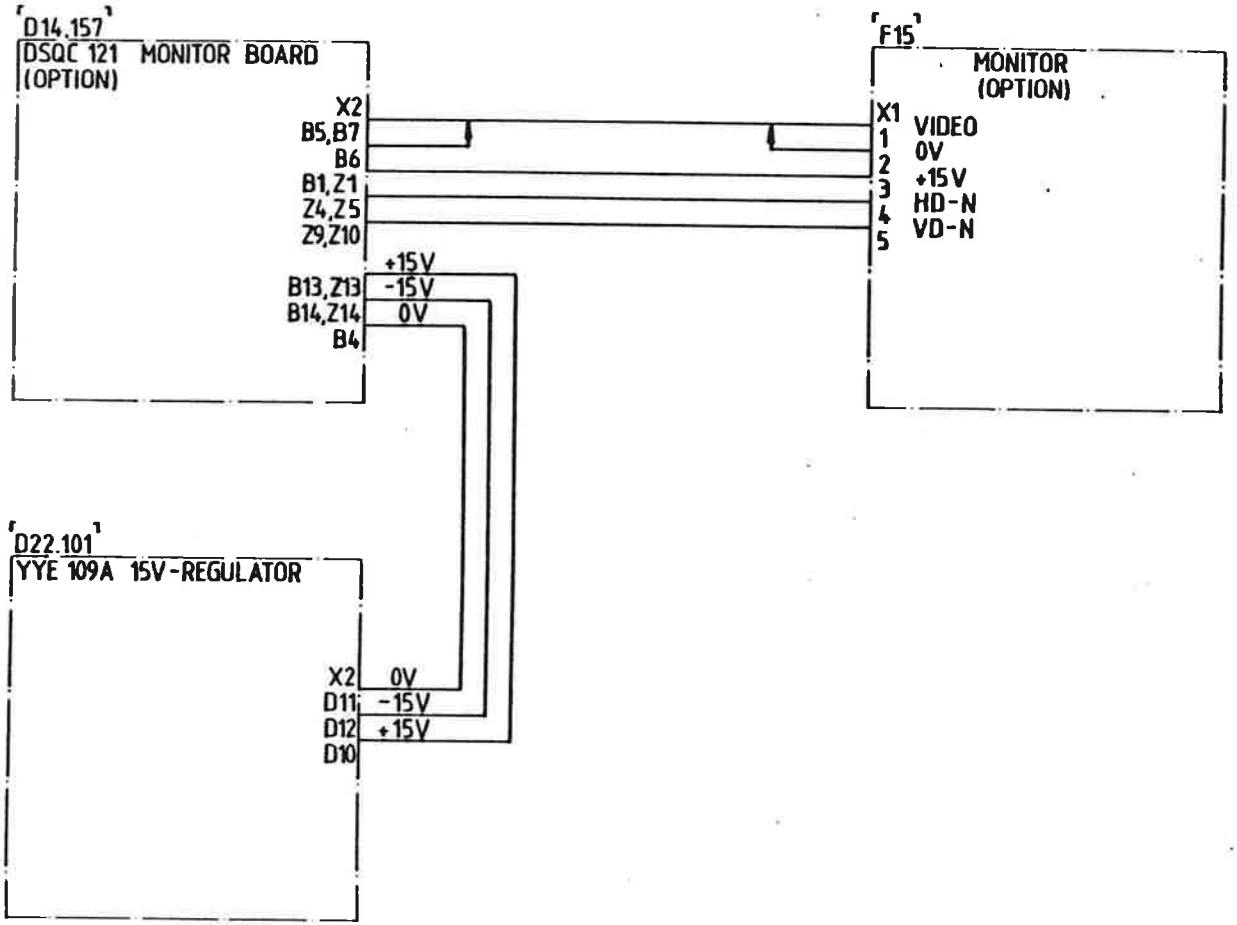
Rev Ind | Sheet 31 | Cont 32



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CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 90S/2
ASEA
Doc by (dept, Year, Week): JSAK 85 31

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SHEET	CONTENTS
1	LIST OF CONTENTS
2	VIEW OF INSTALLATION EQUIPMENT
3	WELDING TIMER BOARD
4	ROBOT CONNECTIONS
5	POWER CONNECTION
6	WELDING POWER UNIT
7	AUXILIARY SUPPLY UNIT

Rev Ind	Revision		Appd	Year	Week
1	SH 4, 5, AND 6 CH	R 415		85	35

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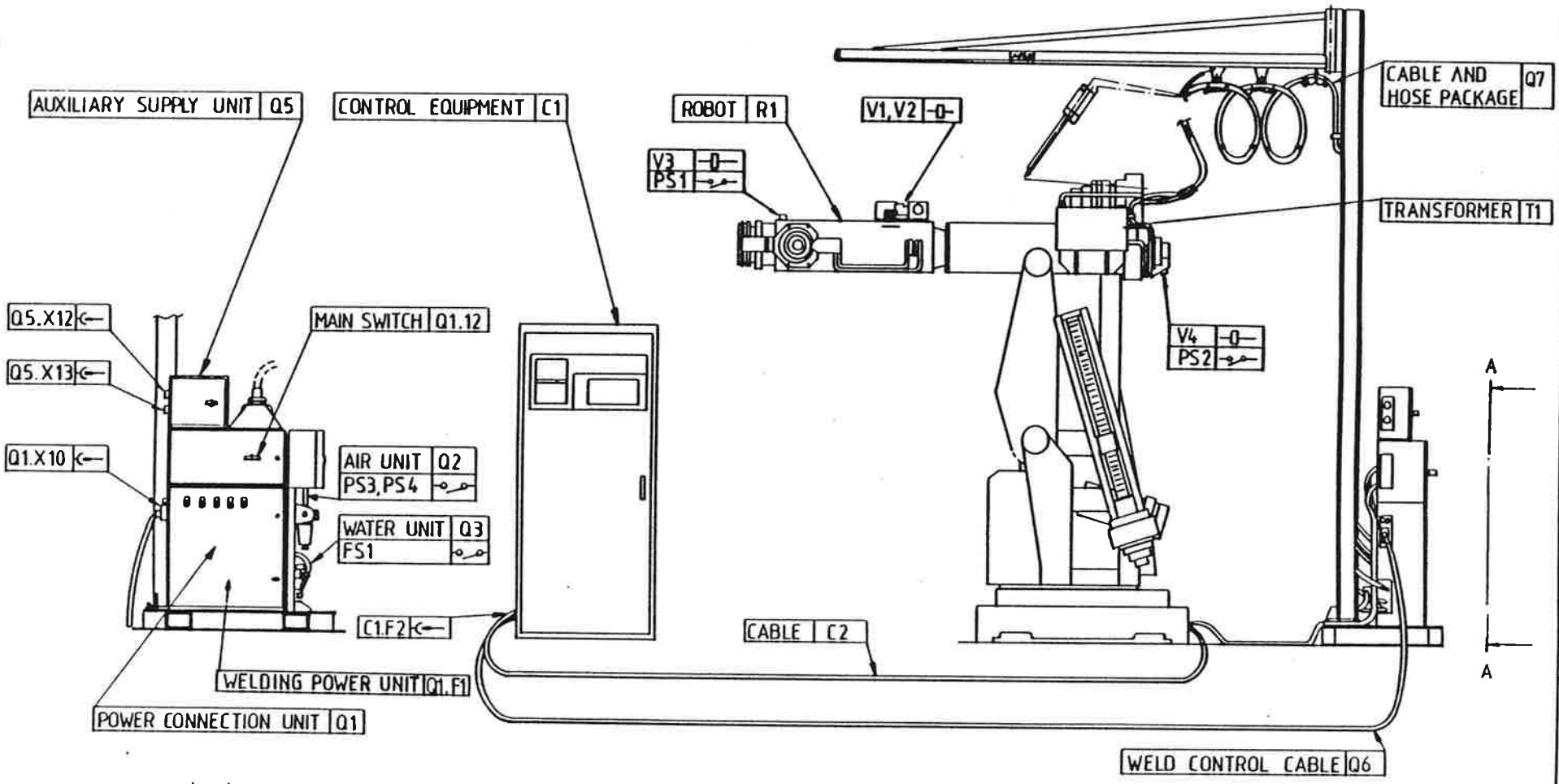
CIRCUIT DIAGRAM
INSTALLATION EQUIPMENT IRB 90/2
ASEA

Iss by Dept: JBA Year: 84 Week: 28

6397 100 - NS

Sheet 1
Cont 2

VIEW OF INSTALLATION EQUIPMENT



A—A

Designs checked by: Lindqvist	CIRCUIT DIAGRAM		Rev. ind.	Sheet
Drawings checked by: Quick	INSTALLATION EQUIPMENT IRB 90/2	6397 100 - NS	Rev. ind.	Sheet 2
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WELDING TIMER BOARD

[C1]

CONTROL SYSTEM

D14.177
DSQC 114
WELDING
CONTROLLER

D14.177
DSQC 118
TERMINAL UNIT

X90

X80

U4+	B9	F4	29	30	24V-
U4-		F3	27	28	0V
WELD REQUEST	A8, B3				R
WELD INHIBITED	A9			26	I
WELD ALLOWED	B8			25	A
	B4			24	
				22	EN
WELD ENABLE	A4			23	
				19	24V-S
U6+		F2		20	24V-EXT
	A18-A20 B18-B20			21	0V-S
				15	
				16	
U6-		F1		17	0V-EXT
V1	A10, B10			18	V1
V2	B17			12	V2
V3	B16			11	V3
V4	B15			10	V4
WELD POWER	B14			9	
HEAT	B13			14	
CURRENT	A12, B12			13	
SYNC+	A13			8	
SYNC-	A11			7	
P1	B11			6	P1
P2	A17			5	P2
TEMP OK	A16			4	
FLOW	A14			2	
	A15			3	
				1	

CUSTOMER CONNECTION 1)

WELD CONTROL CABLE

VO	ENA	6	
BR	ENB		
RD/BL+RD	24V-S	5,6	/2
BL+RD/GN+YW+GR	0V-S	5,6	/4
RD/YW	P	5	
GN	HEAT	6	
LIGHT GN	C		
OR	SYNC+		
PINK	SYNC-		
WT	TOK	5	
BL/BK	FLOW		

1) JUMPER ON X90 IF NO CUSTOMER CONNECTION.

SIGNAL	CONNECTION
24V	21 - 30
0V	18 - 28
EN	22 - 29
A	24 - 26

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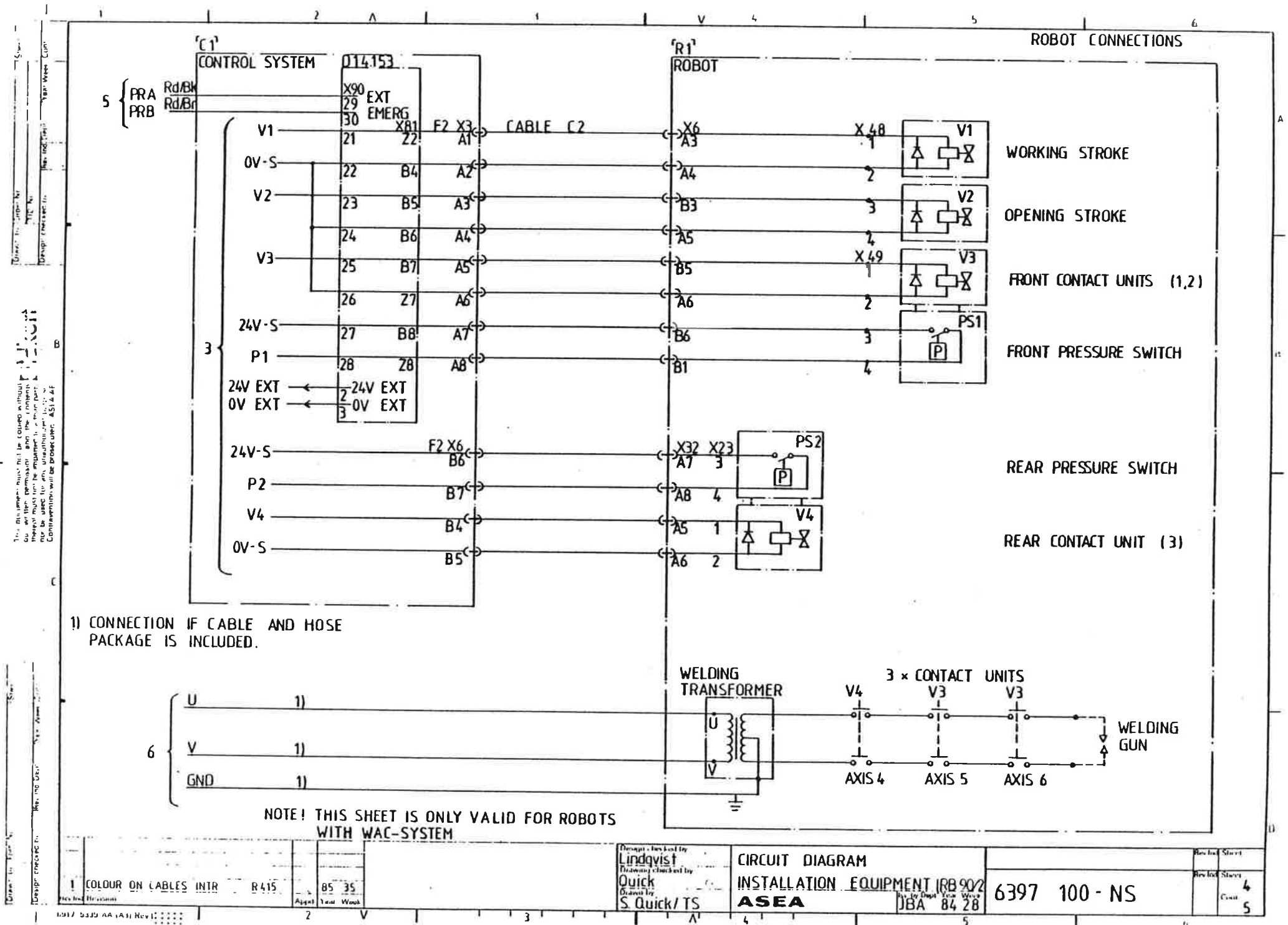
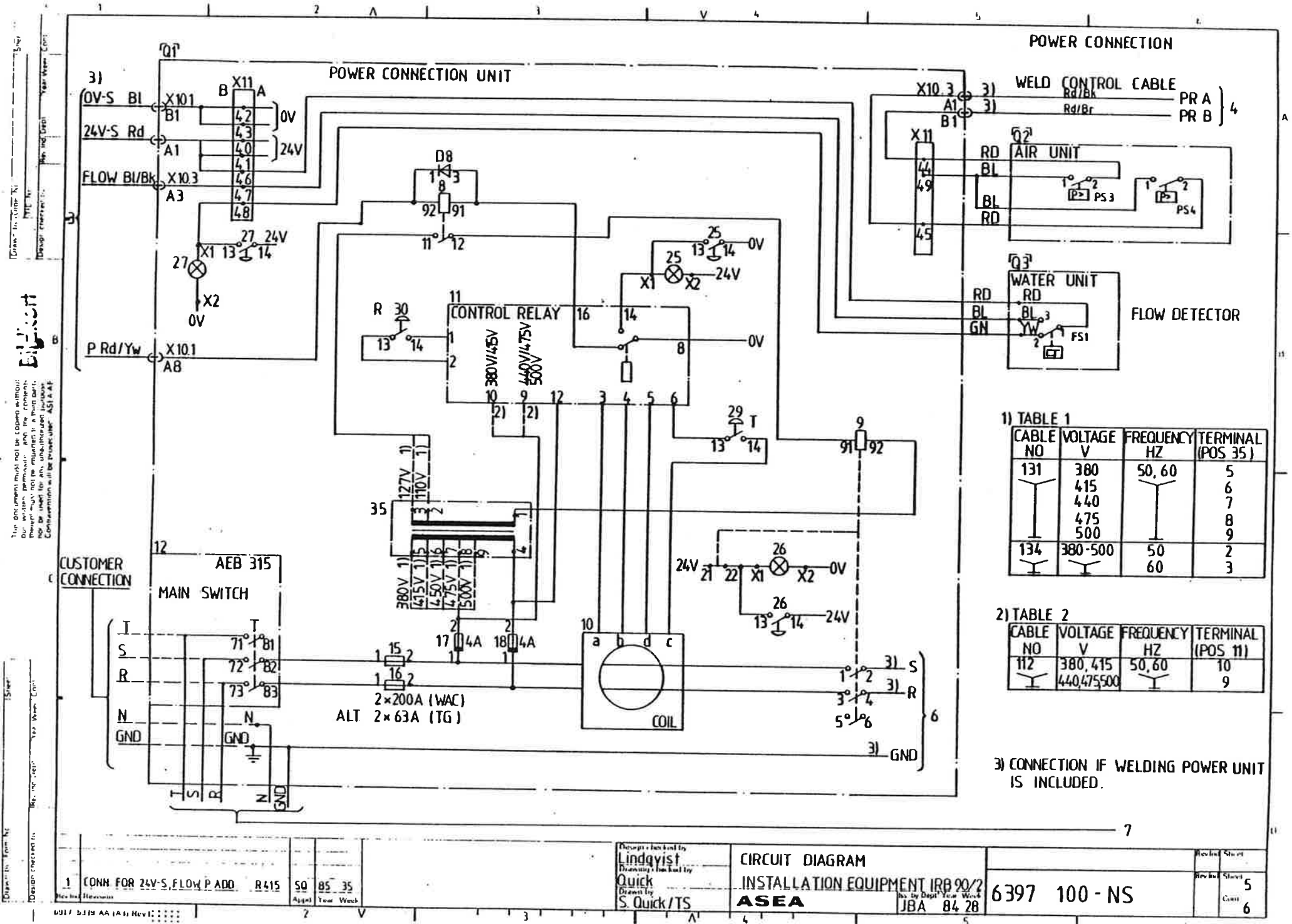
Drawing Checked by Quick	INSTALLATION EQUIPMENT IRB 90/2	6397 100 - NS	Sheet 3
Drawn by S.Quick/TS	ASEA	Issued by Dept Year Week JBA 8428	Sheet 4


ROBOT CONNECTIONS
'C1'
CONTROL SYSTEM
014153
'R1'
ROBOT
5
PRA
PRB
Rd/Bk
Rd/Br
X90
29
30
EXT EMERG
X81
F2 X3
CABLE C2
X6
V1
21
22
A1
A3
0V-S
22
B4
A2
A4
V2
23
B5
A3
B3
24
B6
A4
A5
V3
25
B7
A5
B5
26
Z7
A6
A6
24V-S
27
B8
A7
B6
P1
28
Z8
A8
B1
3
24V EXT
0V EXT
2
3
24V EXT
0V EXT
X48
1
2
3
4
V1
V2
V3
WORKING STROKE
OPENING STROKE
FRONT CONTACT UNITS (1,2)
X49
1
2
3
4
PS1
P
FRONT PRESSURE SWITCH
F2 X6
24V-S
B6
P2
B7
V4
B4
0V-S
B5
X32
X23
A7
3
A8
4
A5
1
A6
2
PS2
P
V4
REAR PRESSURE SWITCH
REAR CONTACT UNIT (3)
1) CONNECTION IF CABLE AND HOSE PACKAGE IS INCLUDED.
6
U
V
GND
1)
1)
1)
WELDING TRANSFORMER
U
V
3 x CONTACT UNITS
V4
V3
V3
AXIS 4
AXIS 5
AXIS 6
WELDING GUN
NOTE! THIS SHEET IS ONLY VALID FOR ROBOTS WITH WAC-SYSTEM
1 COLOUR ON CABLES INTR R415
85 35
Lindqvist
Quick
S Quick/TS
CIRCUIT DIAGRAM
INSTALLATION EQUIPMENT IRB 90/2
ASEA
JBA 84 28
6397 100 - NS
4
5



1) TABLE 1

CABLE NO	VOLTAGE V	FREQUENCY HZ	TERMINAL (POS 35)
131	380 415 440 475 500	50, 60	5 6 7 8 9
134	380-500	50 60	2 3

2) TABLE 2

CABLE NO	VOLTAGE V	FREQUENCY HZ	TERMINAL (POS 11)
112	380, 415 440, 475, 500	50, 60	10 9

3) CONNECTION IF WELDING POWER UNIT IS INCLUDED.

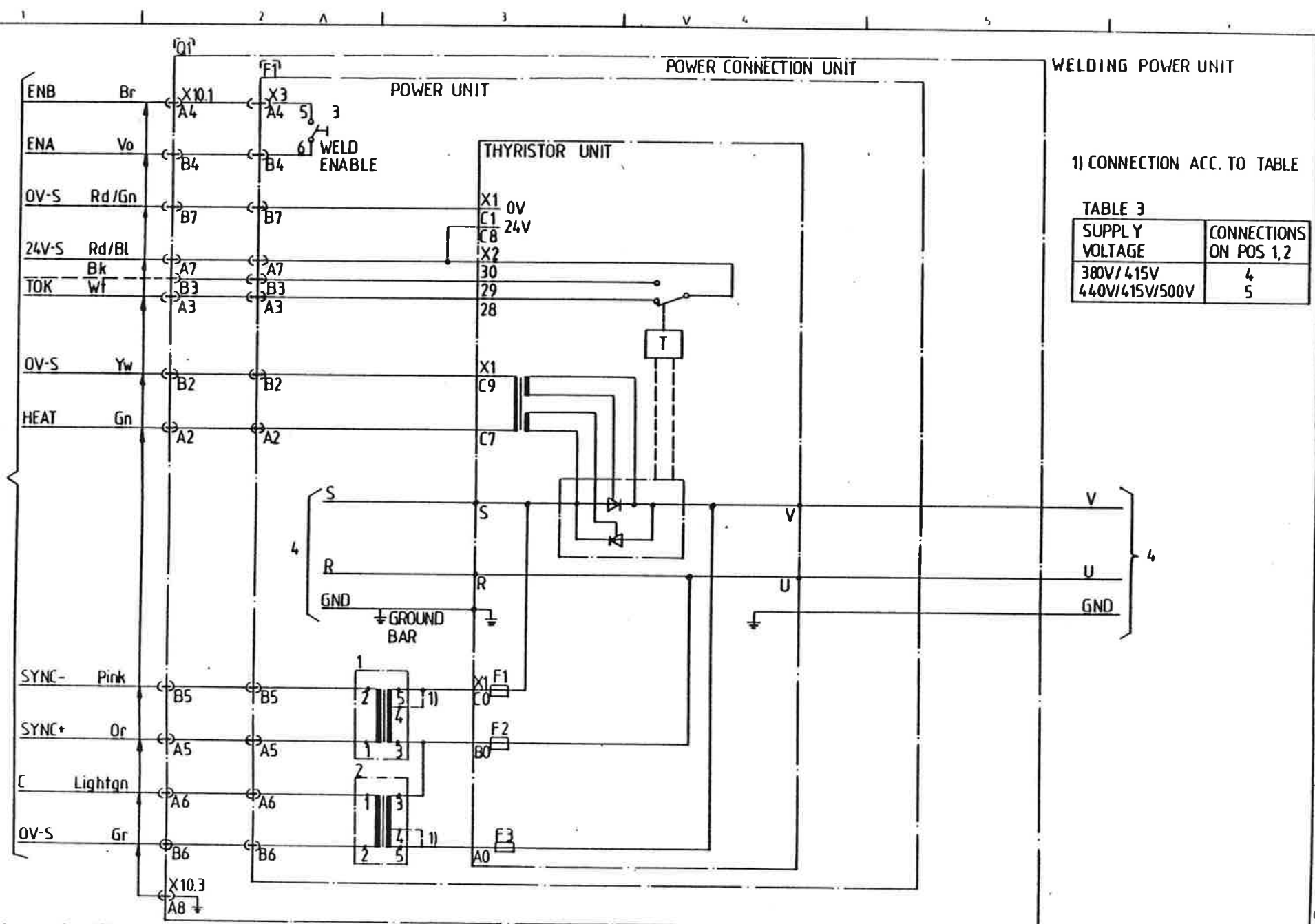
1	CONN FOR 24V-S, FLOW P ADD	R415	SQ	85	35	
Revised	Revision		Appd	Year	Week	

Designed/Checked By: Lindqvist
Drawing Checked By: Quick
Drawn By: S. Quick/TS

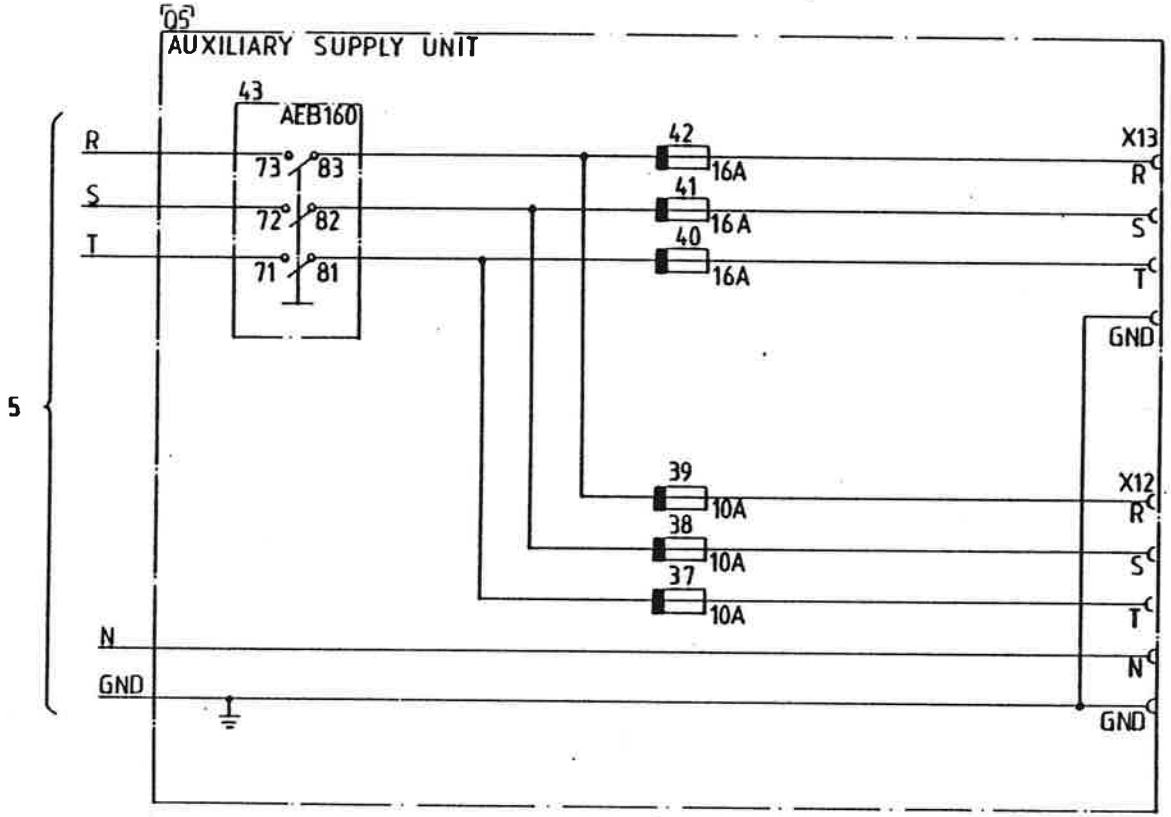
CIRCUIT DIAGRAM
INSTALLATION EQUIPMENT IRB 90/2
ASEA
Ins. by Dept. Year Week: JBA 84 28

6397 100 - NS

Revised | Sheet: 5
Revised | Sheet: Cont 6

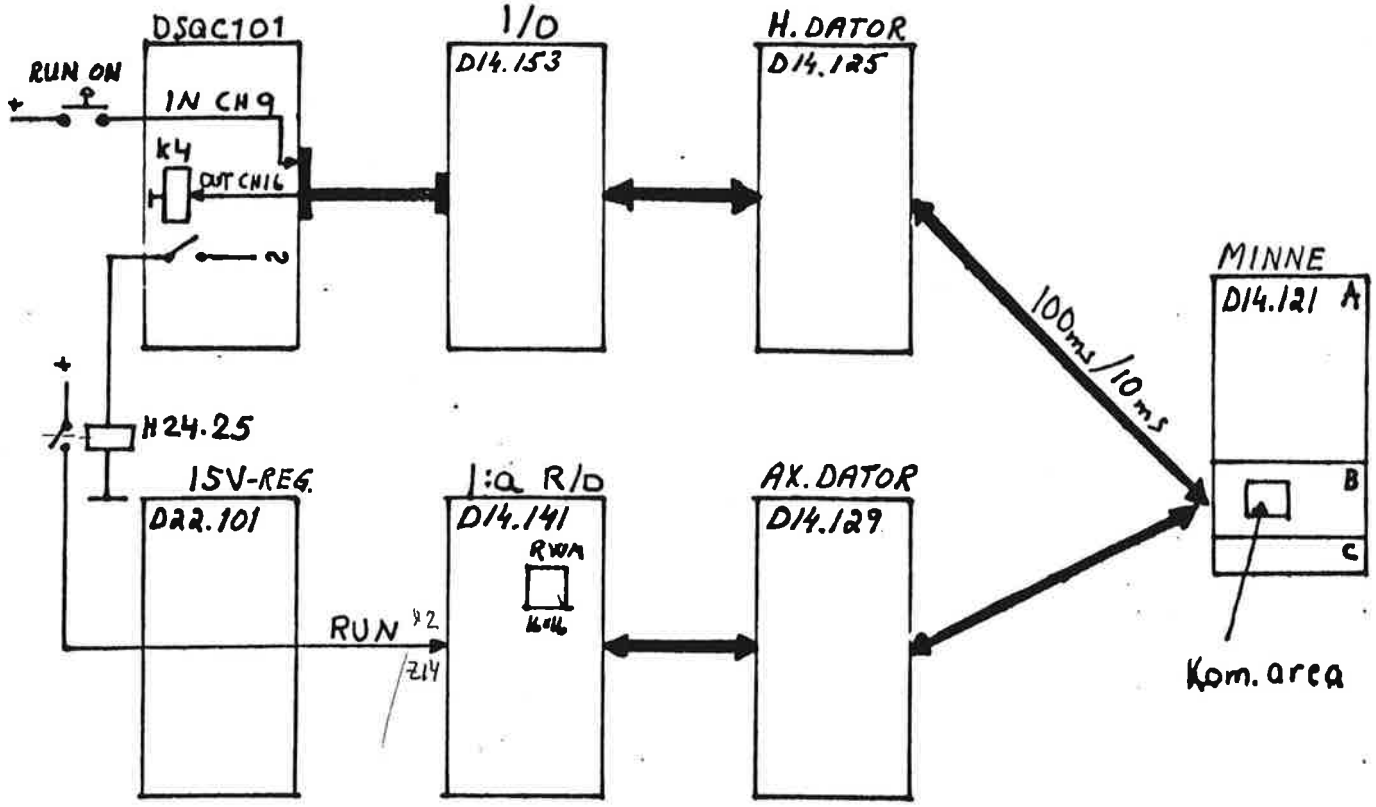

Q1
F1
POWER UNIT
POWER CONNECTION UNIT
WELDING POWER UNIT
THYRISTOR UNIT
ENB Br
ENA Vo
OV-S Rd/Gn
24V-S Rd/Bl
Bk
TOK Wf
OV-S Yw
HEAT Gn
X10.1
X3
WELD ENABLE
X1 0V
C1 24V
C8
X2
30
29
28
T
C9
C7
S
R
GND
GROUND BAR
V
U
GND
4
SYNC- Pink
SYNC+ Or
C Lightgn
OV-S Gr
F1
F2
F3
1)
X10.3
1) CONNECTION ACC. TO TABLE
TABLE 3
SUPPLY VOLTAGE
CONNECTIONS ON POS 1,2
380V/415V
4
440V/415V/500V
5
COLOUR ON CABLES INTR. R 415
CIRCUIT DIAGRAM
INSTALLATION EQUIPMENT IRB 90/2
ASEA
6397 100 - NS
Lindqvist
Quick
S. Quick/TS
JBA 84 28

AUXILIARY SUPPLY UNIT

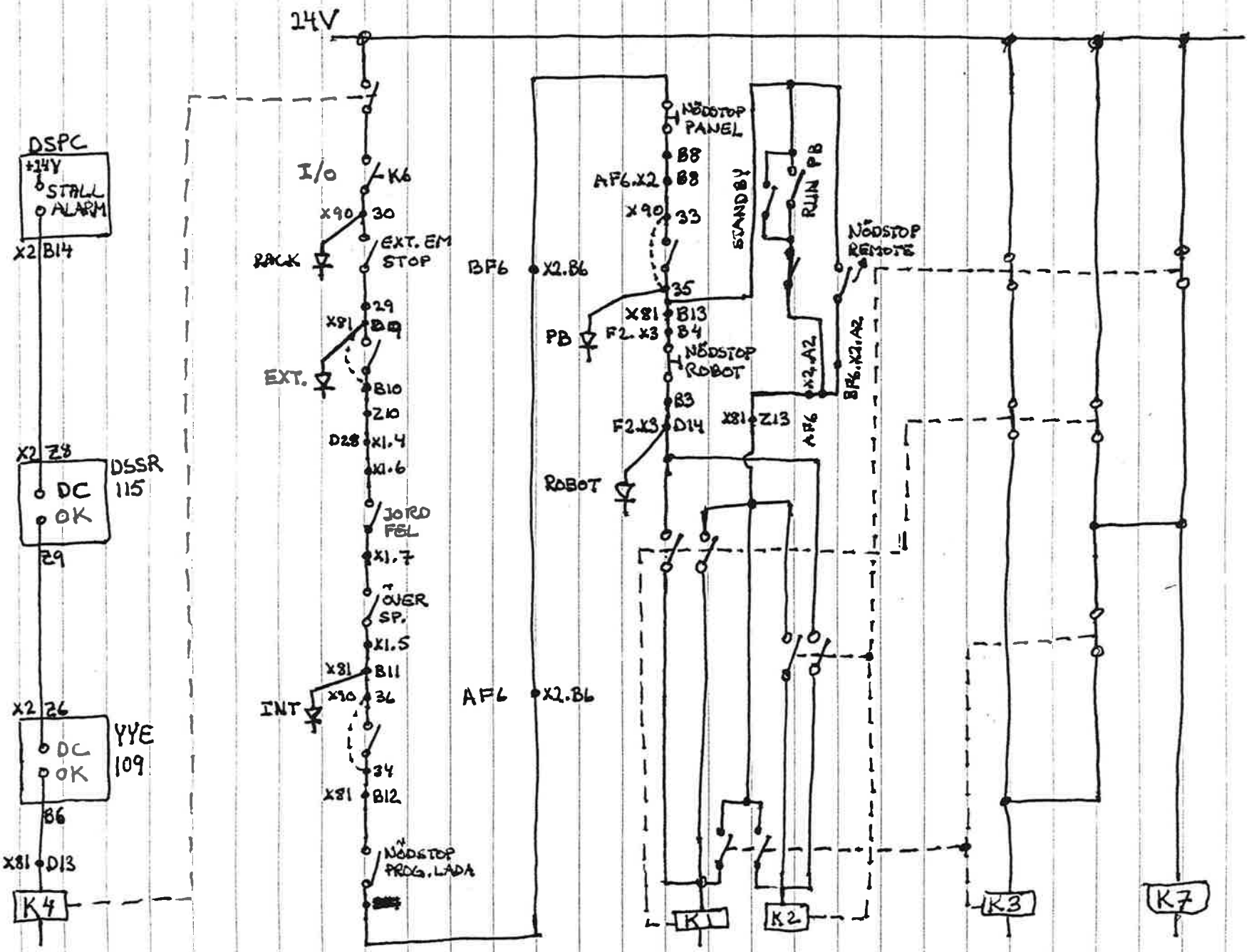


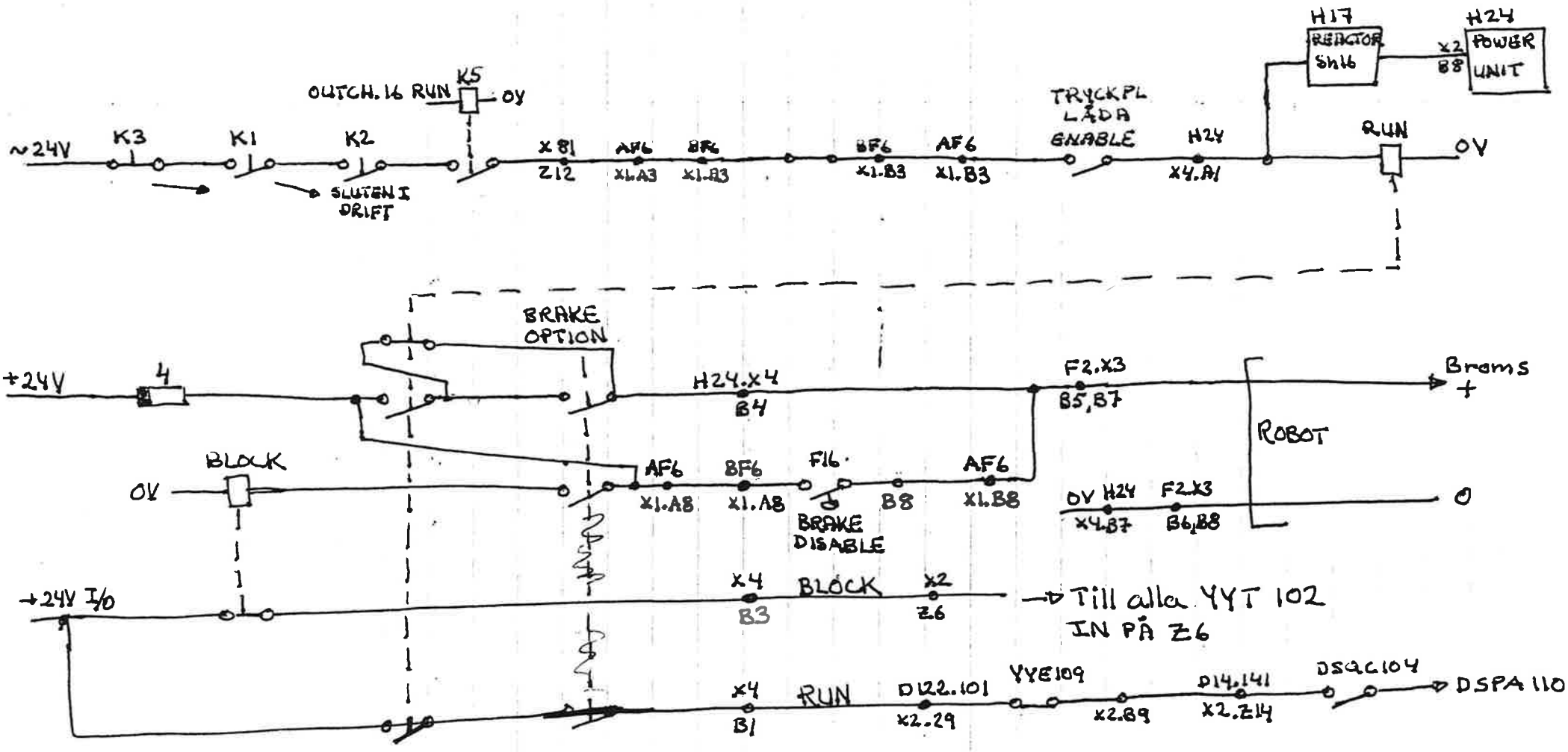
Designed/Checked by Lindqvist	CIRCUIT DIAGRAM		Revised	Sheet
Drawing Checked by Quick	INSTALLATION EQUIPMENT IRB 90/2	6397 100-NS	Revised	Sheet 7
Drawn by S. Quick/TS	ASEA	Ser. by Dept/Year/Week JBA 84 28		Cont —

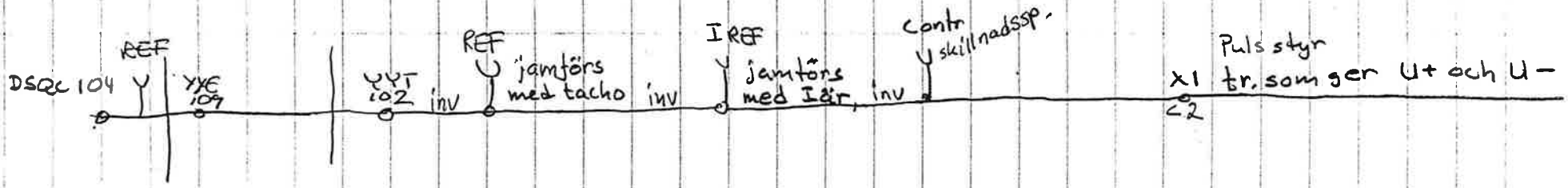
Övervakning av RUN-signalen



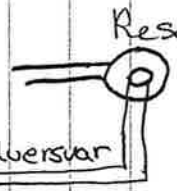
NÖDSTOPP


24V
DSPC
+24V
STALL ALARM
X2 B14
I/O
K6
X90
30
RACK
EXT. EM STOP
29
X81
B9
EXT.
B10
Z10
D28
X1.4
X1.6
JORD FEL
X1.7
ÖVER SP.
X1.5
X81
B11
X90
36
INT
34
X81
B12
NÖDSTOP PROG. LÅDA
BF6
X2.B6
AF6
X2.B6
NÖDSTOP PANEL
B8
AF6.X2
B8
X90
33
35
X81
B13
PB
F2.X3
B4
NÖDSTOP ROBOT
B3
F2.X3
D14
X81
Z13
AF6
ROBOT
STANDBY
RUN PB
NÖDSTOP REMOTE
BF6.X2.A2
X4.A2
X2 Z8
DSSR 115
DC OK
29
X2 Z6
YYE 109
DC OK
86
X81
D13
K4
K1
K2
K3
K7


H17
REACTOR
Sh16
H24
POWER
UNIT
X2
B8
OUTCH. 16 RUN
K5
0V
~24V
K3
K1
K2
SLUTEN I DRIFT
X81
Z12
AF6
X1.A3
BF6
X1.B3
BF6
X1.B3
AF6
X1.B3
TRYCKPL LÅDA ENABLE
H24
X4.A1
RUN
0V
BRAKE OPTION
+24V
4
H24.X4
B4
F2.X3
B5,B7
Broms +
ROBOT
BLOCK
0V
AF6
X1.A8
BF6
X1.A8
F16
BRAKE DISABLE
B8
AF6
X1.B8
0V H24
X4.B7
F2.X3
B6,B8
0
+24V I/O
X4
B3
BLOCK
X2
Z6
Till alla YYT 102
IN PÅ Z6
X4
B1
RUN
D122.101
X2.29
YYE109
X2.B9
D14.141
X2.Z14
DSQC104
DSPA110



DSQC 103 ger sin/cos



DSQC 104 ← FB = Resolversvar
svar jämförs med RRef från DSQC 103.