



ETOR - Desarrollo de Esquemas Electricos en CAD

Apdo. 143

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CLIENTE	:	CLIENTE
MODELO	:	MODELO DE MAQUINA
CONTROL NUMERICO	:	CONTROL NUMERICO
AUTOMATA PLC	:	AUTOMATA
SISTEMA DE REGULACION	:	REGULADORES
TENSION DE ALIMENTACION	:	380VAC / 50HZ
TENSION DE MANIOBRA	:	24VDC
POTENCIA MAQUINA	:	80 KW
INTENSIDAD MAQUINA	:	125 A
Sistema CAE	:	SEE ELECTRICAL EXPERT



DIBUJADO OSCAR
FECHA 20-03-2003

MODELO HZ-40

VERIFICADO OSCAR
FECHA 04/02/2008

Nº ESQUEMA B028-708\0872

PORTADA

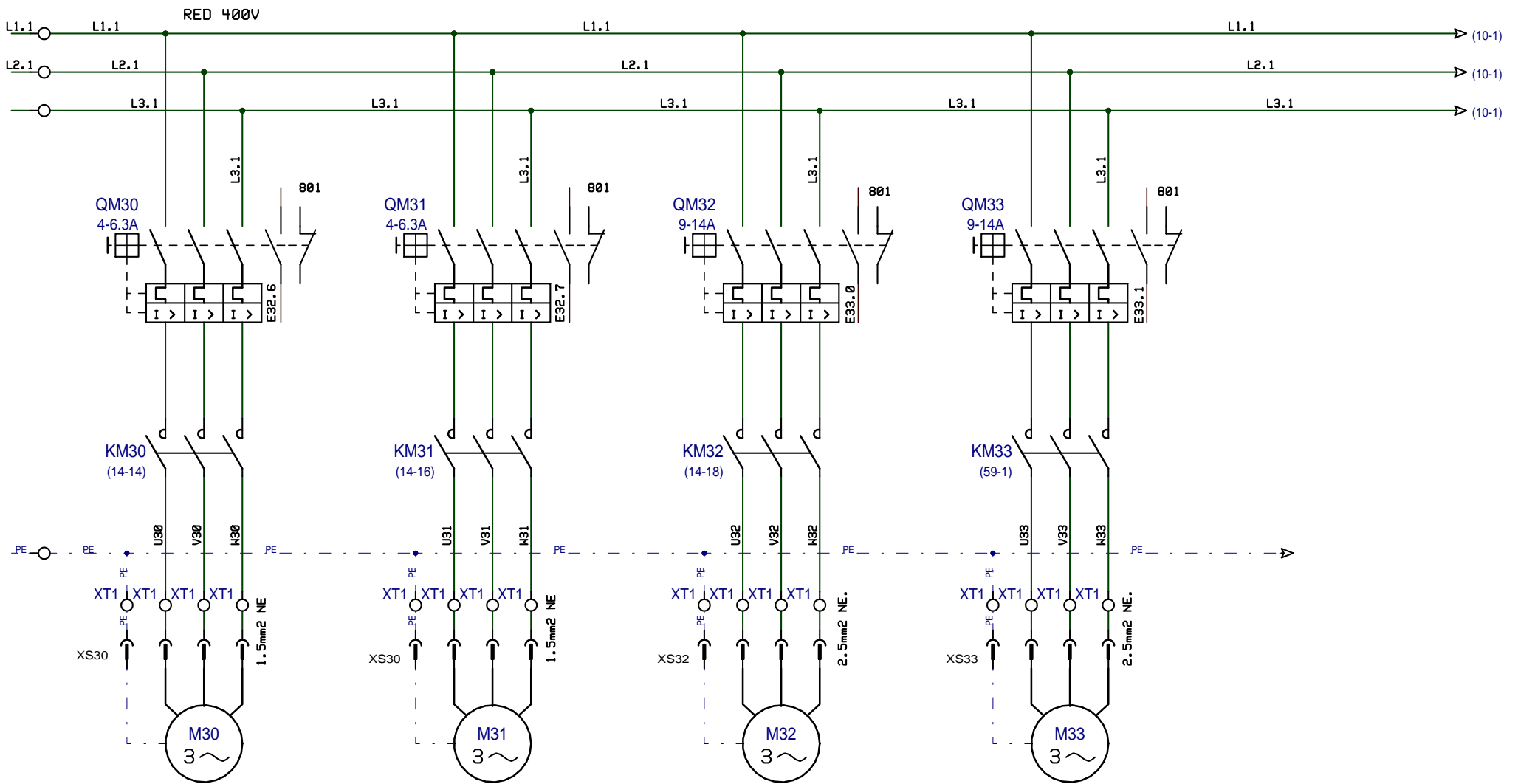
GRUPO / FOLIO / TOTAL
H / 01 / 29

◀ 01 02 ▶
Programa SEE Electrical Expert v. 3.00

A
B
C
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F
G
H
I
J

GRUPO/ FOLIO	DESIGNACION
H 01	PORTADA
H 02	LISTA DE FOLIOS
H 03	FUERZA
H 04	EMERGENCIA COMPOSICION
H 05	EMERGENCIA PNOZ - m1p
H 06	EMERGENCIA PNOZ - m1p
H 07	CLIMATIZADOR ALUMBRADO TRASERO
H 08	DIAGRAMA CONEX. 840D
H 09	DIAGRAMA CONEX. 840D
H 10	F. ALIMENTACION
H 11	EJES Y1-Y2
H 12	CAPTACION
H 13	ENTRADAS PLC E37.0-E37.7
H 14	SALIDAS PLC A40.0-A40.7
H 15	PANEL DE MANDOS AUX.
H 16	PANEL DE MANDOS AUX.
H 17	RESUMEN X/Y PLC
H 18	ARMARIO - MANIOBRA
H 19	BOTONERA GENERAL
H 20	LISTA FANUC
H 21	LISTA MATERIAL
H 22	Bornero : XT XT - 2/3
H 23	FOTOS MAQUINA EXTERIOR ARMARIO
H 24	FOTOS MAQUINA DETALLE ARMARIO
H 25	FOTOS MAQUINA VISTA TRASERA BOTONERA
H 26	MACRO EPLAN
H 27	MACRO EPLAN
H 28	MACROS EPLAN
H 29	MACRO EPLAN PILZ

GRUPO/ FOLIO	DESIGNACION



REFRIGERACION
EXTERIOR 1

2.2KW-1500RPM
5.3A-380V

REFRIGERACION
EXTERIOR 2

2.2KW-1500RPM
5.3A-380V

REFRIGERACION
INTERNA 1

4.6KW-1500RPM
10.05A-380V

REFRIGERACION
INTERNA 2

4.6KW-1500RPM
10.05A-380V

COMPOSICION EMERGENCIA PILZ



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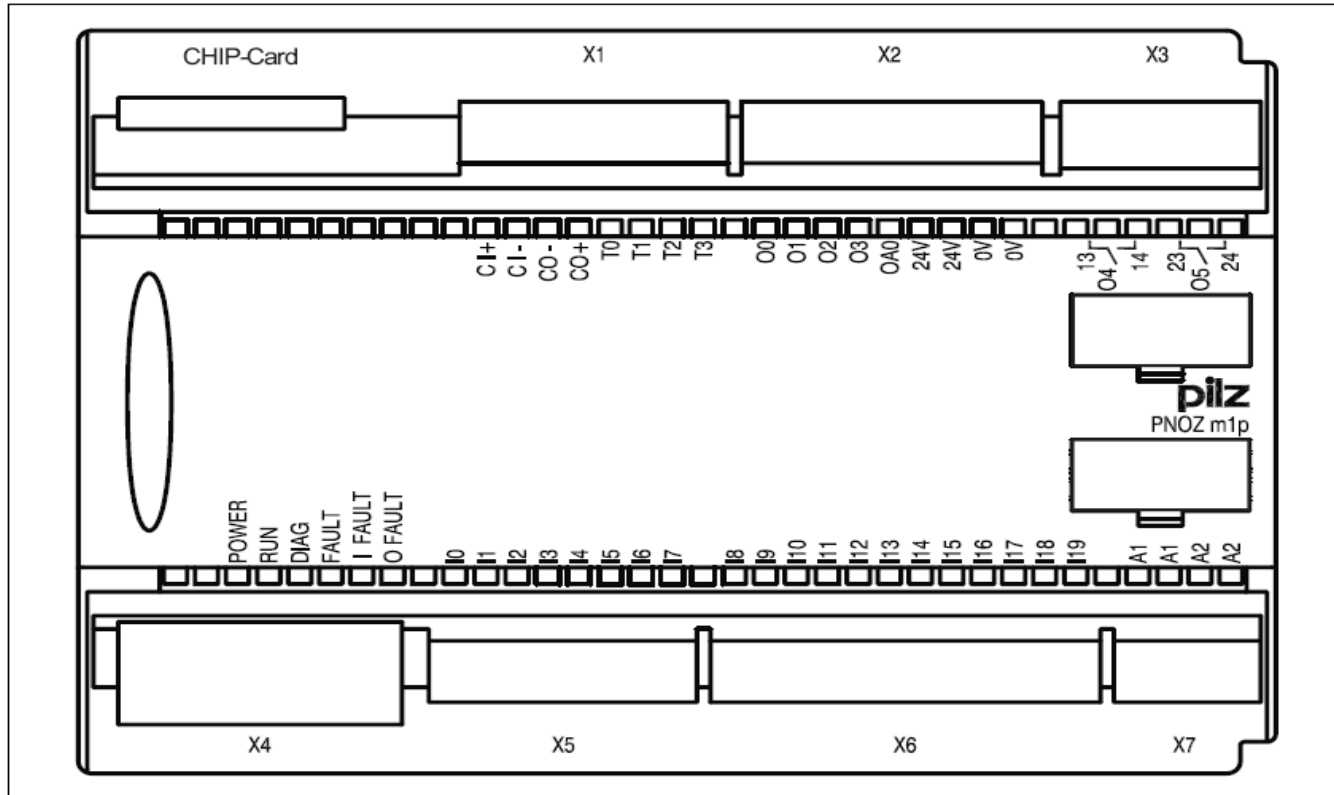
**EMERGENCIA
COMPOSICION**

GRUPO / FOLIO / TOTAL
H / 04 / 29

◀ 03 05 ▶

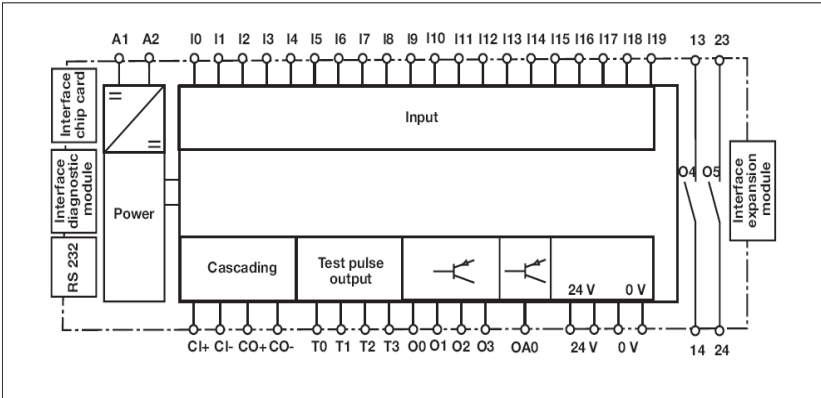


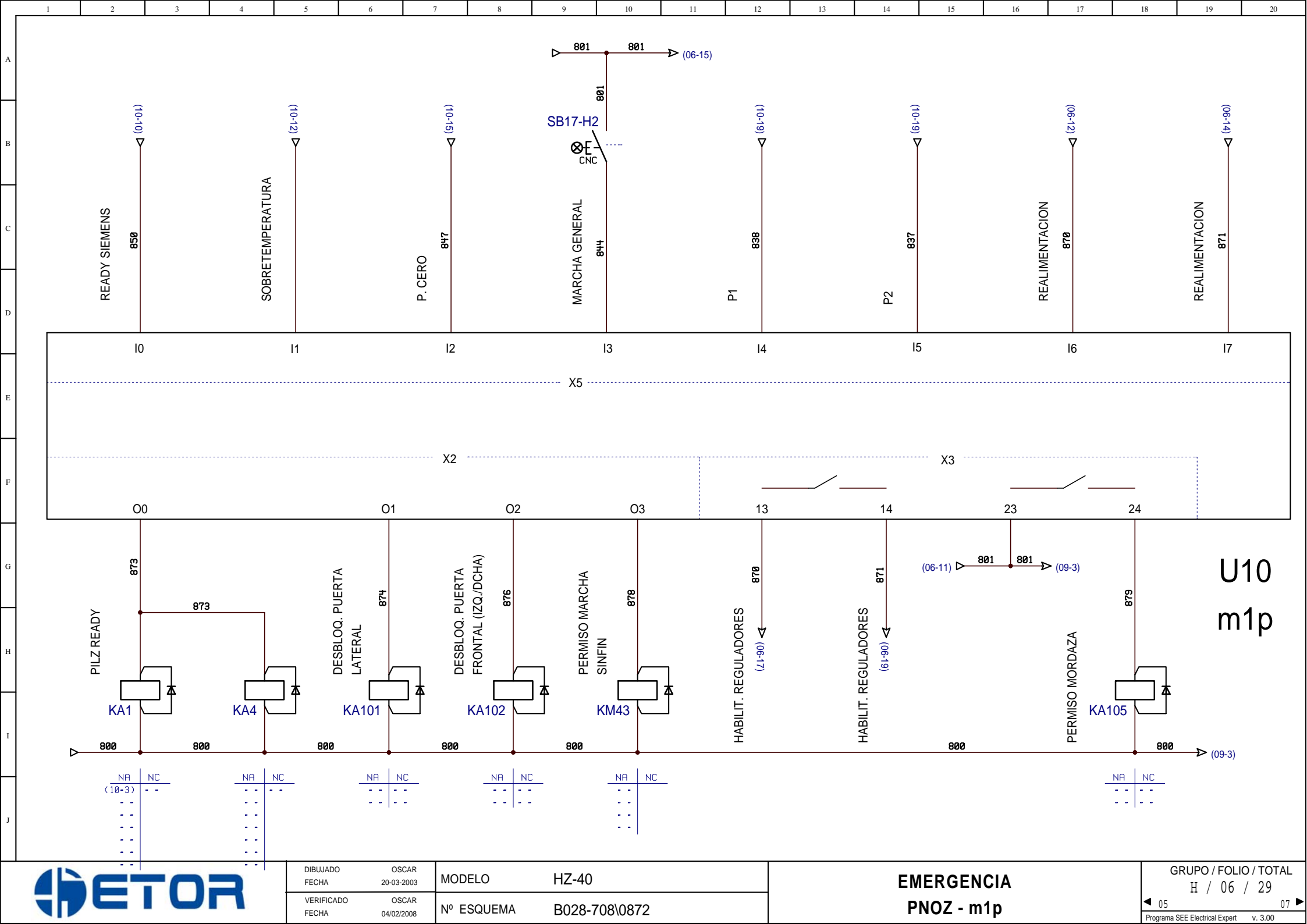
Terminal configuration



Base units PNOZ m1p

Block diagram





DIBUJADO OSCAR
FECHA 20-03-2003

VERIFICADO OSCAR
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MODELO HZ-40

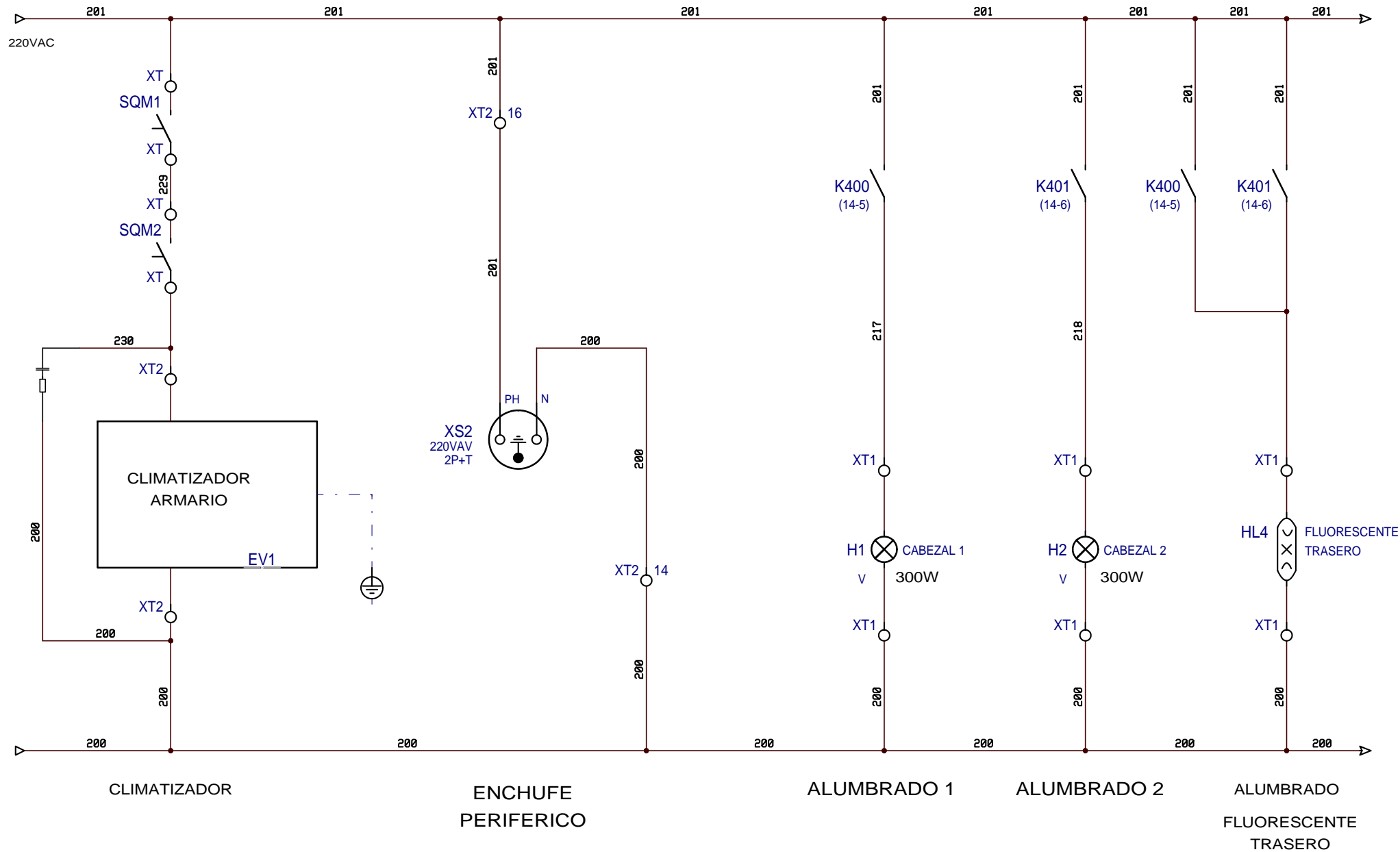
Nº ESQUEMA B028-708/0872

EMERGENCIA
PNOZ - m1p

GRUPO / FOLIO / TOTAL
H / 06 / 29

◀ 05 07 ▶

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CLIMATIZADOR

ENCHUFE
PERIFERICO

ALUMBRADO 1

ALUMBRADO 2

ALUMBRADO
FLUORESCENTE
TRASERO



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FECHA 20-03-2003

VERIFICADO OSCAR
FECHA 04/02/2008

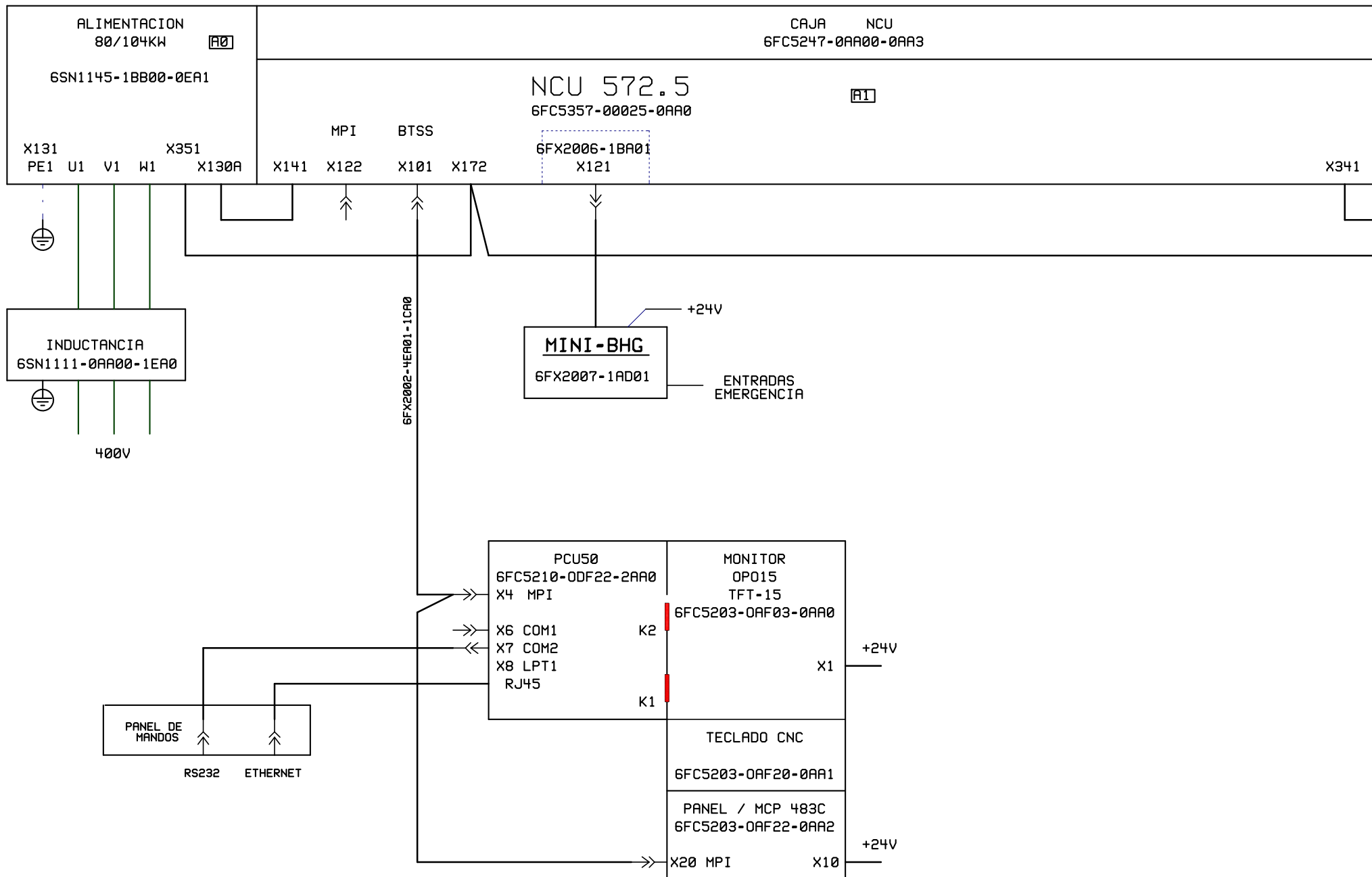
MODELO HZ-40

Nº ESQUEMA B028-708\0872

**CLIMATIZADOR
ALUMBRADO TRASERO**

GRUPO / FOLIO / TOTAL
H / 07 / 29

◀ 06 08 ▶
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DIBUJADO OSCAR
FECHA 20-03-2003

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FECHA 04/02/2008

MODELO HZ-40

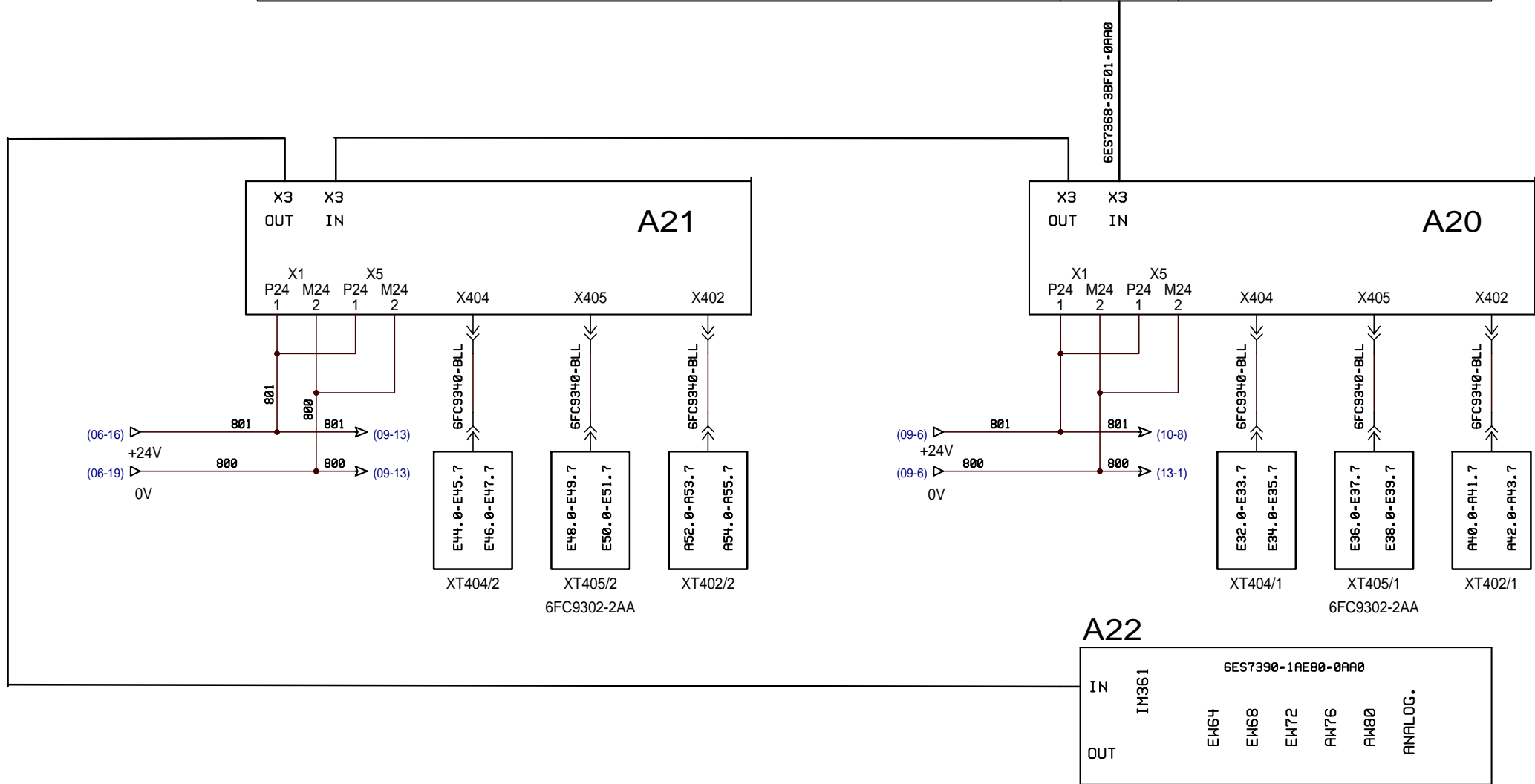
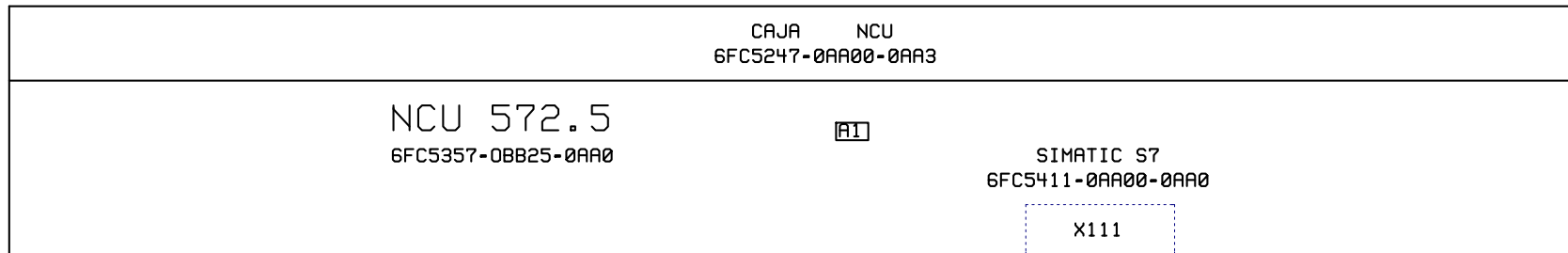
Nº ESQUEMA B028-708\0872

DIAGRAMA CONEX. 840D

GRUPO / FOLIO / TOTAL
H / 08 / 29

◀ 07 09 ▶

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FECHA 20-03-2003

VERIFICADO OSCAR
FECHA 04/02/2008

MODELO HZ-40

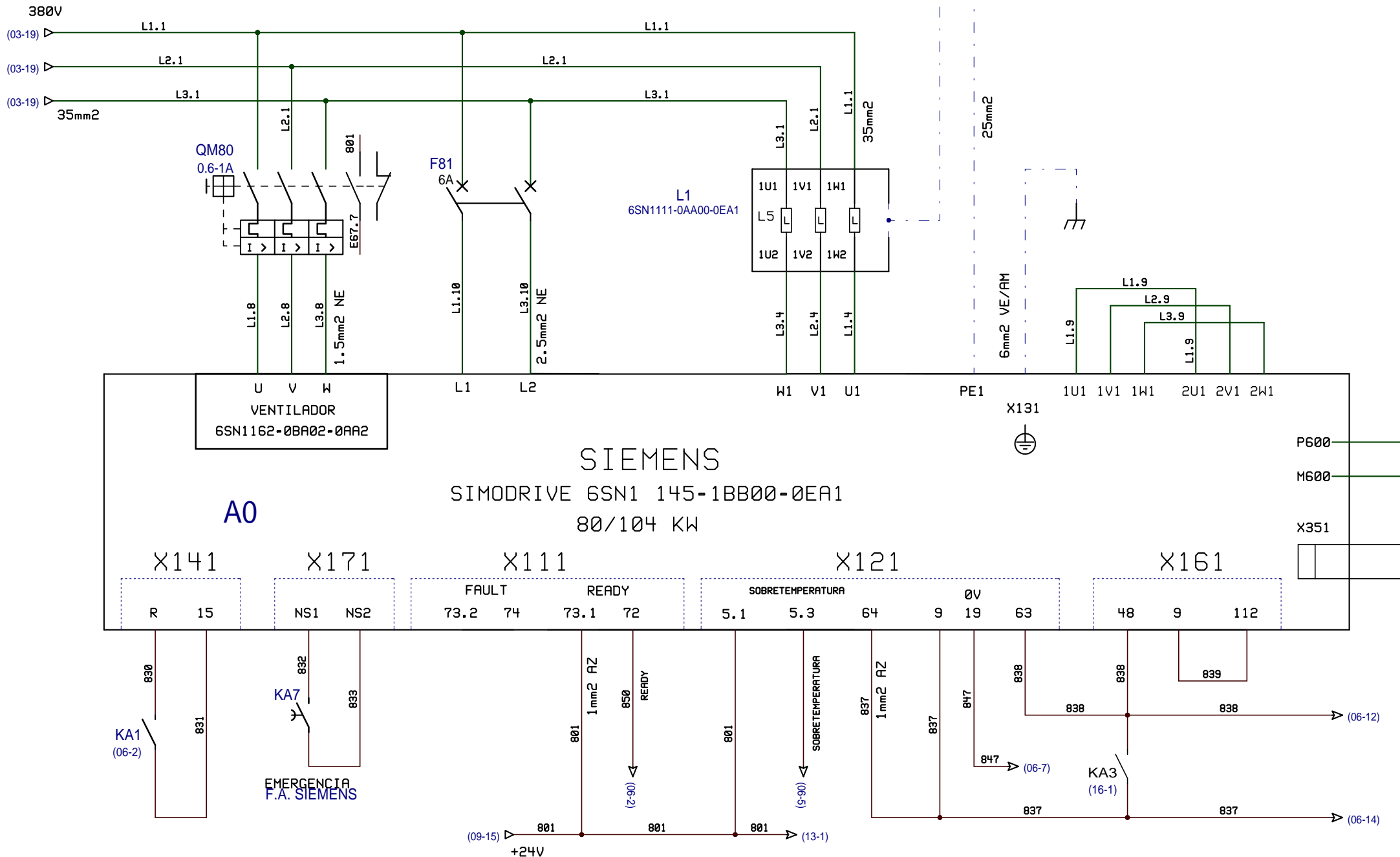
Nº ESQUEMA B028-708/0872

DIAGRAMA CONEX. 840D

GRUPO / FOLIO / TOTAL
H / 09 / 29

◀ 08 10 ▶

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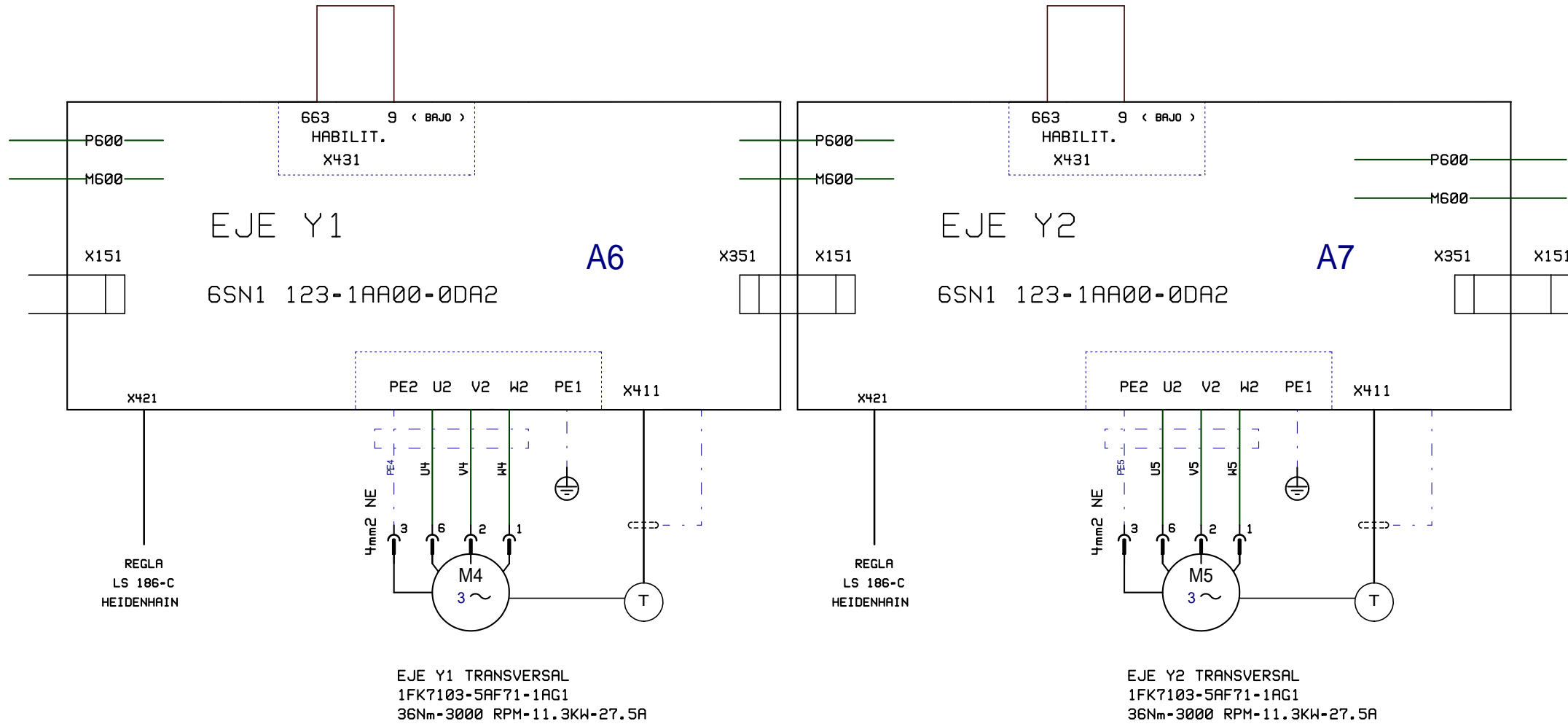
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FECHA 20-03-2003

VERIFICADO OSCAR
FECHA 04/02/2008

MODELO HZ-40

Nº ESQUEMA B028-708\0872

F. ALIMENTACION



EJE Y1 TRANSVERSAL
 1FK7103-5AF71-1AG1
 36Nm-3000 RPM-11.3KW-27.5A

EJE Y2 TRANSVERSAL
 1FK7103-5AF71-1AG1
 36Nm-3000 RPM-11.3KW-27.5A

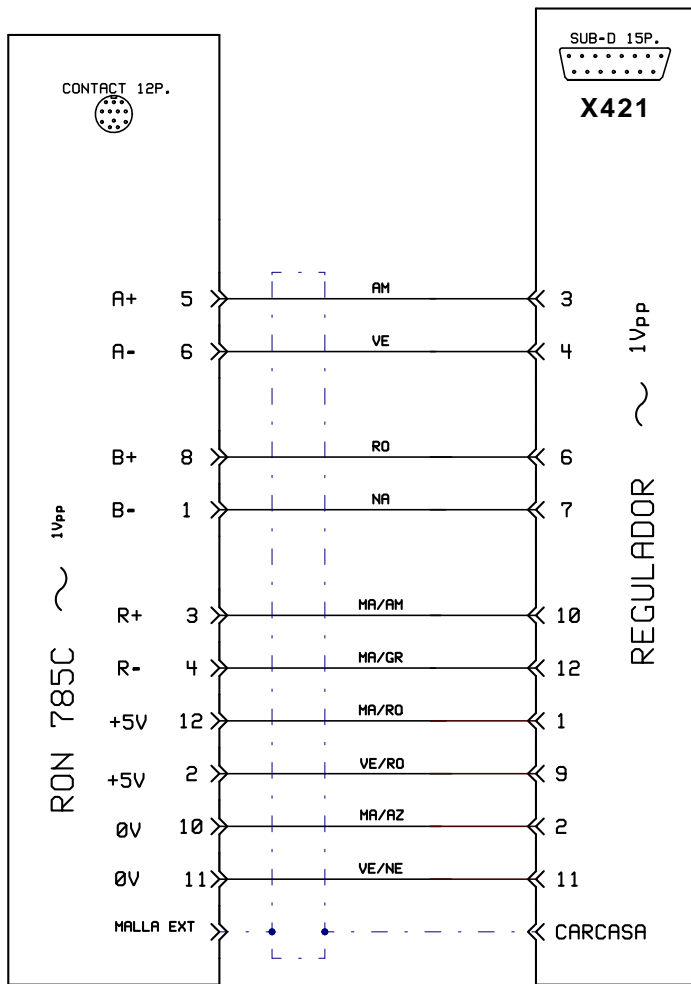


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 FECHA 20-03-2003
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 FECHA 04/02/2008

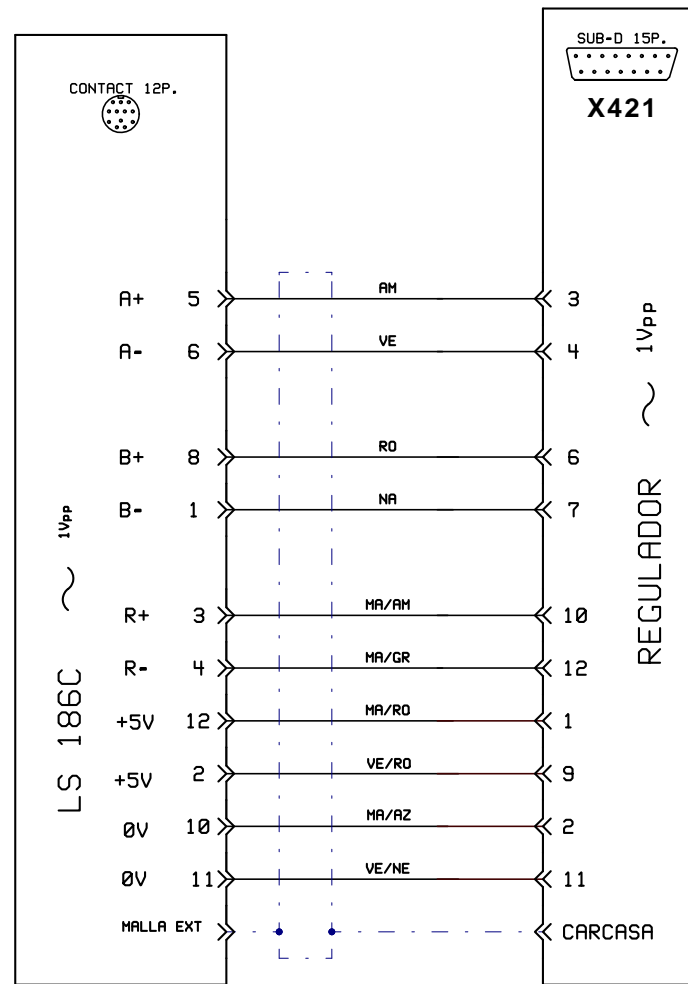
MODELO HZ-40
 Nº ESQUEMA B028-708/0872

EJES Y1-Y2

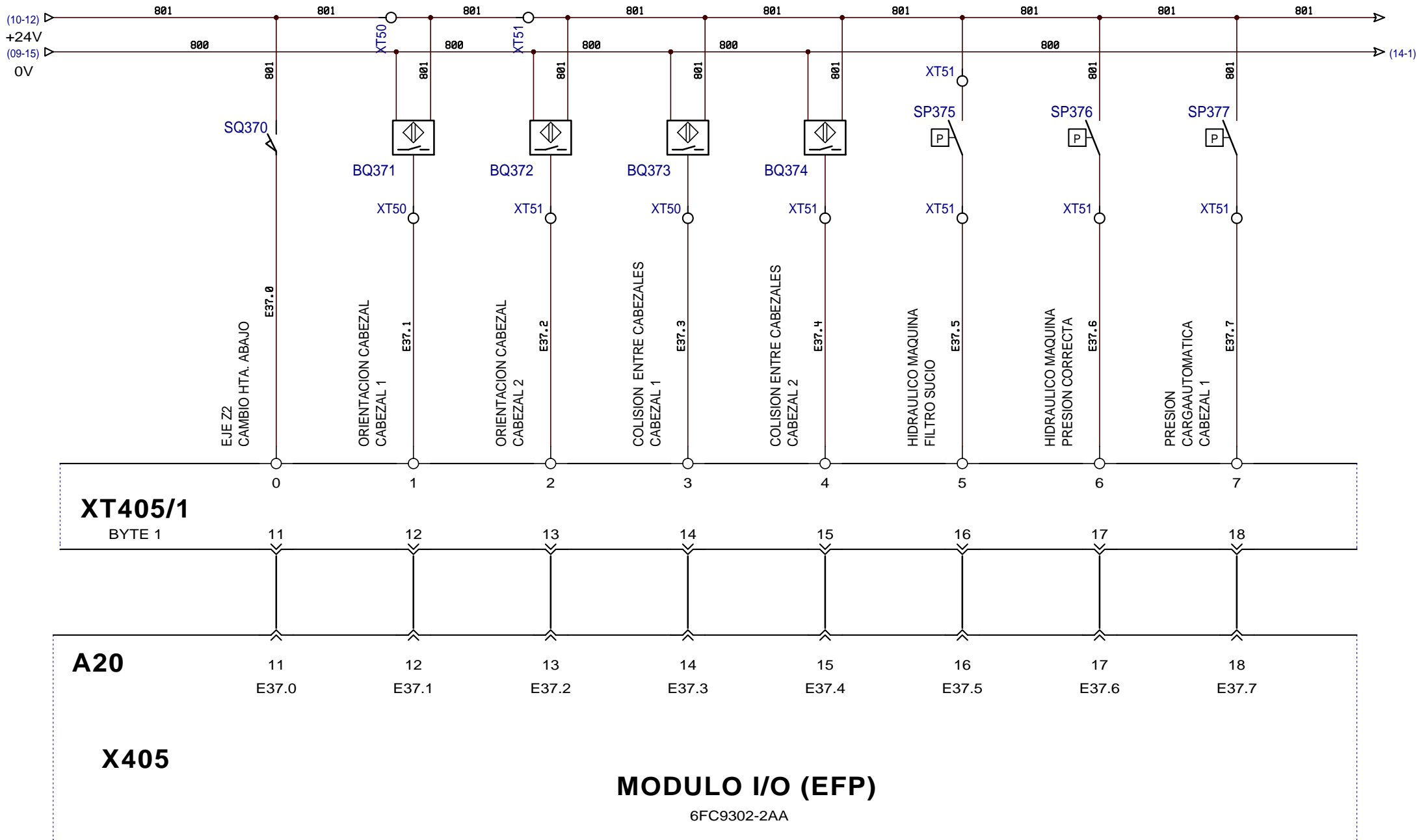
GRUPO / FOLIO / TOTAL
 H / 11 / 29
 ◀ 10 12 ▶
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CAPTACION EJE C



CAPTACION EJES Y1-Y2



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FECHA 04/02/2008

MODELO HZ-40

Nº ESQUEMA B028-708\0872

ENTRADAS PLC
E37.0-E37.7

GRUPO / FOLIO / TOTAL
H / 13 / 29

◀ 12 14 ▶

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A20

MODULO I/O (EFP)

6FC9302-2AA

X402

A40.0

A40.1

A40.2

A40.3

A40.4

A40.5

A40.6

A40.7

3

4

5

6

7

8

9

10

3

4

5

6

7

8

9

10

XT402/1

BYTE 0

0

1

2

3

4

5

6

7

FRENO EJE Z1
RH0.0

FRENO EJE Z2
RH0.1

MOTOR HIDRAULICO
MAQUINA
RH0.2

MOTOR HIDRAULICO
FRENOS DIVISOR
RH0.3

MOTOR HIDRAULICO
DIVISOR
RH0.4

REFRIGERACION
EXTERNA 1
RH0.5

REFRIGERACION
EXTERNA 2
RH0.6

REFRIGERACION
INTERNA 1
RH0.7

K400

K401

KM20

KM21

KM22

KM30

KM31

KM32

(13-20)
OV

800

800

800

800

800

800

800

800

800

NA	NC
(07-13)	--
(07-17)	--

NA	NC
(07-16)	--
(07-19)	--

NA	NC
--	--
--	--
--	--

NA	NC
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NA	NC
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NA	NC
P(03-4)	
P(03-4)	
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NA	NC
P(03-7)	
P(03-7)	
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NA	NC
P(03-11)	
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FECHA 20-03-2003

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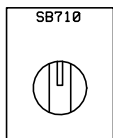
MODELO HZ-40

Nº ESQUEMA B028-708\0872

SALIDAS PLC
A40.0-A40.7

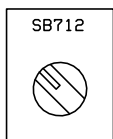
CABEZAL 1

GIRO ALMACEN



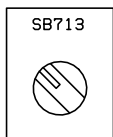
E71.0 / - 91
E71.1 / - 91
100-⊗-150

EXTRACTOR DE VAHO



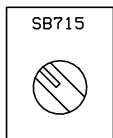
E71.2 / - 91

SINFIN



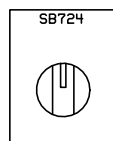
E71.3 / - 91
E71.4 / - 91

ALUMBRADO



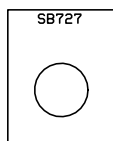
E71.5 / - 91

CANALES CNC



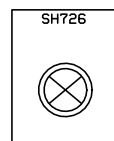
E72.4 / - 91
E72.5 / - 91

PARO CICLO



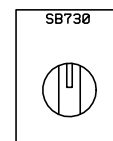
E72.7 / - 91

MARCHA CICLO



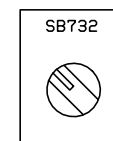
E72.6 / - 91
100-⊗-152

GARRAS PLATO



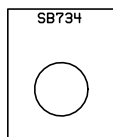
E73.0 / - 91
E73.1 / - 91
100-⊗-153

AMARRA HTA.



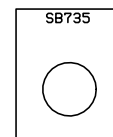
E73.2 / - 91

CERRAR PUERTA



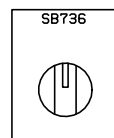
E73.4 / - 91

ABRIR PUERTA



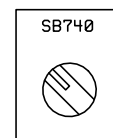
E73.5 / - 91

EXTRACTOR DE VIRUTAS



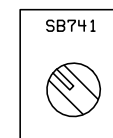
E73.6 / - 91
E73.7 / - 91

PISTOLA DE AGUA



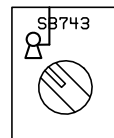
E74.0 / - 91

LASER



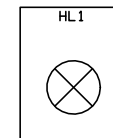
E74.1 / - 91

ABRIR PUERTAS



E74.3 / - 91

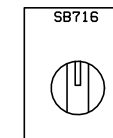
FEED HOLD



100-⊗-154

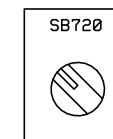
CABEZAL 2

GIRO ALMACEN



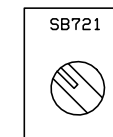
E71.6 / - 91
E71.7 / - 91
100-⊗-151

EXTRACTOR DE VAHO



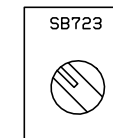
E72.0 / - 91

SINFIN



E72.1 / - 91
E72.2 / - 91

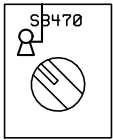
ALUMBRADO



E72.3 / - 91

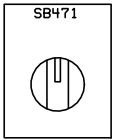
BOTONERA ALMACEN 1

ABRIR PUERTAS



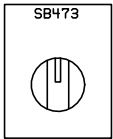
E47.0 - 91

GIRO ALMACEN
IZDA/DCHA



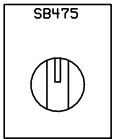
E47.1 - 91
E47.2 - 91

ALMACEN
SUBIR/BAJAR



E47.3 - 91
E47.4 - 91

ALMACEN
ENTRAR/SALIR



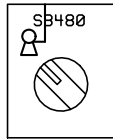
E47.5 - 91
E47.6 - 91



865 - 863
E46.4 - E46.3

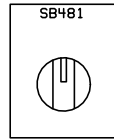
BOTONERA ALMACEN 2

ABRIR PUERTAS



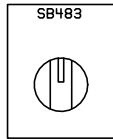
E48.0 - 91

GIRO ALMACEN
IZDA/DCHA



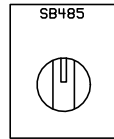
E48.1 - 91
E48.2 - 91

ALMACEN
SUBIR/BAJAR



E48.3 - 91
E48.4 - 91

ALMACEN
ENTRAR/SALIR



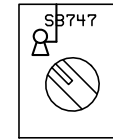
E48.5 - 91
E48.6 - 91



863 - 861
E46.3 - E46.2

BOTONERA TRASERA

ABRIR PUERTAS



E74.7 - 91



859 - 857
E46.1 - E46.0

A

B

C

D

E

F

G

H

I

J

BORNA PLC	PAG.	Nº HILO	SIMB.	TEXTO FUNCION
		1		
X0.0	11	2	KA1100	SERVICIO GENERAL OK
X0.1	52	3	KM5000	NO POWER REG. FANUC
X0.2		4		
X0.3	15	5	KA1501	HANDWHEEL ENABLED
X0.4	91	6	SQ9143	BOTONERA CARGA / DESCARGA ABATIDA
X0.5		7		
X0.6		8		
X0.7		9		
X1.0		10		
X1.1	18	11	SB1841	ABRIR PUERTA TRASERA
X1.2	17	12	KA1701	PUERTA ACCESO HTA. CERRADA BLOQ.
X1.3	18	13	KA1801	PUERTA TRASERA CERRADA BLOQ.
X1.4	21	14	KA1411	MODO SEMI
X1.5	21	15	KA1412	MODO AUTO
X1.6	13	16	SA1300	MAQUINA INTEGRADA EN CELULA
X1.7	21	17	KA1410	MODO SETTING

BORNA PLC	PAG.	Nº HILO	SIMB.	TEXTO FUNCION
		1		
X4.0	32	2	QM3100	FALLO TERMICO ENGRASE MAQUINA
X4.1	32	3	SL3241	NIVEL ENGRASE MAQUINA OK
X4.2	32	4	SP3242	PRESION ENGRASE MAQUINA OK
X4.3		5		
X4.4	90	6	QM9000	TERMICO EXTRACTOR DE VAHOS
X4.5		7		
X4.6	20	8	KA1901	BARRERA PROTECCION CERRADA
X4.7	73	9		MEASURING PROBE
X5.0	10	10	FR1000	CURRENT SUPPLY SOLENOIDVALVES
X5.1	37	11	SL3754	TERMPERATURA MOTOR REFRIGERACION ALTA PRESION
X5.2	37	12	QM3400	TERMICO REFRIGERACION ALTA PRESION 28 BAR
X5.3	37	13	QM3401	TERMICO REFRIGERACION ALTA PRESION 14 BAR
X5.4	37	14	QM3402	TERMICO REFRIGERACION BAJA PRESION
X5.5	37	15	QM3500	TERMICO TRANSVASE
X5.6	37	16	QM3501	TERMICO LIMPIEZA TAMBOR
X5.7	37	17	QM3502	TERMICO TAMBOR

BORNA PLC	PAG.	Nº HILO	SIMB.	TEXTO FUNCION
		1		
X2.0	91	2	SH9140	ATAR PIEZA OP-10
X2.1	91	3	SB9141	SOLTAR PIEZA OP-10
X2.2	91	4	SH9142	AUTORIZACION CICLO
X2.3	29	5	KM2800	HIDRAULICO
X2.4	29	6	QM2800	TERMICO HIDRAULICO
X2.5	29	7	SP2942	PRESION HIDRAULICO OK
X2.6	29	8	SF2943	FILTRO HIDRAULICO NO SUCIO
X2.7		9		
X3.0	91	10	SH9144	ATAR PIEZA OP-20
X3.1	29	11	SL2944	NO NIVEL MIN. HIDRAULICO
X3.2	29	12	ST2945	TEMPERATURA OK
X3.3	29	13	ST2945	TEMPERATURA ALTA GRUPO HIDRAULICO
X3.4	27	14	SP2740	PRESION GENERAL AIRE
X3.5		15		
X3.6	38	16	SB3840	REVERSE CONVEYOR
X3.7	38	17	SQ3841	CONVEYOR BLOCKED CONTROL

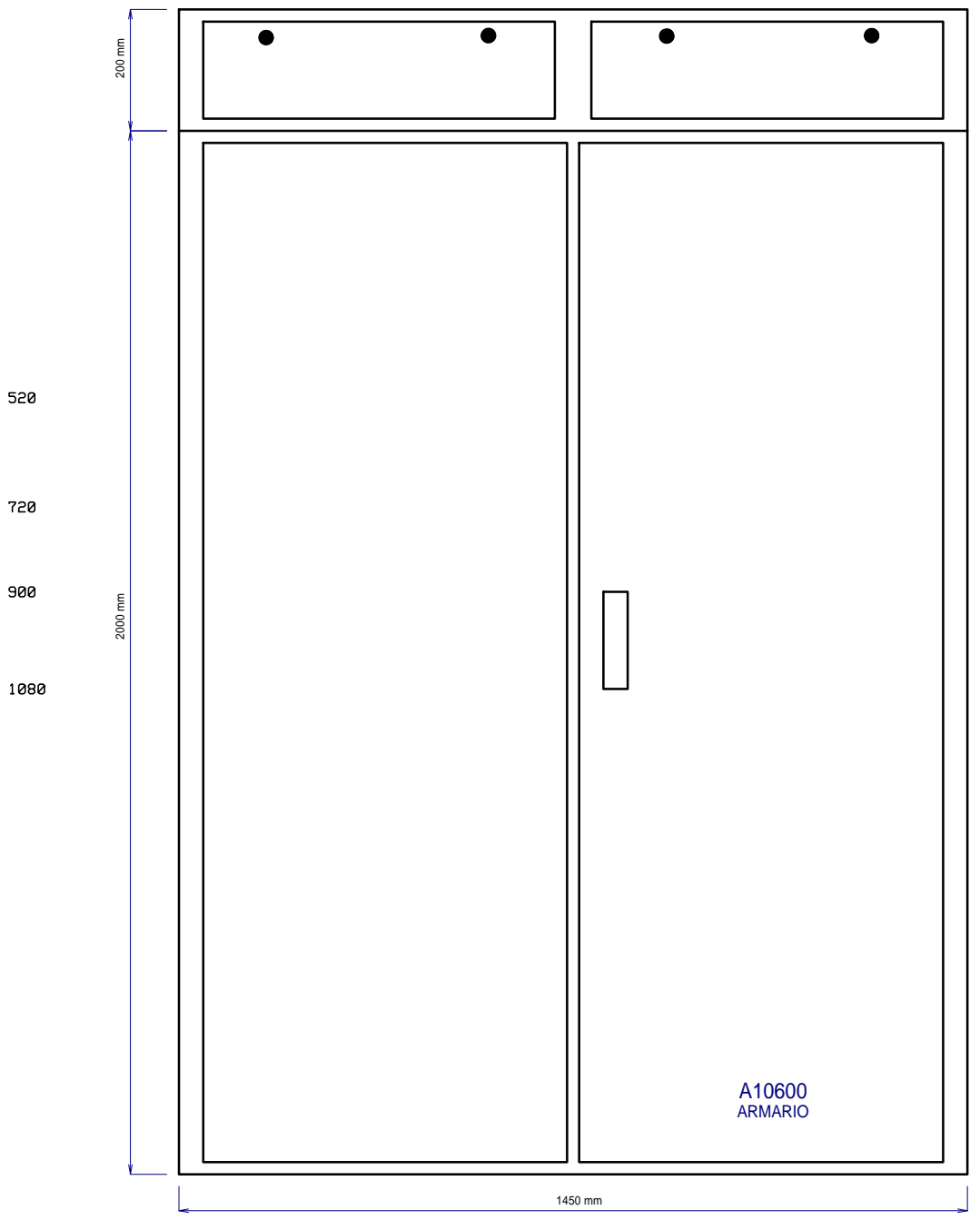
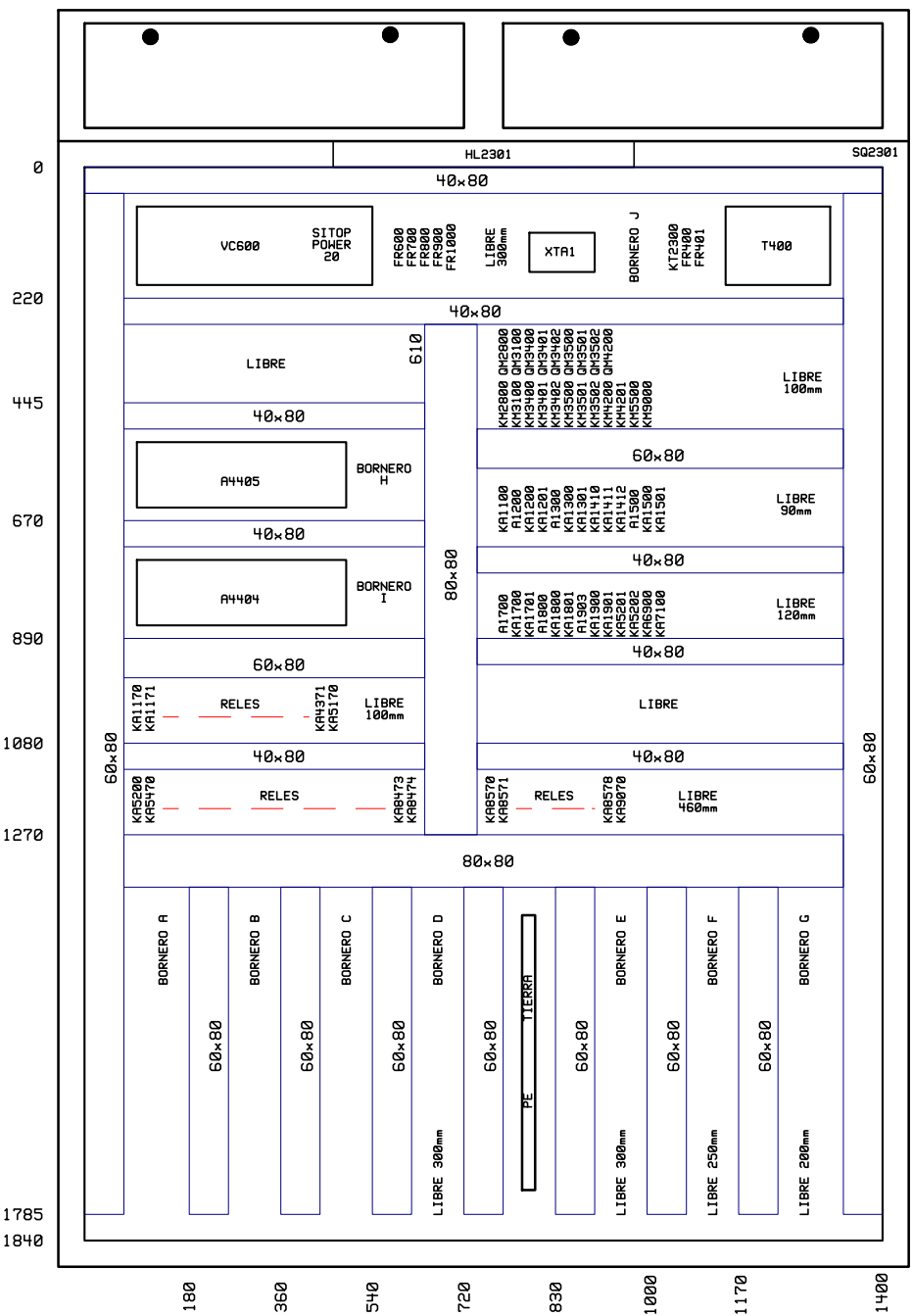
BORNA PLC	PAG.	Nº HILO	SIMB.	TEXTO FUNCION
		1		
X6.0	37	2	SL3746	CAUDAL BAJA PRESION
X6.1	37	3	SL3747	CAUDAL ALTA PRESION
X6.2	37	4	SL3748	CAUDAL LIMPIEZA TAMBOR
X6.3	37	5	SL3749	NIVEL MIN. DE LIMPIO
X6.4	37	6	SL3750	NIVEL MAX. DE LIMPIO
X6.5	37	7	SL3751	NIVEL MAX. DE SUCIO
X6.6	37	8	SL3752	NIVEL ALARMA TAMBOR
X6.7	37	9	SL3753	NIVEL PARADA TAMBOR
X7.0		10		
X7.1		11		
X7.2		12		
X7.3	56	13		NIVEL REFRIGERACION CABEZAL OK
X7.4	56	14	KM5500	REFRIGERACION CABEZAL EN MARCHA
X7.5	56	15	QM5500	TERMICO REFRIGERACION CABEZAL
X7.6	56	16	N5500	TEMPERATURA REFRIGERACION CABEZAL OK
X7.7	56	17	SL5644	CAUDAL REFRIGERACION CABEZAL OK



DIBUJADO FECHA	OSCAR 20-03-2003	MODELO	HZ-40
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RESUMEN X/Y PLC
























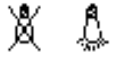











2000x1450x350



DIBUJADO OSCAR
FECHA 20-03-2003
VERIFICADO OSCAR
FECHA 04/02/2008

MODELO HZ-40
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ARMARIO - MANIOBRA

	FAULT RESET		TOOL LOCKING		EMERGENCY		FORWARD SWARF CONVEYOR
	MACHINE IN SERVICE		TOOL UNLOCKING		POWER ON		REVERSE SWARF CONVEYOR
	ACTION		GENERAL RETURN		POWER OFF		LAMP TEST
	REVERSE ACTION		LOCAL / CELL		REFERENCE		MACHINE EMPTYING
	PORTABLE PANNEL CONNECTION		PART TYPE CONFIRMATION		LUBRICATION START		SECURITY CANCEL
	SETTING-MANU-AUTO		PART TYPE SELECTION		COOLANT ON/OFF		CELL CYCLE ENABLE
	MACHINE LIGHTING		PART CLAMPING		CLOSE DOOR		OPEN REAR DOOR
	CYCLE START		PART UNCLAMPING		OPEN SIDE DOOR		OPEN DOOR
	CONFIRMATION OPERATOR NOT INSIDE		OPEN DOORS		OPEN ACCESS TOOL DOOR		CLOSE ACCESS TOOL DOOR

* NOTE: SOME OF THE COMMANDS IN THIS INDEX CORRESPOND TO OPTIONAL DEVICES AND CAN NOT BE INSTALLED DEPENDING ON THE MACHINE CONFIGURATION

1	CNC & DRIVES DS500HS3 180iB-B-MPP360-I-GMN			
2	CODE D+S: E2003FAN007			
3				
4	Quantity	PartNumber	Description	Remarks
5	6	A03B0807-J154	16 OUTPUT MODULE 0.5A	
6	1	A02B-0236-C205	Separate Detector Interface Unit	FANUC COMPONENTS
7	1	A02B-0283-B801	Basic Unit, 1 Slot	
8	1	A02B-0281-H115	Power Supply Unit	
9	1	A02B-0283-H002	CPU Card, PENTIUM®, DRAM 32 MB	
10	1	A02B-0283-H200	Main CPU Board	
11	1	A02B-0281-H046	Memory G, FROM/SRAM, 32M/512KB	
12	1	A02B-0281-H084	Servo Control Card, 8 Axes, 6 Axes for Dual Check Safety	
13	1	A02B-0281-H034	MDI Card C1/D1 for is-MODEL B, with Ethernet	
14	1	A02B-0281-J571/656A	Control Software, for Embedded Ethernet	
15	1	A02B-0284-H501/BDH1	Basic Function	
16	1	A02B-0284-J501/BDH1	Option Assembly 1	
17	1	A02B-0284-J502/BDH1	Option Assembly 2	
18	1	A02B-0236-H590/90B0	Digital Servo Function	
19	1	A02B-0281-H580/406G	PMC-SB7 Function	
20	1	A02B-0283-H984	PMC-SB7 Ladder 24,000 Steps	
21	1	A02B-0239-H193	Name Plate, GE Fanuc 180i-M	
22	1	A02B-0265-H171	Name Plate, GE Fanuc	
23	1	A02B-0265-J193	Blank Panel C	
24	1	A02B-0281-J207	CNC Side HSSB Interface Board, Type 2	
25	1	A13B-0193-B032	CNC Display Unit 6, Windows® 2000 Professional, 10.4" Color, Softkeys	
26	1	A08B-0082-H005	Main Memory 2, 128MB	
27	1	A08B-0082-H040	CPU Card B2-10, CELERON, 10.4" LCD	
28	1	A08B-0082-H110	Hard-Disk Unit, for Mounting to Basic Unit	
29	1	A08B-0082-J002	PCI Extension Board, Fitting Plate 2	
30	1	A08B-0082-J005	Cover for PCI Extension Board	
31	1	A02B-0207-K793	Panel i Driver Disk	
32	1	A02B-0207-K730	FOCAS1/HSSB for Windows® 95/Windows® NT	
33	1	A02B-0281-J316	PROFIBUS Interface Board, Slave	
34	1	A02B-0222-J535/6557	PROFIBUS Application Software	
35	1	A02B-0236-J563/6553	PROFIBUS Slave Firmware	
36	1	A02B-0284-S732	PROFIBUS DP Slave Function	
37	1	A02B-0236-C230	Operator's Panel (Main Panel A)	



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LISTA FANUC

DENOMINACION	CANTIDAD	REFERENCIA	DESCRIPCION	FOLIO	FABRICANTE	LOCALIZACION
A0	1	6SN1145-1BA01-	MODULO ALIMENTACION 55KW	36	SIEMENS	
A1	1	6FC5357-0BB33-		37		
A2	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	38	SIEMENS	
A3	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	39	SIEMENS	
A4	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	40	SIEMENS	
A5	1	6SN1112-1AC01-	MODULO VIGILANCIA	41	SIEMENS	
A6	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	42	SIEMENS	
A7	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	42	SIEMENS	
A8	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	43	SIEMENS	
A9	1	6SN1123-1AA00-	REGULADOR AVANCE INTERFA.CONFORTABLE	43	SIEMENS	
EV1	1	SK 3304	CLIMATIZADOR PARED	21	RITTAL	
F1	1	20874	MAGNETOTERMICO BI C32N 10A CURVA D	15	MERLIN G	
F3	1	27884	MAGNETOTERMICO I-4A CURVA C	15	MERLIN-G	
F4	1	20874	MAGNETOTERMICO BI C32N 10A CURVA D	14	MERLIN G	
F5	1	27885	MAGNETOTERMICO I-6A CURVA C	14	MERLIN-G	
F6	1	24628	MAGNETOTERMICO I-4A	14	MERLIN-G	
F7	1	27882	MAGNETOTERMICO I-2A CURVA C	14	MERLIN-G	
GS1	1	8708680000	ALIMENTACION 24VDC 10A	15	SIEMENS	
GS2	1	8708680000	ALIMENTACION 24VDC 10A	15	SIEMENS	
HL1	1	DL1CE		22		
KM21	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	58	TELEMECANIQUE	
KM22	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	58	TELEMECANIQUE	
KM30	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	58	TELEMECANIQUE	
KM31	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	58	TELEMECANIQUE	
KM32	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	58	TELEMECANIQUE	
KM33	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	59	TELEMECANIQUE	
KM34	1	LP4.KO910BW3	CONTACTOR 4KW / 24VDC	59	TELEMECANIQUE	



DIBUJADO OSCAR
FECHA 20-03-2003

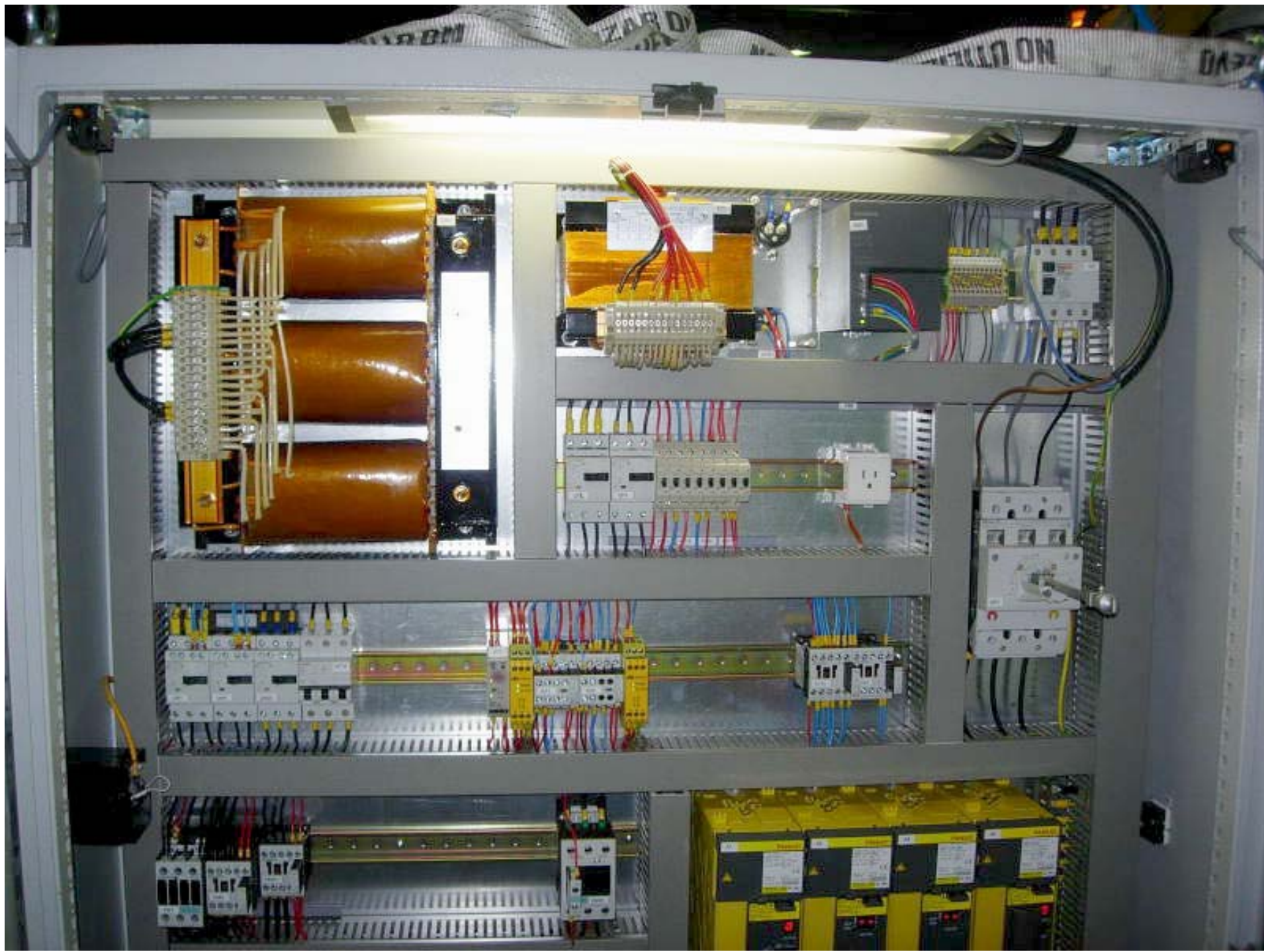
VERIFICADO OSCAR
FECHA 04/02/2008

MODELO HZ-40

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LISTA MATERIAL

GRUPO / FOLIO / TOTAL
H / 21 / 29



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MODELO	HZ-40
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**FOTOS MAQUINA
EXTERIOR ARMARIO**



DIBUJADO OSCAR
FECHA 20-03-2003

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FECHA 04/02/2008

MODELO HZ-40

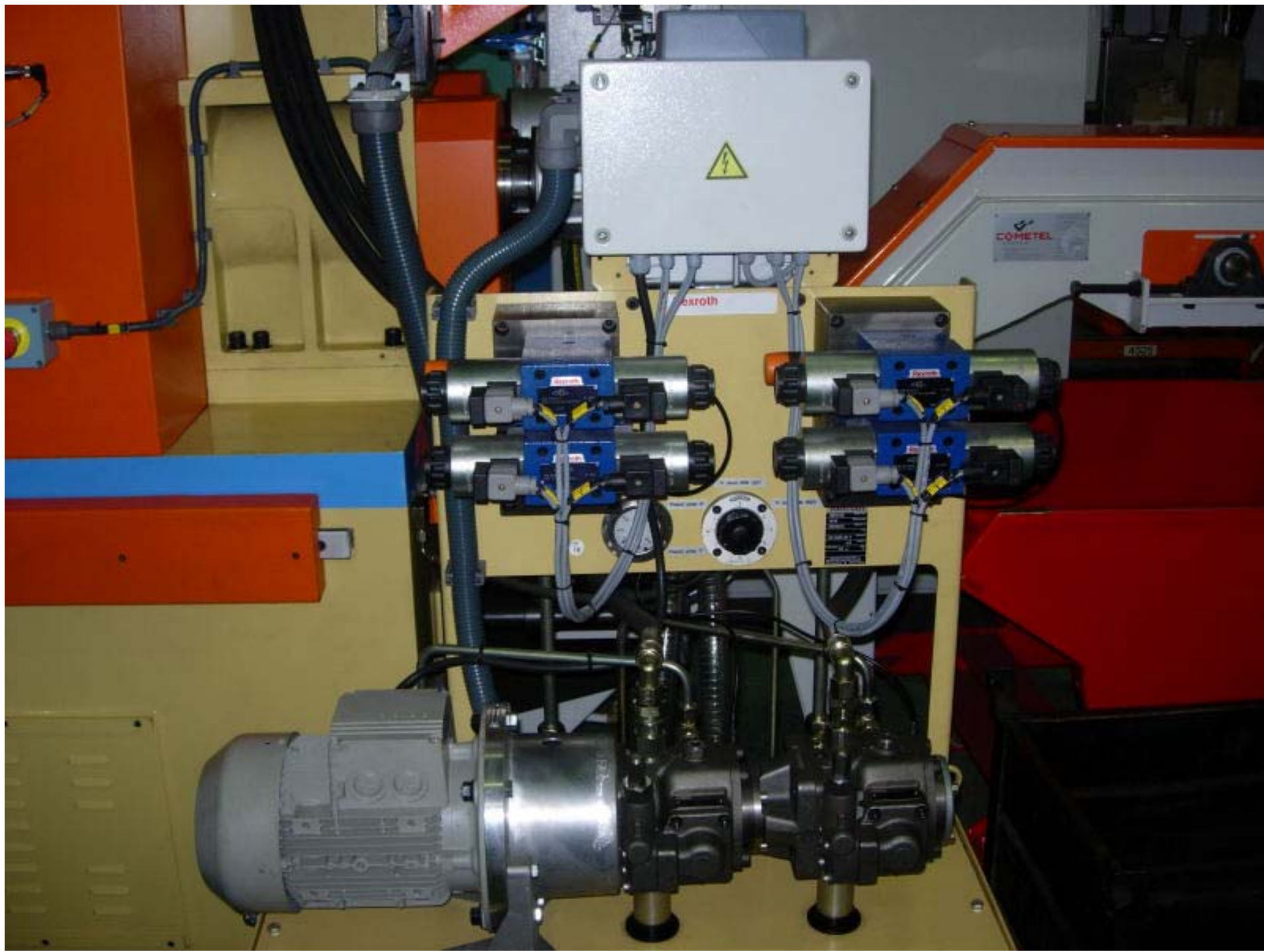
Nº ESQUEMA B028-708\0872

**FOTOS MAQUINA
DETALLE ARMARIO**

GRUPO / FOLIO / TOTAL
H / 24 / 29

◀ 23 25 ▶

Programa SEE Electrical Expert v. 3.00



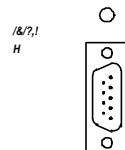
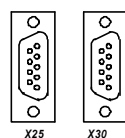
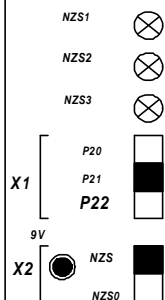
DIBUJADO FECHA	OSCAR 20-03-2003
VERIFICADO FECHA	OSCAR 04/02/2008

MODELO	HZ-40
Nº ESQUEMA	B028-708\0872

**FOTOS MAQUINA
VISTA TRASERA BOTONERA**

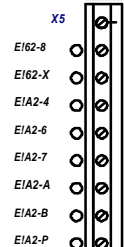
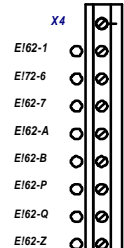
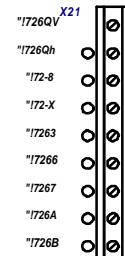
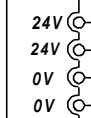
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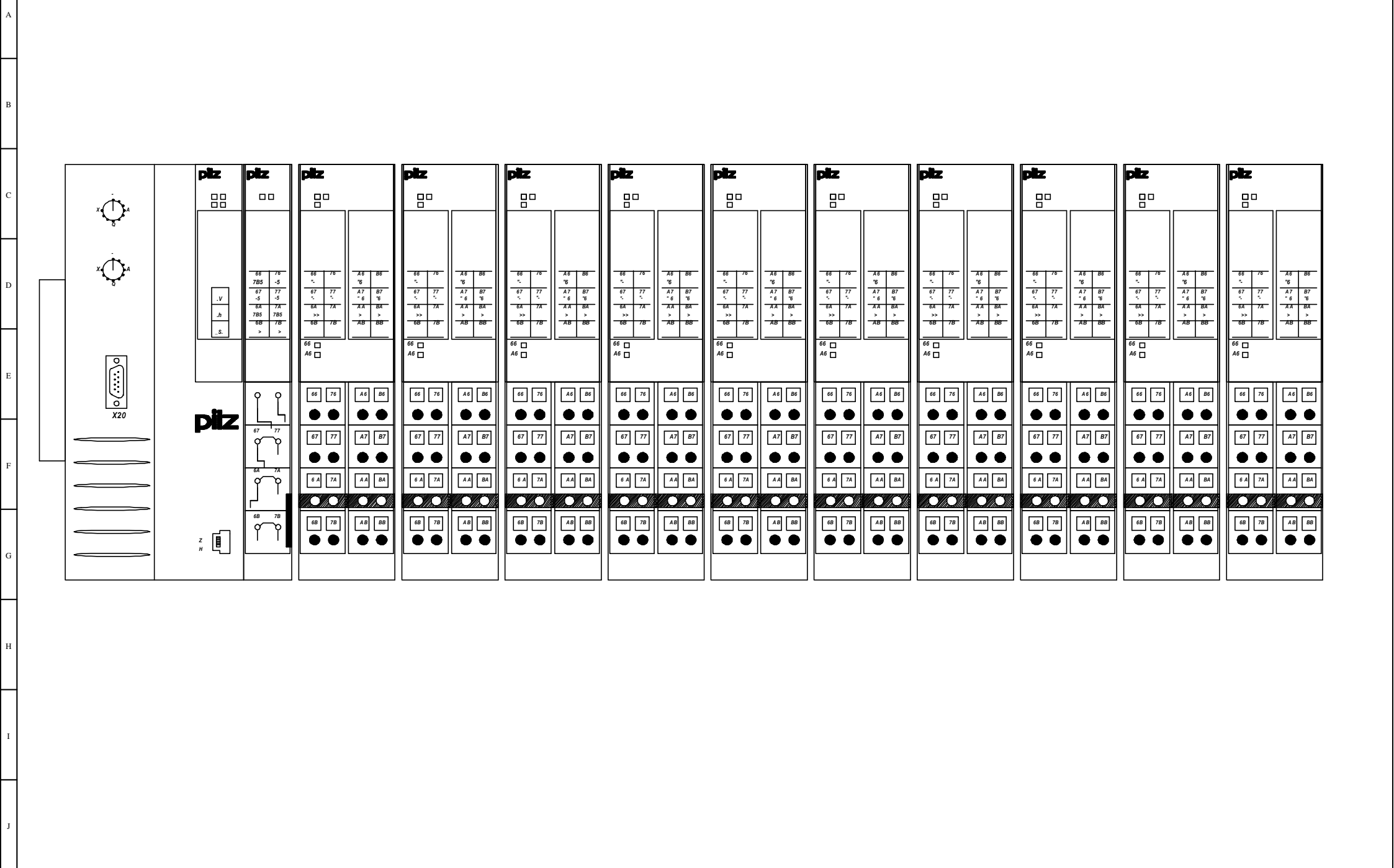
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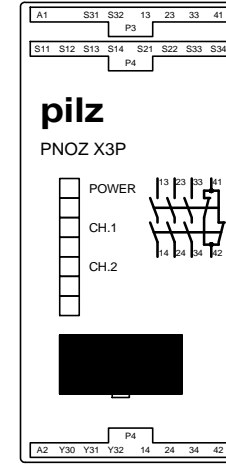
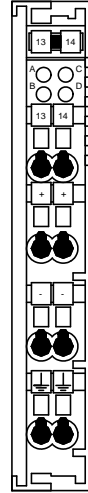
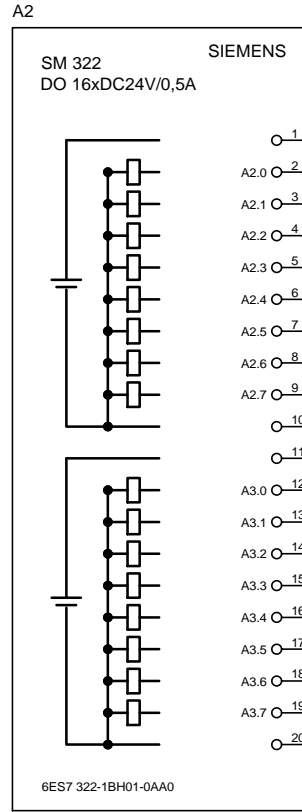
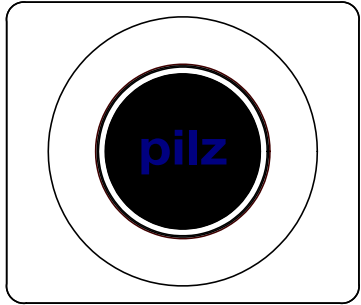
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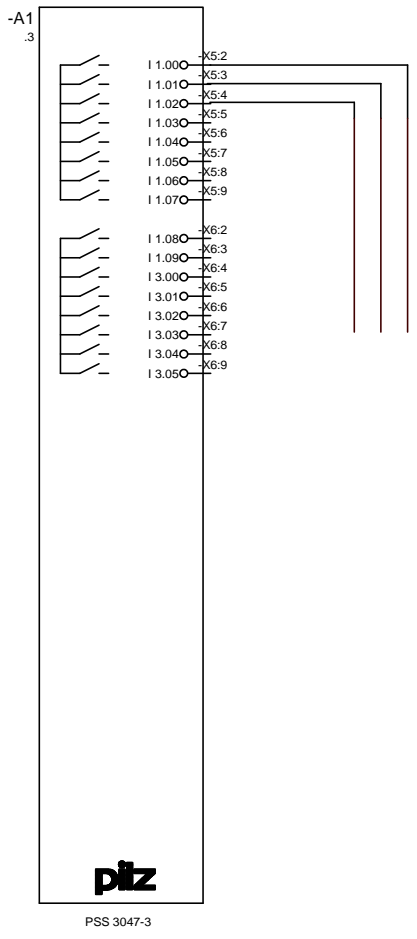
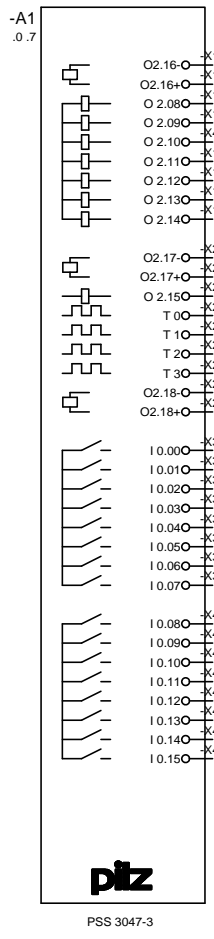
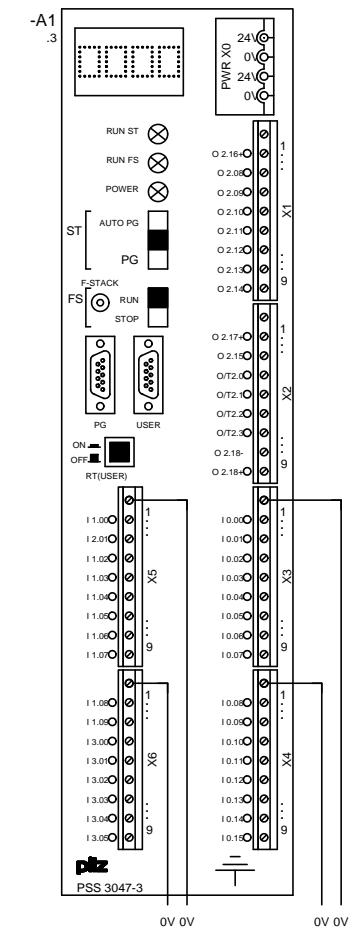




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MACRO EPLAN





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MACRO EPLAN PILZ