Thermocold®
THE AIRVOLUTION

QCF	..	B	...	N	N	.	.	.

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Notes to the electrical installer:

For correct operation it is essential before the commissioning of the electrical panel a careful review of the tightening of the terminals of all equipment contained therein.

It 'also recommended for their durability that these checks are carried out periodically

PROGETTAZIONE	TENSIONE ESERCIZIO 3PH+PE 400VAC	NORME	PROTEZIONI
SERIE	TENSIONE COMANDI 27Vac – 50Hz 230Vac – 50Hz	+ =	
COMMESSA	TENSIONE SEGNALI		
COMMITTENTE			

REV.	MODIFICA	DATA	FIRME
1	Eliminated option "power factor", "cabinet heater", "lon talk" (sheets 10,21,22)	15/05/23	CF
2	Sizes update and options phase out	01/10/23	CF
3	Compressor softstarter option modified (sheets 4,6,7,9,25,26)	28/03/24	CF

	DATA	FIRME
DIS.		
VISTO		
APPROV.		

QCFxxBnnnNNxxx
CWC XEA ZC–ZH
CWC EA ZC–ZME

FOGLIO
T.F.

SOST. DA	SOST. IL	FILE : QCFxxBnnnNNxxx

PROGETTO
BANCA DIS.
TIPICO

REV.	MODIFICA	DATA	FIRMA		
				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
				APPR.	F.D.

Thermocold® THE AIRVOLUTION
SOST. IL : SOST. DA :
elmod SRL
FILE :

CWC XEA – CWC EA
QCFxxBnnnNNxxx

COVER SHEET
COPERTINA

=
+
FG. 1
F.S. 2

Code	CWC EA version	CWC EA ZME version	CWC XEA version	CWC XEA HP version
EC	X			
EE		X		
XC			X	
XH				X

CWC EA	
Code	Size
050	042
060	048
070	056
080	064
090	072
100	078
110	088
120	096
200	162
220	176
240	192

CWC EA ZME	
Code	Size
050	042
060	048
070	056
080	064
090	072
100	078
110	088
120	096
140	112
160	128
180	144
200	162
220	176
240	192

CWC XEA	
Code	Size
050	042
060	048
070	056
080	064
090	072
100	078
110	088
120	096
140	112
160	128
180	144
200	162
220	176
240	192

CWC XEA HP	
Code	Size
050	042
060	048
070	056
080	064
090	072
100	078
110	088
120	096
140	112
160	128
180	144
200	162
220	176
240	192

Code	Size	Not pumps 0	Hydrocompact evaporator one pump 1E	Hydrocompact evaporator automatic double pumps AE	Hydrocompact evaporator inverter one pump I1	Hydrocompact evapor. inverter automatic double pumps IE
N		X				
B			X			
C				X		
D					X	
F						X

Code	Size	Not pumps 0	Hydrocompact condenser one pump 1C	Hydrocompact condenser automatic double pumps AC	Hydrocompact condenser inverter one pump I3	Hydrocompact cond. inverter automatic double pumps IC
N		X				
B			X			
C				X		
D					X	
F						X

Code	Energy Meter EM	Supplementary heater SH	Leak detector and SL version LK
0			
3	X		
4		X	
5	X	X	
6			X
7	X		X
8		X	X
9	X	X	X

Code	Compressors softstarter S	Phase sequence relay P
0		
B	X	
D		X
K	X	X

Code	Wires kit	3-way valve V3V	Control Pakage CP	Antifreeze heaters water versions KH
0	X			
B	X	X		
C	X		X	
D	X			X
H	X	X	X	
I	X	X		X
J	X		X	X
N	X	X	X	X

QCF	..	B	...	N	N	.	.	.

				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.

Thermocold® THE AIRVOLUTION

elmod® SRL

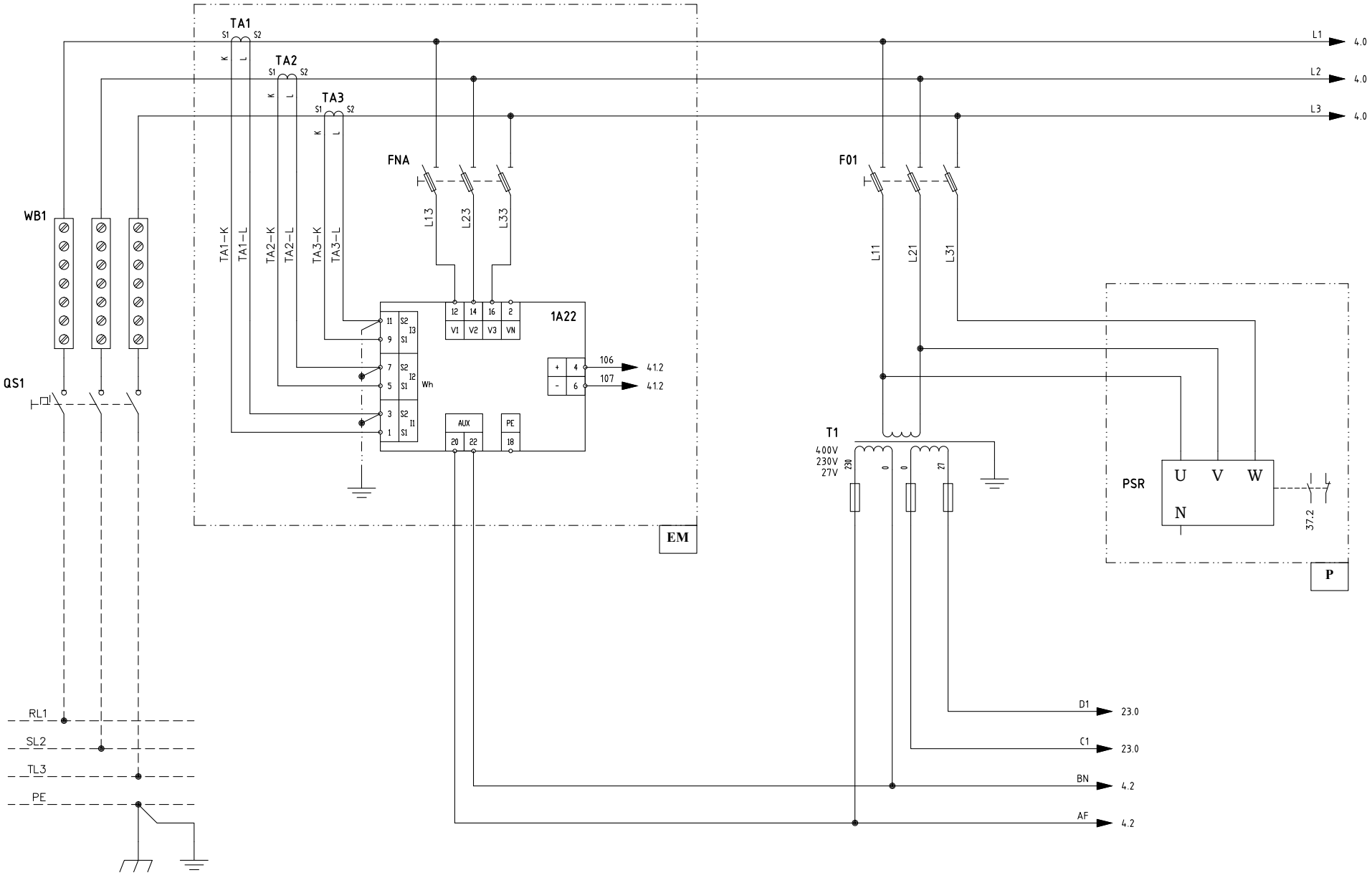
SOST. IL : SOST. DA : FILE :

CWC XEA – CWC EA
QCFxxBnnnNNxxx

CODE KEY
CODICE ASSEGNAZIONE

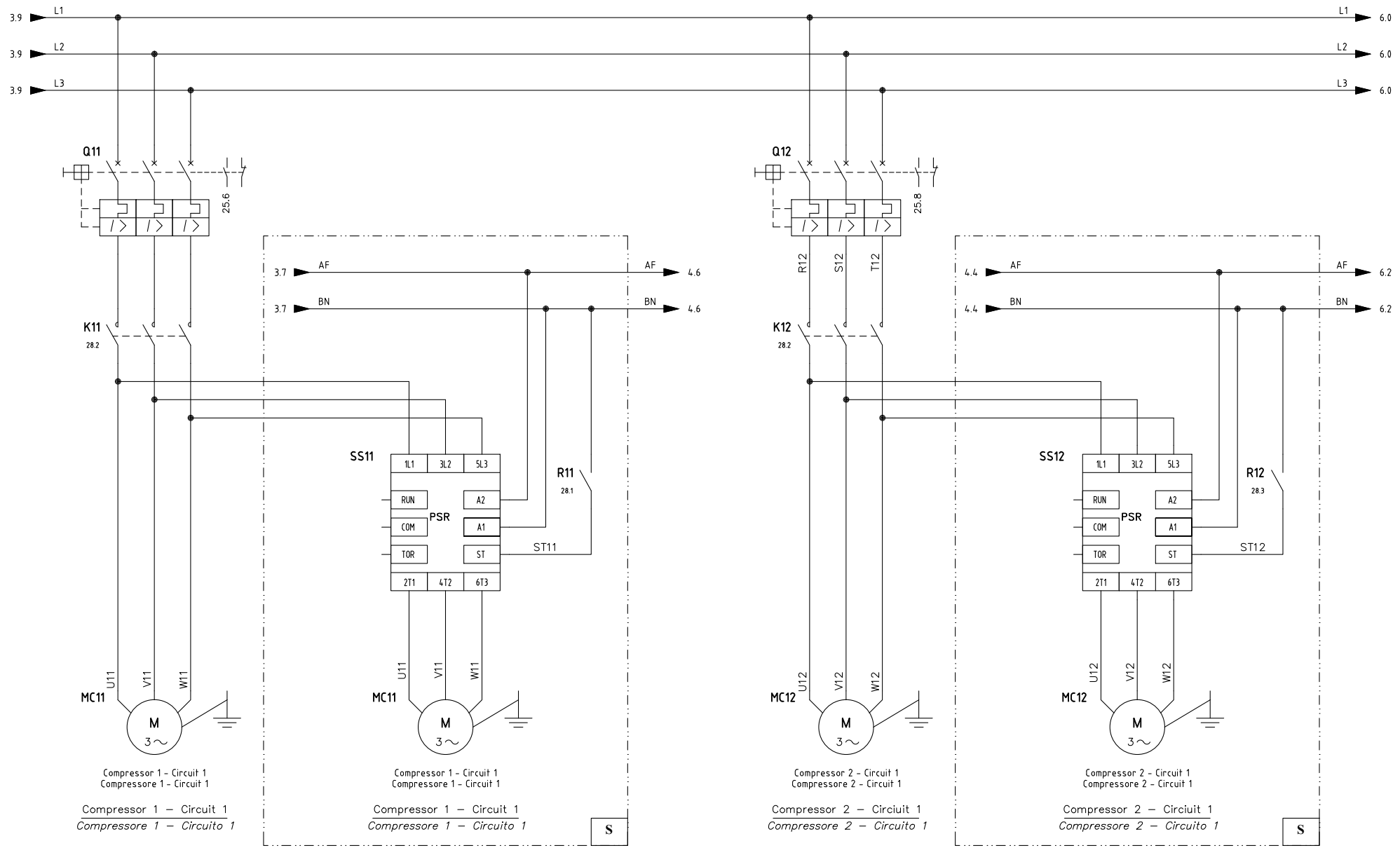
=
+

FG. 2
F.S. 3

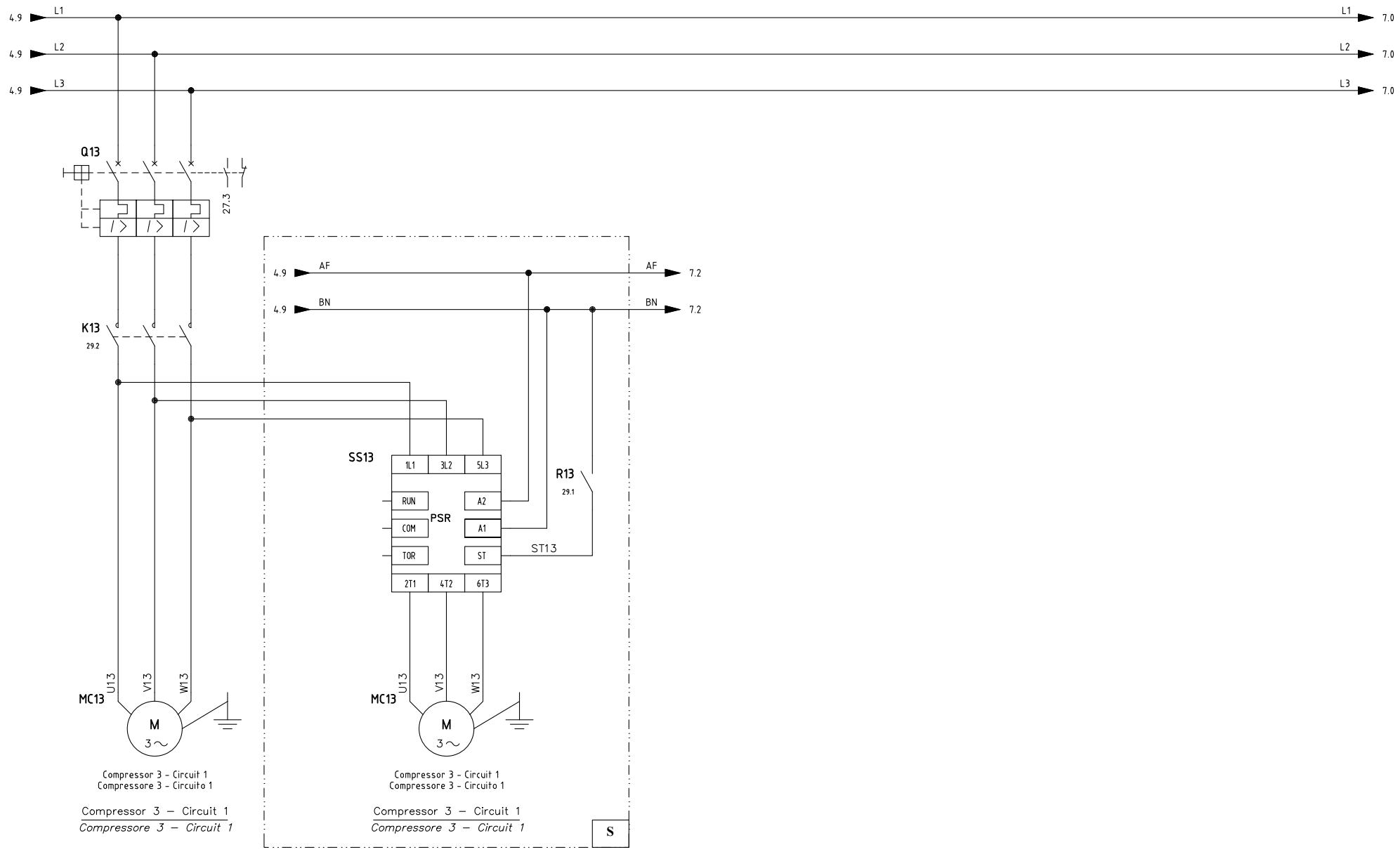


400Vac - 50Hz - (3Ph+PE)

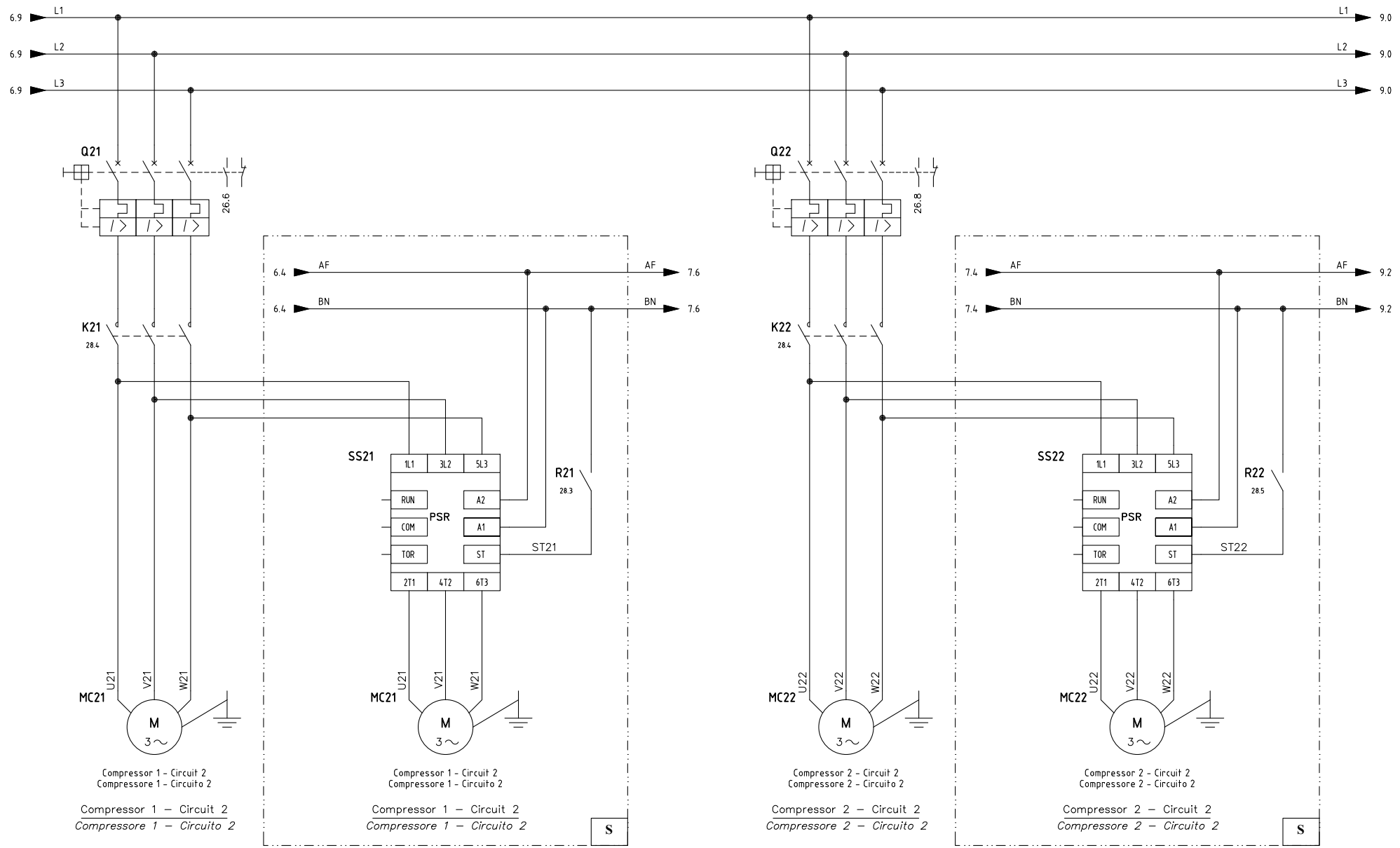
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				AUXILIARY POWER SUPPLY *ALIMENTAZIONE CIRCUITI AUSILIARI*	FG. 3
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 4



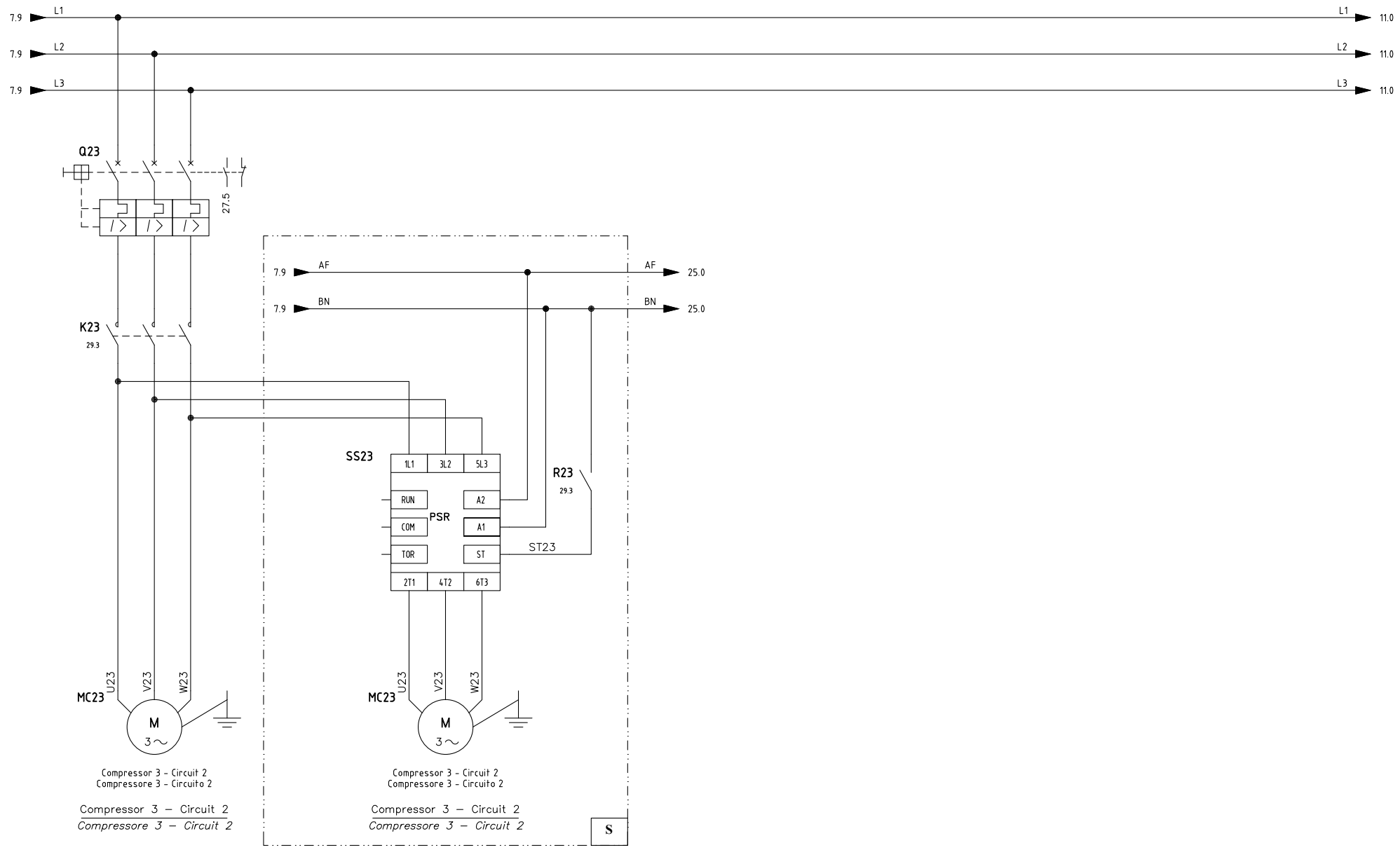
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				COMPRESSORS 1-2 - CIRCUIT 1 *COMPRESSORI 1-2 - CIRCUITO 1*	FG. 4
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 6



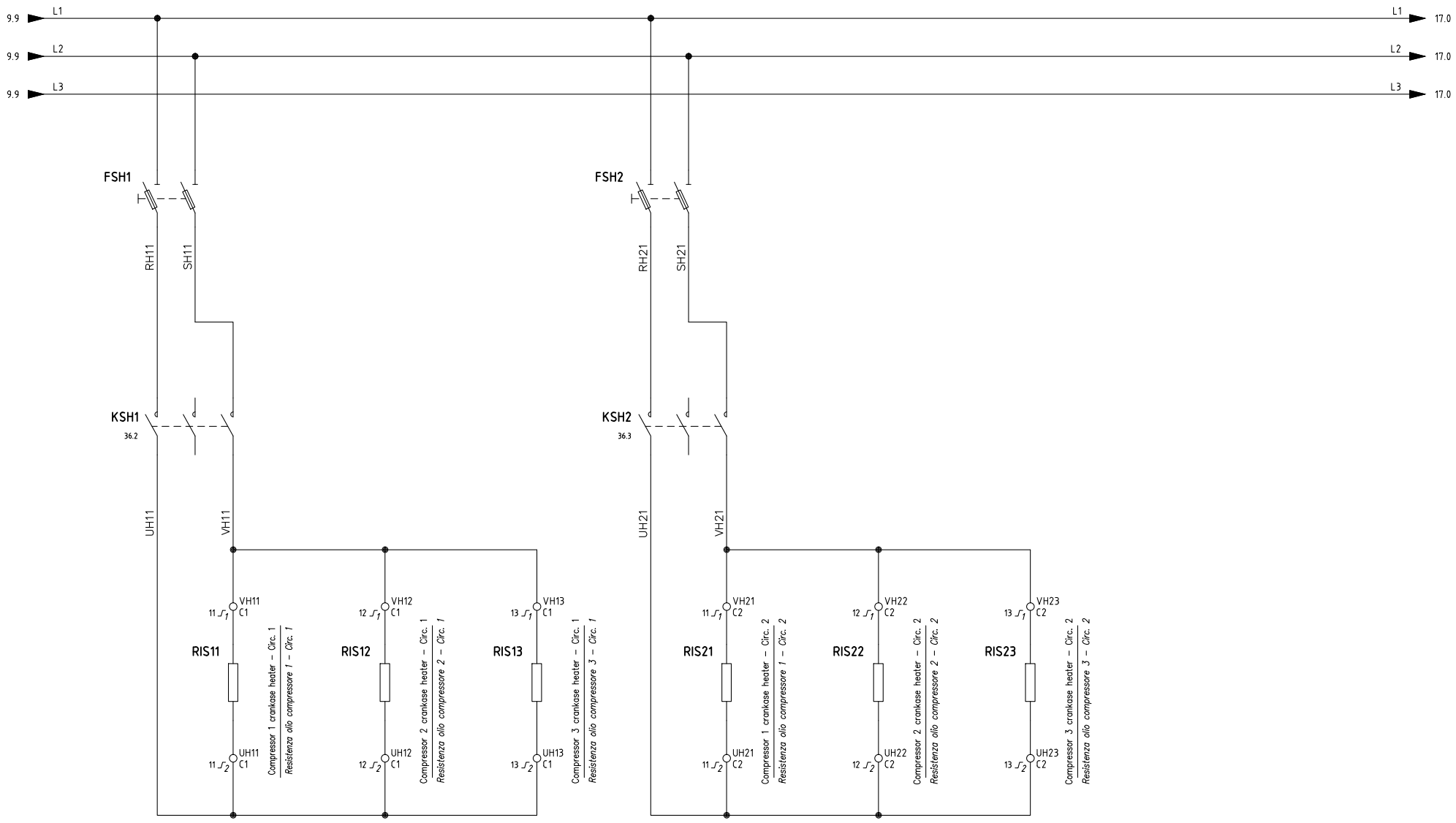
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				COMPRESSOR 3 - CIRCUIT 1 COMPRESSORE 3 - CIRCUITO 1	FG. 6
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 7



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				COMPRESSORS 1-2 - CIRCUIT 2 COMPRESSORI 1-2 - CIRCUITO 2	FG. 7
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 9



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				COMPRESSOR 3 - CIRCUIT 2 COMPRESSORE 3 - CIRCUITO 2	FG. 9
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 11



REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.
				DISEGN.	C.F.
				VISTO	
				DATA	22/07/22

Thermocold® THE AIRVOLUTION

SOST. IL : SOST. DA : FILE :

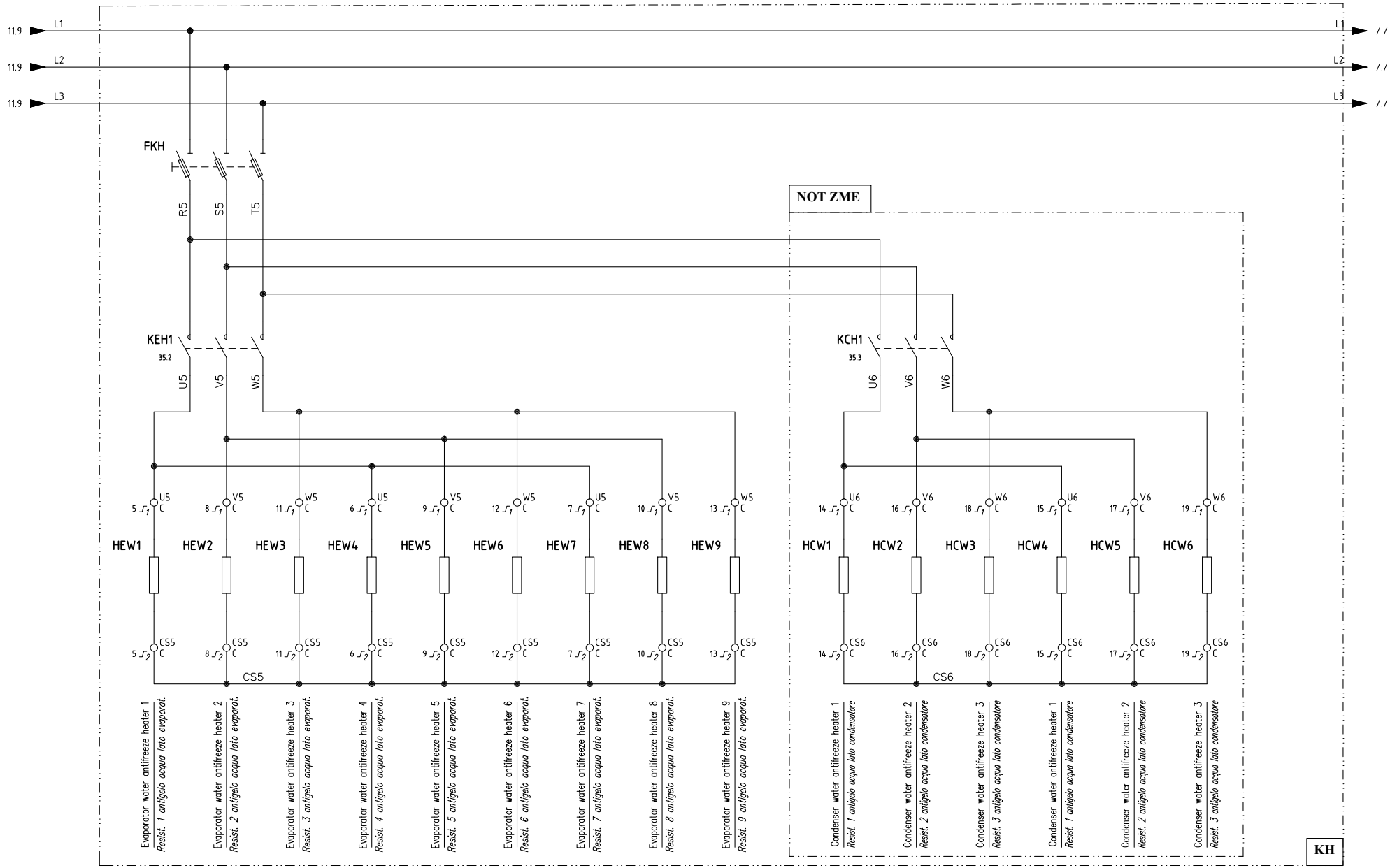
elmod SRL

CWC XEA – CWC EA
QCFxxBnnnNNxxx

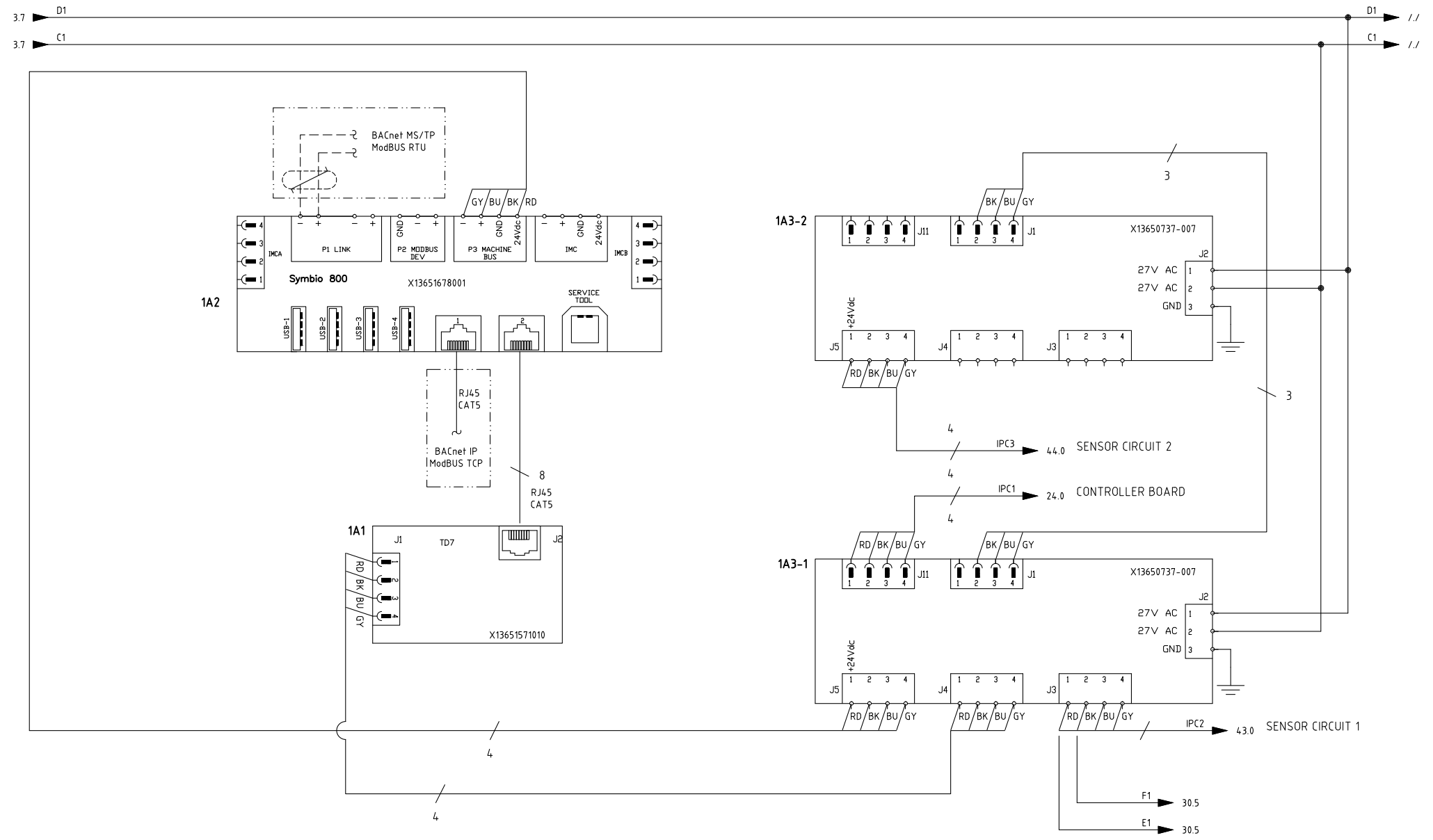
COMPRESSORS CRANKASE HEATERS - CIRC. 1-2
RESISTENZE OLIO COMPRESSORI - CIRC. 1-2

=
+

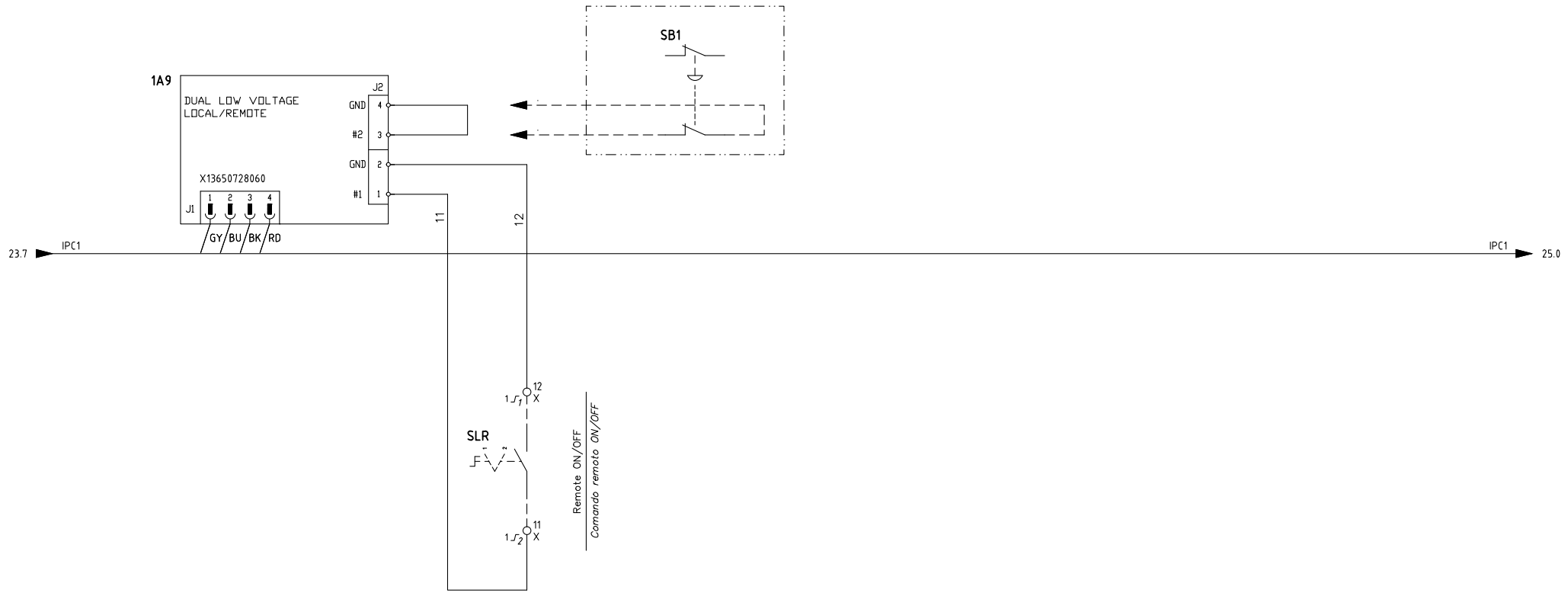
FG. **11**
F.S. **17**



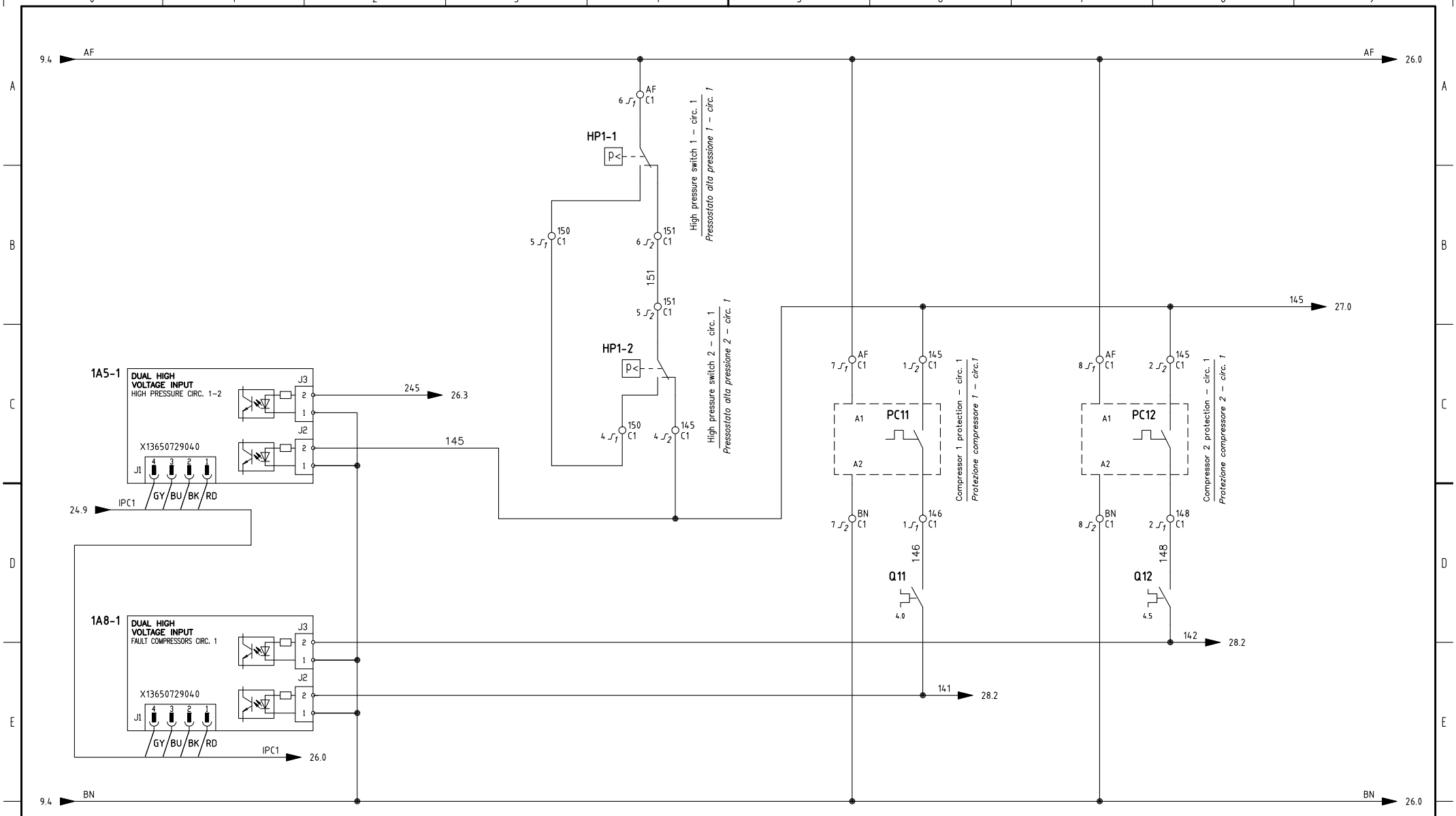
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.			ANTEFREEZE HEATERS WATER VERSION	+
				VISTO				RESISTENZE ANTIGELO VERSIONI IDRICHE	FG. 17
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 23



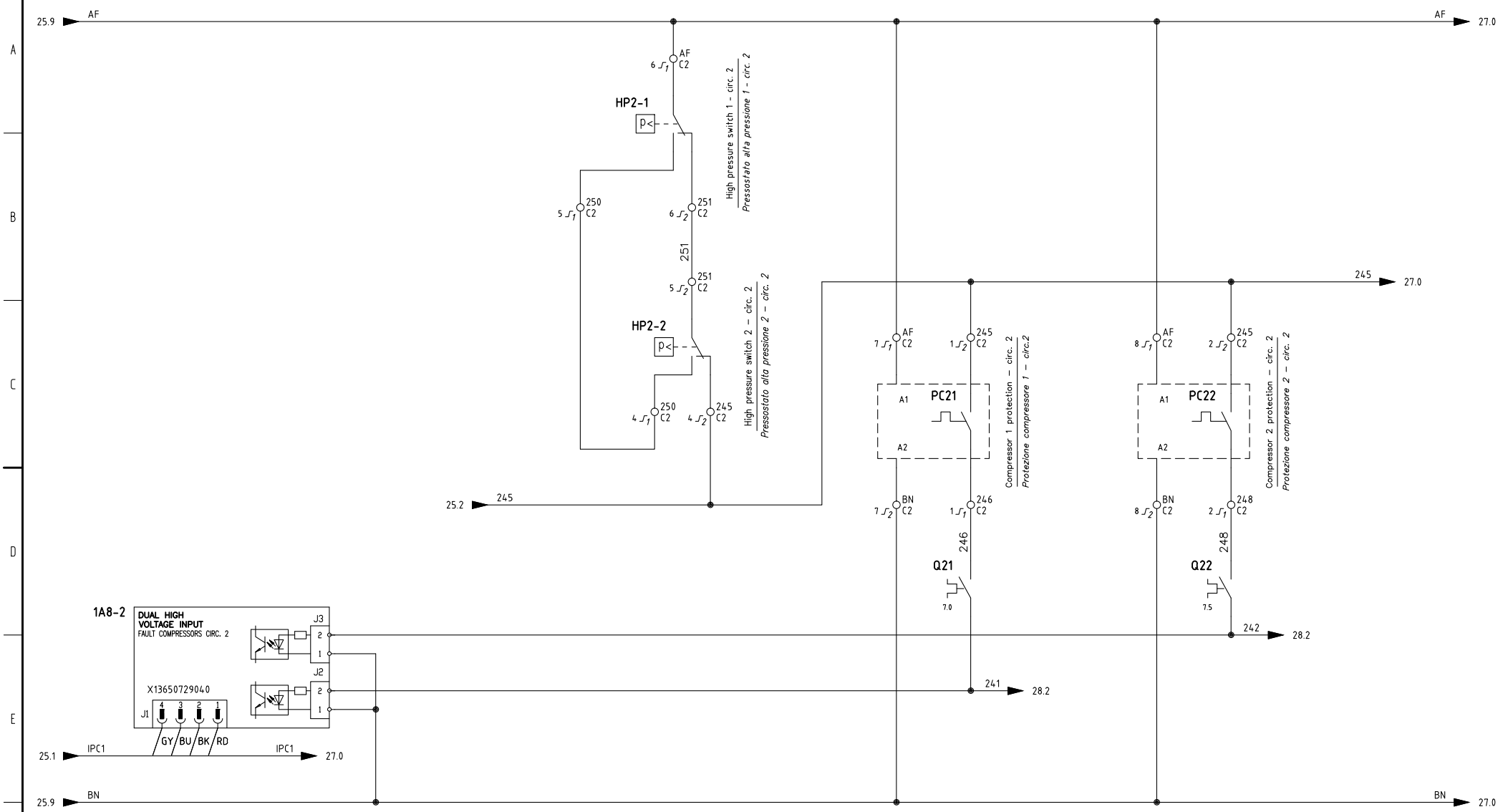
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				UC800 CIRCUIT CONTROLLER CIRCUITO CONTROLLORE UC800	FG. 23
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 24



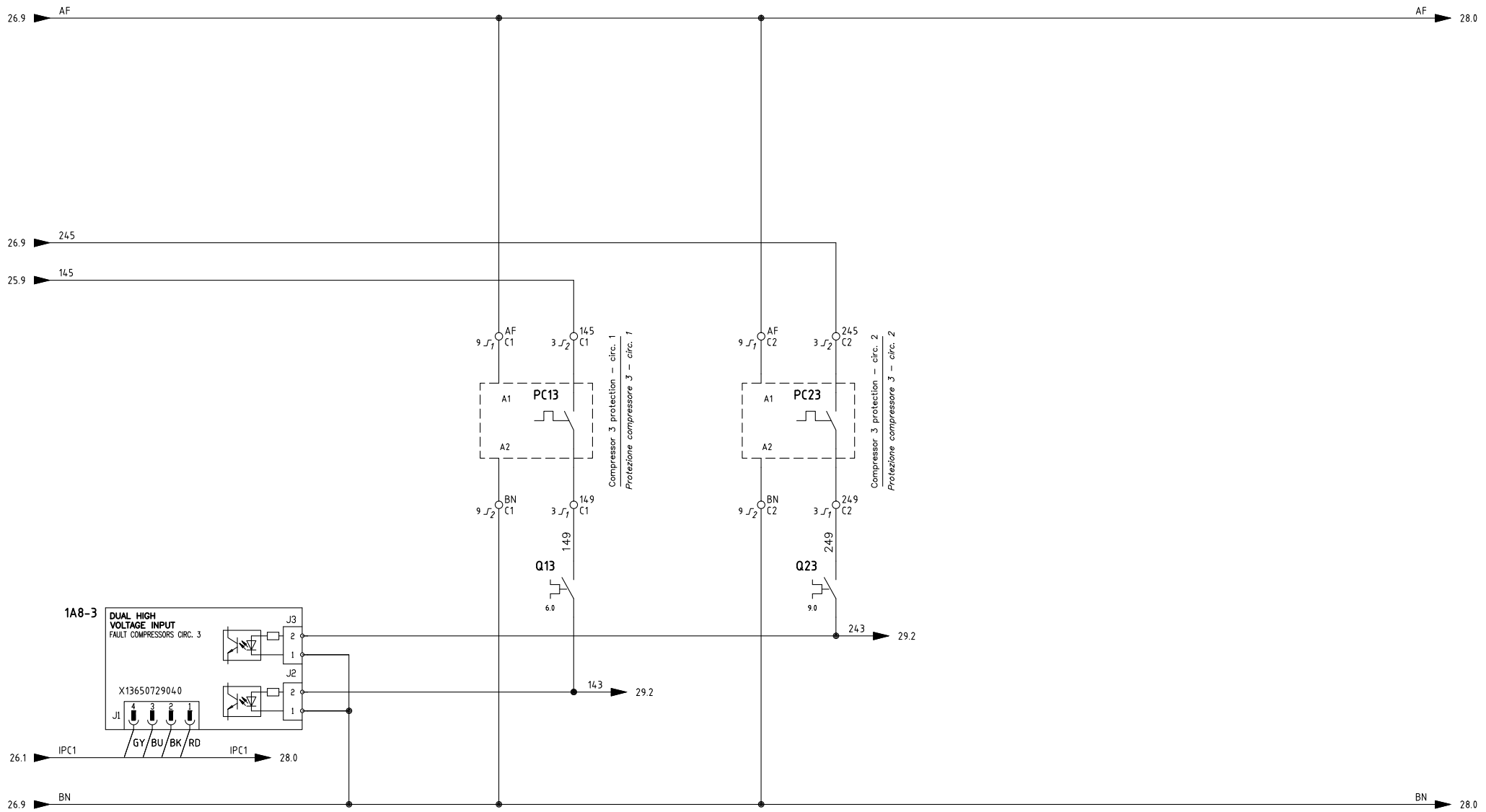
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				AUXILIARY CIRCUITS CIRCUITI AUSILIARI			FG. 24
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 25



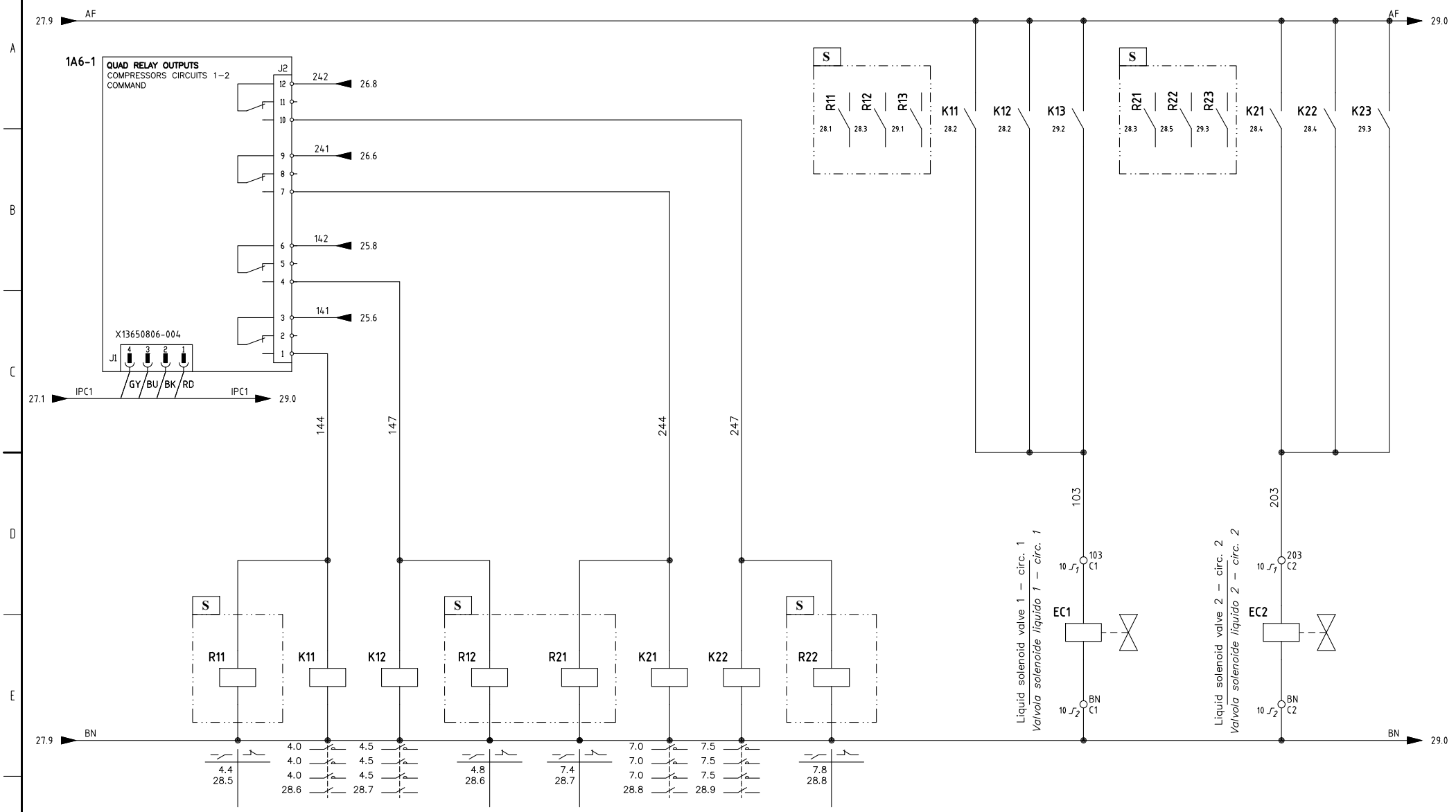
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				CIRCUIT 1 COMPRESSORS PROTECTION PROTEZIONE COMPRESSORI CIRC. 1			FG. 25
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 26



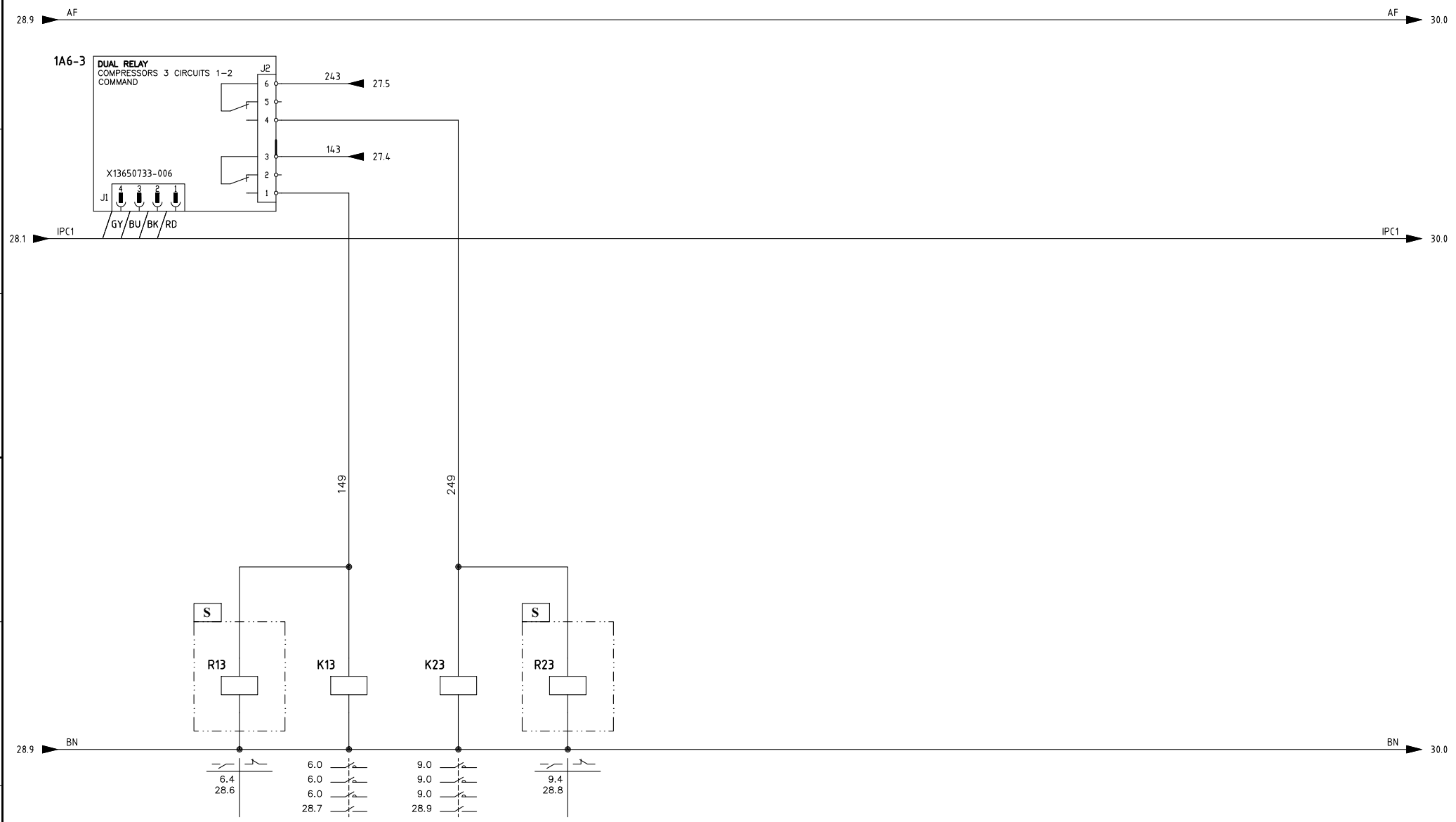
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				CIRCUIT 2 COMPRESSORS PROTECTION			FG. 26
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	PROTEZIONE COMPRESSORI CIRC. 2		F.S. 27



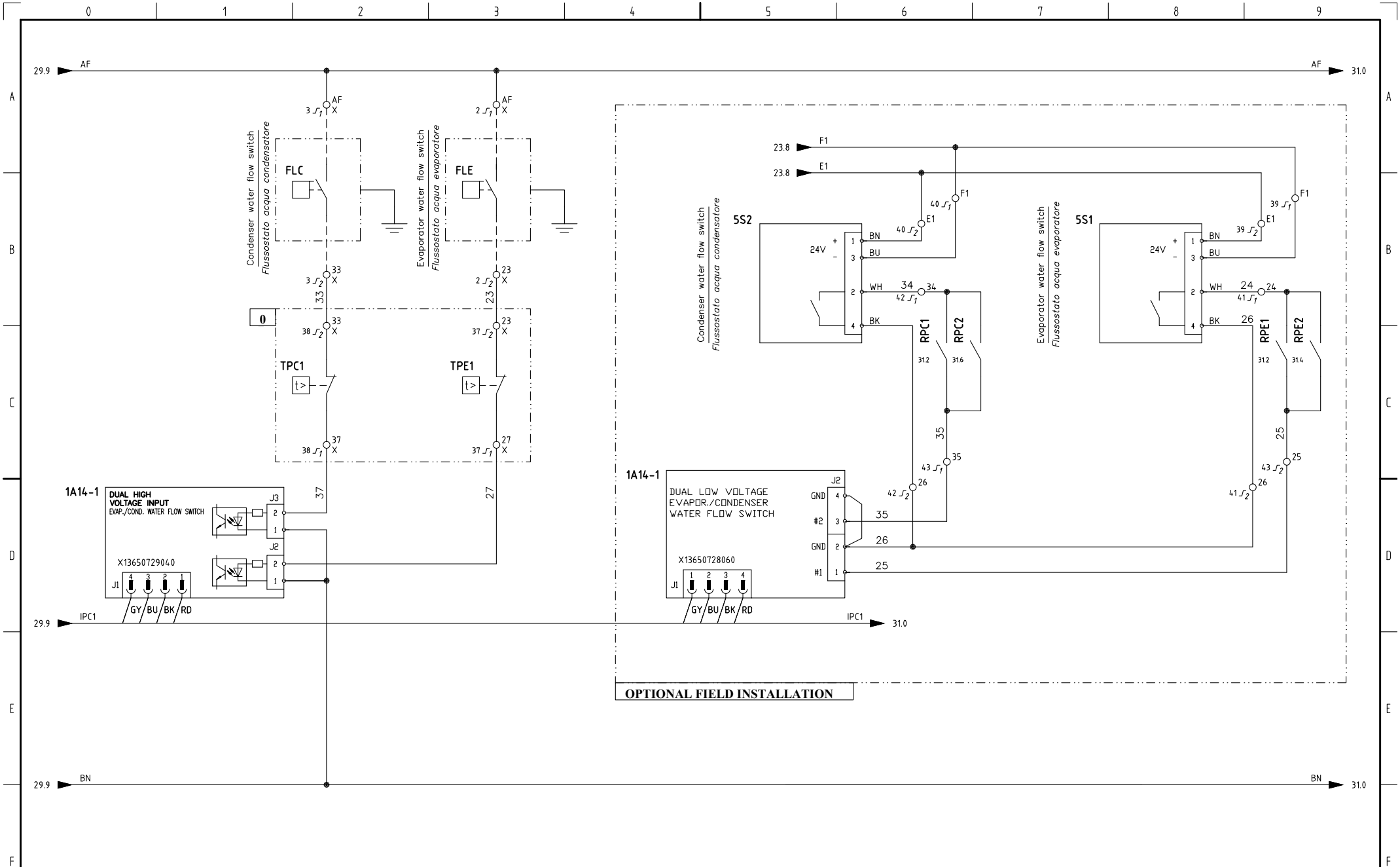
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				CIRCUITS 1-2 TRIO COMPRESSORS PROTECTION PROTEZIONE COMPRESSORI 3 CIRCUIT 1-2			FG. 27
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 28



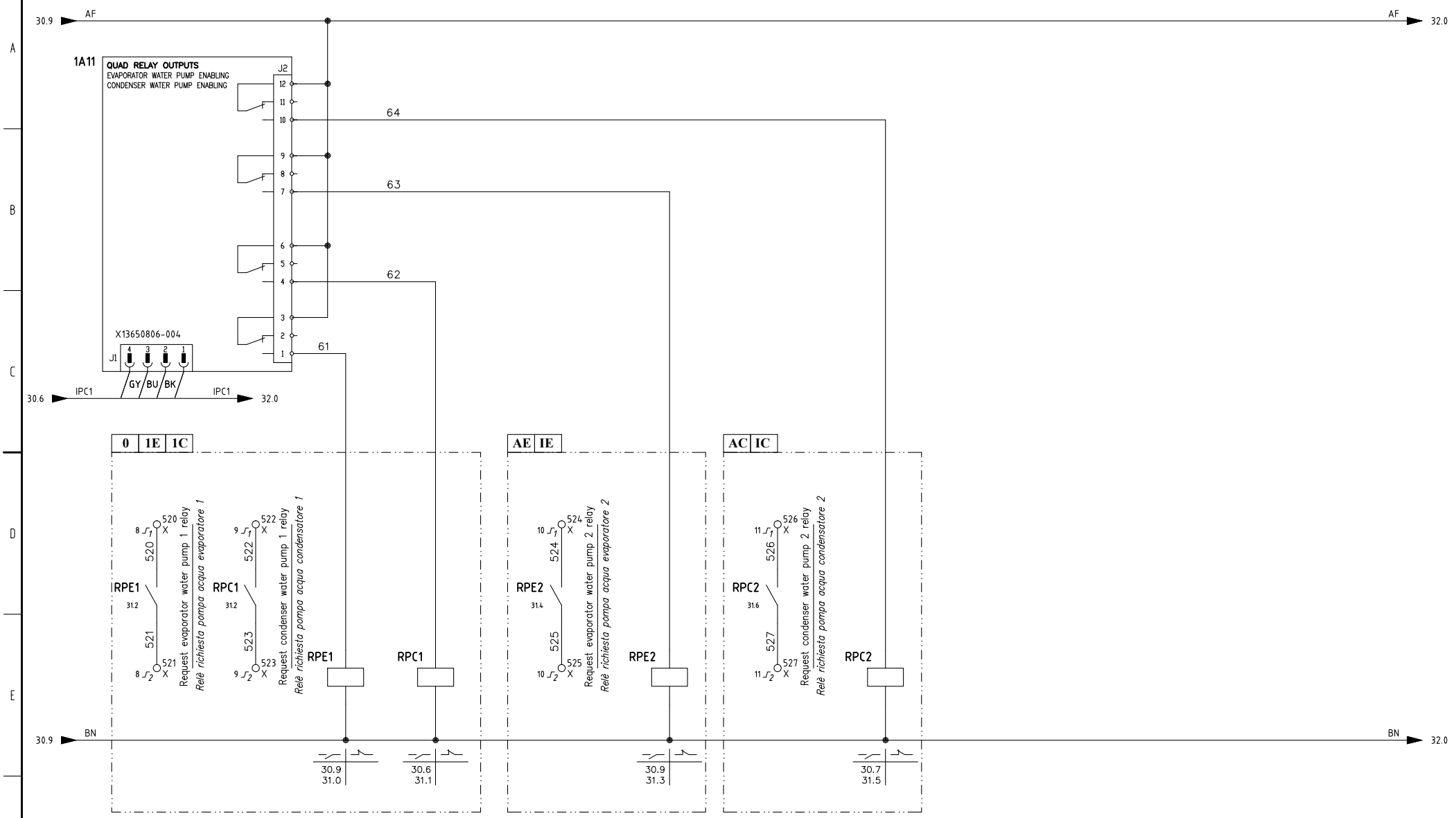
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				ENABLING COMPRESSORS CIRCUIT 1-2 CIRCUITO 1-2 ABILITAZIONE COMPRESSORI	FG. 28
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 29



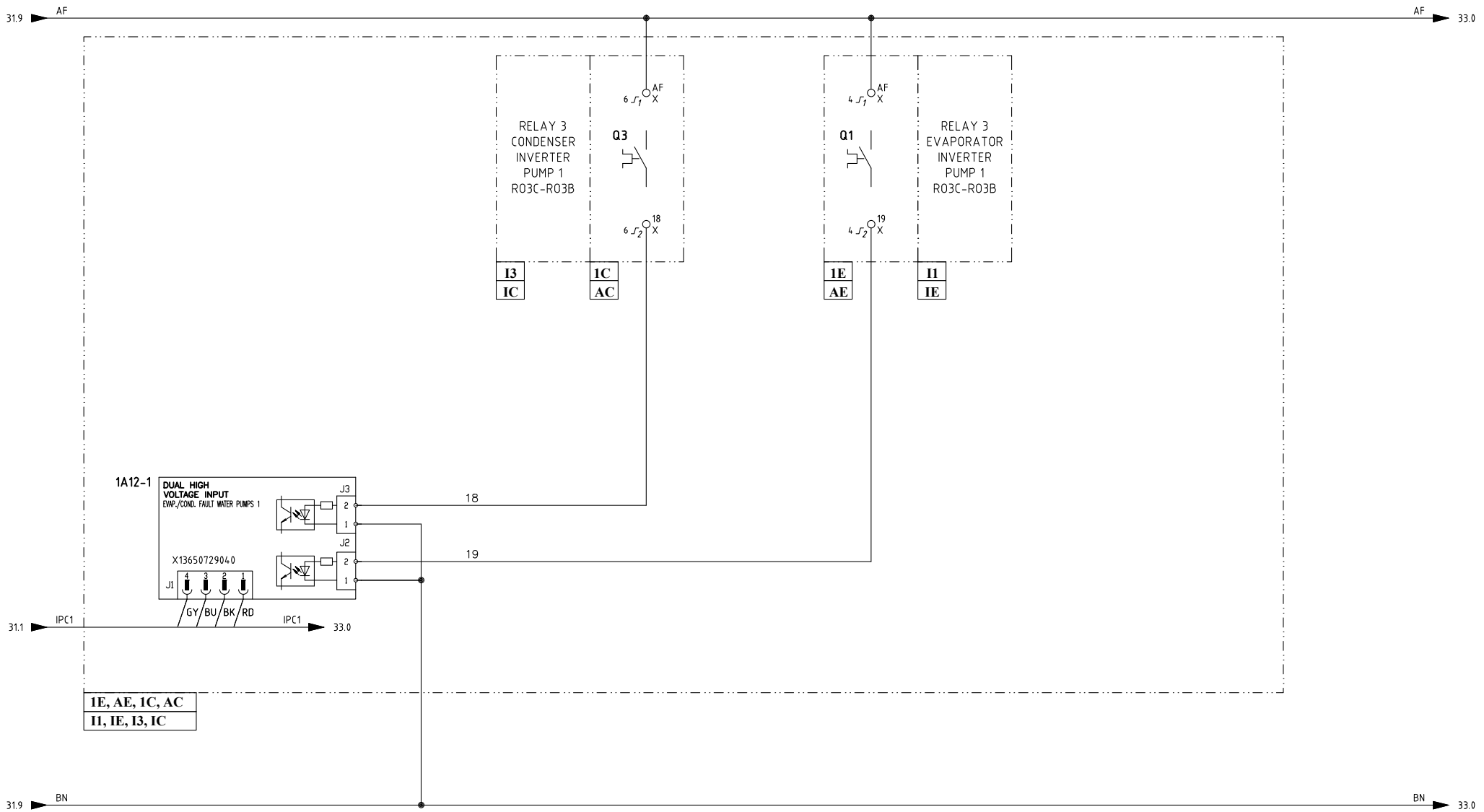
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				ENABLING COMPRESSORS CIRCUIT 3 *CIRCUITO 3 ABILITAZIONE COMPRESSORI*	FG. **29**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. **30**



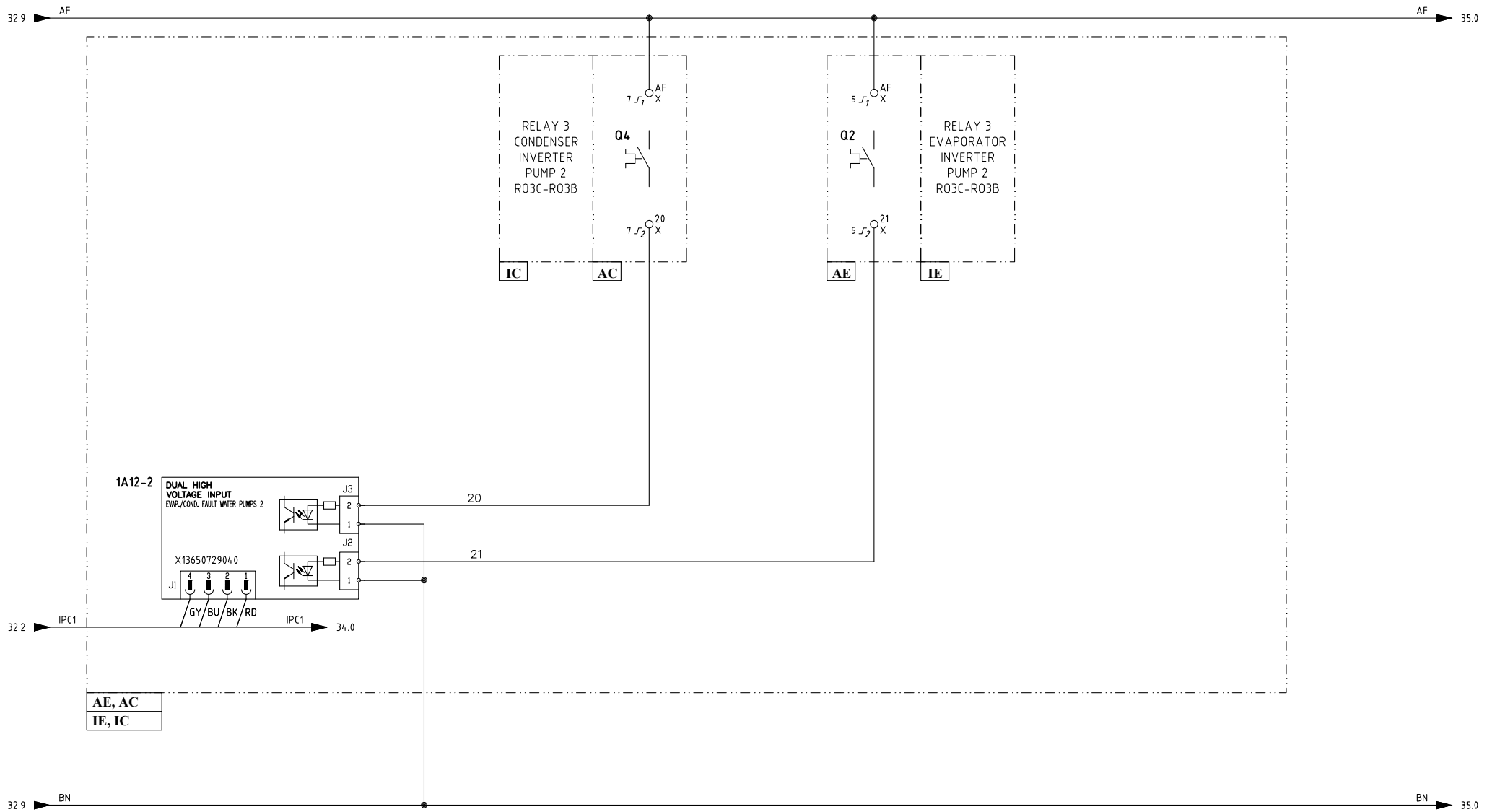
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				AUXILIARY CIRCUIT WATER PROTECTION	FG. 30
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	CIRCUITO AUX PROTEZIONI ACQUA	F.S. 31



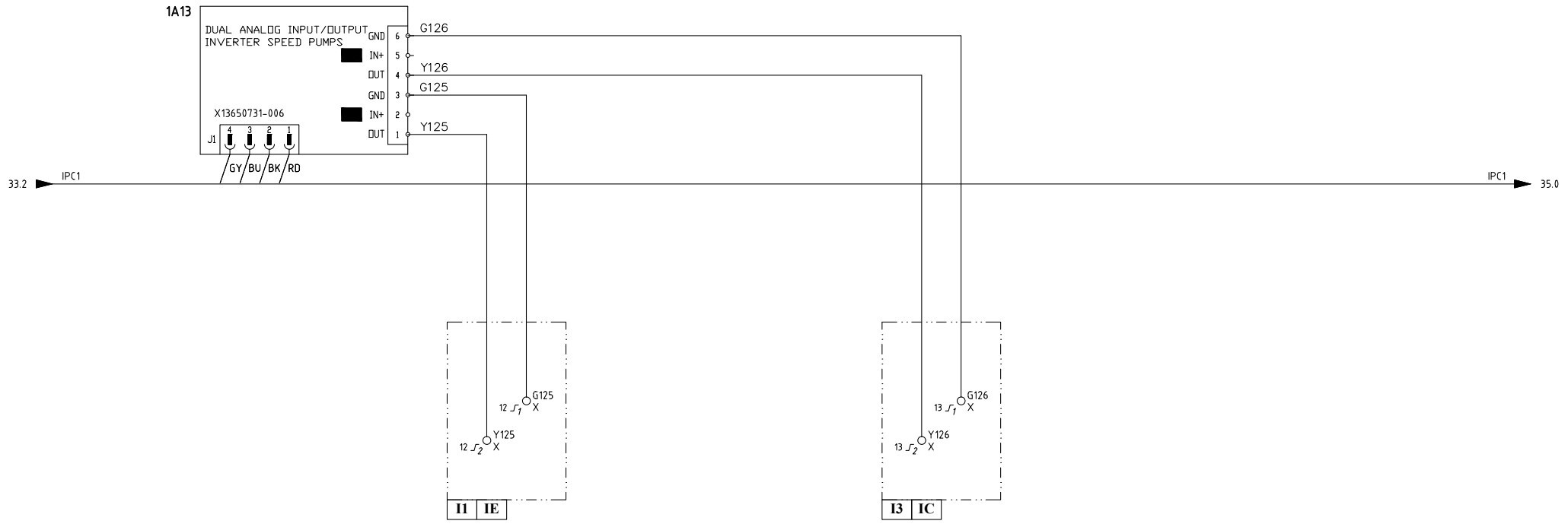
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				ENABLING WATER PUMPS CIRCUIT *CIRCUITO ABILITAZIONE POMPE ACQUA*	FG. **31**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. **32**



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				THERMAL PROTECTION WATER PUMP CIRCUIT CIRCUITO PROTEZIONI TERMICHE P. ACQUA			FG. 32
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 33



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				THERMAL PROTECTION WATER PUMP CIRCUIT CIRCUITO PROTEZIONI TERMICHE P. ACQUA			FG. 33
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 34



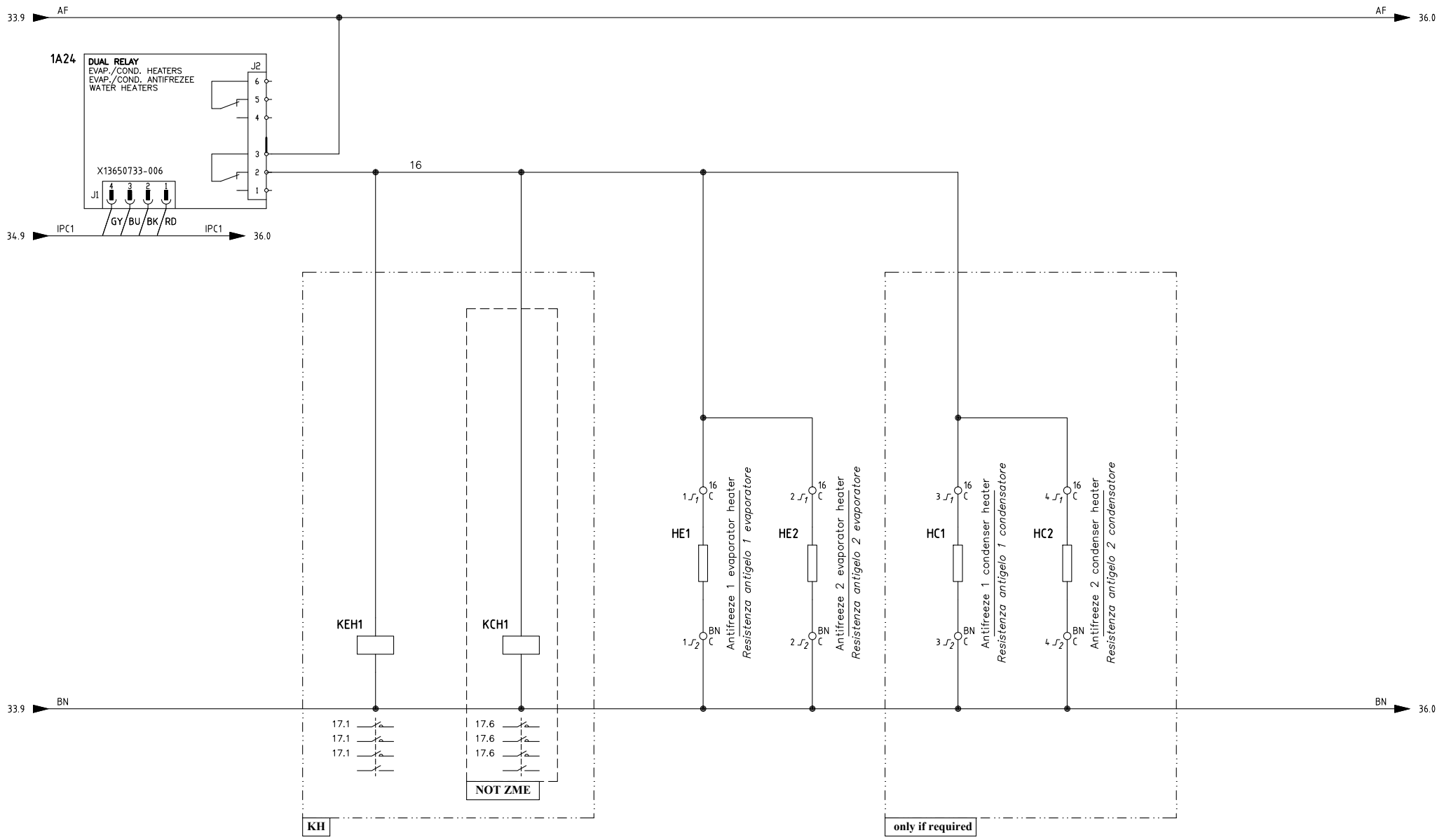
0-10V Modulation signal condenser water pumps

0-10V Segnale di modulazione pompe acqua condens.

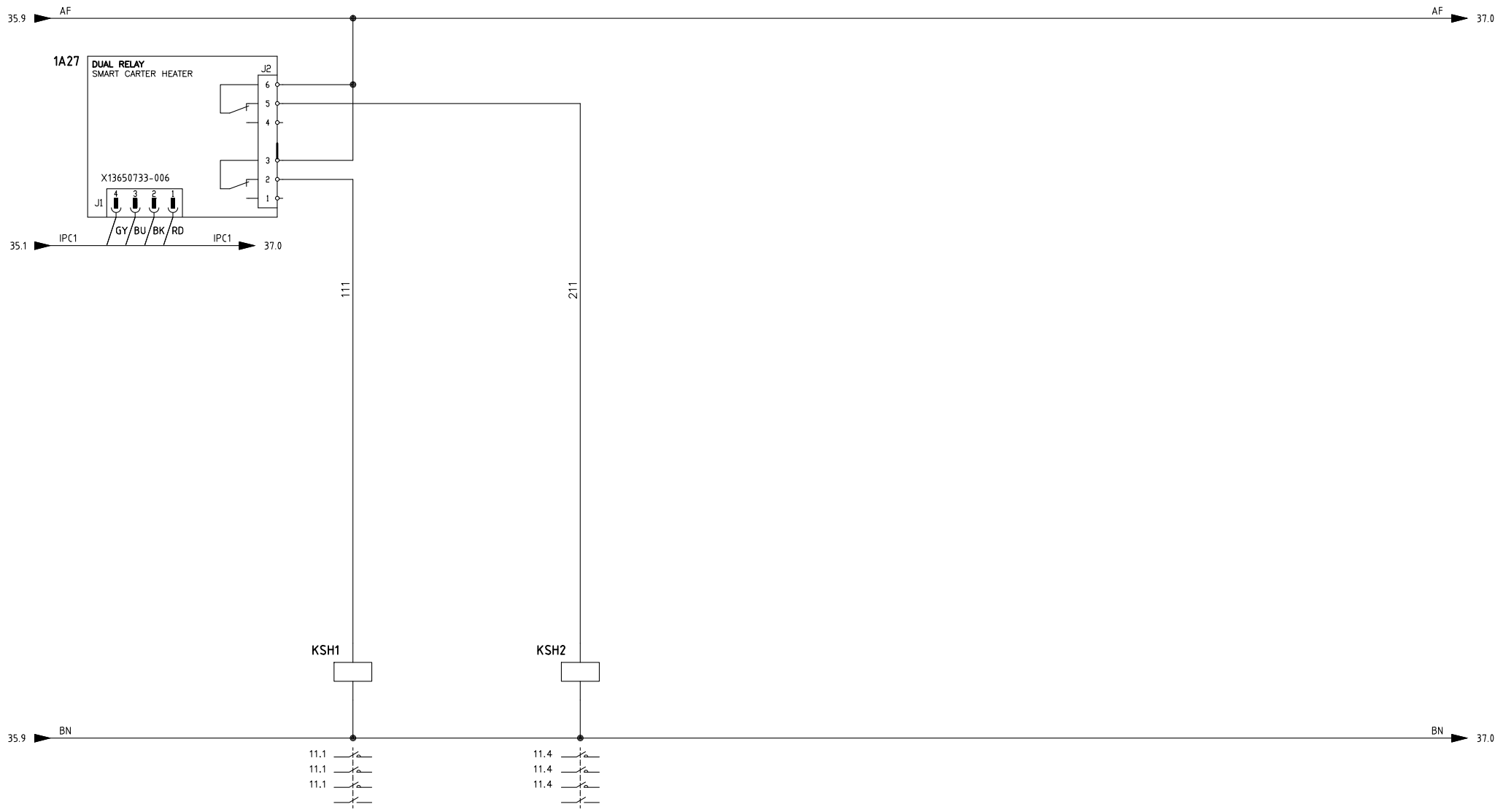
0-10V Modulation signal evaporator water pumps

0-10V Segnale di modulazione pompe acqua evaporatore

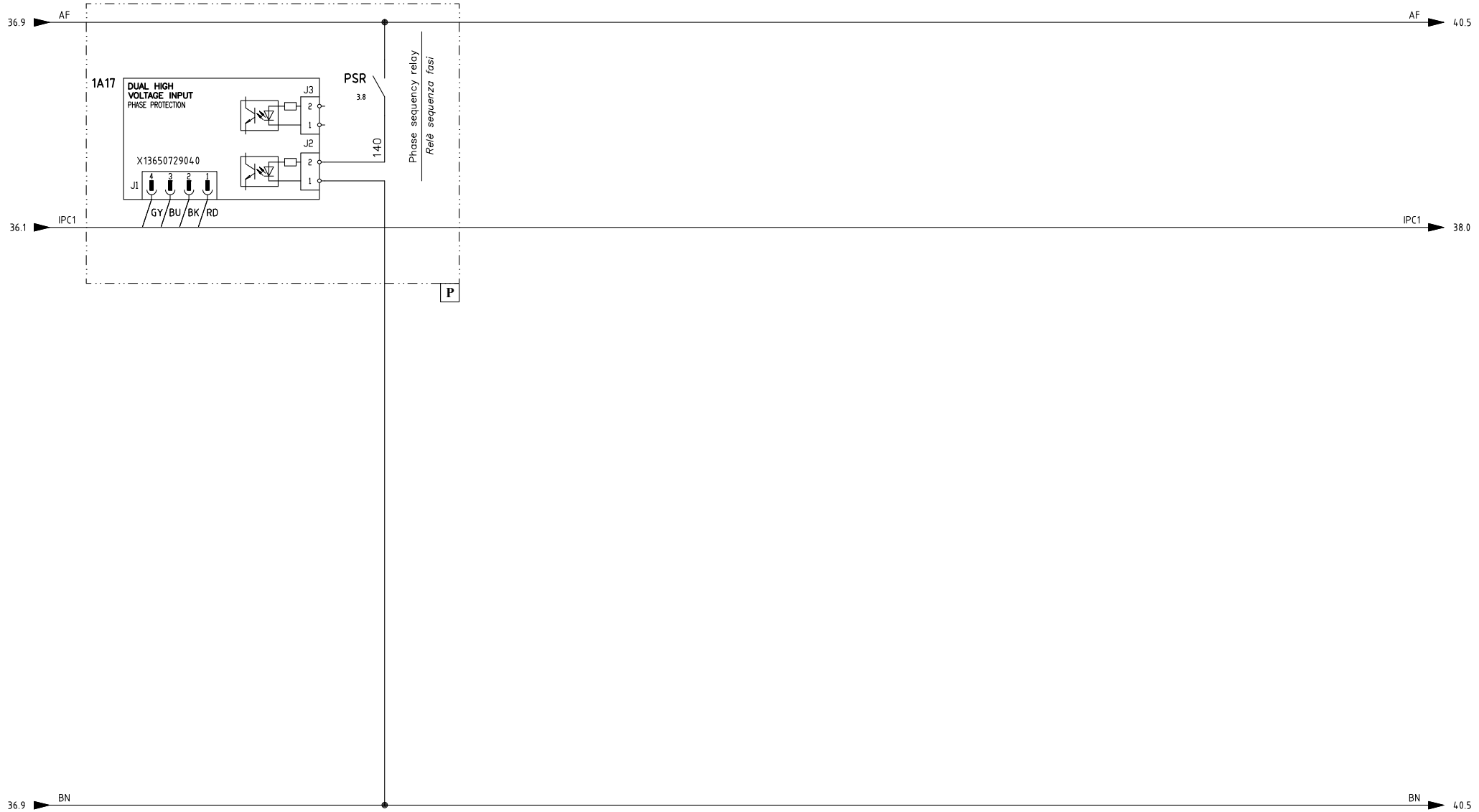
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				WATER PUMPS INVERTER SPEED SIGNALS *SEGNALI VELOCITA' POMPE INVERTER*	FG. **34**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. **35**



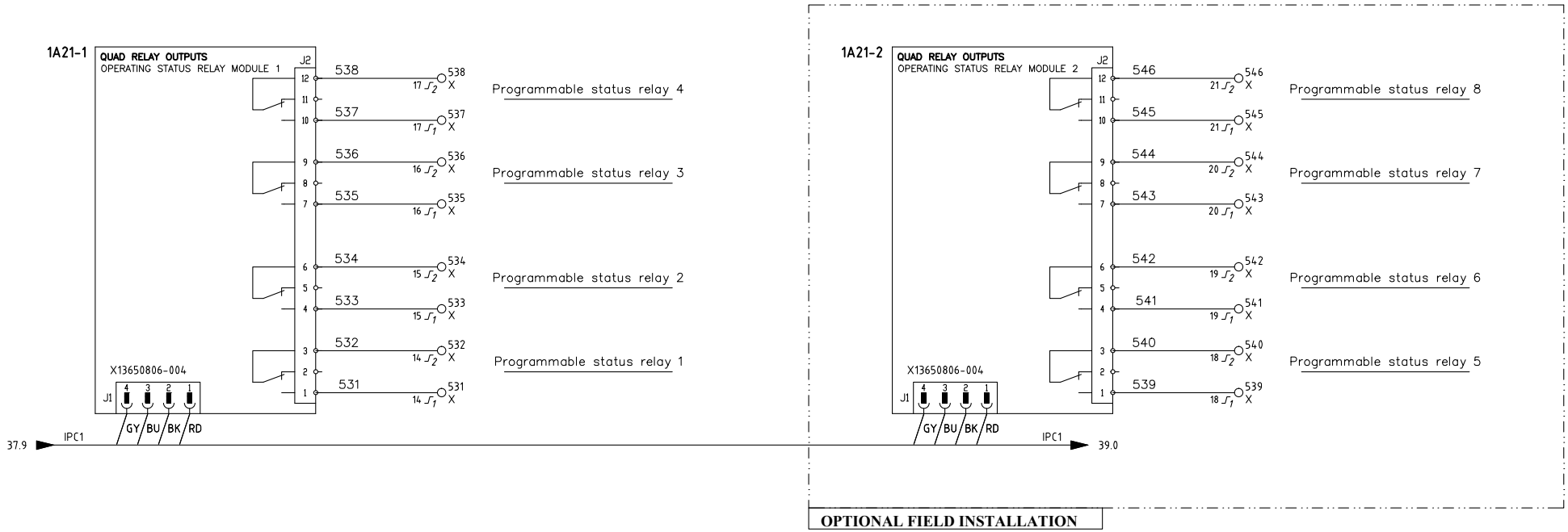
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				HEATER CIRCUIT CIRCUITO RESISTENZE	FG. 35
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 36



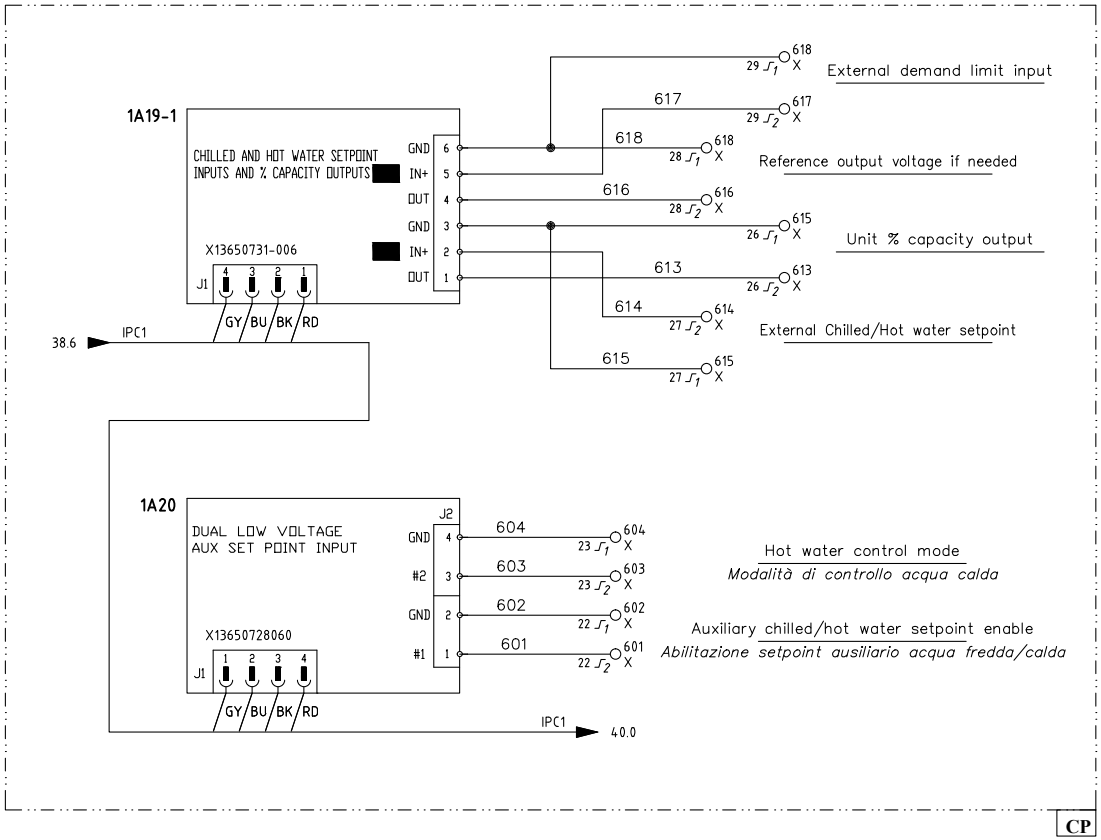
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				SMART CARTER HEATERS CIRCUIT *CIRCUITI RESISTENZE CARTER*			FG. **36**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. **37**



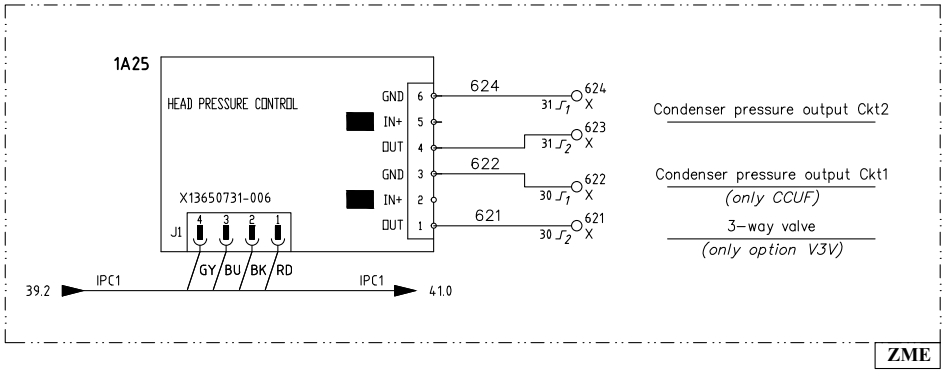
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=	
				DISEGN.	C.F.				+	
				VISTO				AUXILIARY CIRCUITS *CIRCUITI AUSILIARI*		FG. **37**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :		F.S. **38**



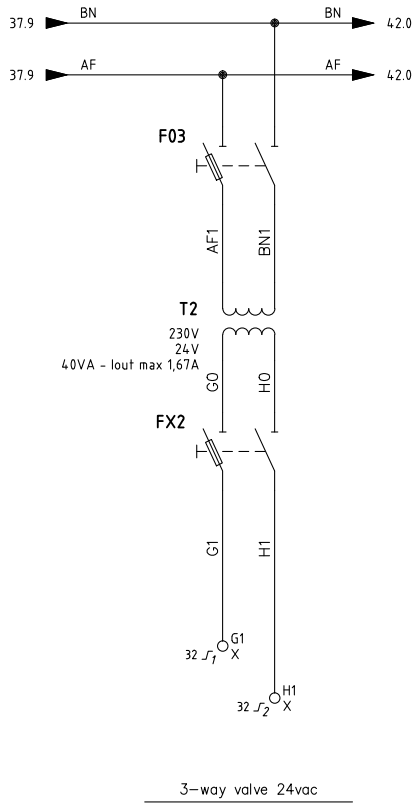
				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				FAULTS/STATUS CIRCUIT CIRCUITO ALLARMI/STATO			FG. 38
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. 39



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				EXTERNAL CONTROL PAKAGE OPTIONS OPZIONI DI CONTROLLO ESTERNO	FG. 39
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA : FILE :		F.S. 40

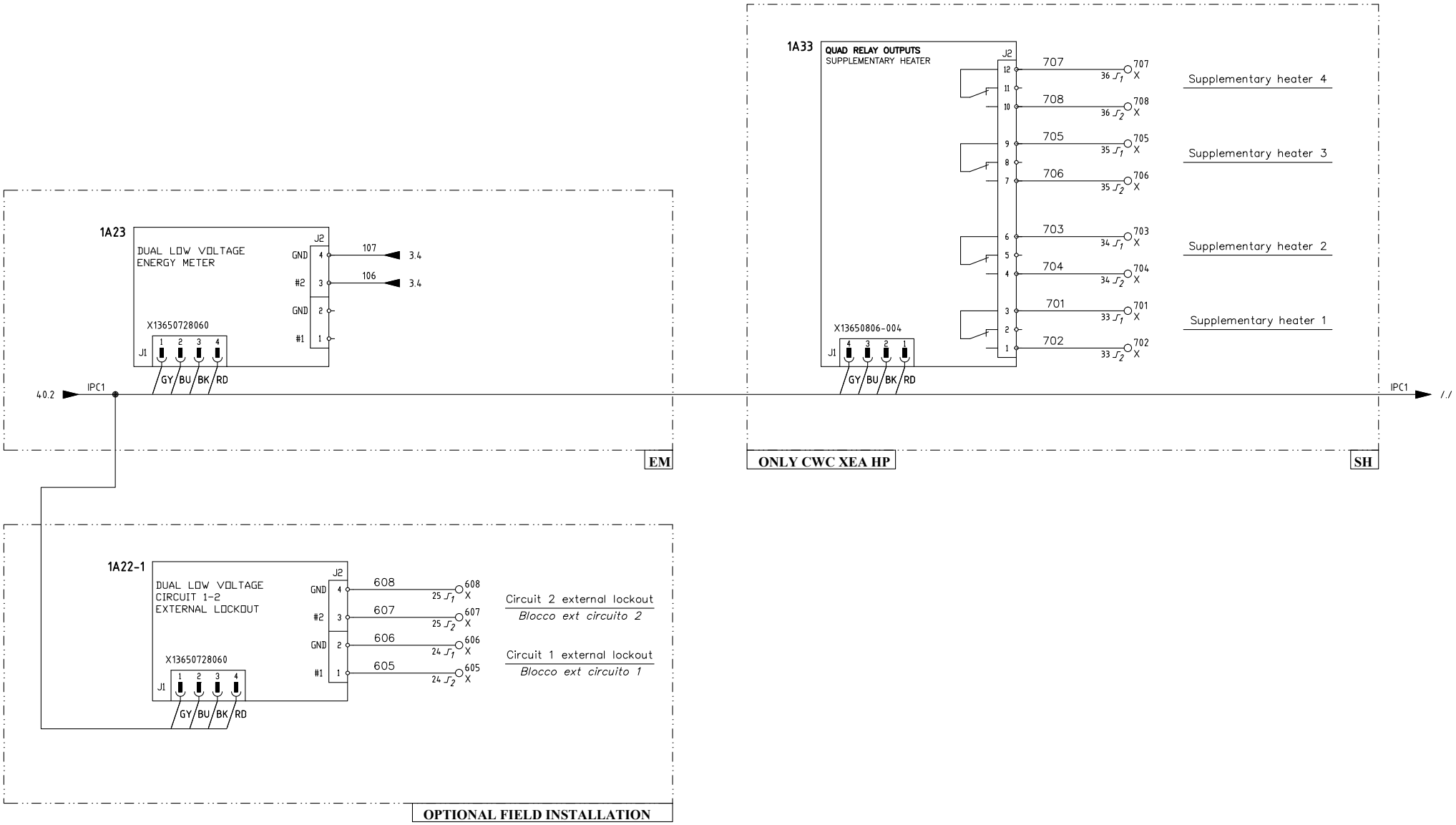


ZME



V3V

				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				3-WAY VALVE CIRCUIT (V3V OPTIONS) CIRCUITO VALVOLA 3 VIE (OPZIONE V3V)	FG. 40
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 41



REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.
				DISEGN.	C.F.
				VISTO	
				DATA	22/07/22

Thermocold® THE AIRVOLUTION

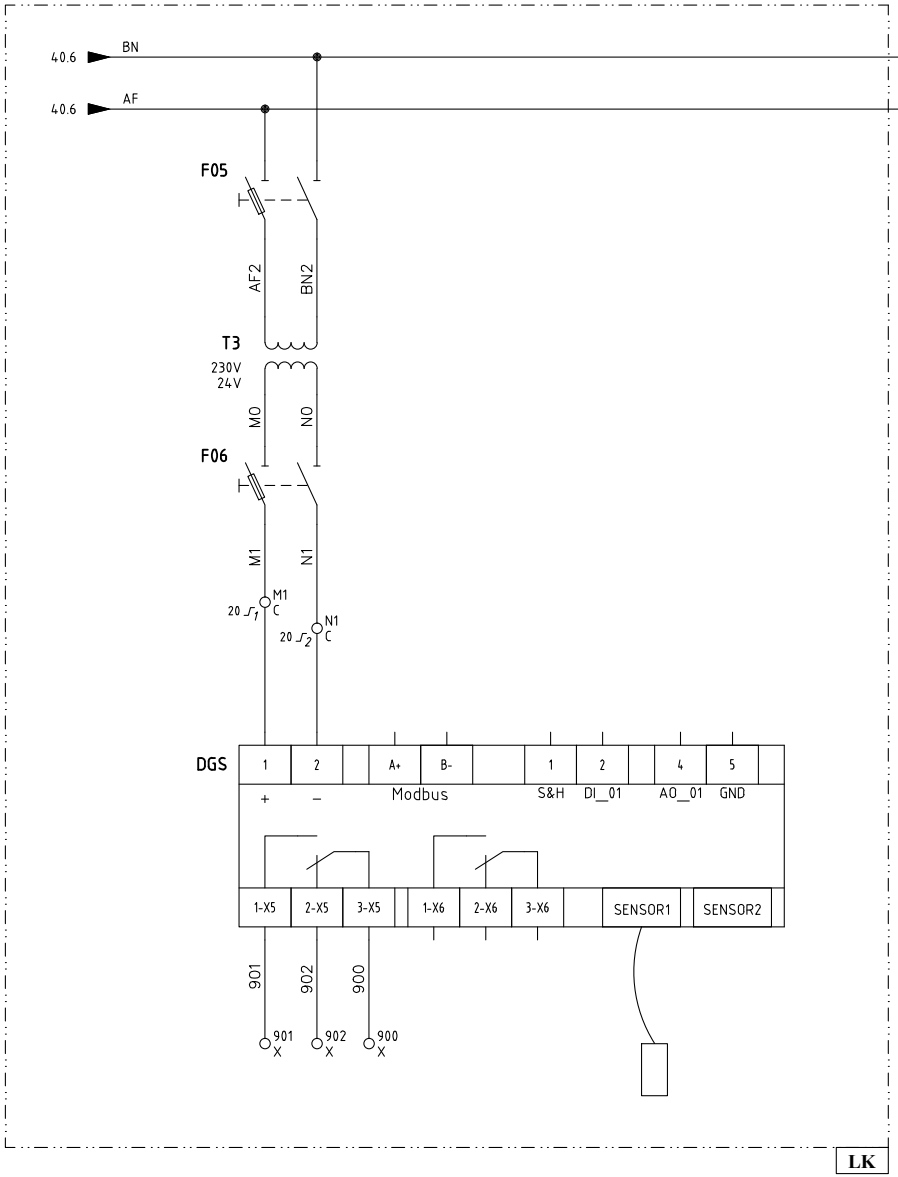
SOST. IL : SOST. DA : FILE :

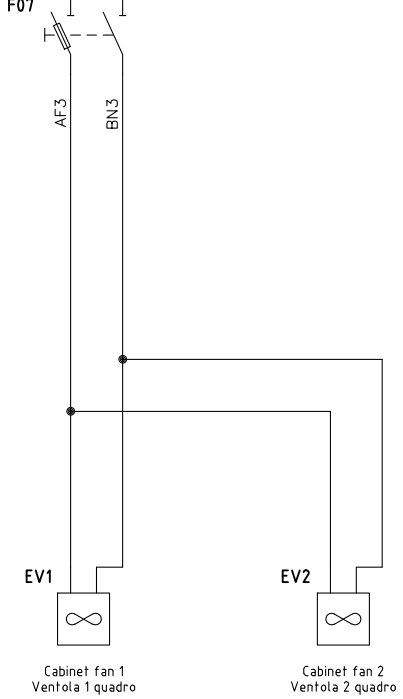
elmod SRL

CWC XEA – CWC EA
QCFxxBnnnNNxxx

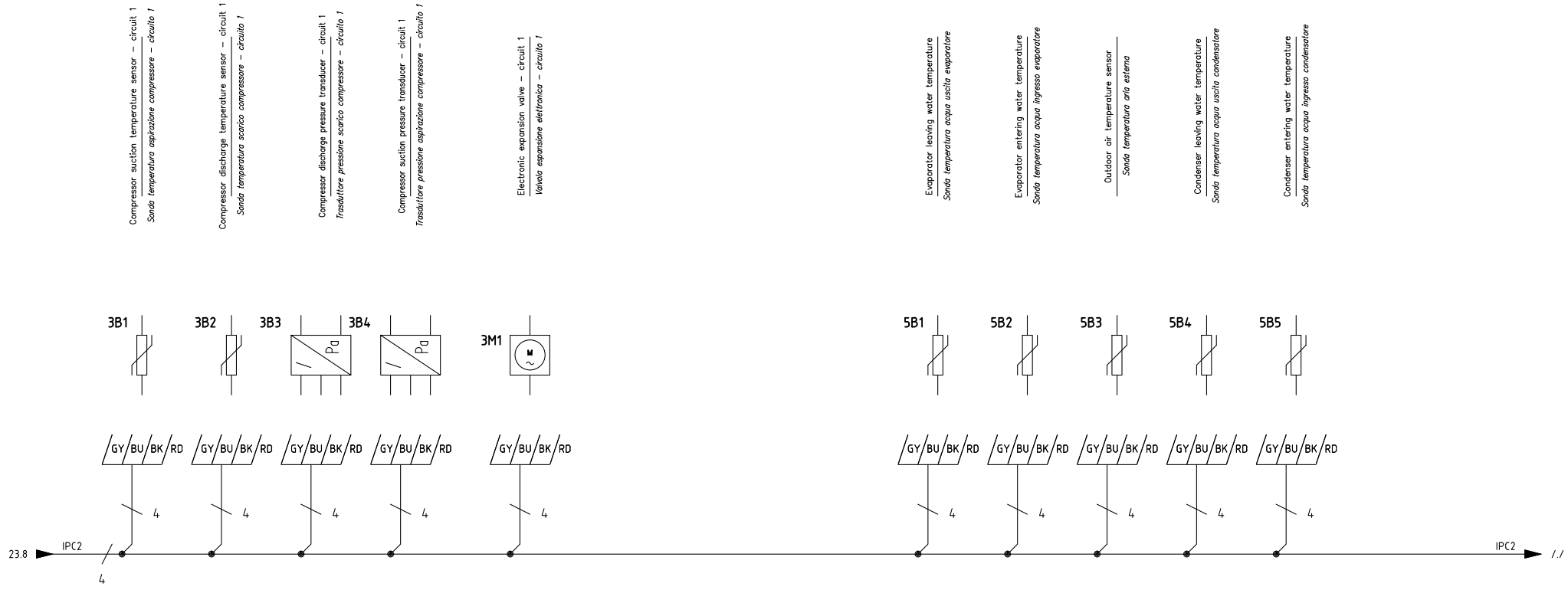
OPTIONS CIRCUIT
CIRCUITO OPZIONI

FG. 41
F.S. 42





				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx	=
				DISEGN.	C.F.				+
				VISTO				R454b GAS DECTECTOR (LK OPTION) RILEVATORE GAS R454b (OPZIONE LK)	FG. 42
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :	F.S. 43



				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.

Thermocold® THE AIRVOLUTION

SOST. IL : SOST. DA :

elmod SRL

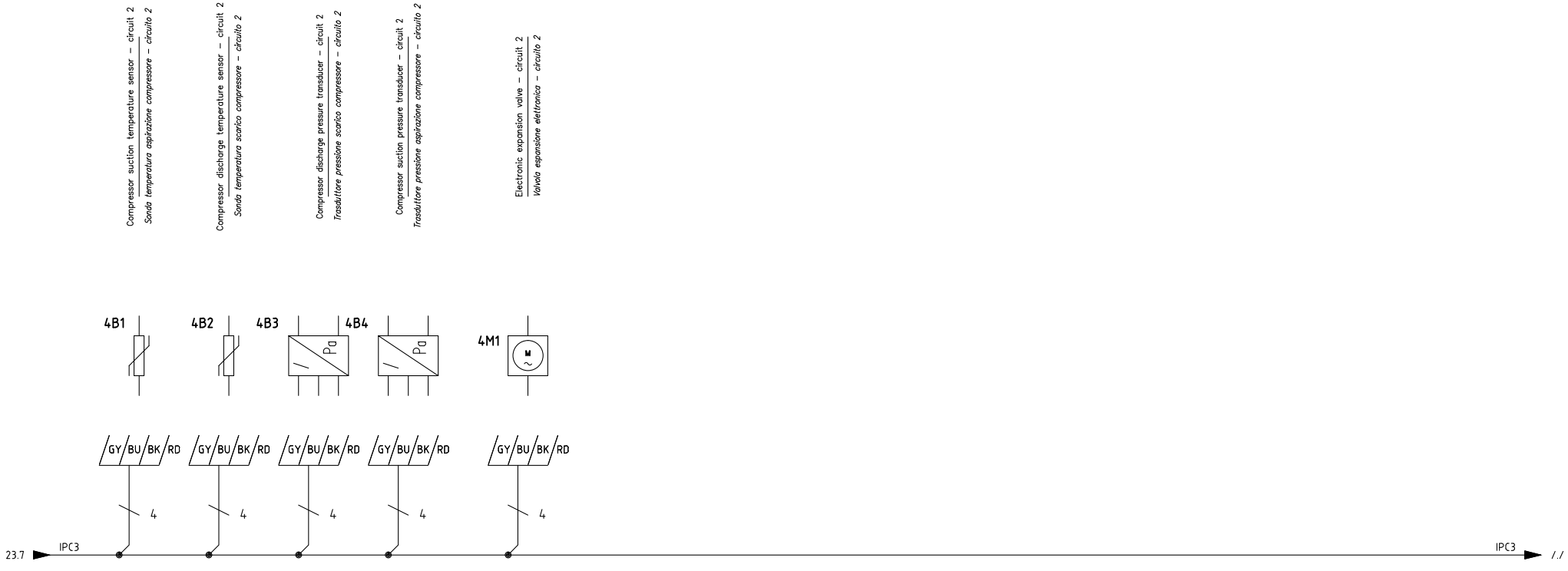
FILE :

CWC XEA – CWC EA
QCFxxBnnnNNxxx

SENSOR AND PRESSURE TRANSDUCER CIRCUITS
CIRCUITI SONDE E TRASDUTTORI DI PRESSIONE

=
+

FG. 43
F.S. 44



				DATA	22/07/22	Thermocold THE AIRVOLUTION	elmod SRL	CWC XEA – CWC EA QCFxxBnnnNNxxx		=	
				DISEGN.	C.F.					+	
				VISTO				SENSOR AND PRESSURE TRANSDUCER CIRCUITS CIRCUITI SONDE E TRASDUTTORI DI PRESSIONE			FG. **44**
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.	SOST. IL :	SOST. DA :	FILE :			F.S. **46**

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C

NumM	LIV.	NumI	Utenza	Fg.Cat
1	1/2	16	Antifreeze 1 evaporator heater HE1	35.4
	2/2	BN	Antifreeze 1 evaporator heater HE1	35.4
2	1/2	16	Antifreeze 2 evaporator heater HE2	35.5
	2/2	BN	Antifreeze 2 evaporator heater HE2	35.5
3	1/2	16	Antifreeze 1 condenser heater HC1	35.6
	2/2	BN	Antifreeze 1 condenser heater HC1	35.6
4	1/2	16	Antifreeze 2 condenser heater HC2	35.7
	2/2	BN	Antifreeze 2 condenser heater HC2	35.7
5	1/2	U5	Evaporator water antifreeze heater 1 HEW1	17.1
	2/2	CS5	Evaporator water antifreeze heater 1 HEW1	17.1
6	1/2	U5	Evaporator water antifreeze heater 4 HEW4	17.2
	2/2	CS5	Evaporator water antifreeze heater 4 HEW4	17.2
7	1/2	U5	Evaporator water antifreeze heater 7 HEW7	17.4
	2/2	CS5	Evaporator water antifreeze heater 7 HEW7	17.4
8	1/2	V5	Evaporator water antifreeze heater 2 HEW2	17.1
	2/2	CS5	Evaporator water antifreeze heater 2 HEW2	17.1
9	1/2	V5	Evaporator water antifreeze heater 5 HEW5	17.3
	2/2	CS5	Evaporator water antifreeze heater 5 HEW5	17.3
10	1/2	V5	Evaporator water antifreeze heater 8 HEW8	17.4
	2/2	CS5	AEvaporator water antifreeze heater 8 HEW8	17.4
11	1/2	W5	Evaporator water antifreeze heater 3 HEW3	17.2
	2/2	CS5	Evaporator water antifreeze heater 3 HEW3	17.2
12	1/2	W5	Evaporator water antifreeze heater 6 HEW6	17.3
	2/2	CS5	Evaporator water antifreeze heater 6 HEW6	17.3
13	1/2	W5	Evaporator water antifreeze heater 9 HEW9	17.5
	2/2	CS5	Evaporator water antifreeze heater 9 HEW9	17.5
14	1/2	U6	Condenser water antifreeze heater 1 HCW1	17.5
	2/2	CS6	Condenser water antifreeze heater 1 HCW1	17.5
15	1/2	U6	Condenser water antifreeze heater 4 HCW4	17.7
	2/2	CS6	Condenser water antifreeze heater 4 HCW4	17.7
16	1/2	V6	Condenser water antifreeze heater 2 HCW2	17.6
	2/2	CS6	Condenser water antifreeze heater 2 HCW2	17.6
17	1/2	V6	Condenser water antifreeze heater 5 HCW5	17.7
	2/2	CS6	Condenser water antifreeze heater 5 HCW5	17.7
18	1/2	W6	Condenser water antifreeze heater 3 HCW3	17.6
	2/2	CS6	Condenser water antifreeze heater 3 HCW3	17.6
19	1/2	W6	Condenser water antifreeze heater 6 HCW6	17.8
	2/2	CS6	Condenser water antifreeze heater 6 HCW6	17.8
20	1/2	M1	R454b gas detector power supply 24Vac	42.1
	2/2	N1	R454b gas detector power supply 24Vac	42.1

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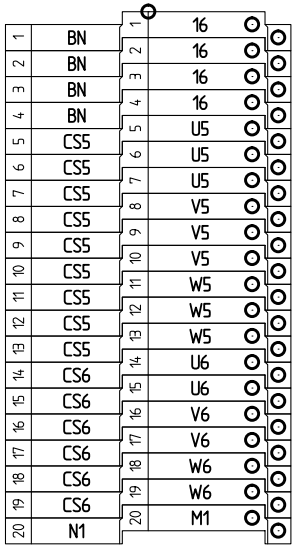

				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.

Thermocold® THE AIRVOLUTION — elmod SRL

SOST. IL : SOST. DA : FILE :

CWC XEA – CWC EA
QCFxxBnnnNNxxx

TERMINAL BOARD C
MORSETTIERa C

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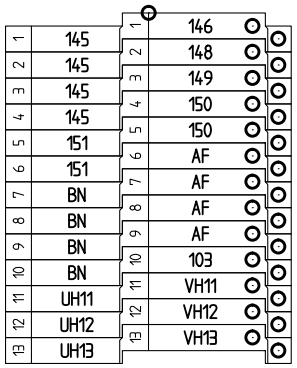
+

FG. 46
F.S. 47

=QG
C1

NumM	LIV.	NumI	Utenza	Fg.Cat
1	1/2	146	Compressor 1 protection PC11	25.6
	2/2	145	Compressor 1 protection PC11	25.6
2	1/2	148	Compressor 2 protection PC12	25.8
	2/2	145	Compressor 2 protection PC12	25.8
3	1/2	149	Compressor 3 protection PC13	27.3
	2/2	145	Compressor 3 protection PC13	27.3
4	1/2	150	High presure switch HP1-2 (NO)	25.4
	2/2	145	High presure switch HP1-2 (NC)	25.4
5	1/2	150	High presure switch HP1-1 (NO)	25.3
	2/2	151	High presure switch HP1-2 (COM)	25.4
6	1/2	AF	High presure switch HP1-1 (COM)	25.4
	2/2	151	High presure switch HP1-1 (NC)	25.4
7	1/2	AF	Compressor 1 supply protection PC11	25.5
	2/2	BN	Compressor 1 supply protection PC11	25.5
8	1/2	AF	Compressor 2 supply protection PC12	25.7
	2/2	BN	Compressor 2 supply protection PC12	25.7
9	1/2	AF	Compressor 3 supply protection PC13	27.3
	2/2	BN	Compressor 3 supply protection PC13	27.3
10	1/2	103	Liquid solenoid valve EC1	28.7
	2/2	BN	Liquid solenoid valve EC1	28.7
11	1/2	VH11	Compressor 1 crankase heater RIS11	11.1
	2/2	UH11	Compressor 1 crankase heater RIS11	11.1
12	1/2	VH12	Compressor 2 crankase heater RIS12	11.2
	2/2	UH12	Compressor 2 crankase heater RIS12	11.2
13	1/2	VH13	Compressor 3 crankase heater RIS13	11.3
	2/2	UH13	Compressor 3 crankase heater RIS13	11.3

=QG - C1



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C2

NumM	LIV.	NumI	Utenza	Fg.Cat
1	1/2	246	Compressor 1 protection PC21	26.6
	2/2	245	Compressor 1 protection PC21	26.6
2	1/2	248	Compressor 2 protection PC22	26.8
	2/2	245	Compressor 2 protection PC22	26.8
3	1/2	249	Compressor 3 protection PC23	27.5
	2/2	245	Compressor 3 protection PC23	27.5
4	1/2	250	High presure switch HP2-2 (NO)	26.4
	2/2	245	High presure switch HP2-2 (NC)	26.4
5	1/2	250	High presure switch HP2-1 (NO)	26.3
	2/2	251	High presure switch HP2-2 (COM)	26.4
6	1/2	AF	High presure switch HP2-1 (COM)	26.4
	2/2	251	High presure switch HP2-1 (NC)	26.4
7	1/2	AF	Compressor 1 supply protection PC21	26.5
	2/2	BN	Compressor 1 supply protection PC21	26.5
8	1/2	AF	Compressor 2 supply protection PC22	26.7
	2/2	BN	Compressor 2 supply protection PC22	26.7
9	1/2	AF	Compressor 3 supply protection PC23	27.5
	2/2	BN	Compressor 3 supply protection PC23	27.5
10	1/2	203	Liquid solenoid valve EC2	28.8
	2/2	BN	Liquid solenoid valve EC2	28.8
11	1/2	VH21	Compressor 1 crankase heater RIS21	11.4
	2/2	UH21	Compressor 1 crankase heater RIS21	11.4
12	1/2	VH22	Compressor 2 crankase heater RIS22	11.5
	2/2	UH22	Compressor 2 crankase heater RIS22	11.5
13	1/2	VH23	Compressor 3 crankase heater RIS23	11.6
	2/2	UH23	Compressor 3 crankase heater RIS23	11.6

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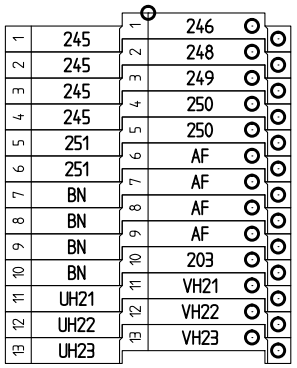

REV.	MODIFICA	DATA	FIRMA		
				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
				APPR.	F.D.

Thermocold® THE AIRVOLUTION

SOST. IL : SOST. DA : FILE :

elmod SRL

CWC XEA – CWC EA
QCFxxBnnnNNxxx

TERMINALS BOARD C1, C2
MORSETTIERE C1, C2

=
+

FG. 47
F.S. 48

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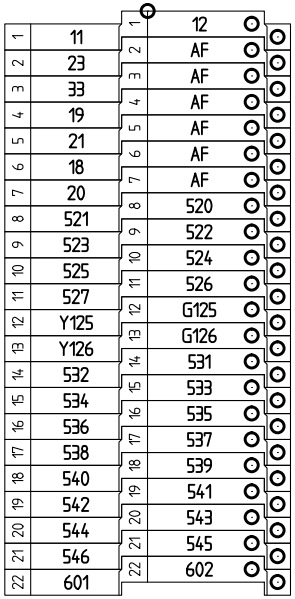
X

NumM	LIV.	Numl	Utenza	Fg.Cat
1	1/2	12	Remote ON/OFF	24.3
	2/2	11	Remote ON/OFF	24.3
2	1/2	AF	Evaporator water flow switch FLE	30.3
	2/2	23	Evaporator water flow switch FLE	30.3
3	1/2	AF	Condenser water flow switch FLC	30.2
	2/2	33	Condenser water flow switch FLC	30.2
4	1/2	AF	Thermal protection or alarm inverter evaporator pump 1	32.5
	2/2	19	Thermal protection or alarm inverter evaporator pump 1	32.5
5	1/2	AF	Thermal protection or alarm inverter evaporator pump 2	33.5
	2/2	21	Thermal protection or alarm inverter evaporator pump 2	33.5
6	1/2	AF	Thermal protection or alarm inverter condenser pump 1	32.4
	2/2	18	Thermal protection or alarm inverter condenser pump 1	32.4
7	1/2	AF	Thermal protection or alarm inverter condenser pump 2	33.4
	2/2	20	Thermal protection or alarm inverter condenser pump 2	33.4
8	1/2	520	Request evaporator water pump 1 (free voltage)	31.0
	2/2	521	Request evaporator water pump 1 (free voltage)	31.0
9	1/2	522	Request condenser water pump 1 (free voltage)	31.1
	2/2	523	Request condenser water pump 1 (free voltage)	31.1
10	1/2	524	Request evaporator water pump 2 (free voltage)	31.3
	2/2	525	Request evaporator water pump 2 (free voltage)	31.3
11	1/2	526	Request condenser water pump 2 (free voltage)	31.5
	2/2	527	Request condenser water pump 2 (free voltage)	31.5
12	1/2	G125	0-10V signal evaporator water pumps inverter	34.3
	2/2	Y125	0-10V signal evaporator water pumps inverter	34.3
13	1/2	G126	0-10V Signal condenser water pumps inverter	34.6
	2/2	Y126	0-10V Signal condenser water pumps inverter	34.5
14	1/2	531	Alarm/Status 1 (free voltage)	38.2
	2/2	532	Alarm/Status 1 (free voltage)	38.2
15	1/2	533	Alarm/Status 2 (free voltage)	38.2
	2/2	534	Alarm/Status 2 (free voltage)	38.2
16	1/2	535	Alarm/Status 3 (free voltage)	38.2
	2/2	536	Alarm/Status 3 (free voltage)	38.2
17	1/2	537	Alarm/Status 4 (free voltage)	38.2
	2/2	538	Alarm/Status 4 (free voltage)	38.2
18	1/2	539	Alarm/Status 5 (free voltage)	38.7
	2/2	540	Alarm/Status 5 (free voltage)	38.7
19	1/2	541	Alarm/Status 6 (free voltage)	38.7
	2/2	542	Alarm/Status 6 (free voltage)	38.7
20	1/2	543	Alarm/Status 7 (free voltage)	38.7
	2/2	544	Alarm/Status 7 (free voltage)	38.7
21	1/2	545	Alarm/Status 8 (free voltage)	38.7
	2/2	546	Alarm/Status 8 (free voltage)	38.7
22	1/2	602	Auxiliary chilled/hot water setpoint enable	39.3
	2/2	601	Auxiliary chilled/hot water setpoint enable	39.3

=QG - X



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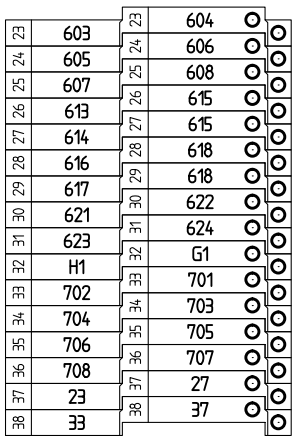
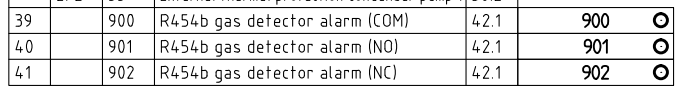
X

NumM	LIV.	Numl	Utenza	Fg.Cat
23	1/2	604	Hot water control mode	39.3
	2/2	603	Hot water control mode	39.3
24	1/2	606	Circuit 1 external lockout	41.3
	2/2	605	Circuit 1 external lockout	41.3
25	1/2	608	Circuit 2 external lockout	41.3
	2/2	607	Circuit 2 external lockout	41.3
26	1/2	615	Unit % capacity output	39.3
	2/2	613	Unit % capacity output	39.3
27	1/2	615	External Chilled/Hot water setpoint	39.3
	2/2	614	External Chilled/Hot water setpoint	39.3
28	1/2	618	Reference output voltage if needed	39.3
	2/2	616	Reference output voltage if needed	39.3
29	1/2	618	External demand limit input	39.3
	2/2	617	External demand limit input	39.3
30	1/2	622	Condenser pressure output Ckt1	40.2
	2/2	621	Condenser pressure output Ckt1	40.2
31	1/2	624	Condenser pressure output Ckt2	40.2
	2/2	623	Condenser pressure output Ckt2	40.2
32	1/2	G1	3-way valve 24Vac	40.6
	2/2	H1	3-way valve 24Vac	40.6
33	1/2	701	Supplementary heater 1 (free voltage)	41.7
	2/2	702	Supplementary heater 1 (free voltage)	41.7
34	1/2	703	Supplementary heater 2 (free voltage)	41.7
	2/2	704	Supplementary heater 2 (free voltage)	41.7
35	1/2	705	Supplementary heater 3 (free voltage)	41.7
	2/2	706	Supplementary heater 3 (free voltage)	41.7
36	1/2	707	Supplementary heater 4 (free voltage)	41.7
	2/2	708	Supplementary heater 4 (free voltage)	41.7
37	1/2	27	External thermal protection evaporator pump 1	30.3
	2/2	23	External thermal protection evaporator pump 1	30.3
38	1/2	37	External thermal protection condenser pump 1	30.2
	2/2	33	External thermal protection condenser pump 1	30.2
39		900	R454b gas detector alarm (COM)	42.1
40		901	R454b gas detector alarm (NO)	42.1
41		902	R454b gas detector alarm (NC)	42.1





				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
REV.	MODIFICA	DATA	FIRMA	APPR.	F.D.

Thermocold® THE AIRVOLUTION

SOST. IL : SOST. DA : FILE :

elmod SRL

CWC XEA – CWC EA
QCFxxBnnnNNxxx

TERMINAL BOARD X
MORSETTIERA X

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FG. 48
F.S. 49

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	1A1 =QG 23	Display Display
	1A11 =QG 31	
	1A12-1 =QG 32	
	1A12-2 =QG 33	
	1A13 =QG 34	
	1A14-1 =QG 30	
	1A14-1 =QG 30	
	1A17 =QG 37	
	1A19-1 =QG 39	
	1A2 =QG 23	Controller Controller
	1A20 =QG 39	

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	1A21-1 =QG 38	
	1A21-2 =QG 38	
	1A22 =QG 3	
	1A22-1 =QG 41	
	1A23 =QG 41	
	1A24 =QG 35	
	1A25 =QG 40	
	1A27 =QG 36	
	1A3-1 =QG 23	
	1A3-2 =QG 23	
	1A33 =QG 41	

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	1A5-1 =QG 25	
	1A6-1 =QG 28	
	1A6-3 =QG 29	
	1A8-1 =QG 25	
	1A8-2 =QG 26	
	1A8-3 =QG 27	
	1A9 =QG 24	
	3B1 =QG 43	Compressor suction temperature sensor - circuit 1 Sonda temperatura aspirazione compressore - circuito 1
	3B2 =QG 43	Compressor discharge temperature sensor - circuit 1 Sonda temperatura scarico compressore - circuito 1
Pa	3B3 =QG 43	Compressore discharge pressure transducer - circuit 1 Trasduttore pressione scarico compressore - circuito 1
Pa	3B4 =QG 43	Compressor suction pressure transducer - circuit 1 Trasduttore pressione aspirazione compressore - circuito 1

REV.	MODIFICA	DATA	FIRMA		
				DATA	22/07/22
				DISEGN.	C.F.
				VISTO	
				APPR.	F.D.

Thermocold® THE AIRVOLUTION

elmod SRL

SOST. IL : SOST. DA : FILE :

CWC XEA – CWC EA
QCFxxBnnnNNxxx

FUNCTION LEGEND
LEGENDA FUNZIONI

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Sim.\Sym.	Sigla\Item	Funzione\Use Type
	3M1 =QG 43	Electronic expansion valve - circuit 1 Valvola espansione elettronica - circuito 1
	4B1 =QG 44	Compressor suction temperature sensor - circuit 2 Sonda temperatura aspirazione compressore - circuito 2
	4B2 =QG 44	Compressor discharge temperature sensor - circuit 2 Sonda temperatura scarico compressore - circuito 2
	4B3 =QG 44	Compressore discharge pressure transducer - circuit 2 Trasduttore pressione scarico compressore - circuito 2
	4B4 =QG 44	Compressor suction pressure transducer - circuit 2 Trasduttore pressione aspirazione compressore - circuito 2
	4M1 =QG 44	Electronic expansion valve - circuit 2 Valvola espansione elettronica - circuito 2
	5B1 =QG 43	Evaporator leaving water temperature Sonda temperatura uscita acqua evaporatore
	5B2 =QG 43	Evaporator enetring water temperature Sonda temperatura ingresso acqua evaporatore
	5B3 =QG 43	Outdoor air temperature sensor Sonda temperatura aria esterna
	5B4 =QG 43	Heat recovery leaving water temperature Sonda temperatura acqua uscita recupero
	5B5 =QG 43	Heat recovery entering water temperature Sonda temperatura acqua ingresso recupero

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	5S1 =QG 30	Flussustato evaporatore Evaporator flow switch
	5S2 =QG 30	Flussostato condensatore Condenser flow switch
	DGS =QG 42	R454b gas detector Rilevatore gas R454b
	EC1 =QG 28	Liquid solenoid valve 1 - circuit 1 Valvola liquido 1 - circuito 1
	EC2 =QG 28	Liquid solenoid valve 2 - circuit 2 Valvola liquido 2 - circuito 2
	EV1 =QG 42	Cabinet fan 1 Ventola 1 quadro
	EV2 =QG 42	Cabinet fan 2 Ventola 2 quadro
	F01 =QG 3	400Vac line protection transformer T1 Protezione linea 400Vac trasformatore T1
	F03 =QG 40	230Vac line protection transformer T3 Protezione linea 230Vac trasformatore T3
	F05 =QG 42	230Vac line protection transformer T3 Protezione linea 230Vac trasformatore T3
	F06 =QG 42	24Vac line protection transformer T3 Protezione linea 24Vac trasformatore T3

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	F07 =QG 42	230Vac line protection cabinet fan Protezione linea 230Vac ventola quadro
	FKH =QG 17	Antifreeze protection kit water version fuses Fusibili protezione resistenze antigelo versioni idriche
	FLC =QG 30	Condenser water flow switch Flussostato acqua condensatore
	FLE =QG 30	Evaporator water flow switch Flussostato acqua evaporatore
	FNA =QG 3	Protection fuses network analyzer Fusibili protezione analizzatore di rete
	FSH1 =QG 11	Compressor sump heater protection fuses - circuit 1 Fusibili protezione resistenze carter compressori - circuit 1
	FSH2 =QG 11	Compressor sump heater protection fuses - circuit 2 Fusibili protezione resistenze carter compressori - circuit 2
	FX2 =QG 40	24Vac line protection transformer T3 Protezione linea 24Vac trasformatore T3
	HC1 =QG 35	Antifreeze 1condenser heater Resistenza antigelo 1 condensatore
	HC2 =QG 35	Antifreeze 2 condenser heater Resistenza antigelo 2 condensatore
	HCW1 =QG 17	Condenser water antifreeze heater 1 Resistenza 1 antigelo acqua lato condensatore

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Sim.\Sym.	Sigla\Item	Funzione\Use Type
	HCW2 =QG 17	Condenser water antifreeze heater 2 Resistenza 2 antigelo acqua lato condensatore
	HCW3 =QG 17	Condenser water antifreeze heater 3 Resistenza 3 antigelo acqua lato condensatore
	HCW4 =QG 17	Condenser water antifreeze heater 4 Resistenza 4 antigelo acqua lato condensatore
	HCW5 =QG 17	Condenser water antifreeze heater 5 Resistenza 5 antigelo acqua lato condensatore
	HCW6 =QG 17	Condenser water antifreeze heater 6 Resistenza 6 antigelo acqua lato condensatore
	HE1 =QG 35	Antifreeze 1 evaporator heater Resistenza antigelo 1 evaporatore
	HE2 =QG 35	Antifreeze 2 evaporator heater Resistenza antigelo 2 evaporatore
	HEW1 =QG 17	Evaporator water antifreeze heater 1 Resistenza 1 antigelo acqua lato evaporatore
	HEW2 =QG 17	Evaporator water antifreeze heater 2 HEW2 Resistenza 2 antigelo acqua lato evaporatore
	HEW3 =QG 17	Evaporator water antifreeze heater 3 Resistenza 3 antigelo acqua lato evaporatore
	HEW4 =QG 17	Evaporator water antifreeze heater 4 Resistenza 4 antigelo acqua lato evaporatore

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	HEW5 =QG 17	Evaporator water antifreeze heater 5 Resistenza 5 antigelo acqua lato evaporatore
	HEW6 =QG 17	Evaporator water antifreeze heater 6 Resistenza 6 antigelo acqua lato evaporatore
	HEW7 =QG 17	Evaporator water antifreeze heater 7 Resistenza 7 antigelo acqua lato evaporatore
	HEW8 =QG 17	Evaporator water antifreeze heater 8 Resistenza 8 antigelo acqua lato evaporatore
	HEW9 =QG 17	Evaporator water antifreeze heater 9 Resistenza 9 antigelo acqua lato evaporatore
p<	HP1-1 =QG 25	High presure switch 1 - circuit 1 Pressostato alta pressione 1 - circuito 1
p<	HP1-2 =QG 25	High presure switch 2 - circuit 1 Pressostato alta pressione 2 - circuito 1
p<	HP2-1 =QG 26	High presure switch 1 - circuit 2 Pressostato alta pressione 1 - circuito 2
p<	HP2-2 =QG 26	High presure switch 2 - circuit 2 Pressostato alta pressione 2 - circuito 2
	K11 =QG 28	Compressor 1 contactor - circ. 1 Contattore compressore 1 - circ. 1
	K12 =QG 28	Compressor 2 contactor - circ. 1 Contattore compressore 2 - circ. 1

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	K13 =QG 29	Compressor 3 contactor - circ. 1 Contattore compressore 3 - circ. 1
	K21 =QG 28	Compressor 1 contactor - circ. 2 Contattore compressore 1 - circ. 2
	K22 =QG 28	Compressor 2 contactor - circ. 2 Contattore compressore 2 - circ. 2
	K23 =QG 29	Compressor 3 contactor - circ. 2 Contattore compressore 3 - circ. 2
	KCH1 =QG 35	Condenser water antifreeze heater contactor Contattore resistenze antigelo acqua condensatore
	KEH1 =QG 35	Evaporator water antifreeze heater contactor Contattore resistenze antigelo acqua evaporatore
	KSH1 =QG 36	Compressor sump heaters contactor - circ. 1 Contattore resistenze carter compressori - circ. 1
	KSH2 =QG 36	Compressor sump heaters contactor - circ. 2 Contattore resistenze carter compressori - circ. 2
M 3~	MC11 =QG 4	Compressor 1 - Circuit 1 Compressore 1 - Circuit 1
M 3~	MC12 =QG 4	Compressor 2 - Circuit 1 Compressore 2 - Circuit 1
M 3~	MC13 =QG 6	Compressor 3 - Circuit 1 Compressore 3 - Circuito 1

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Sim.\Sym.	Sigla\Item	Funzione\Use Type
	MC21 =QG 7	Compressor 1 - Circuit 2 Compressore 1 - Circuito 2
	MC22 =QG 7	Compressor 2 - Circuit 2 Compressore 2 - Circuito 2
	MC23 =QG 9	Compressor 3 - Circuit 2 Compressore 3 - Circuito 2
	PC11 =QG 25	Compressor 1 internal thermal protection - circ. 1 Protezione termica interna compressore 1 - circ. 1
	PC12 =QG 25	Compressor 2 internal thermal protection - circ. 1 Protezione termica interna compressore 2 - circ. 1
	PC13 =QG 27	Compressor 3 internal thermal protection - circ. 1 Protezione termica interna compressore 3 - circ. 1
	PC21 =QG 26	Compressor 1 internal thermal protection - circ. 2 Protezione termica interna compressore 1 - circ. 2
	PC22 =QG 26	Compressor 2 internal thermal protection - circ. 2 Protezione termica interna compressore 2 - circ. 2
	PC23 =QG 27	Compressor 3 internal thermal protection - circ. 2 Protezione termica interna compressore 3 - circ. 2
U V W N	PSR =QG 3	Phase sequency relay Relè sequenza fase
	Q11 =QG 4	Thermal magnetic protection compressor 1 - circ. 1 Protezione magnetotermica compressore 1 - circ. 1

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	Q12 =QG 4	Thermal magnetic protection compressor 2 - circ. 1 Protezione magnetotermica compressore 2 - circ. 1
	Q13 =QG 6	Thermal magnetic protection compressor 3 - circ. 1 Protezione magnetotermica compressore 3 - circ. 1
	Q21 =QG 7	Thermal magnetic protection compressor 1 - circ. 2 Protezione magnetotermica compressore 1 - circ. 2
	Q22 =QG 7	Thermal magnetic protection compressor 2 - circ. 2 Protezione magnetotermica compressore 2 - circ. 2
	Q23 =QG 9	Thermal magnetic protection compressor 3 - circ. 2 Protezione magnetotermica compressore 3 - circ. 2
	QS1 =QG 3	General switch Interruttore generale
	R11 =QG 28	Compressor 1 run relay softstarter - circ. 1 Relè marcia softstarter compressore 1 - circ. 1
	R12 =QG 28	Compressor 2 run relay softstarter - circ. 1 Relè marcia softstarter compressore 2 - circ. 1
	R13 =QG 29	Compressor 3 run relay softstarter - circ. 1 Relè marcia softstarter compressore 3 - circ. 1
	R21 =QG 28	Compressor 1 run relay softstarter - circ. 2 Relè marcia softstarter compressore 1 - circ. 2
	R22 =QG 28	Compressor 2 run relay softstarter - circ. 2 Relè marcia softstarter compressore 2 - circ. 2

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	R23 =QG 29	Compressor 3 run relay softstarter - circ. 2 Relè marcia softstarter compressore 3 - circ. 2
	RIS11 =QG 11	Compressor 1 crankase heater - circ. 1 Resistenza carter olio compressore 1 - circ. 1
	RIS12 =QG 11	Compressor 2 crankase heater - circ. 1 Resistenza carter olio compressore 2 - circ. 1
	RIS13 =QG 11	Compressor 3 crankase heater - circ. 1 Resistenza carter olio compressore 3 - circ. 1
	RIS21 =QG 11	Compressor 1 crankase heater - circ. 2 Resistenza carter olio compressore 1 - circ. 2
	RIS22 =QG 11	Compressor 2 crankase heater - circ. 2 Resistenza carter olio compressore 2 - circ. 2
	RIS23 =QG 11	Compressor 3 crankase heater - circ. 2 Resistenza carter olio compressore 3 - circ. 2
	RPC1 =QG 31	Request condenser water pump 1 relay Relè richiesta pompa acqua condensatore 1
	RPC2 =QG 31	Request condenser water pump 2 relay Relè richiesta pompa acqua condensatore 2
	RPE1 =QG 31	Request evaporator water pump 1 relay Relè richiesta pompa acqua evaporatore 1
	RPE2 =QG 31	Request evaporator water pump 2 relay Relè richiesta pompa acqua evaporatore 2

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	SB1 =QG 24	Emergenza esterna External emergency
	SLR =QG 24	External remote on / off Comando esterno on / off
	SS11 =QG 4	Softstarter compressor 1 - circ. 1 Softstarter compressore 1 - circ. 1
	SS12 =QG 4	Softstarter compressor 2 - circ. 1 Softstarter compressore 2 - circ. 1
	SS13 =QG 6	Softstarter compressor 3 - circ. 1 Softstarter compressore 3 - circ. 1
	SS21 =QG 7	Softstarter compressor 1 - circ. 2 Softstarter compressore 1 - circ. 2
	SS22 =QG 7	Softstarter compressor 2 - circ. 2 Softstarter compressore 2 - circ. 2
	SS23 =QG 9	Softstarter compressor 3 - circ. 2 Softstarter compressore 3 - circ. 2
	T1 =QG 3	Monophase transformer 0-400//0-230Vac/0-27Vac Trasformatore monofase 0-400//0-230Vac/0-27Vac
	T2 =QG 40	Monophase transformer 230/24Vac Trasformatore monofase 230/24Vac
	T3 =QG 42	Monophase transformer 230/24Vac Trasformatore monofase 230/24Vac

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	TA1 =QG 3	Amperometric transformer phase L1 Trasformatore amperometrico fase L1
	TA2 =QG 3	Amperometric transformer phase L2 Trasformatore amperometrico fase L2
	TA3 =QG 3	Amperometric transformer phase L3 Trasformatore amperometrico fase L3
	TPC1 =QG 30	External thermal protection condenser pump 1 Protezione termica esterna pompa condensatore 1
	TPE1 =QG 30	External thermal protection evaporator pump 1 Protezione termica esterna pompa evaporatore 1
	WB1 =QG 3	

Sim.\Sym.	Sigla\Item	Funzione\Use Type

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