DESIGN		VOLTAGE EXERCISE	400 Vac 50 Hz	NORMS CEI EN 61204-1	PROTECTION
SERIES		VOLTAGE CONTROLS	230 Vac 50 Hz	+	=
JOB		VOLTAGE SEGNALS	230 Vac 50 Hz		
CUSTOMER					

REV.	DESCRIPTION	DATE	SIGN.
13	NUOVO INV. IC2	18/12/24	A.H.
12	AGG. POTENZA	04/07/24	A.M.
11	AGG. PAR. INV.	13/02/23	A.M.
10	AGG. S. FUNZ.	18/12/18	A.M.
9	TRADUZIONI	02/08/17	D.Q.
8	VLT FC51/FC101	26/04/17	D.Q.
7	CAVI SCALDANTI	06/12/16	D.Q.
6	DEFINITIVO	17/07/15	C.G.
5	REV. GENERALE	03/06/15	D.P.
0	PRIMA EMISSIONE	31/07/12	G.G.

	DATE	SIGN.
DESIGN.	17/07/15	D.P.
CHECK.	17/07/15	C.G.
APPROV.		

CONTROL PANEL
HPT 2P + INV.

825040090

SHEET
T.F.

REPL. THE:
REOL. BY:
FILE :

REV.	DESCRIPTION	DATE	SIGN.		
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	
				APPROV.	

REPLACED THE:
REPLACED BY:
FILE :

JOB TITLE:
HPT 2P + INV.

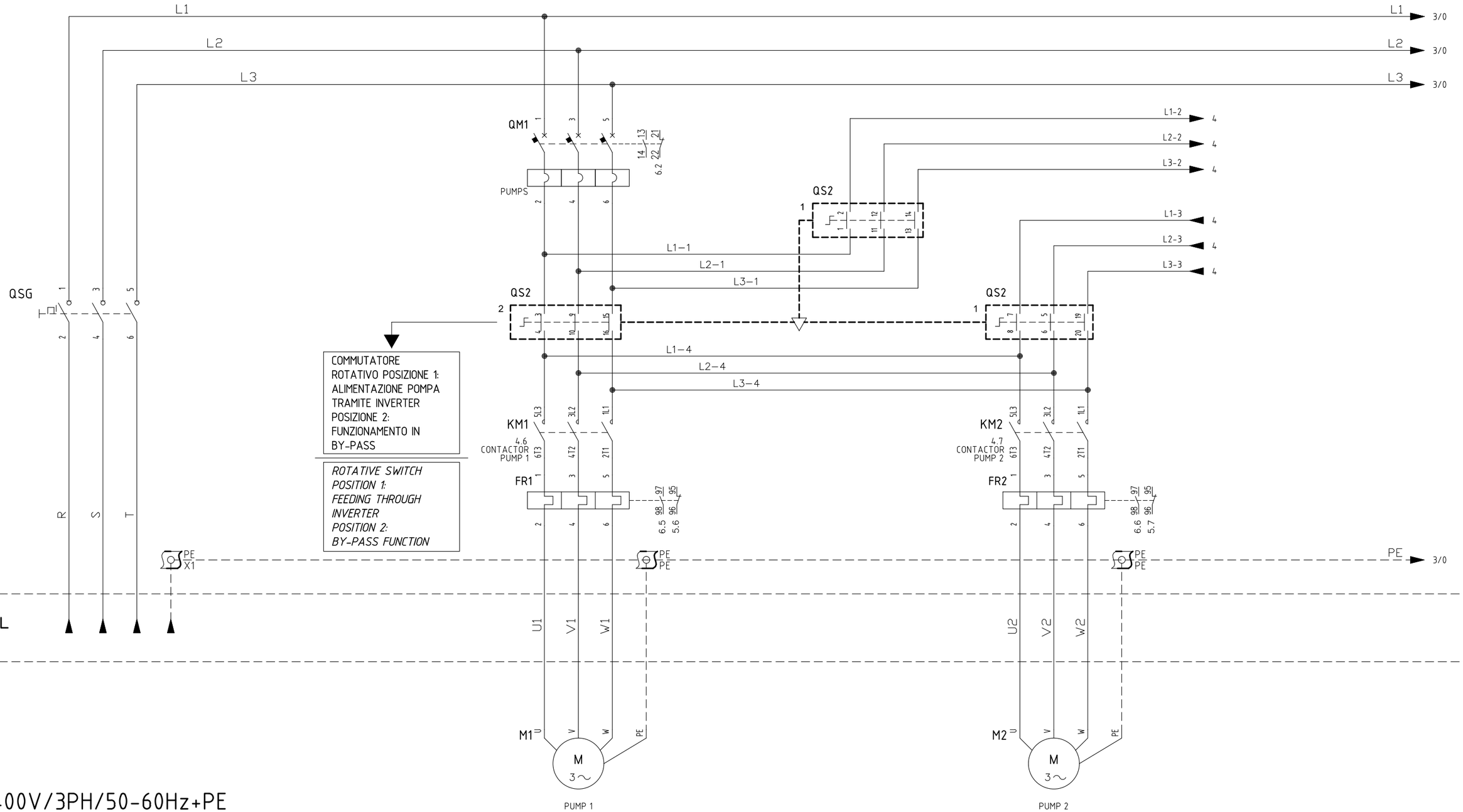
DESCRIPTION SHEET :
DATI IDENTIFICAZIONE QUADRO
IDENTIFICATION DATA PANEL

Wiring Diagram
825040090

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FG. 1
F.S. 2
F.T. 11

This drawing is valid only after approval of the Trained Planner



REV.	DESCRIPTION	DATE	SIGN.	APPROV.
13	NUOVO INV. IC2	18/12/24	A.H.	
12	AGG. POTENZA	04/07/24	A.M.	
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	

DATE	31/07/12
DESIGN.	G.G.
CHECK.	

REPLACED THE:

REPLACED BY:

FILE :

JOB TITLE:
HPT 2P + INV.

DESCRIPTION SHEET :

ALIMENTAZIONE POMPE E AUSILIARI
AUXILIARY POWER AND PUMPS

Wiring Diagram
825040090

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FG. 2

F.S. 3

F.T. 11

This drawing is valid only after approval of the Trained Planner

2.12 L1
2.12 L2
2.12 L3
2/12 PE

QM3
1 3 5
13 14 21 22
8.5 8.6
ANTIFREEZE HEATER HEATING CABLE
2 4 6

KM3
8.5
CONTACTOR ANTIFREEZE
5L3 3L2 1L1
6T3 4T2 2T1

U3 V3 W3

PE PE

TERMINAL STRIP

1R1 L1 L2 L3
HEATER

2R1 L1 L2 L3
HEATER

OPTIONAL 825050064

OPTIONAL 825050065

U3 V3 W3
X1 X1 X1

1R2 L1 L2 L3
HEATING CABLE

2R2 L1 L2 L3
HEATING CABLE

OPTIONAL 825050066

L1 /./
L2 /./
L3 /./

FU1
1 A
1 3
2 4
L1-5 L3-5

TC1
400V
230V
AUXILIARY TRANSFORMER

230V.0
FU2
1
2

230V 5.0
0V 5.0

230V.1 X1
230V X1

11
12

DISPONIBILE PER PULSANTE DI EMERGENZA
AVAILABLE FOR EMERGENCY BUTTON

REV.	DESCRIPTION	DATE	SIGN.	APPROV.
13	NUOVO INV. IC2	18/12/24	A.H.	
12	AGG. POTENZA	04/07/24	A.M.	
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	

DATE 31/07/12
DESIGN. G.G.
CHECK.

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE:
HPT 2P + INV.

DESCRIPTION SHEET :
ALIMENTAZIONE POMPE E AUSILIARI
AUXILIARY POWER AND PUMPS

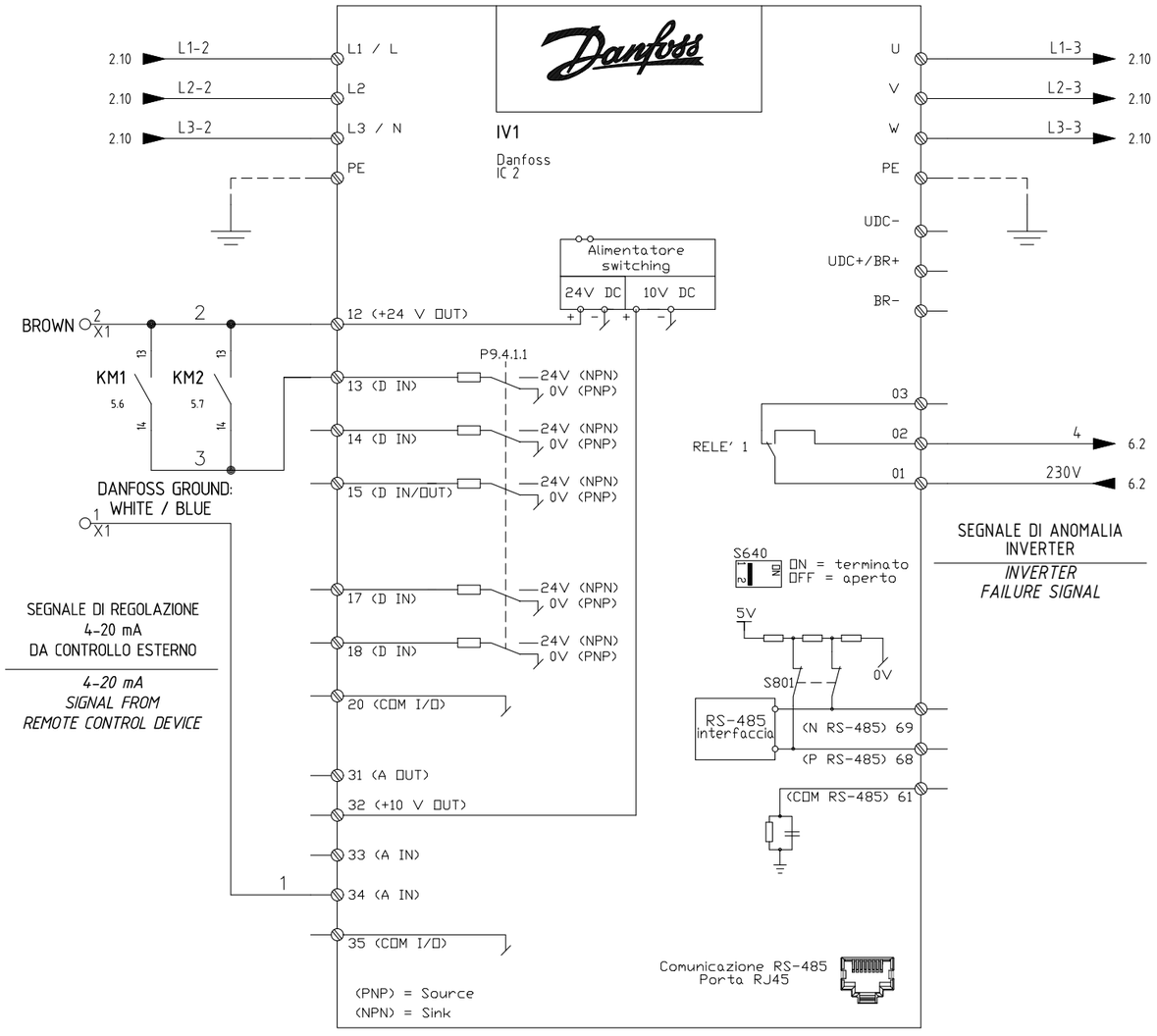
Wiring Diagram
825040090

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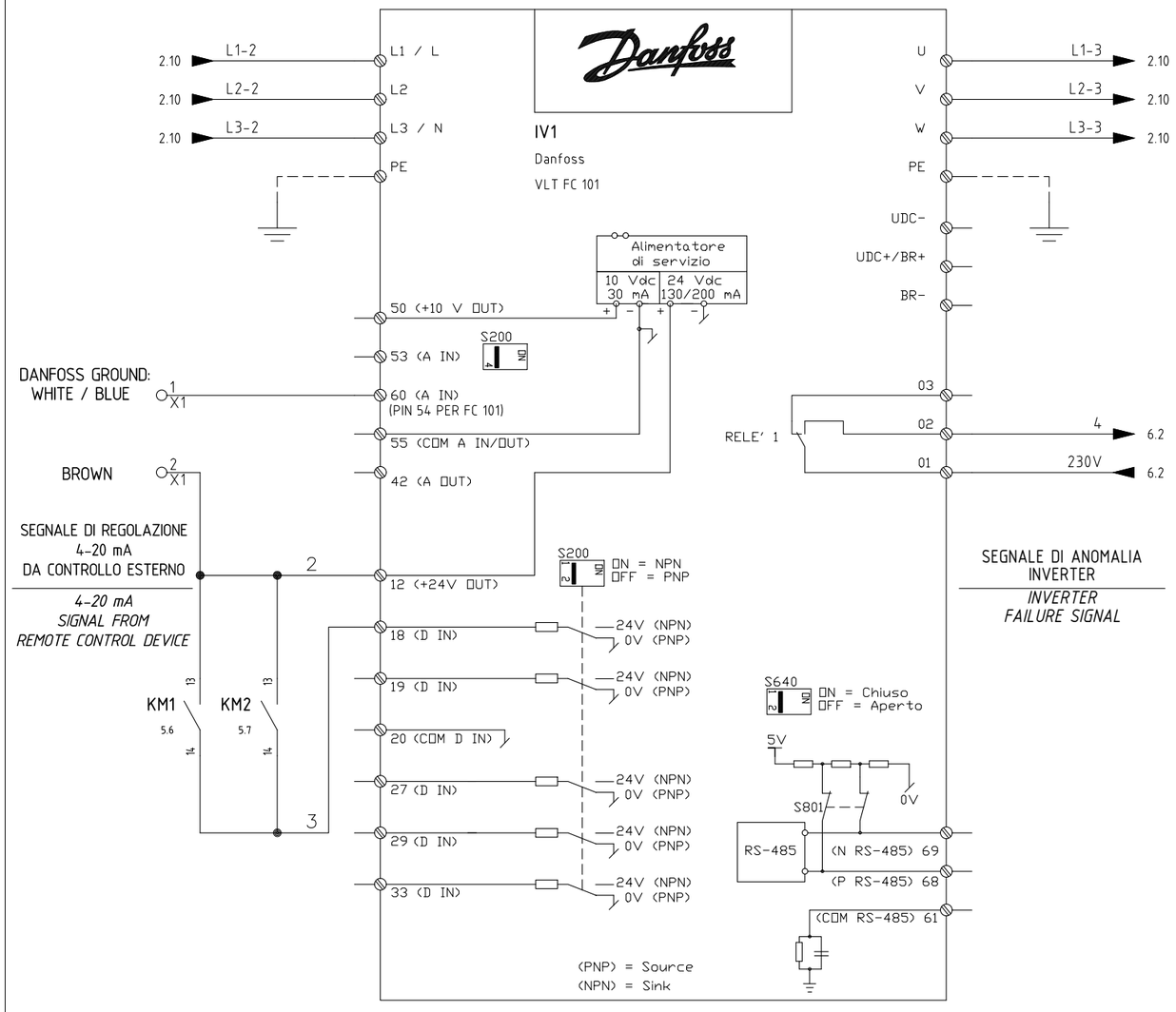
FG. 3
F.S. 4
F.T. 11

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INVERTER DANFOSS IC2 FOR SYSTEMS UP TO 22kW



INVERTER DANFOSS FC101 FOR SYSTEMS OVER 22kW



REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE:
HPT 2P + INV.

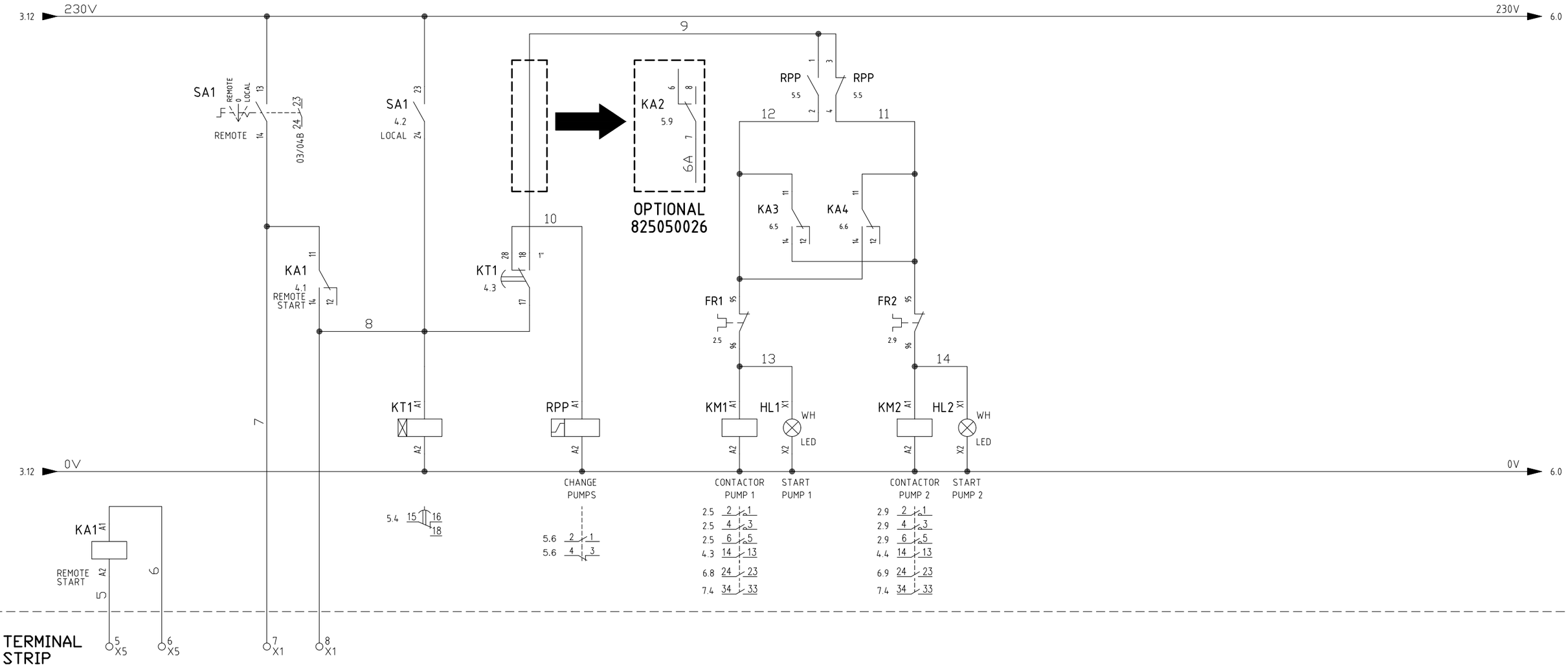
DESCRIPTION SHEET :
ALIMENTAZIONE INVERTER
INVERTER POWER SUPPLY

Wiring Diagram
825040090

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FG. 4
F.S. 5
F.T. 11

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COMANDO AVVIO REMOTO POMPE 230V 50-60Hz
START REMOTE CONTROL PUMPS 230V 50-60Hz

COMANDO AVVIO REMOTO POMPE
START REMOTE CONTROL PUMPS

REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE: HPT 2P + INV.

DESCRIPTION SHEET : AUSILIARI POMPE / AUXILIARY PUMPS

Wiring Diagram 825040090

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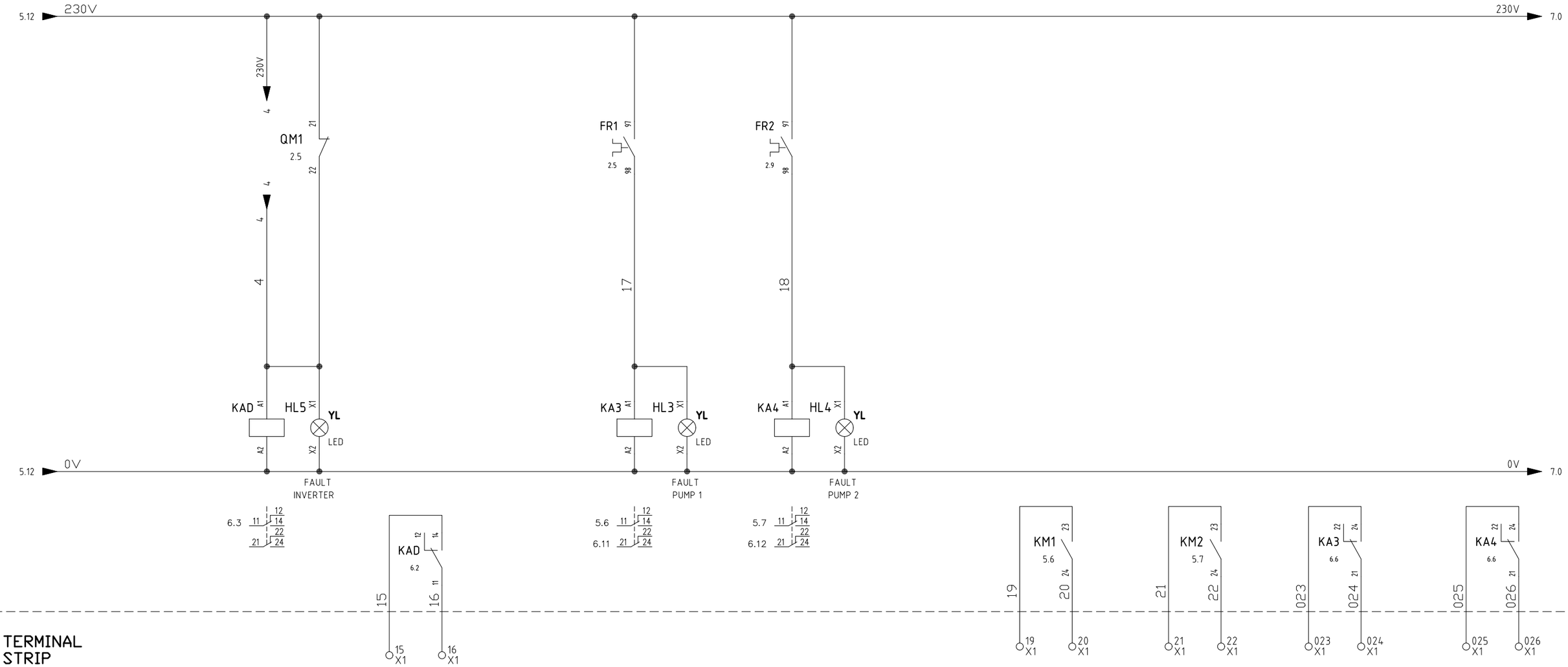
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FG. 5

F.S. 6

F.T. 11

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REV.	DESCRIPTION	DATE	SIGN.	APPROV.
13	NUOVO INV. IC2	18/12/24	A.H.	
12	AGG. POTENZA	04/07/24	A.M.	
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	

DATE	31/07/12
DESIGN.	G.G.
CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE:
HPT 2P + INV.

DESCRIPTION SHEET :
AUSILIARI POMPE
AUXILIARY PUMPS

Wiring Diagram
825040090

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FG. 6
F.S. 7
F.T. 11

This drawing is valid only after approval of the Trained Planner

OPTIONAL 825050026

6.12 230V

230V 8.0

6.12 0V

0V 8.0

KM1 33 5.6 CONTACTOR PUMP 1 34

KM2 33 5.7 CONTACTOR PUMP 2 34

020

022

021

020 X1

021 X1

021 X1

022 X1

P1 13 p> 14 PRESSURE / FLOW SWITCH

PRESSOSTATO DIFF. / FLUSSOSTATO
DIFF. PRESSURE / FLOW SWITCH

MANCANZA FLUSSO POMPE
NO FLOW PUMPS

KT2 16 18 7.8 15

KA2 3 5 7.9 4

021A

020

KM1 33 4.6 CONTACTOR PUMP 1 34

KM2 33 4.7 CONTACTOR PUMP 2 34

SB1 11 RESET ALLARM 12

021

022

KT2 A1 A2

KA2 A1 A2

HL5 X1 YL LED X2

NO FLOW PUMPS

7.9 15 16 18

5.5 11 12 14

7.10 21 22 24

230V X1

020 X1

P1 11 p> 12 PRESSURE / FLOW SWITCH

PRESSOSTATO DIFF. / FLUSSOSTATO
DIFF. PRESSURE / FLOW SWITCH

MANCANZA FLUSSO POMPE
NO FLOW PUMPS

TERMINAL STRIP

REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE: HPT 2P + INV.

DESCRIPTION SHEET : AUSILIARI POMPE AUXILIARY PUMPS

Wiring Diagram 825040090

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FG. 7

F.S. 8

F.T. 11

This drawing is valid only after approval of the Trained Planner

OPTIONAL 825050064 - 825050065 - 825050066

5.12 230V

5.12 0V

230V //

0V //

QM3 3.2 ANTIFREEZE HEATER

13 14

25

24

KM3 A1 A2

CONTACTOR ANTIFREEZE

3.2 2 1
3.2 4 3
3.2 6 5
14 13

QM3 3.2 ANTIFREEZE HEATER

21 22

26

27

TH3 t>

29

EH1

T1 t< 0-60 °C

13 14

23

EV1 1 2

M 1AC

TERMINAL STRIP

230V X1

24 X1

26 X1

27 X1

TH1 t< SAFETY THERMOSTAT

11 12

TH2 t< ANTIFREEZE THERMOSTAT

11 12

TERMOSTATO SICUREZZA ACCUMULO
SAFETY THERMOSTAT

TERMOSTATO ANTIGELO
ANTIFREEZE THERMOSTAT

SEGNALE BLOCCO ANTIGELO
FAULT SIGNAL ANTIFREEZE

OPTIONAL SCALDIGLIA
OPTIONAL HEATER

REV.	DESCRIPTION	DATE	SIGN.	APPROV.
13	NUOVO INV. IC2	18/12/24	A.H.	
12	AGG. POTENZA	04/07/24	A.M.	
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	

DATE 31/07/12
DESIGN. G.G.
CHECK.

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE: HPT 2P + INV.

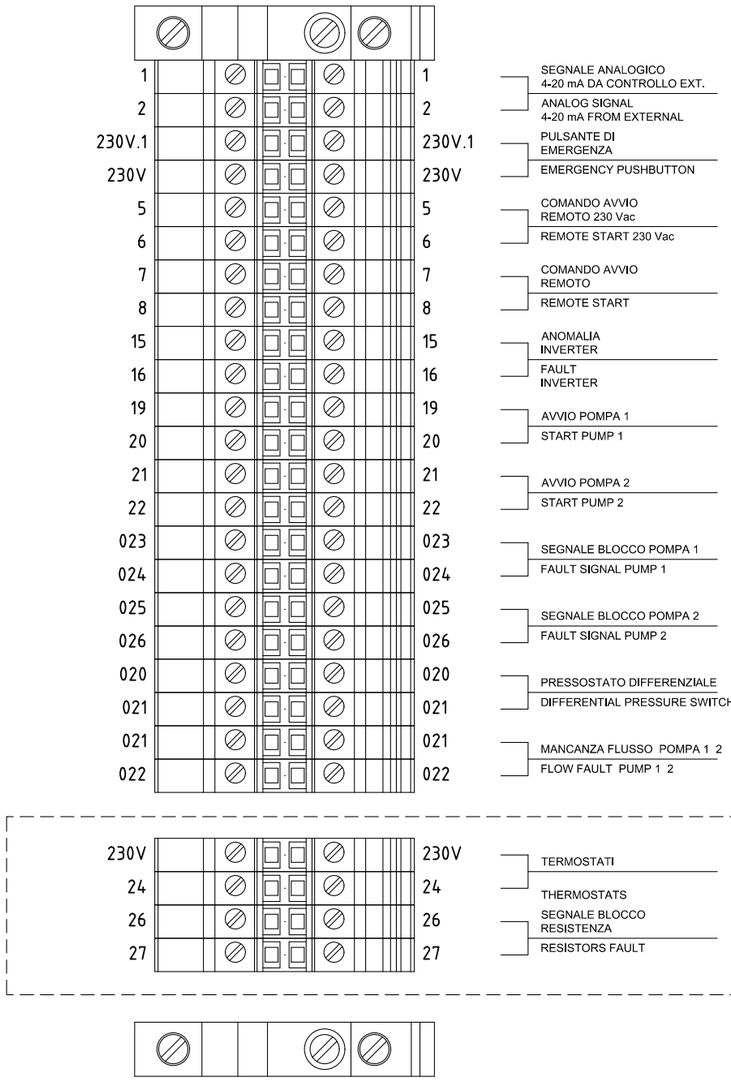
DESCRIPTION SHEET : AUSILIARI ANTIGELO / AUXILIARY ANTIFREEZE

Wiring Diagram 825040090

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FG. 8
F.S. 9
F.T. 11

This drawing is valid only after approval of the Trained Planner



REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE: HPT 2P + INV.

DESCRIPTION SHEET : MORSETTIERA TERMINAL STRIP

Wiring Diagram 825040090 | = | +

FG. 9 | F.S. 10 | F.T. 11

This drawing is valid only after approval of the Trained Planner

LISTA PARAMETRI DA MODIFICARE SU INVERTER DANFOSS PER REGOLAZIONE PID IC2
PARAMETERS LIST OF INVERTER DANFOSS IC2 FOR PID SETTING

PAR.	DESCRIZIONE PARAMETRO PARAMETER DESCRIPTION	SETUP 1	UNITA' UNIT	NOTE
NON APPL.	TASTO HAND (MANUALE) HAND PUSHBUTTON (MANUAL)	/		DISABILITATO DISABLED
4.2.2.1	POTENZA MOTORE (KW) MOTOR POWER (KW)	.....	KW	DATI MOTORE MOTOR DATA
4.2.2.2	TENSIONE MOTORE (V) MOTOR VOLTAGE (V)	.....	V	DATI MOTORE MOTOR DATA
4.2.2.3	CORRENTE MOTORE (A) MOTOR CURRENT (A)	.....	A	DATI MOTORE MOTOR DATA
4.2.2.4	FREQUENZA MOTORE (HZ) MOTOR FREQUENCY (HZ)	.....	HZ	DATI MOTORE MOTOR DATA
4.2.2.5	VELOCITA' NOMINALE MOTORE (RPM) RATED MOTOR SPEED (RPM)	2900	Rpm	DATI MOTORE MOTOR DATA
4.4.4.1	COMPENSAZIONE SCORRIMENTO SLIP COMPENSATION	0	%	
4.6.7	PROTEZIONE TERMICA MOTORE MOTOR THERMAL PROTECTION	[4]		ETR SCATTO ETR TRIP
5.4.2	MODO CONFIGURAZIONE CONFIGURATING MODE	[3]		ANELLO CHIUSO CLOSED LOOP
5.5.3.3	RIFERIMENTO MASSIMO MAXIMUM REFERENCE	100	%	
5.5.3.4	RIFERIMENTO MINIMO MINIMUM REFERENCE	0	%	
5.5.3.7	RISORSA DI RIFERIMENTO 1° REFERENCE RESOURCE 1°	[0]		NESSUNA FUNZIONE NO FUNCTION
5.5.3.8	RISORSA DI RIFERIMENTO 2° REFERENCE RESOURCE 2°	[0]		NESSUNA FUNZIONE NO FUNCTION
5.5.3.10	IMPOSTAZIONE SETPOINT PRESET REFERENCE	4	Bar	SETPOINT PRESSIONE SETPOINT PRESSURE
5.5.4.2	RAMPA 1 ACCELERAZIONE RAMP 1 RAMP UP TIME	6	SEC.	
5.5.4.3	RAMPA 1 DECELERAZIONE RAMP1 RAMP DOWN TIME	6	SEC	
5.8.1	SENSO ROTAZIONE MOTORE ROTATION DIRECTION	0		SOLO SENSO ORARIO ONLY CLOCKWISE DIR.
5.8.2	LIMITE ALTO VELOCITA' MOTORE (HZ) MOTOR SPEED HIGH LIMIT (HZ)	50	HZ	
5.8.3	LIMITE BASSO VELOCITA' MOTORE (HZ) MOTOR SPEED LOW LIMIT (HZ)	30	HZ	
5.10.1	LIMITE DI COPPIA (CORRENTE) TORQUE LIMIT (CURRENT)	120	%	

PAR.	DESCRIZIONE PARAMETRO PARAMETER DESCRIPTION	SETUP 1	UNITA' UNIT	NOTE
5.12.4.1	RISORSA RETROAZIONE 1 PROCESSO PROCESS CL FEEDBACK RESOURCE	[2]		INGR. ANALOGICO 60 ANALOG INPUT 60
5.12.5.1	GUADAGNO PROP. PID PROCESS PI PROPORTIONAL GAIN	6		
5.12.5.2	TEMPO INTEGRAZ. PID PROCESS PI INTEGRAL TIME	5	SEC.	
5.12.5.8	VELOCITA' INIZIO REGOLAZIONE PID PROCESS PI START SPEED	1800	Rpm	
9.4.1.2	FUNZIONE MORSETTO 13 TERMINAL 13 FUNCTION	[8]		AVVIAMENTO START
9.4.3.1	FUNZIONE RELE' RELAY FUNCTION	[9]		ALLARME ALARM
9.5.3.1	MODO MORSETTO ANALOGICO 34 ANALOG TERMINAL MODE 34	0		MODO CORRENTE CURRENT MODE
9.5.3.4	CORRENTE ALTA MORSETTO 34 TERMINAL 34 HIGH CURRENT	20	mA	
9.5.3.5	CORRENTE BASSA MORSETTO 34 TERMINAL 34 LOW CURRENT	4	mA	
9.5.3.6	RIF. ALTO / RETROAZ. MORS. 34 TERMINAL 34 HIGH FEEDBACK VALUE	10	%=Bar	
9.5.3.7	RIF. BASSO / RETROAZ. MORS. 34 TERMINAL 34 LOW FEEDBACK VALUE	0	%=Bar	
9.5.3.8	TEMPO COST. FILTRO MORS. 60 TERMINAL 60 FILTER TIME CONSTANT	1.5	SEC.	
9.5.6.1	TEMPO TIMEOUT TENSIONE ZERO LIVE ZERO TIMEOUT TIME	2	SEC.	
9.5.6.2	FUNZIONE TEMPORIZZ. TENSIONE ZERO LIVE ZERO TIMEOUT FUNCTION	[5]		STOP E SCATTO 60 STOP AND TRIP 60

REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE: HPT 2P + INV.

DESCRIPTION SHEET : TABELLA PARAMETRI INVERTER
INVERTER PARAMETERS TABLE

Wiring Diagram 825040090

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FG. 10
F.S. 11
F.T. 11

This drawing is valid only after approval of the Trained Planner

LISTA PARAMETRI DA MODIFICARE SU INVERTER DANFOSS PER REGOLAZIONE PID VLT FC 101
PARAMETERS LIST OF INVERTER DANFOSS VLT FC 101 FOR PID SETTING

PAR.	DESCRIZIONE PARAMETRO PARAMETER DESCRIPTION	SETUP 1	UNITA' UNIT	NOTE
0-11	SETUP DI PROGRAMMAZIONE EDIT SET-UP	[1]		SETUP 1 SET-UP 1
0-40	TASTO HAND (MANUALE) HAND PUSHBUTTON (MANUAL)	[0]		DISABILITATO DISABLED
1-00	MODO CONFIGURAZIONE CONFIGURATING MODE	[3]		ANELLO CHIUSO CLOSED LOOP
1-20	POTENZA MOTORE (KW) MOTOR POWER (KW)	.....	KW	DATI MOTORE MOTOR DATA
1-22	TENSIONE MOTORE (V) MOTOR VOLTAGE (V)	.....	V	DATI MOTORE MOTOR DATA
1-23	FREQUENZA MOTORE (HZ) MOTOR FREQUENCY (HZ)	.....	HZ	DATI MOTORE MOTOR DATA
1-24	CORRENTE MOTORE (A) MOTOR CURRENT (A)	.....	A	DATI MOTORE MOTOR DATA
1-25	VELOCITA' NOMINALE MOTORE (RPM) RATED MOTOR SPEED (RPM)	.....	RPM	DATI MOTORE MOTOR DATA
1-62	COMPENSAZIONE SCORRIMENTO SLIP COMPENSATION	0	%	
1-90	PROTEZIONE TERMICA MOTORE MOTOR THERMAL PROTECTION	[4]		ETR SCATTO ETR TRIP
3-02	RIFERIMENTO MINIMO MINIMUM REFERENCE	0	%	
3-03	RIFERIMENTO MASSIMO MAXIMUM REFERENCE	100	%	
3-10 (0)	IMPOSTAZIONE SETPOINT PRESET REFERENCE	4	Bar	SETPOINT PRESSIONE SETPOINT PRESSURE
3-15	RISORSA DI RIFERIMENTO 1° REFERENCE RESOURCE 1°	[0]		NESSUNA FUNZIONE NO FUNCTION
3-16	RISORSA DI RIFERIMENTO 2° REFERENCE RESOURCE 2°	[0]		NESSUNA FUNZIONE NO FUNCTION
3-41	RAMPA 1 ACCELERAZIONE RAMP 1 RAMP UP TIME	6	SEC.	
3-42	RAMPA 1 DECELERAZIONE RAMP1 RAMP DOWN TIME	6	SEC	
4-12	LIMITE BASSO VELOCITA' MOTORE (HZ) MOTOR SPEED LOW LIMIT (HZ)	30	HZ	
4-14	LIMITE ALTO VELOCITA' MOTORE (HZ) MOTOR SPEED HIGH LIMIT (HZ)	50	HZ	
4-18	LIMITE DI CORRENTE TORQUE LIMIT (CURRENT)	120	%	

PAR.	DESCRIZIONE PARAMETRO PARAMETER DESCRIPTION	SETUP 1	UNITA' UNIT	NOTE
5-10	FUNZIONE MORSETTO 18 TERMINAL 18 FUNCTION	[8]		AVVIAMENTO START
5-12	FUNZIONE MORSETTO 27 TERMINAL 27 FUNCTION	[0]		NESSUNA FUNZIONE NO FUNCTION
5-40 (0)	FUNZIONE RELE' RELAY FUNCTION	[9]		ALLARME ALARM
6-00	TEMPO TIMEOUT TENSIONE ZERO LIVE ZERO TIMEOUT TIME	2	SEC.	
6-01	FUNZIONE TEMPORIZZ. TENSIONE ZERO LIVE ZERO TIMEOUT FUNCTION	[5]		STOP E SCATTO 54 STOP AND TRIP 54
6-22	CORRENTE BASSA MORSETTO 54 TERMINAL 54 LOW CURRENT	4	mA	
6-23	CORRENTE ALTA MORSETTO 54 TERMINAL 54 HIGH CURRENT	20	mA	
6-24	RIF. BASSO / RETROAZ. MORS. 54 TERMINAL 54 LOW FEEDBACK VALUE	0	%=Bar	
6-25	RIF. ALTO / RETROAZ. MORS. 54 TERMINAL 54 HIGH FEEDBACK VALUE	10	%=Bar	
6-26	TEMPO COST. FILTRO MORS. 54 TERMINAL 54 FILTER TIME CONSTANT	1.5	SEC.	
6-29	INGRESSO 54 CORRENTE INPUT 54 CURRENT	[0]		
20-00	RISORSA RETROAZIONE 1 PROCESSO PROCESS CL FEEDBACK RESOURCE	[2]		INGR.ANALOGICO 54 ANALOG INPUT 54
20-81	PROCESSO NORMALE / INVERSO PROCESS PI NORMAL/INVERSE	[0]		NORMALE NORMAL
20-83	VELOCITA' INIZIO REGOLAZIONE PID PROCESS PI START SPEED	31	HZ	
20-93	GUADAGNO PROP. PID PROCESS PI PROPORTIONAL GAIN	6		
20-94	TEMPO INTEGRAZ. PID PROCESS PI INTEGRAL TIME	5	SEC.	

REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE: | REPLACED BY: | FILE :

JOB TITLE:
HPT 2P + INV.

DESCRIPTION SHEET :
TABELLA PARAMETRI INVERTER
INVERTER PARAMETERS TABLE

Wiring Diagram
825040090

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FG. 11
F.S. /
F.T. 11

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REV.	DESCRIPTION	DATE	SIGN.	APPROV.	
13	NUOVO INV. IC2	18/12/24	A.H.	DATE	31/07/12
12	AGG. POTENZA	04/07/24	A.M.	DESIGN.	G.G.
11	AGG. TAB. PARAMETRI INVERTER	13/02/23	A.M.	CHECK.	

REPLACED THE:

REPLACED BY:

FILE :

JOB TITLE:
HPT 2P + INV.

DESCRIPTION SHEET :

Wiring Diagram
825040090

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FG.

F.S.

F.T.

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