

GUIDE

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1.

1.1

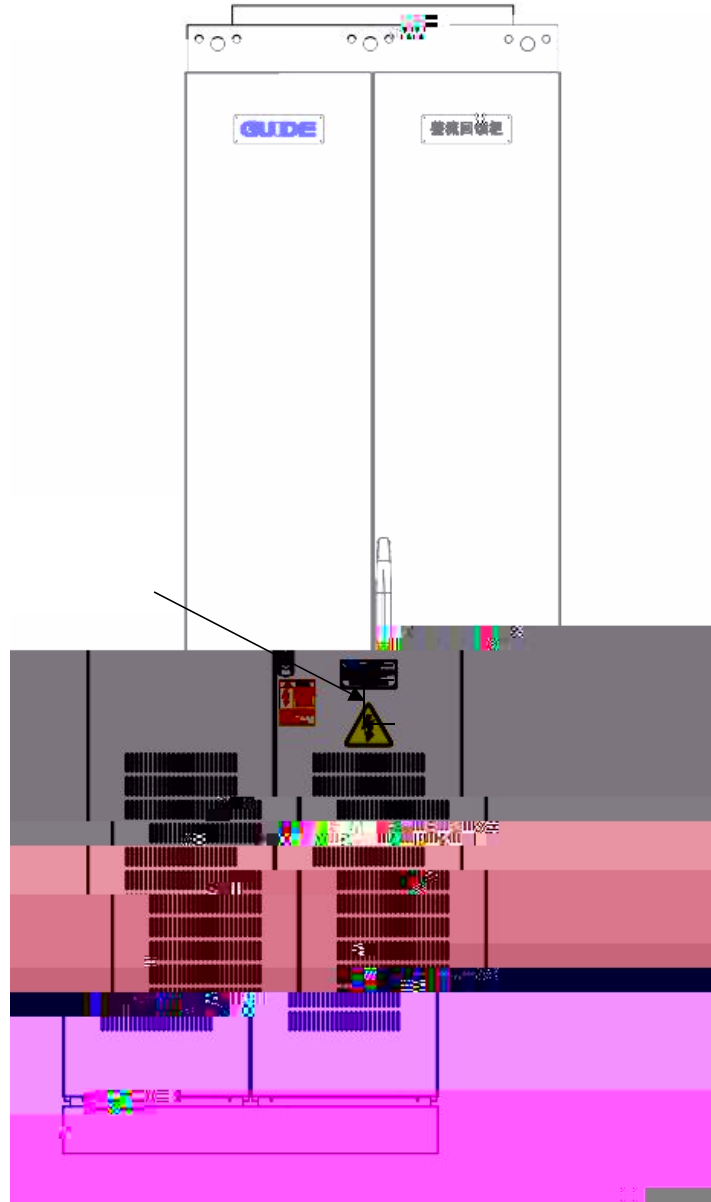


1

RCM

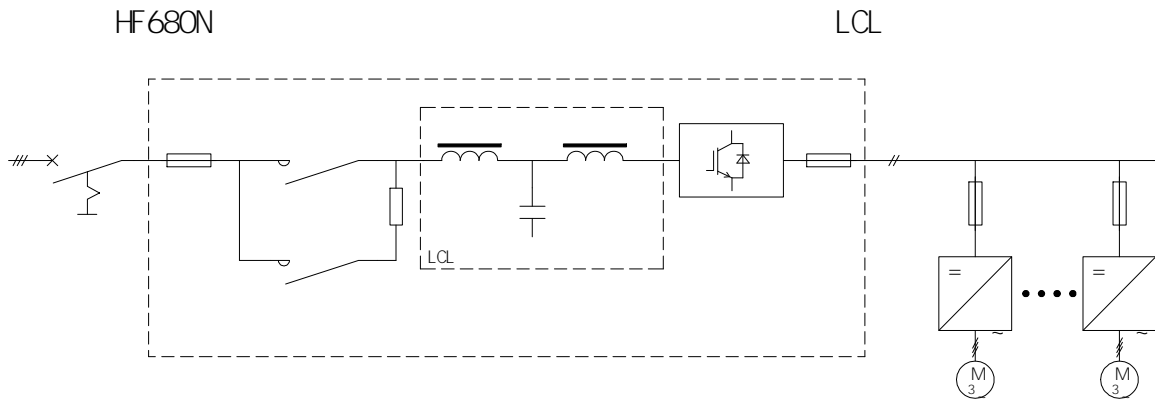
RCD

HF680N02C- 400- 5



2

2.1



I GBT

AFE

DC24V

I GBT

2.2

1

AFE

2

		PI D
		/
		/
		HE
		/
		/

2 3

DP	GDHF - ADPX1	GDHF - ADPX1 DP HF 680N02M	Profibus HF 680N03M
PG	GDHF - APGX1	GDHF - APGX1 PG HF 680N03M	F6
PN		15V	PG



2.4

1.	/	"	"
2		/	
3.	-	P S T	
	-	U V W	
	-	P N	
4.			5
5.	,		,
1.			
2			
3.	40		
4.		1.2	

2.4.1

-
-
-
-
-
-

-20 +0
0 95%

1

5

2.4.2

●

●

-10 +40

+40 +50

1

2%

50

●

95%RH

●

●

●

●

●

●

1000

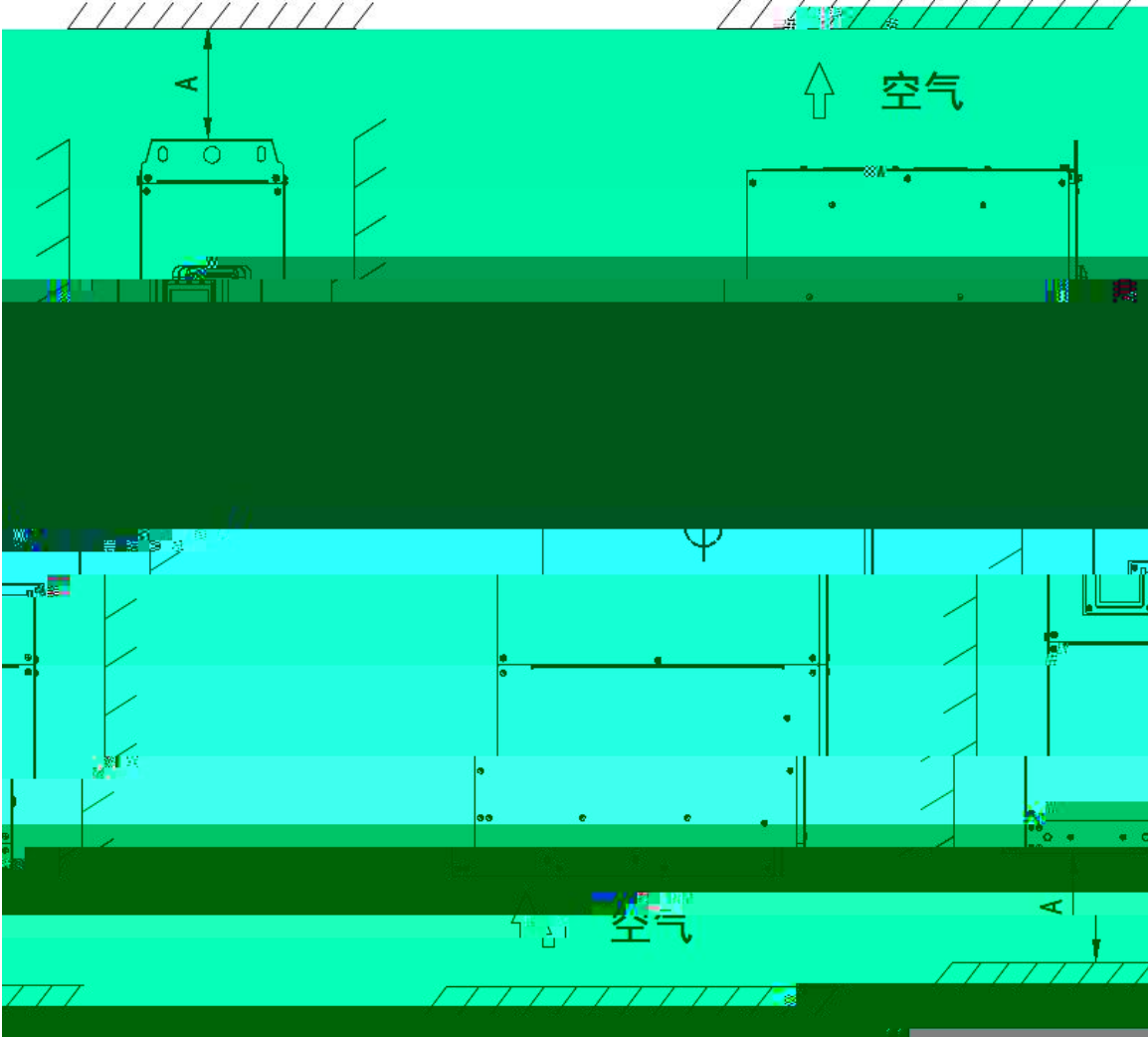
1000

100

1%

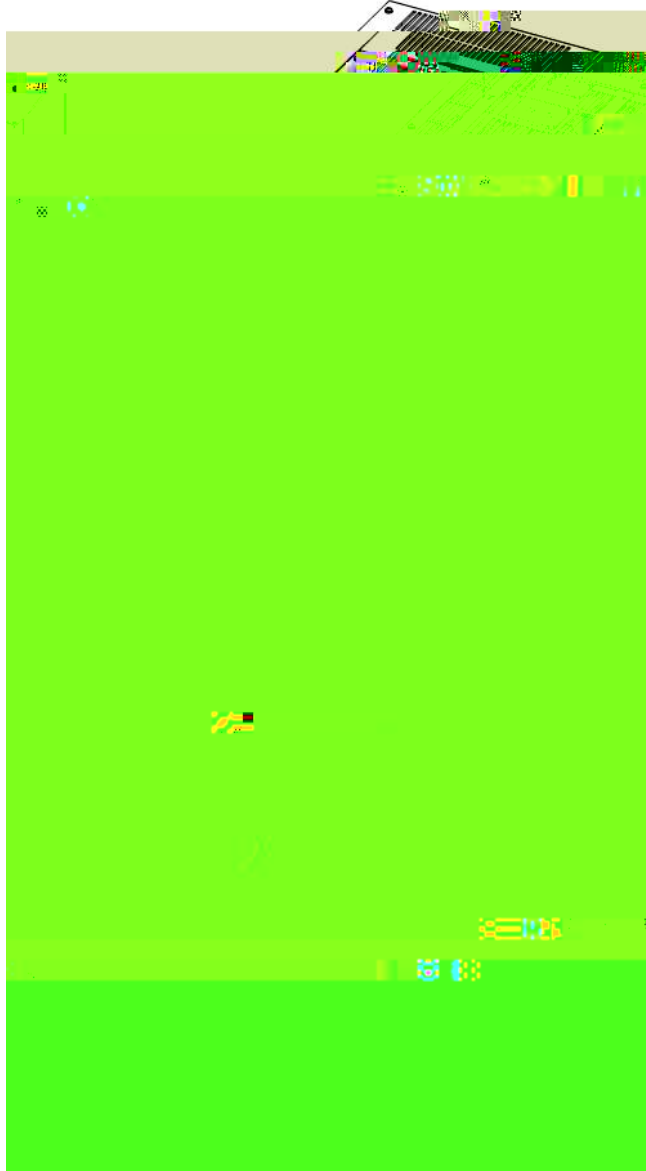
3000

2.4.3



	A 200mm	B 50mm

50mm



LCL

3.


3.1

LCL

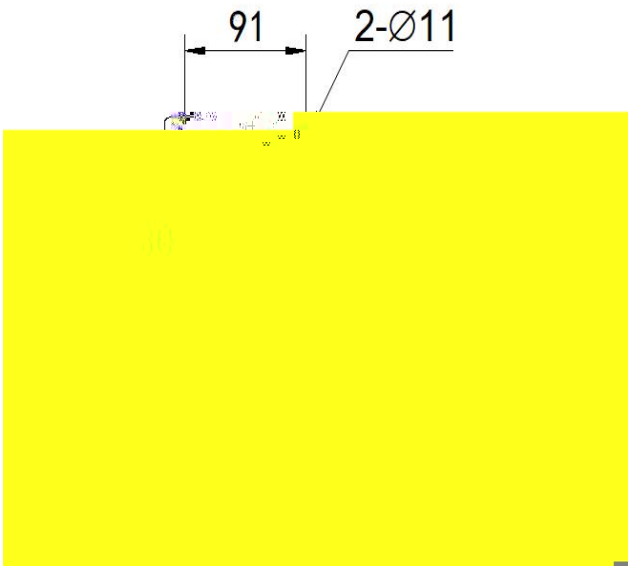
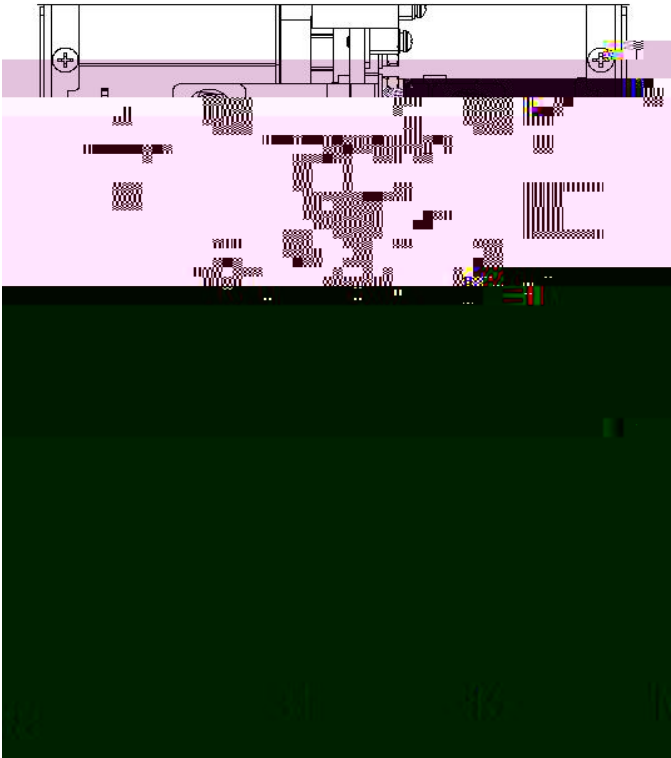
LCL

3.2

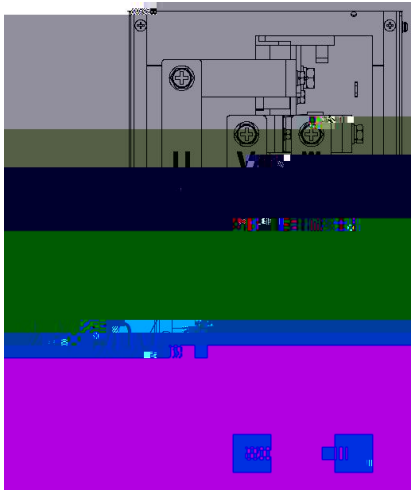
1

P +	
N -	
R S T	
	

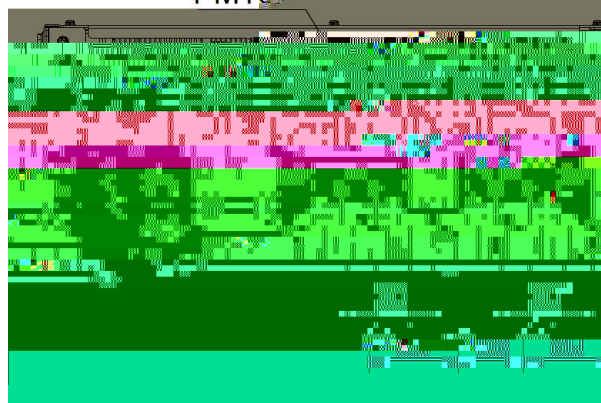
B4



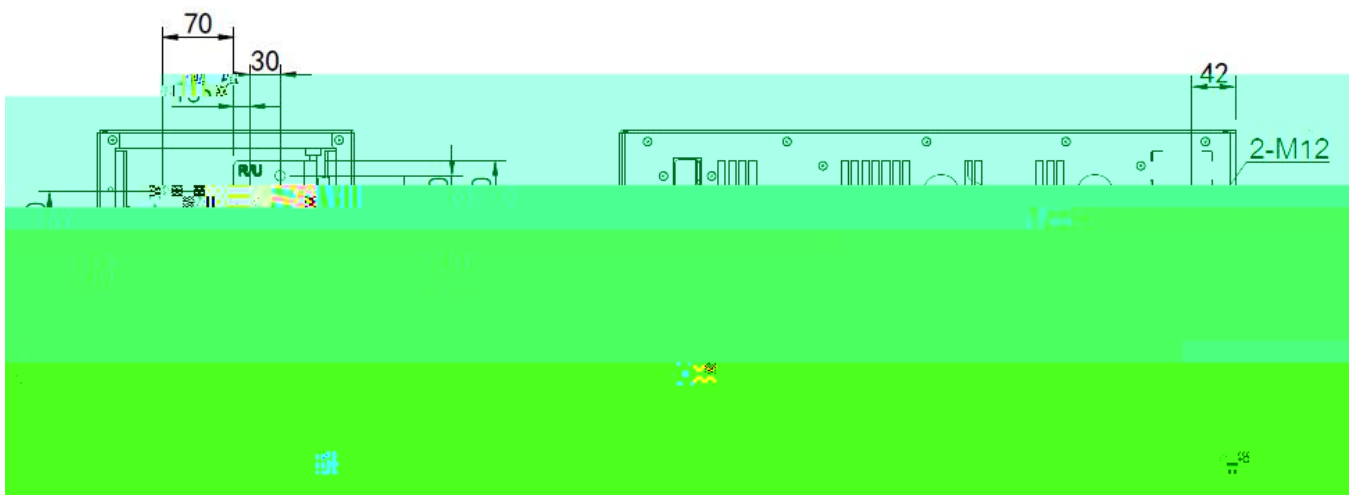
B5




4-M10

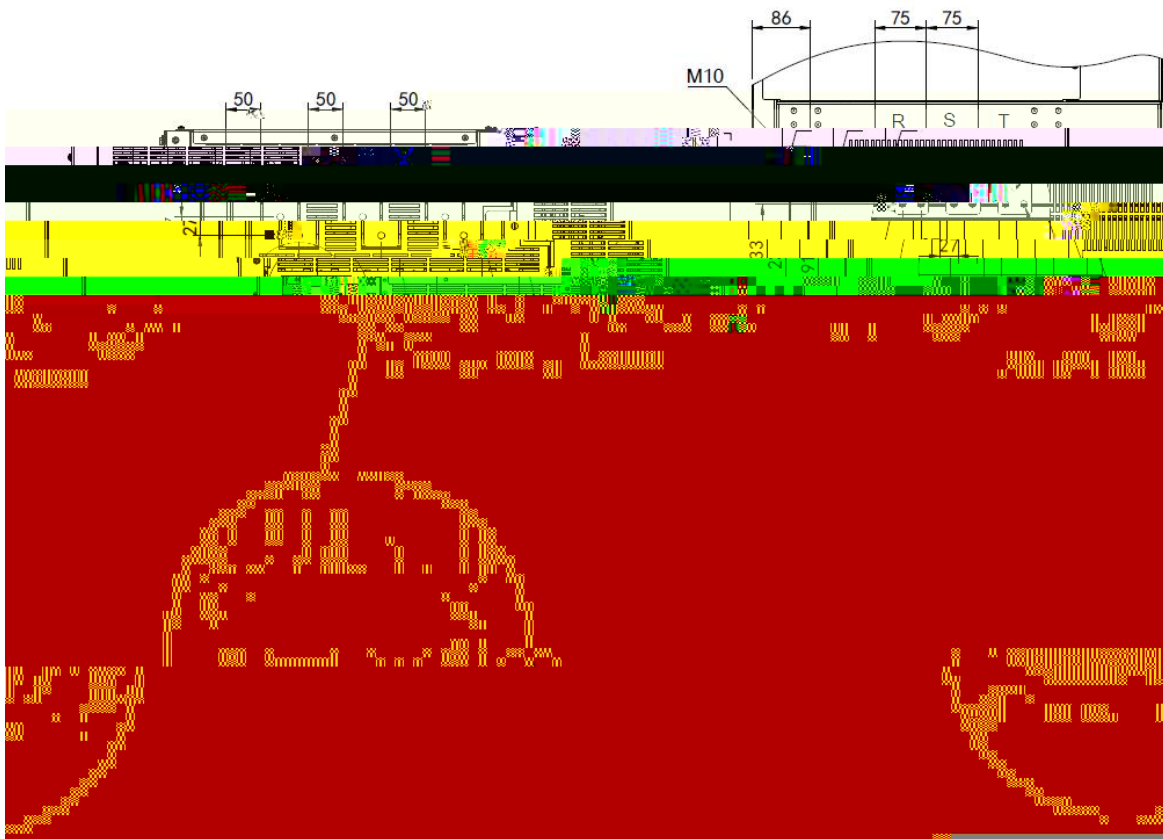


B6

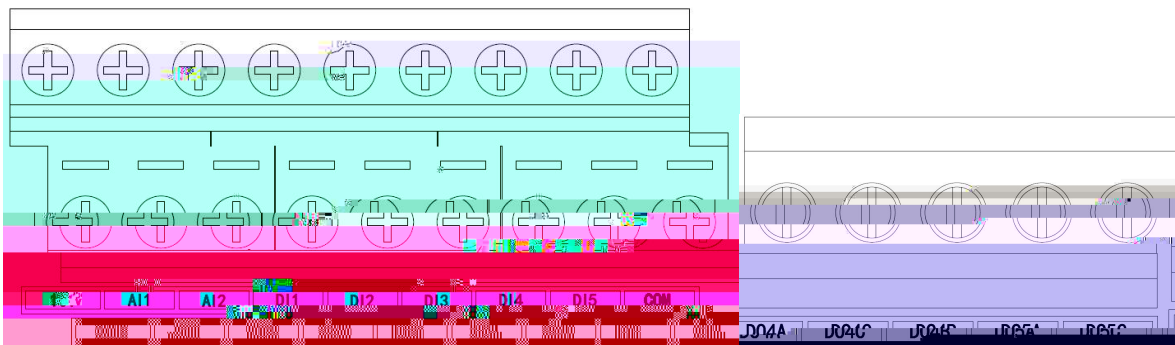
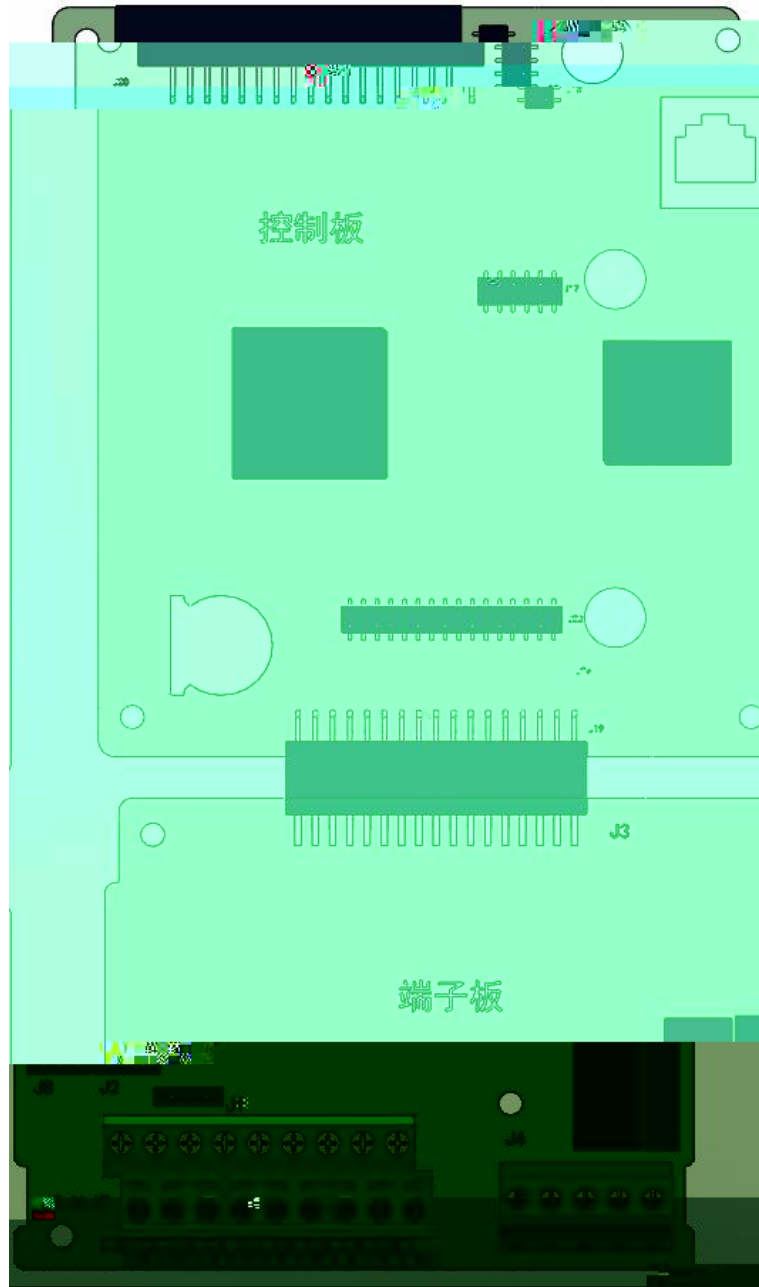


2 LCL

R S T	LCL
	LCL
P + N -	LCL
PTC	LCL

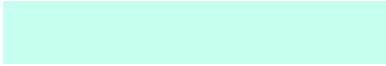


B6 LCL

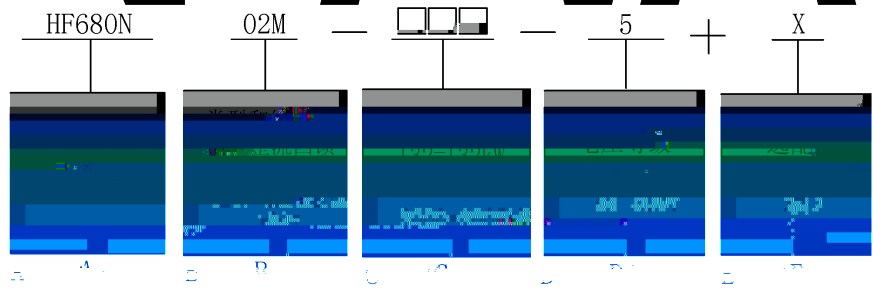


	+10V- GND	10V	+10V 50mA 1k ~5k
	+24V- COM	24V	+24V 200mA
	PW		24V DI 1-DI 5 DO1 PW 24V
	AI 1- GND	1	DC -10V~10V 100k
	AI 2- GND	2	J1 -10VDC~10VDC/0mA~20mA 100k 500
	DI 1- PW	1	500Hz DI 5 9V~30V DI 1-DI 4 20KHz 3.3k
	DI 2- PW	2	
	DI 3- PW	3	
	DI 4- PW	4	
	DI 5- PW	5	
	AO1- GND	1	J2 0V~10V 0mA~20mA
	AO2- GND	2	J8 0V~10V 0mA~20mA
	DO1- COM	1	0V~24V 0mA~50mA
	DO4A- DO4C	1	250VAC 3A COS =0.4 30VDC 1A
	DO4B- DO4C	2	
	DO5A- DO5C	3	250VAC 2A COS =0.4 30VDC 1A

	J1	AI 2	
	J2	AO1	
	J3	AO2	



3.3



A	
B	O2M O2C
C	132 132kW 3000 3000kW
D	5 380V 5 500V
E	

MBO1	Mdbus RTU	DPO1	Pr of i bus DP
PN01	Profi net	CAN01	CANopen

	I ac A					Pdch kW	
		I dc A	Pdc kW	I dch A	Pdch kW		
HF680N02C- 2000- 5	2805	3400	2567	2649	2000	2000	B6* 4
HF680N02C- 2500- 5	3478	4215	3183	3311	2500	2500	B6* 5
HF680N02C- 3200- 5	4152	5032	3799	4238	3200	3200	B6* 6

- 1 HF680N02M
- 2 HF680N02M

3. 4

LCL

	LCL	
HF680N02M 160- 5	GDHF680N- LCL- 160- 5	3× 7R5
HF680N02M 220- 5	GDHF680N- LCL- 220- 5	3× 7R5
HF680N02M 315- 5	GDHF680N- LCL- 355- 5	3× 4R
HF680N02M 355- 5	GDHF680N- LCL- 355- 5	3× 2R5
HF680N02M 400- 5	GDHF680N- LCL- 450- 5	3× 2R5
HF680N02M 450- 5	GDHF680N- LCL- 450- 5	3× 2R5
HF680N02M 500- 5	GDHF680N- LCL- 560- 5	3× 2R5
HF680N02M 560- 5	GDHF680N- LCL- 560- 5	3× 2R5

"

"

LCL



3.6

		380V 500V
		50 / 60Hz
		-10% +10%
		<AC350V 15ms
		AFE
		0.999
		3%
		150% 5 1
		180% 5 1
		570 810V
		1kHz 10kHz

3.7

+LCL		kW
HF 680N02M 160- 5+GDHF 680N- LCL- 160- 5	B4	4.6
HF 680N02M 220- 5+GDHF 680N- LCL- 220- 5	B5	6.3
HF 680N02M 315- 5+GDHF 680N- LCL- 355- 5	B6	9.0
HF 680N02M 355- 5+GDHF 680N- LCL- 355- 5		10.1
HF 680N02M 400- 5+GDHF 680N- LCL- 450- 5		11.4
HF 680N02M 450- 5+GDHF 680N- LCL- 450- 5		12.8
HF 680N02M 500- 5+GDHF 680N- LCL- 560- 5		14.3
HF 680N02M 560- 5+GDHF 680N- LCL- 560- 5		16.0

3.7

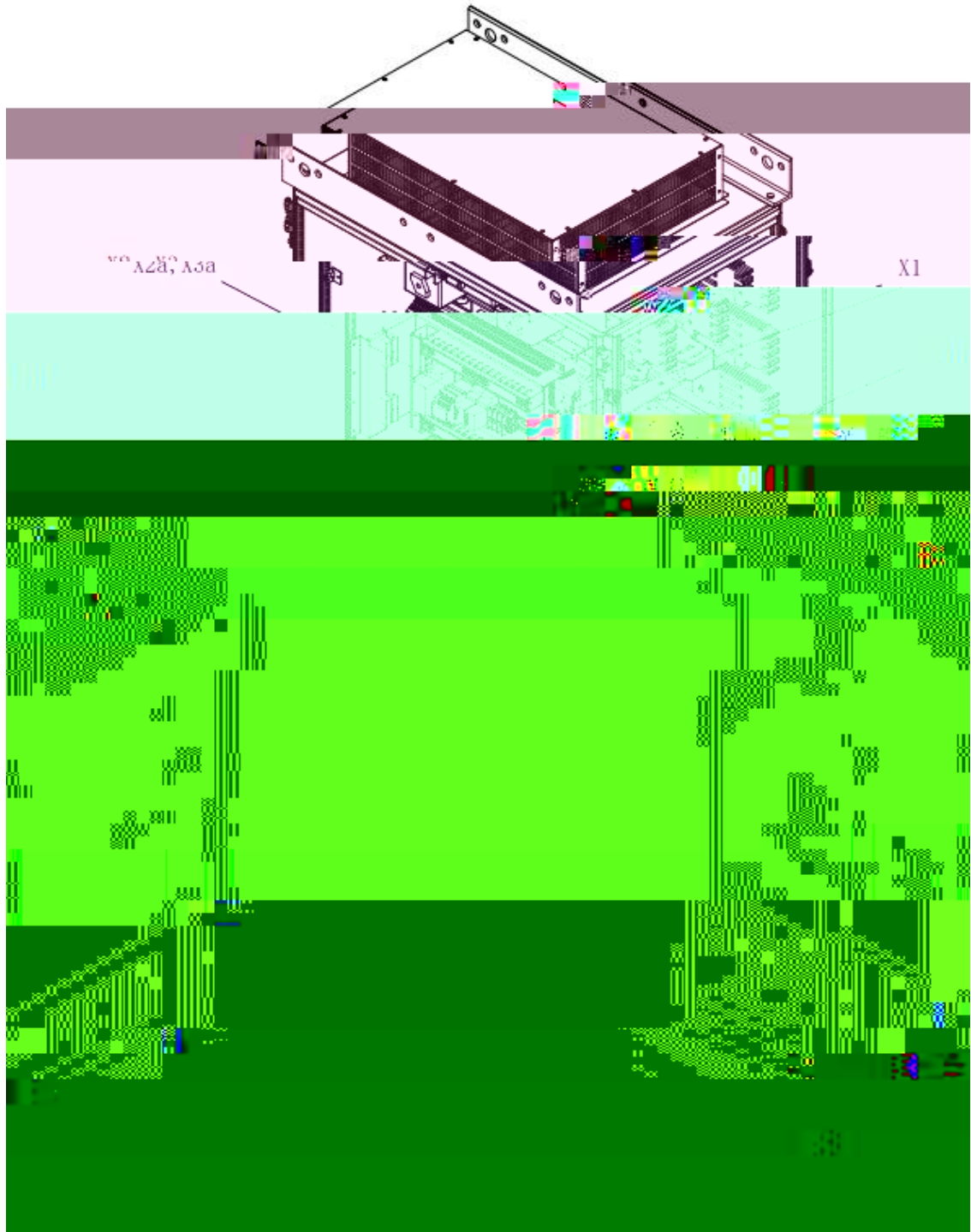
- (1) IGBT
- (2) 50%
- (3) 0.999
- (4) 3% GB/T 24337-2009
- (5) 380V 500V -10% +10%
- (6) DP PN
- (7)
- (8) 160kW 3200kW

3.8

- 1
- 2 500kW
- 500kW



1 () a

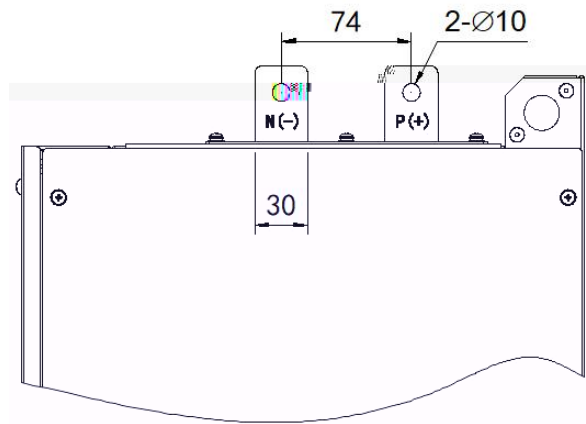
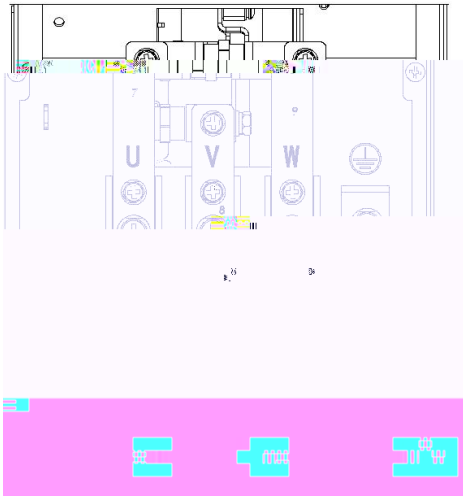


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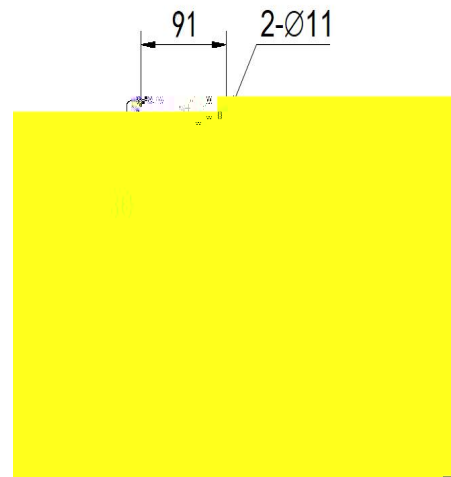
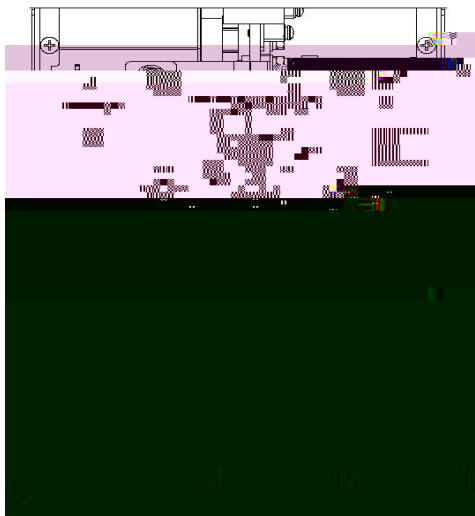
b

W W

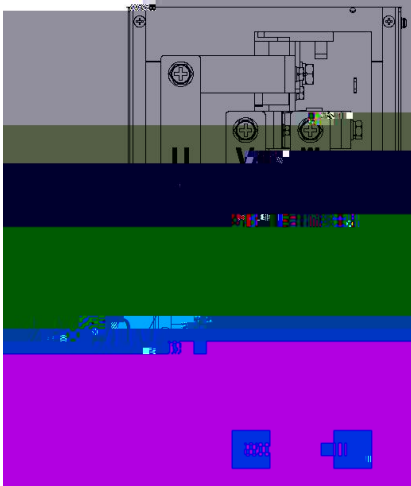
B3



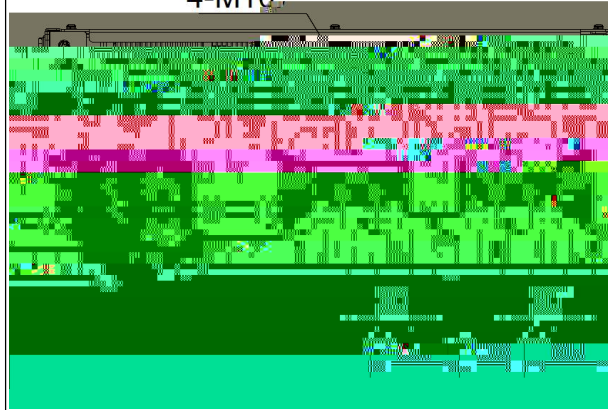
B4



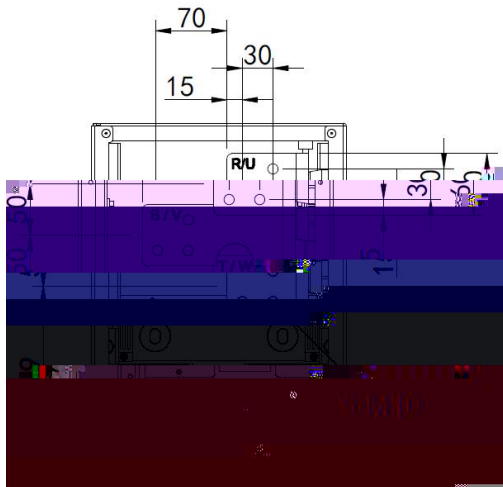
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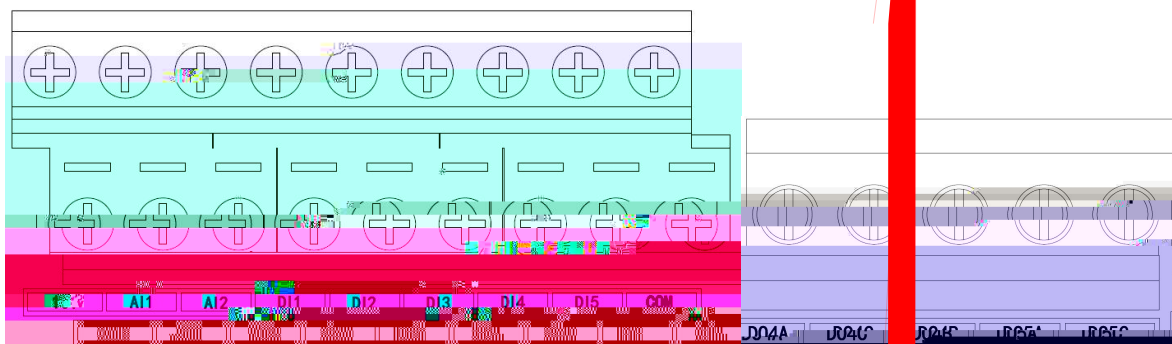
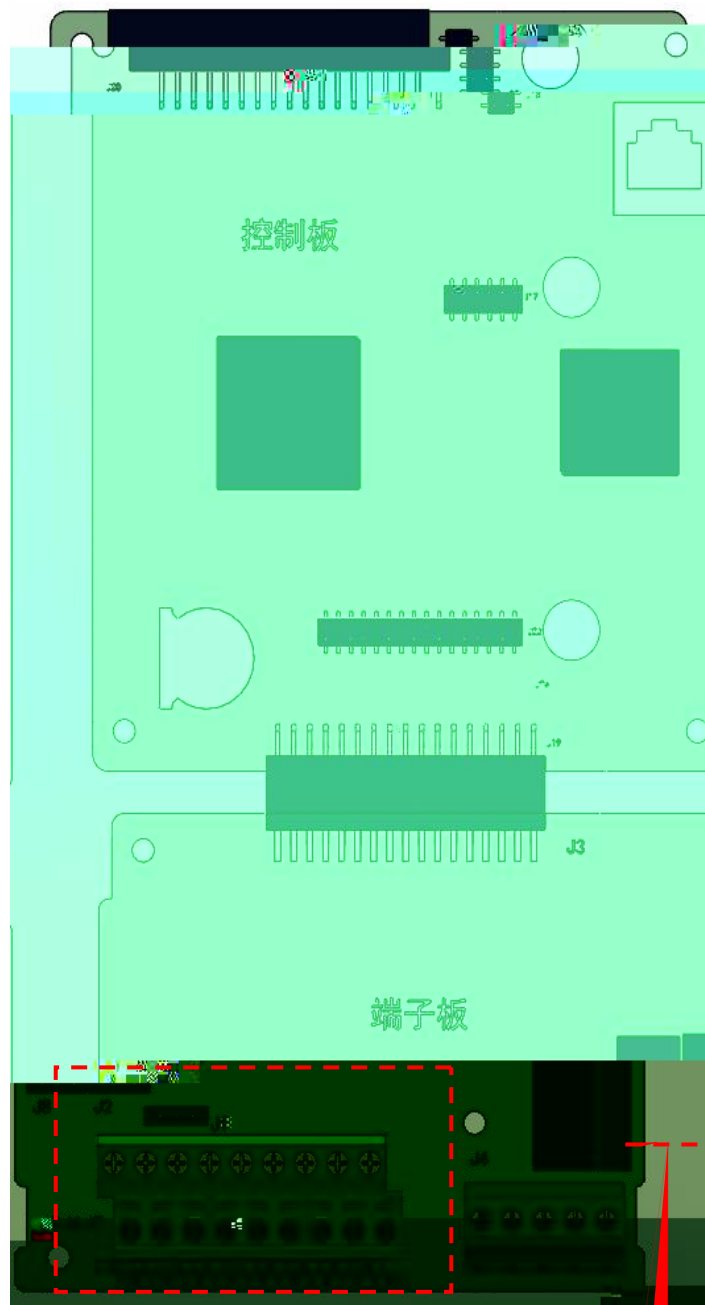


4-M10



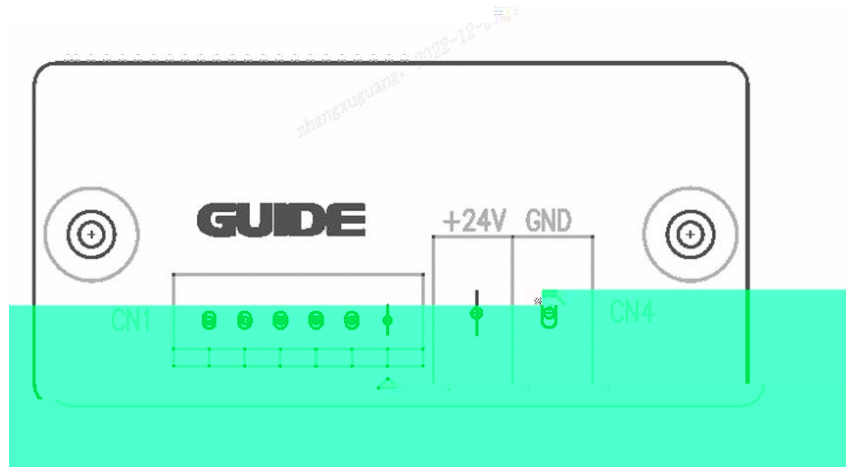
B6





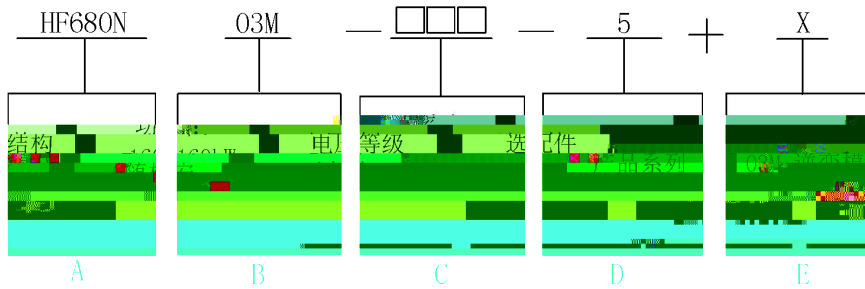
	+10V- GND	10V		+10V	50mA
	+24V- COM	24V		+24V	200mA
	PW		J2	24V	DI 1-DI 5 DO1 PW
	AI 1- GND	1		DC -10V~10V	100k
	AI 2- GND	2	J1	-10VDC~10VDC/0mA~20mA	100k 500
	DI 1- PW	1			
	DI 2- PW	2			
	DI 3- PW	3		9V~30V	DI 1- DI 4 3. 3k
	DI 4- PW	4	500Hz	DI 5	20KHz
	DI 5- PW	5			
	AO1- GND	1		J2	0V~10V 0mA~20mA
	AO2- GND	2		J8	0V~10V 0mA~20mA
	DO1- COM	1		0V~24V	0mA~50mA
	DO4A- DO4C	1		250VAC 3A	CCS =0.4
	DO4B- DO4C	2		30VDC 1A	
	DO5A- DO5C	3	Y2	250VAC 2A	CCS =0.4
				30VDC 1A	

2



DC+24V	CN4	+24V- GND	
	CN1		L1/L2/L3

4.3

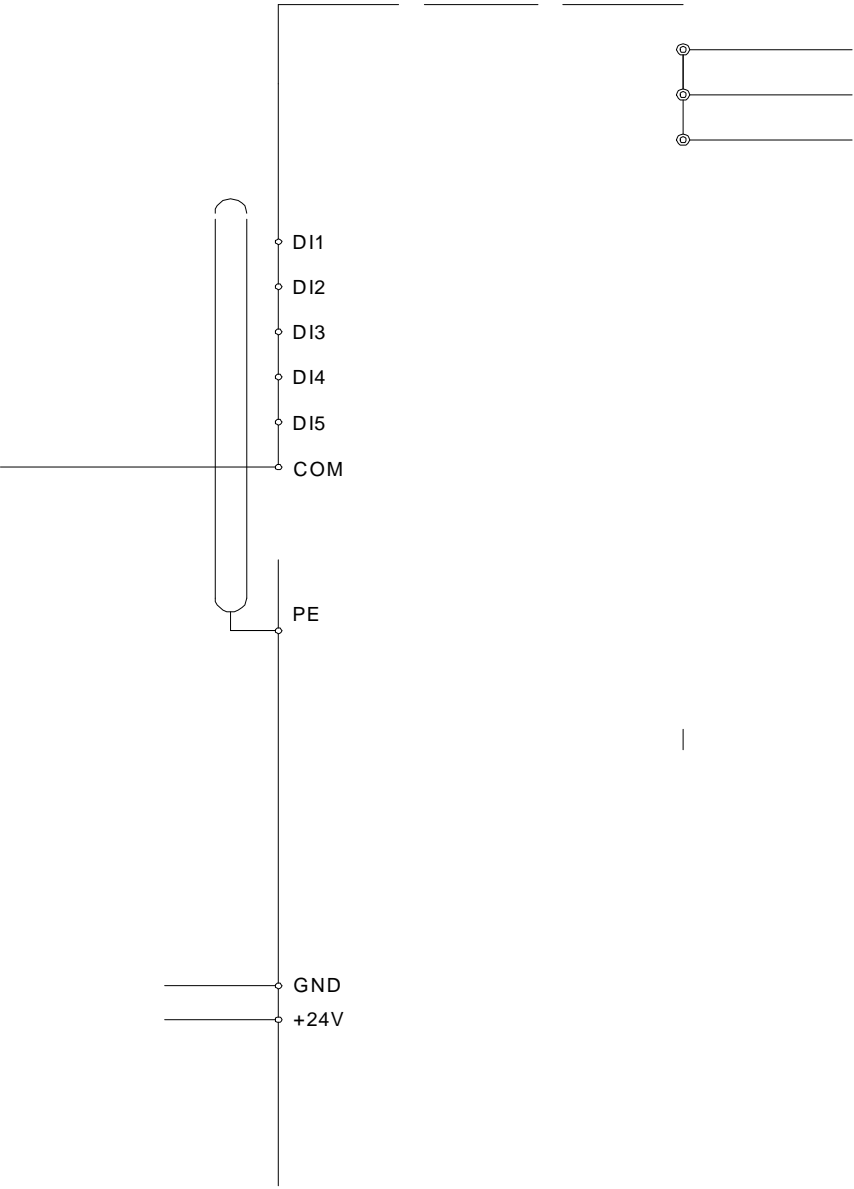


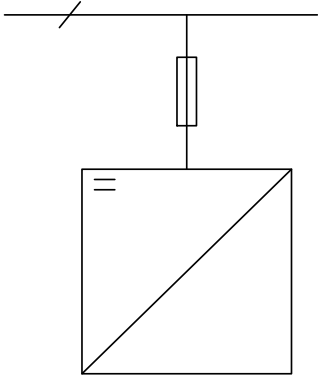
A	
B	O3M O3C
C	160 160kW 1000 1000kW
D	5 380V 5 500V
E	





4.5





HF 680N03M 220- 5	120	498
HF 680N03M 250- 5	150	549
HF 680N03M 280- 5	70* 2	611
HF 680N03M 315- 5	70* 2	687
HF 680N03M 355- 5	90* 2	792
HF 680N03M 400- 5	120* 2	925
HF 680N03M 450- 5	150* 2	1055
HF 680N03M 500- 5	70* 4/185* 2	1160
HF 680N03M 560- 5	70* 4/185* 2	1270

1. 560kW

2.

HF 680N

4. 6

		540V 810V		
		(VC)	(SVC)	V/F
		Profibus DP		
		380V 500V		5%
		0 300Hz		
		0Hz/200%(VC SVC)	0.8Hz/150%(V/F)	
		1kHz 10kHz		
			150% 5	1
			180% 5	1

4.7

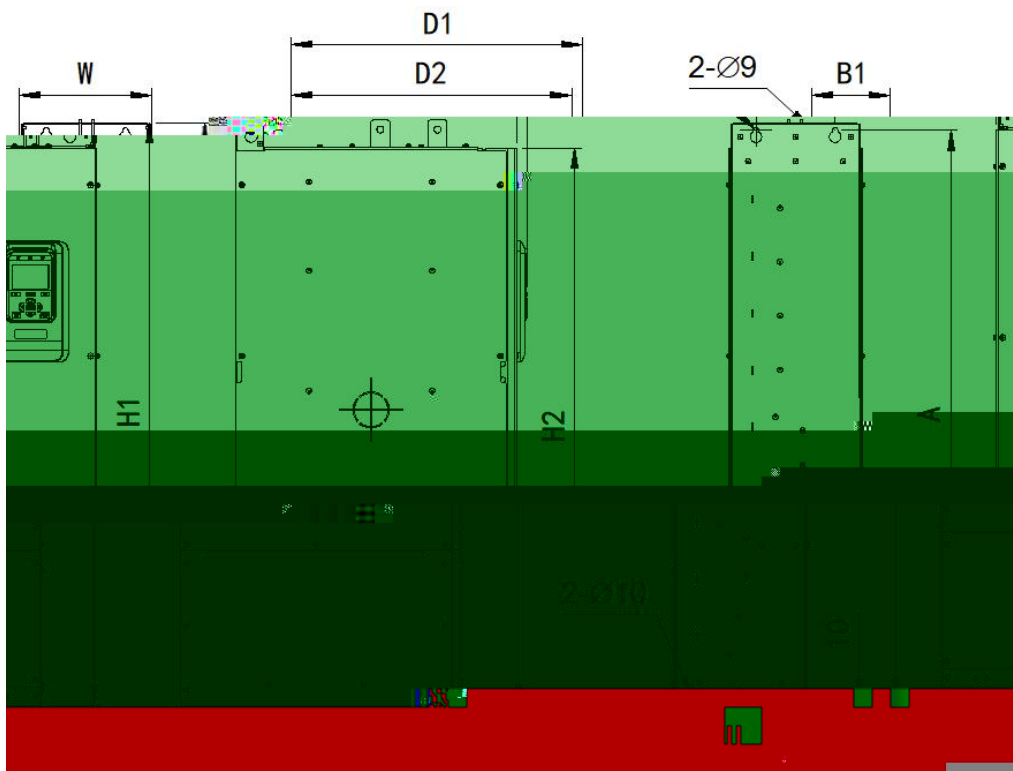
		kW			kW
HF680N03M045-5	B3	0.8	HF680N03M220-5	B5	4.2
HF680N03M055-5		1.0	HF680N03M250-5		4.8
HF680N03M075-5	B4	1.4	HF680N03M280-5	B6	5.6
HF680N03M090-5		1.7	HF680N03M315-5		6.3
HF680N03M110-5		2.1	HF680N03M355-5		7.1
HF680N03M132-5		2.5	HF680N03M400-5		8.0
HF680N03M160-5		3.0	HF680N03M450-5		9.0
HF680N03M185-5	B5	3.5	HF680N03M500-5		10.0
HF680N03M200-5		3.8	HF680N03M560-5		11.2

4.7

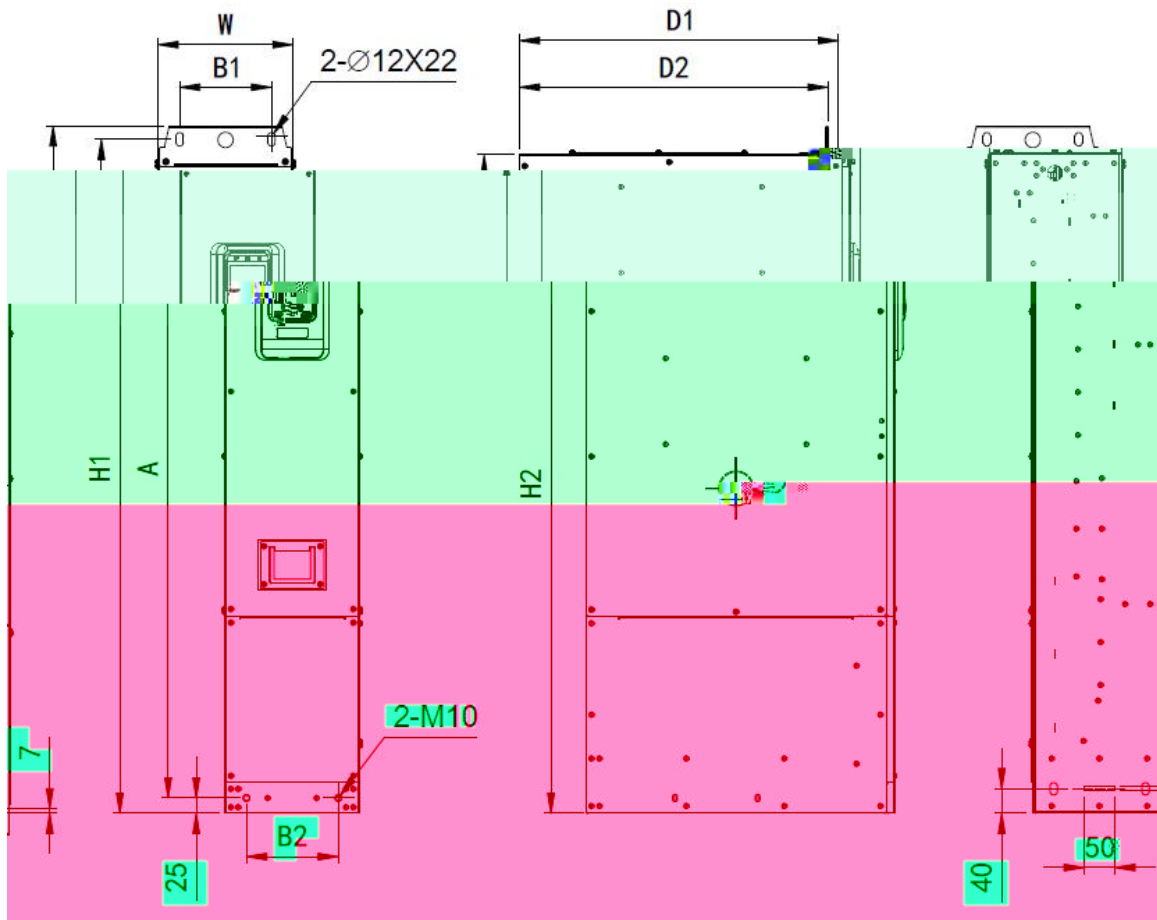
- (1) 200%
- (2) 50% HF680N
- (3) HF680N

5.

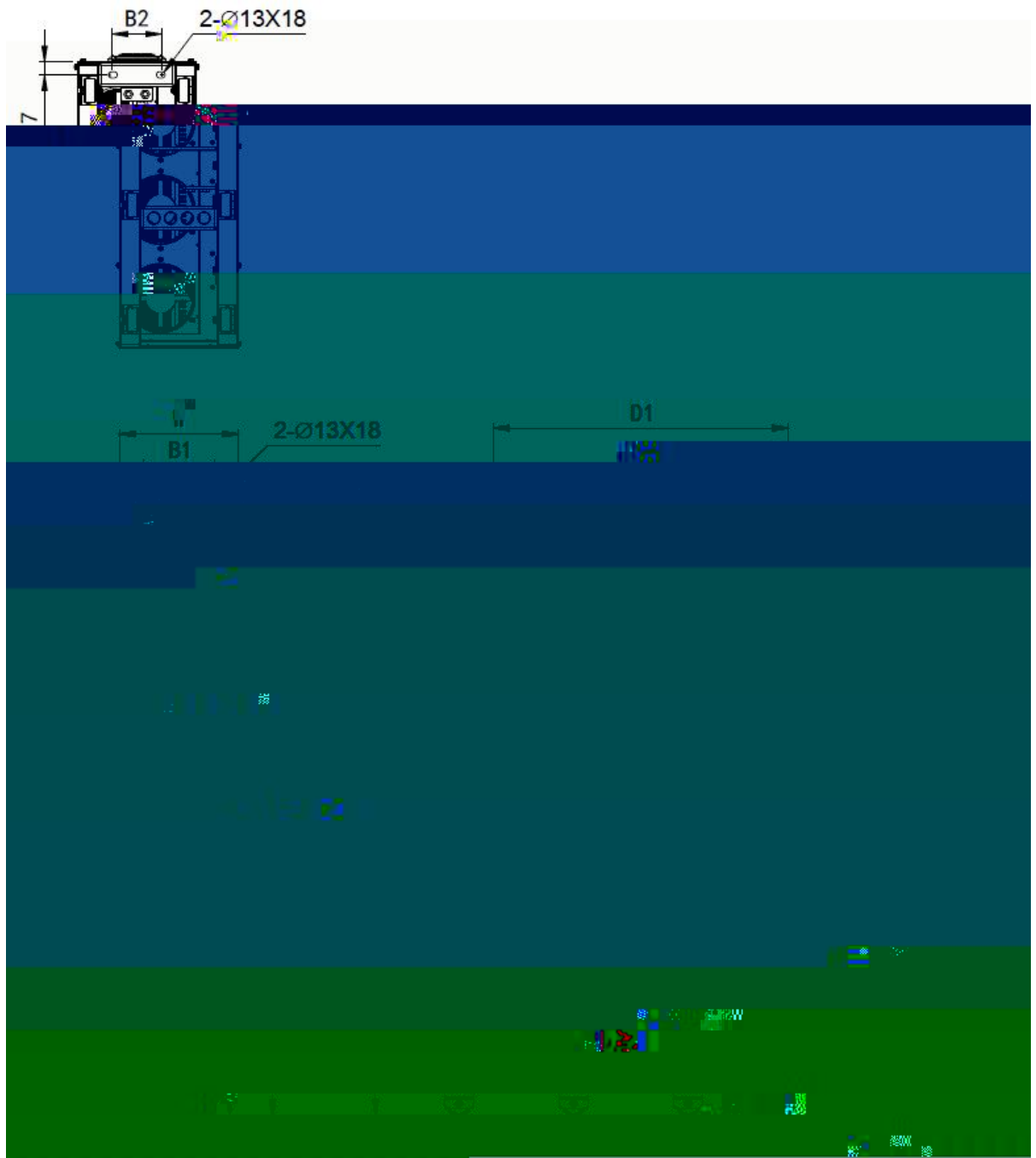
5.1



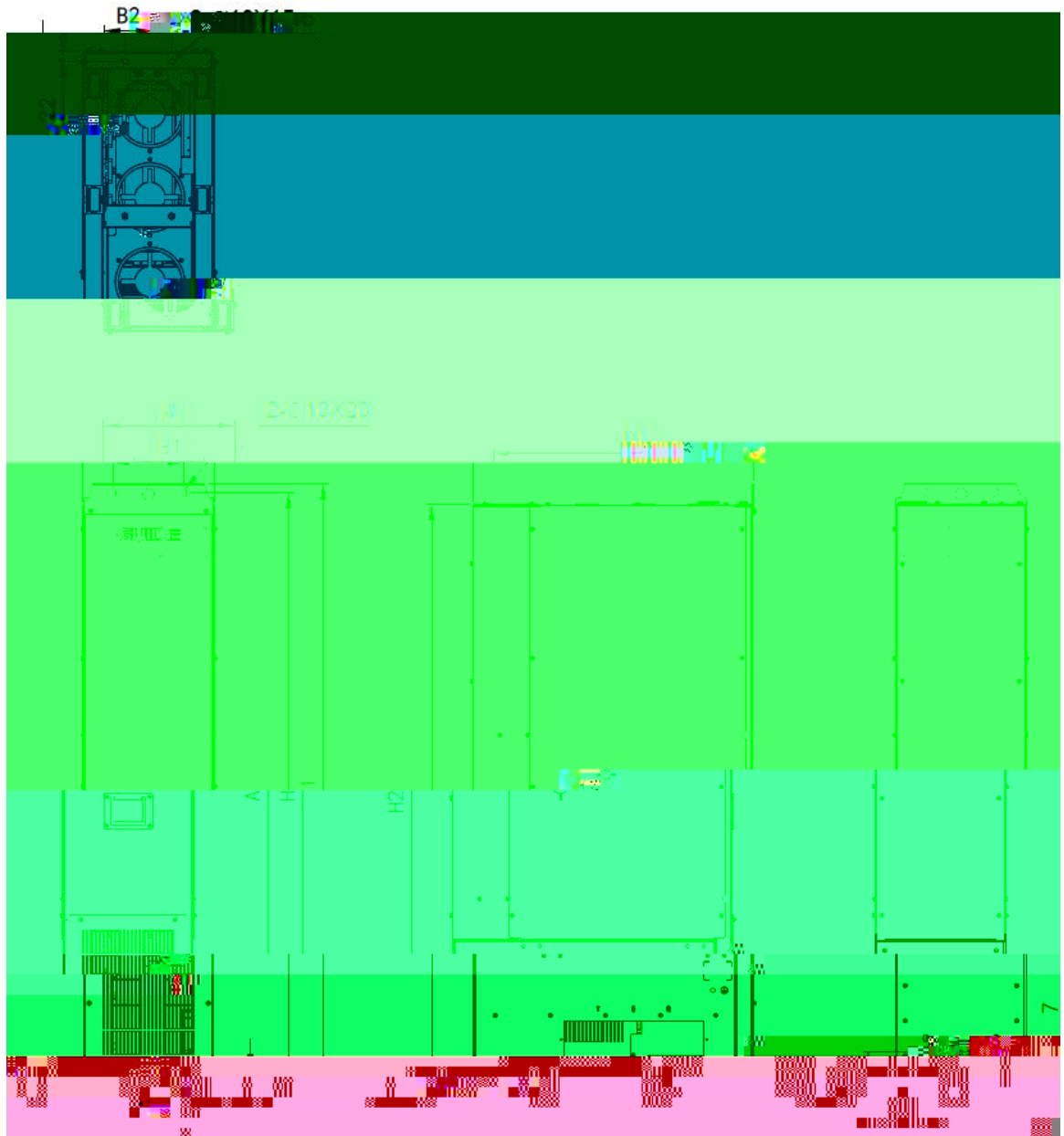
B4



B5



B6

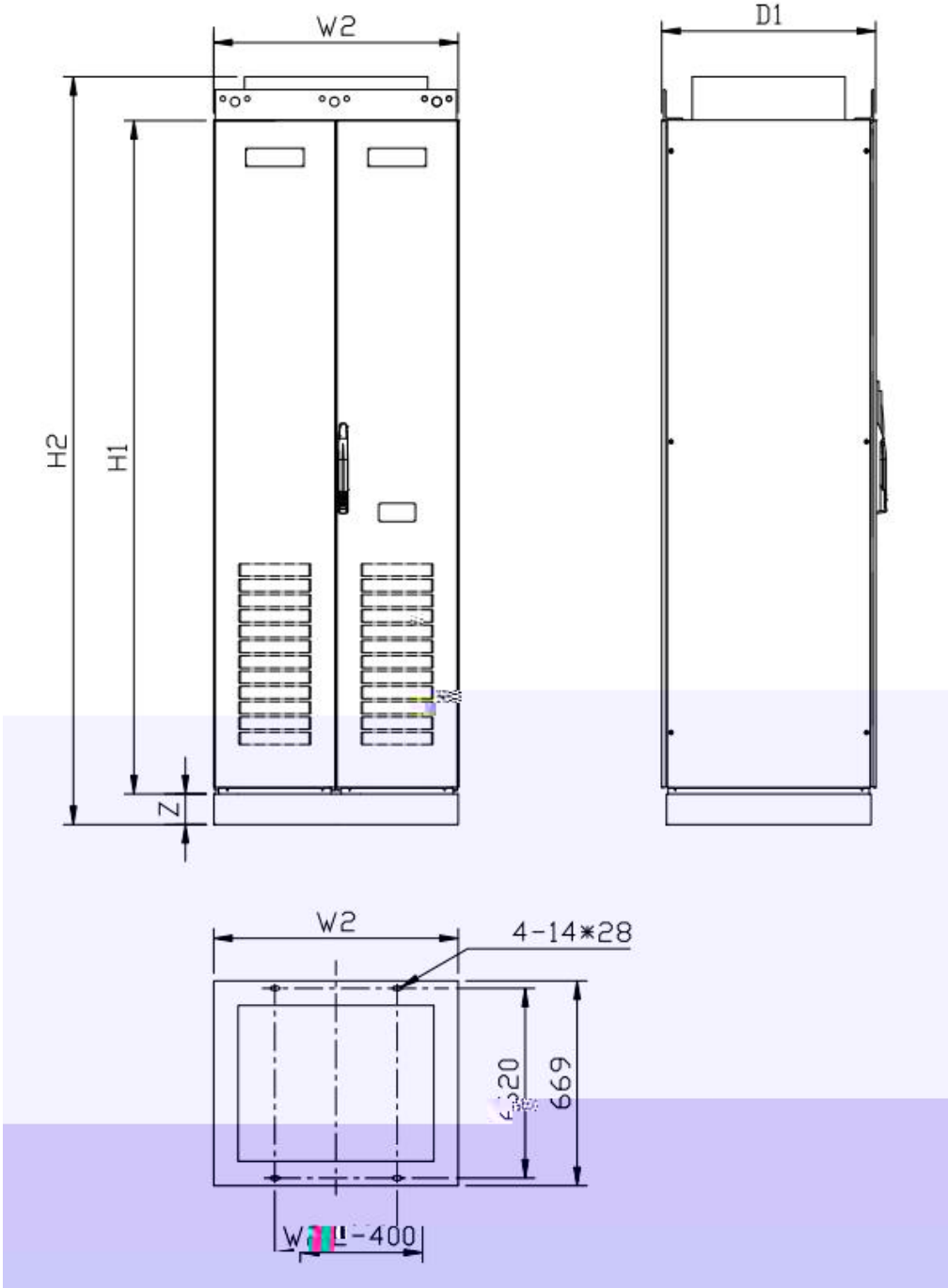


LCL

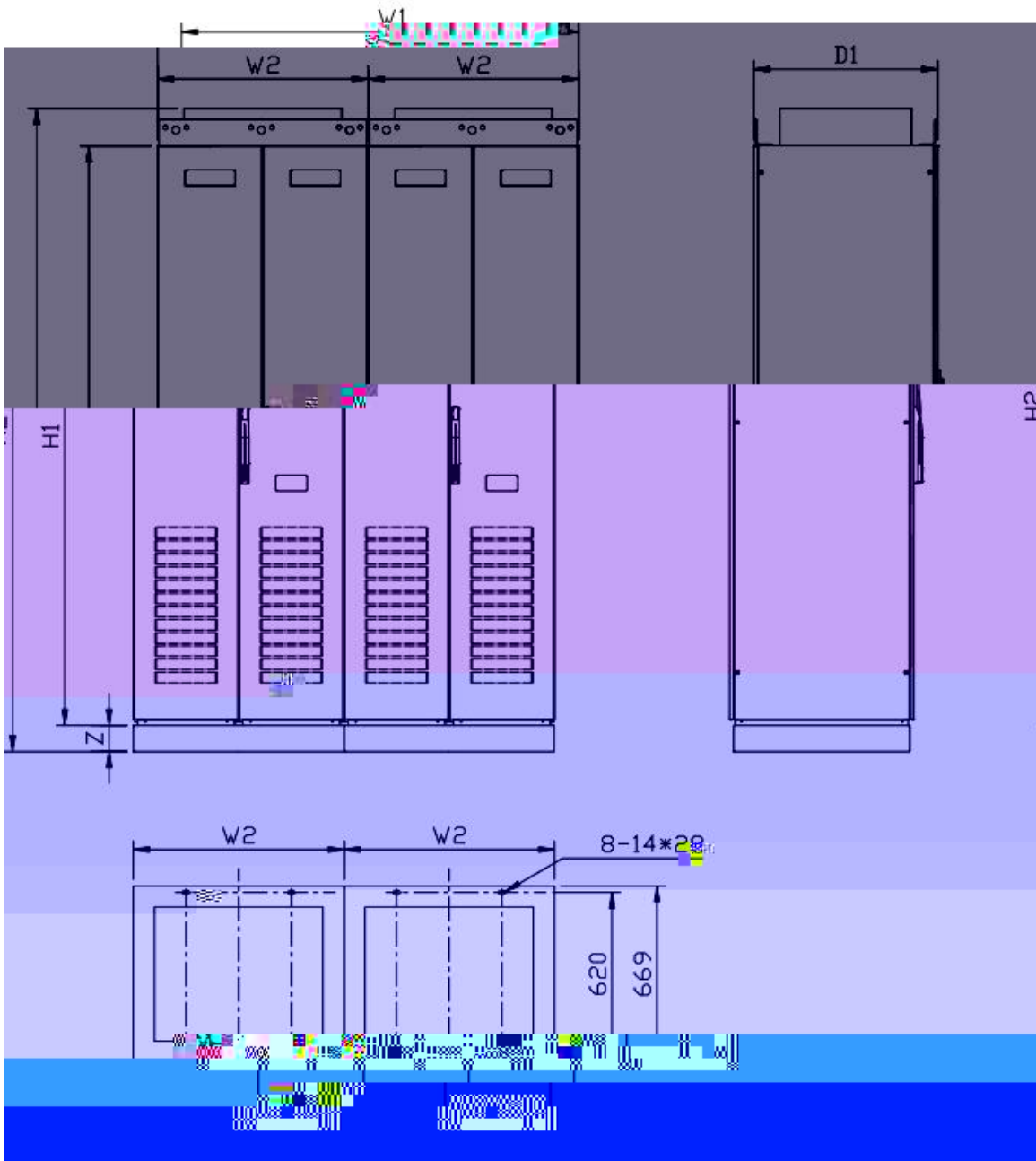
		mm					mm			8 8	kg
		H1	H2	W	D1	D2	A	B1	B2		
HF 680N02M 160- 5	B4	920	880	210	462	444	899	125	150	4- M8	55
HF 680N02M 220- 5	B5	1125	1075	220	520	505	1075	150	150	4- M10	80
HF 680N02M 315- 5	B6	1315	1268	250	618	600	1295	150	100	4- M2	120
HF 680N02M 355- 5											
HF 680N02M 400- 5											
HF 680N02M 450- 5											
HF 680N02M 500- 5											
HF 680N02M 560- 5											

5. 2

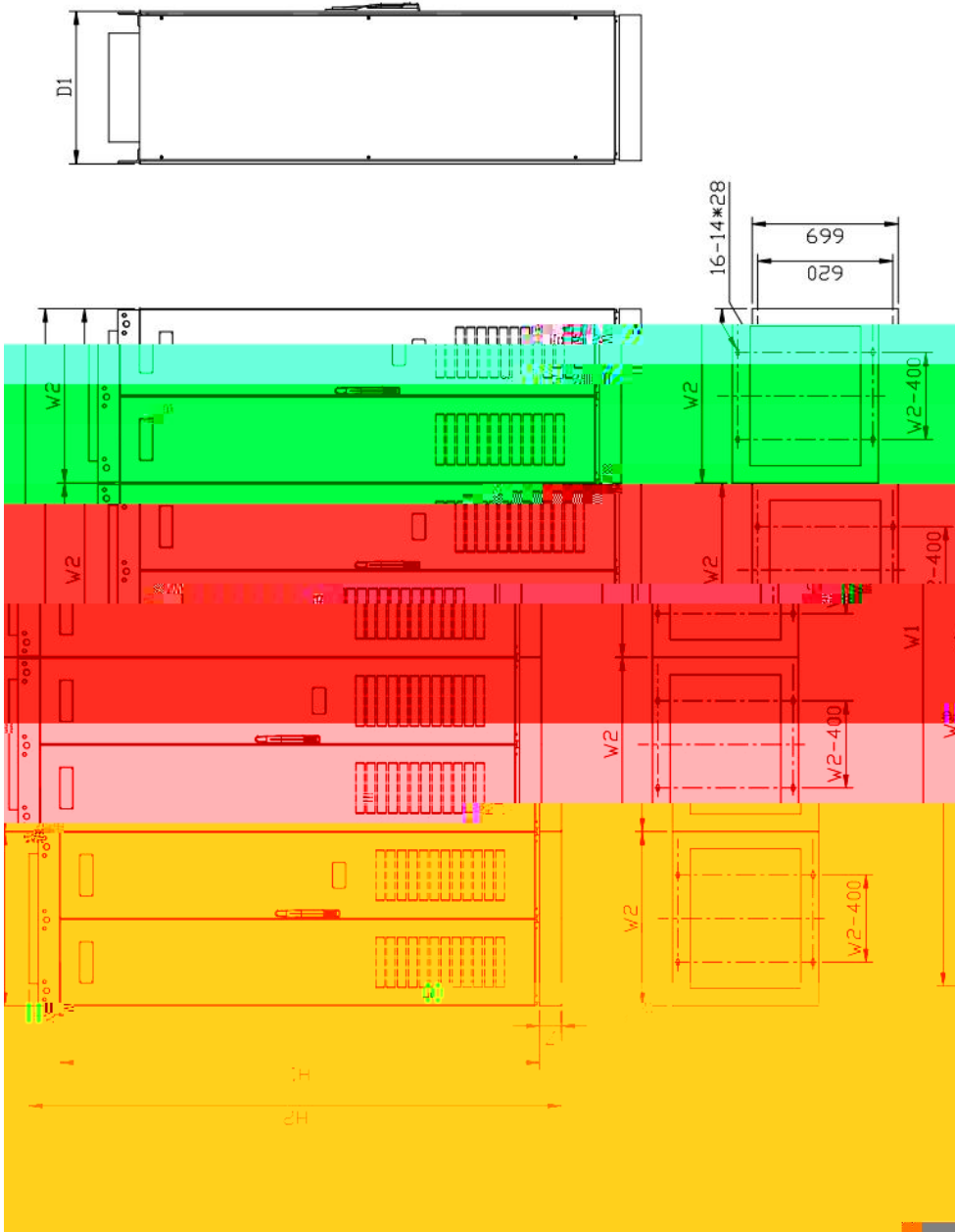
315kW-3200kW

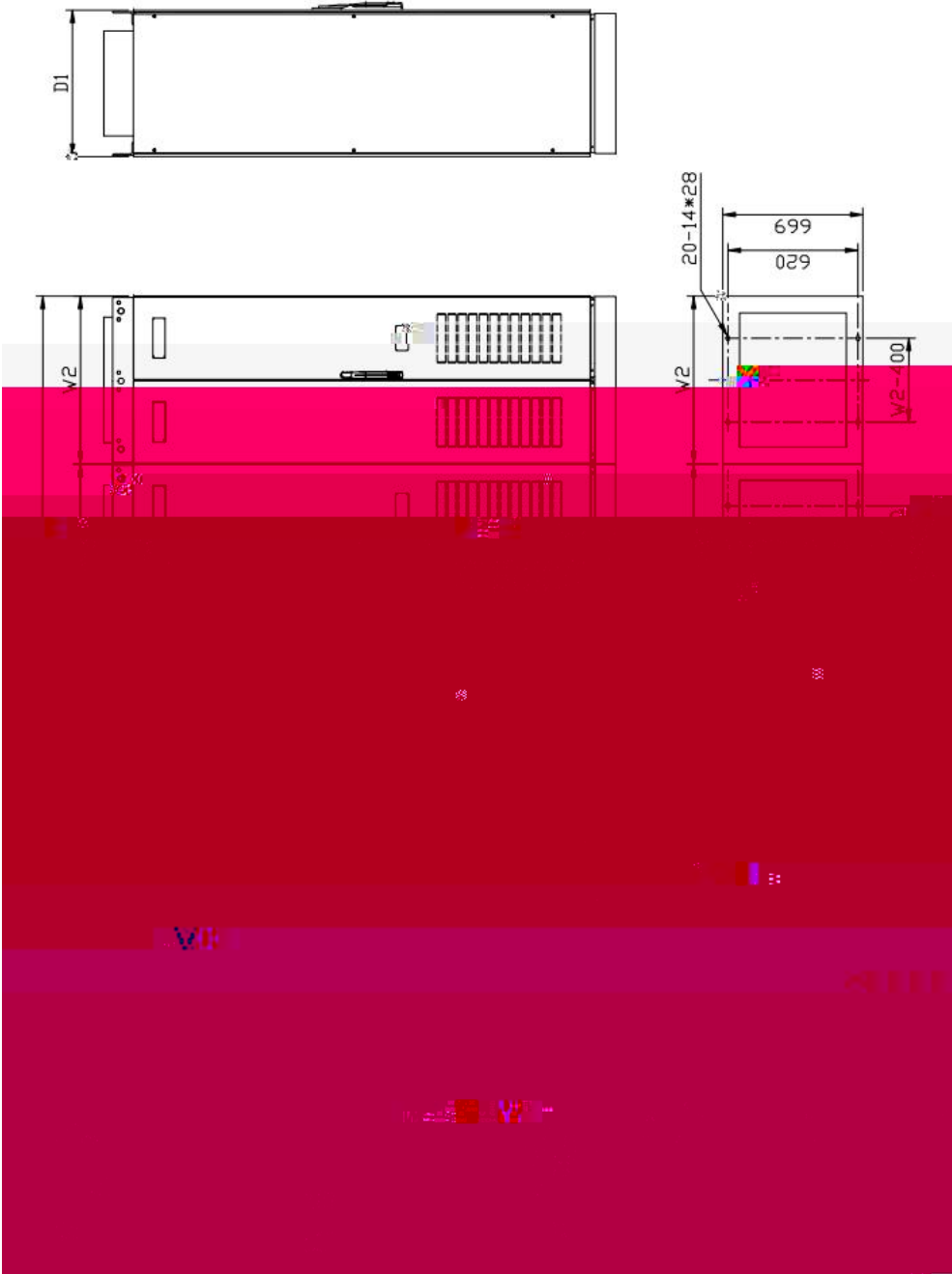


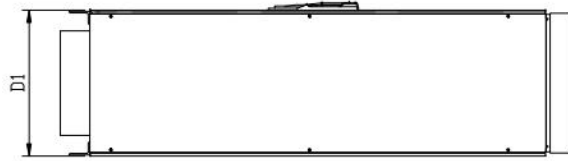
HF680N02C- 315- 5 HF680N02C- 400- 5 HF680N02C- 560- 5



HF680N02C-800-5 HF680N02C-1000-5

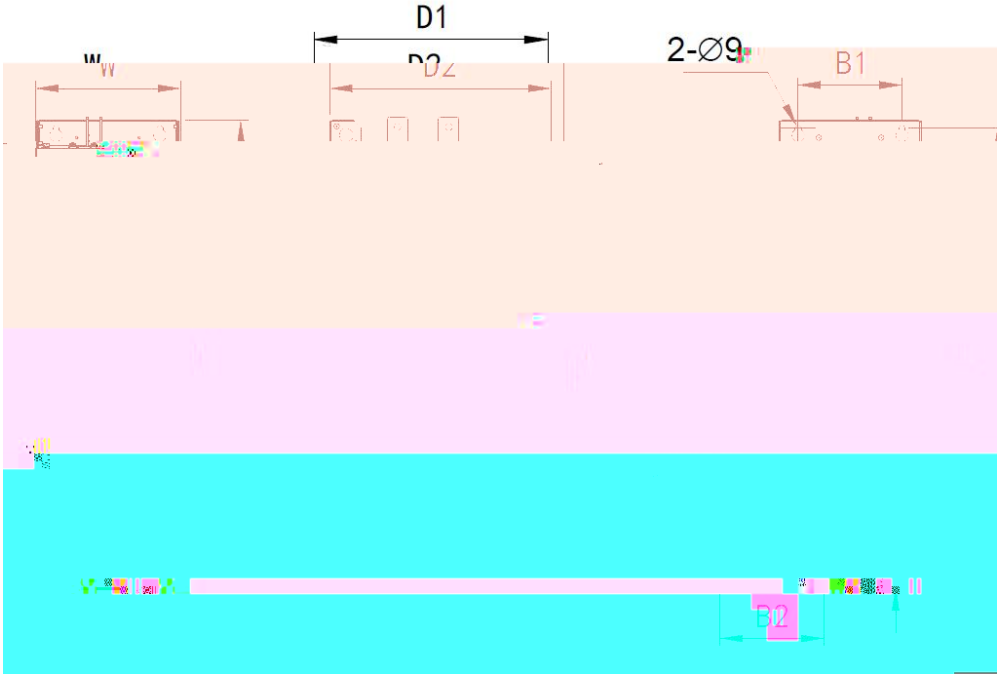




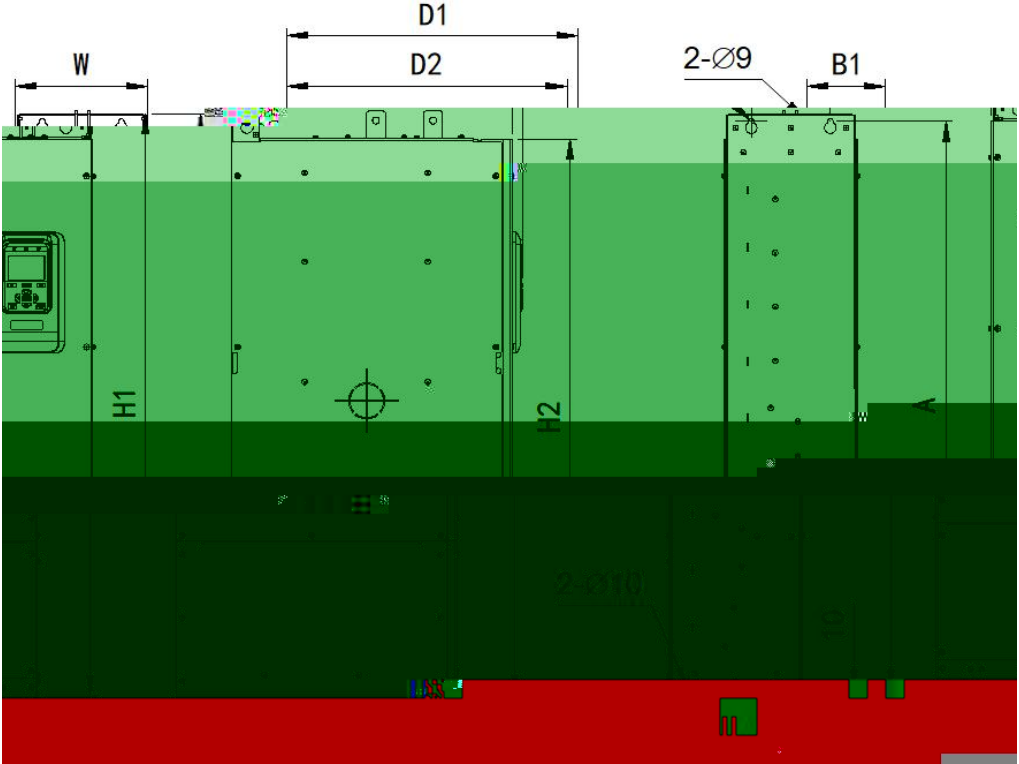


		mm						
		H1	H2	V1	V2	D1	Z	kg
4	HF680N02C- 800- 5+Z4	2200	2640	1600	800	700	300	1800
	HF680N02C- 1000- 5+Z4							

5.3



B3



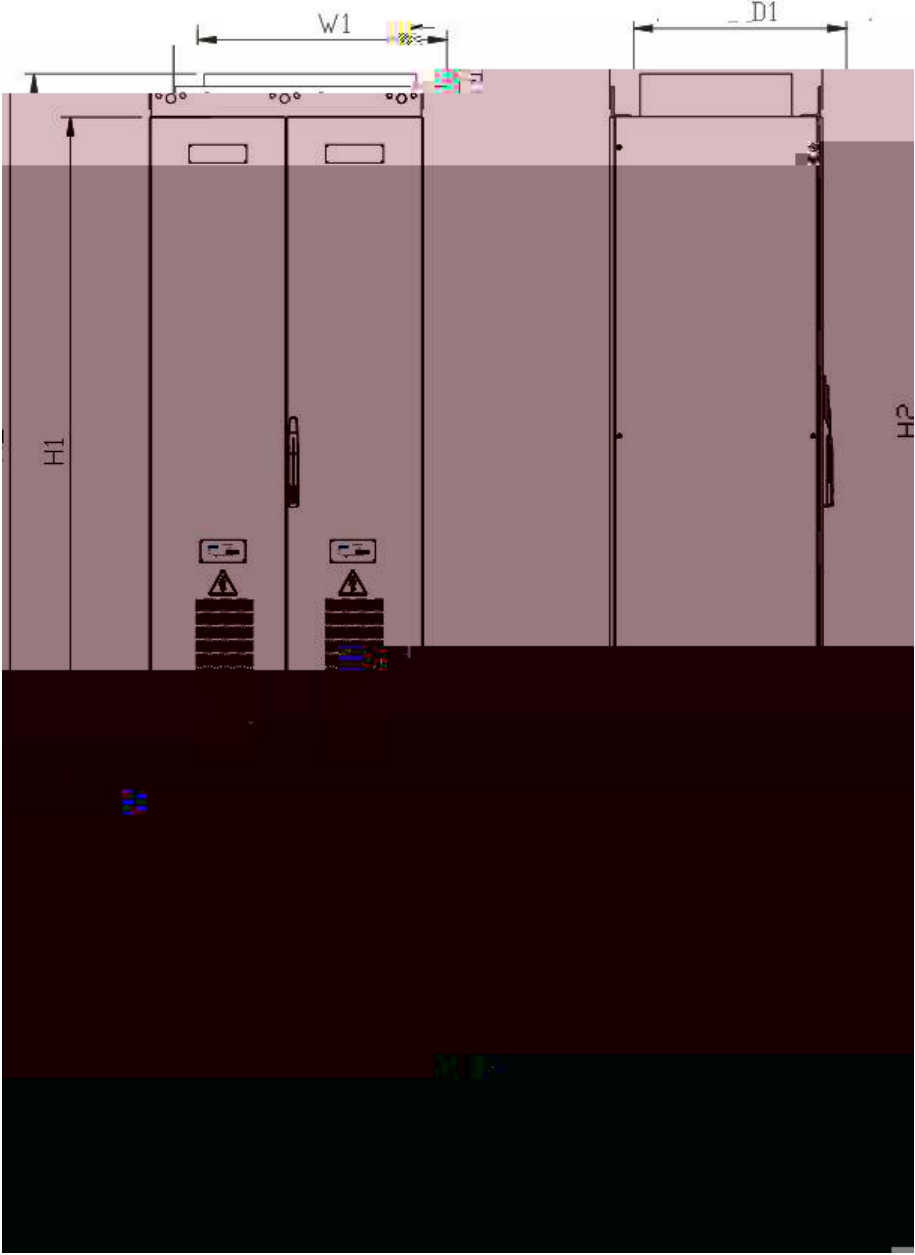
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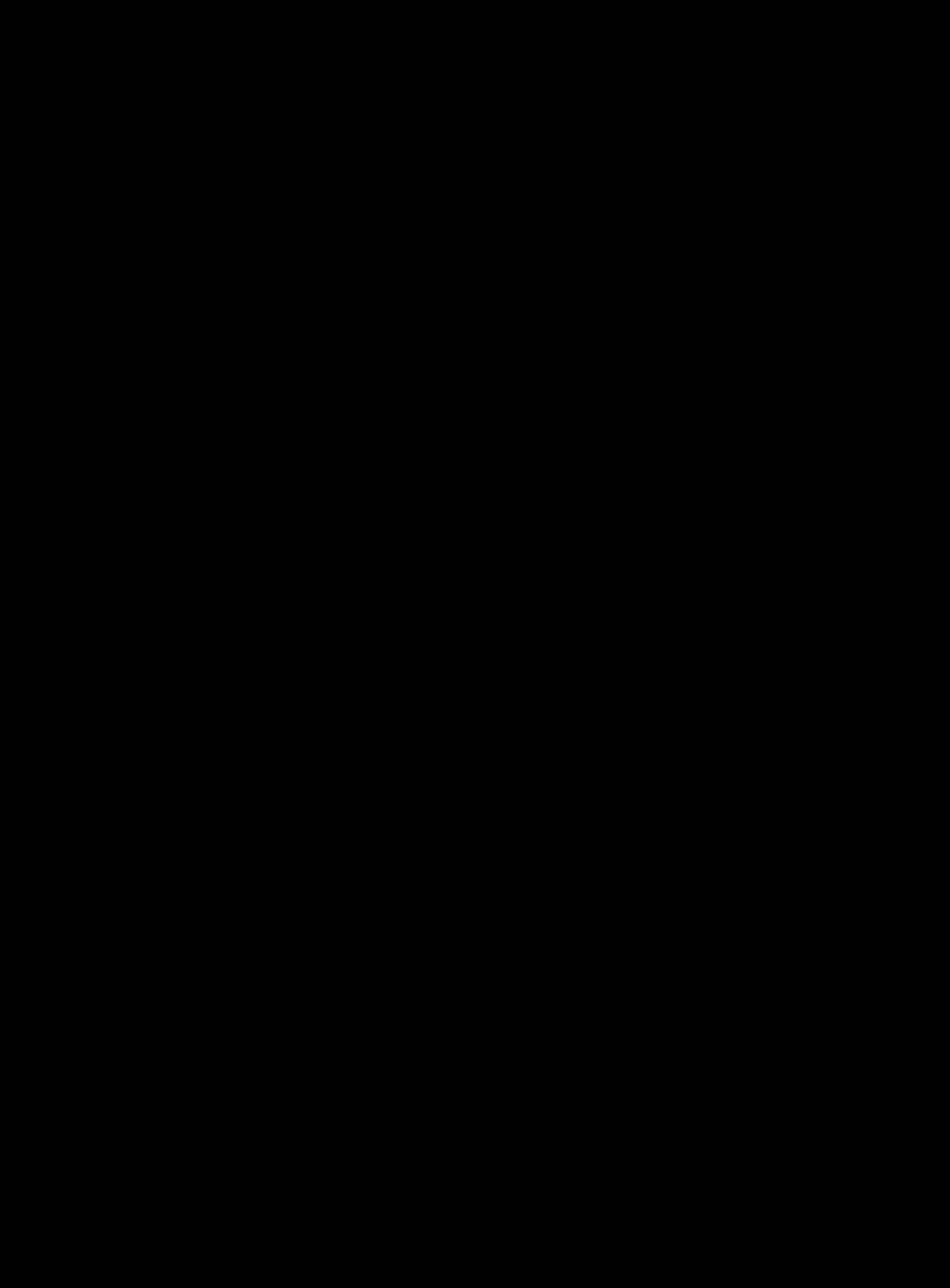


		mm					mm			8.8	kg
		H1	H2	W	D1	D2	A	B1	B2		
HF 680N03M 045- 5	B3	673	633	210	337	320	652	150	150	4-M8	30
HF 680N03M 055- 5											
HF 680N03M 075- 5	B4	920	880	210	462	444	899	125	150	4-M8	55
HF 680N03M 090- 5											
HF 680N03M 110- 5											
HF 680N03M 132- 5											
HF 680N03M 160- 5											
HF 680N03M 200- 5	B5	1122	1075	221	522	505	1075	150	150	4-M10	80
HF 680N03M 220- 5											
HF 680N03M 250- 5											
HF 680N03M 280- 5											
HF 680N03M 315- 5	B6	1315	1268	250	618	600	1295	150	100	4-M12	120
HF 680N03M 355- 5											
HF 680N03M 400- 5											
HF 680N03M 450- 5											
HF 680N03M 500- 5											
HF 680N03M 560- 5											

5. 4

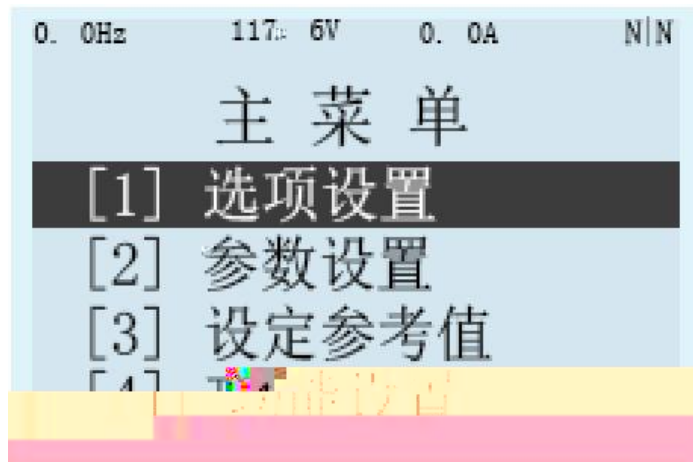


		mm					kg
		H1	H2	W1	D1	Z	
1	HF680N03C- 630- 5+Z1						
	HF680N03C- 710- 5+Z1						
	HF680N03C- 800- 5+Z1	2200	2440	800	700	100	900
	HF680N03C- 900- 5+Z1						
	HF680N03C- 1000- 5+Z1						
2	HF680N03C- 630- 5+Z2						
	HF680N03C- 710- 5+Z2						
	HF680N03C- 800- 5+Z2	2200	2540	800	700	200	900
	HF680N03C- 900- 5+Z2						
	HF680N03C- 1000+Z2						
3	HF680N03C- 630- 5+Z3						
	HF680N03C- 710- 5+Z3						
	HF680N03C- 800- 5+Z3	2200	2590	800	700	250	900
	HF680N03C- 900- 5+Z3						
	HF680N03C- 1000+Z3						
4	HF680N03C- 630- 5+Z4						
		2200	2640	800	700	300	



B&

	N N W E
--	---------------



4

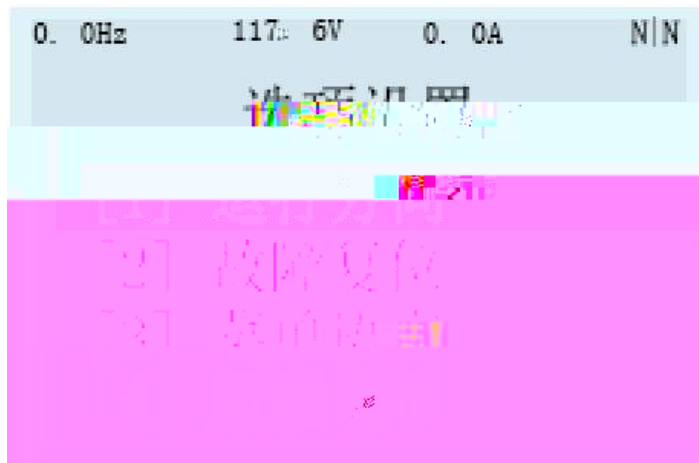
ENTER

F1/F2

6.4

- 1 Option Set
- 2

6.4.1

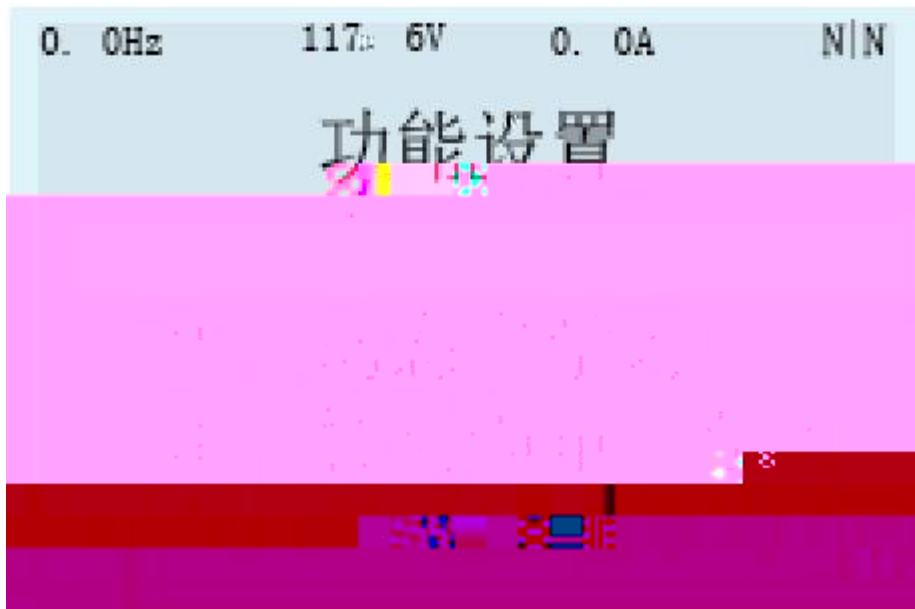


1	Choose Direction	
2	Reset Error	
3	Menu Language	
4	Monitor Setting	
5	LCD Contrast	
6	Time Setting	
7	Version	
8	OLD COM	



	Torque Limiter	[%]	%
	1 Anal og output1	[%]	1
	2 Anal og output2	[%]	2

6.4.4



Function Setting

1	MotoTuning I	
2	MotoTuning II	

3	Moto Tuning III	
4	DC-Link Tuning (AFE)	AFE
5	Shortcut Paras Setting	
6	Parameter Initialization	
7	Delete Fault Records	
8	System Restart	
9	Backup Parameter	
10	Recover Parameter	
11	Compare Parameter	
12	Backup Para DSP DSP	DSP
13	Restore Para DSP DSP	DSP

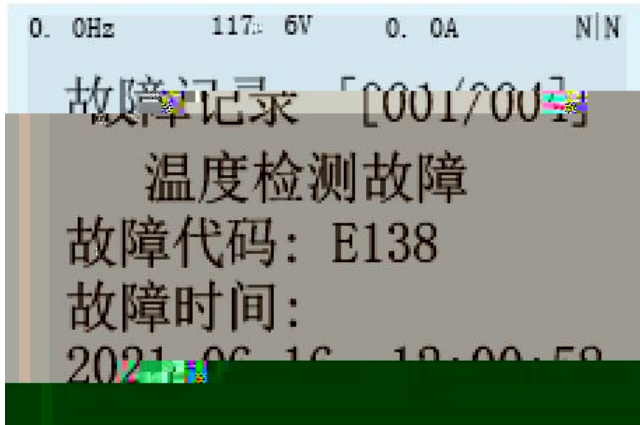
1

2

5

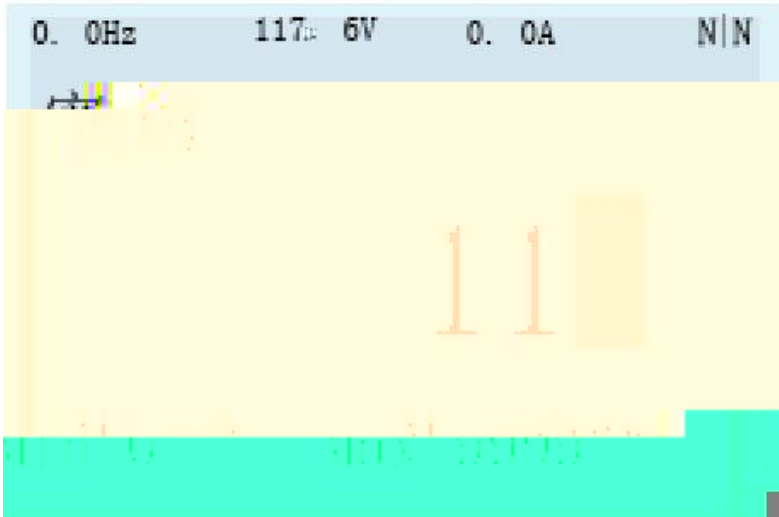
“ Enter”

6.4.5



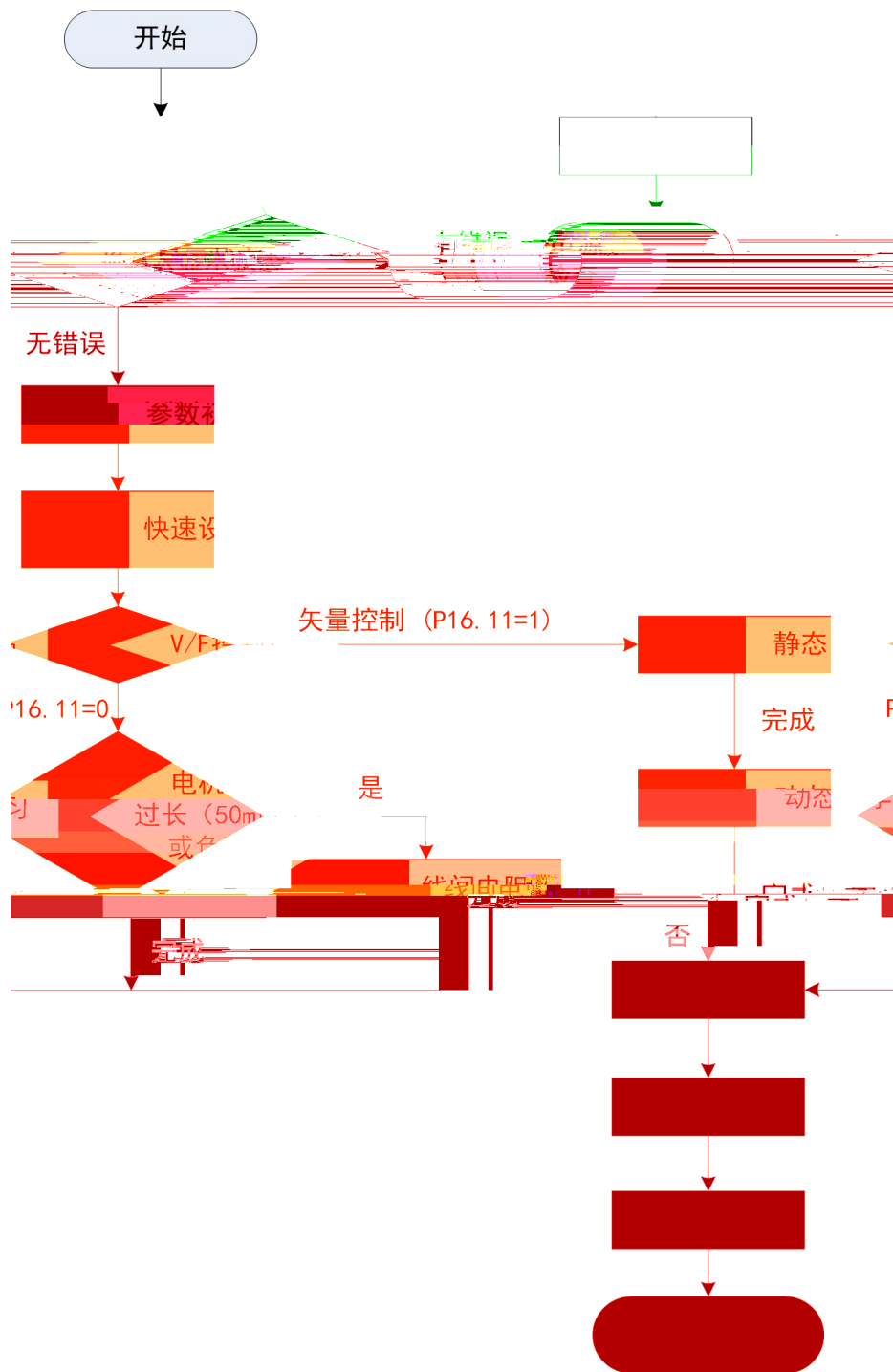
Fault Record

Access Permi ssi ons



7.

7.1



/

V/F P16. 11=0 V/F

P16. 11=2 P16. 11=1

7.2

1
2
3
4
5
6
7
8
9
10

AC380~500V 50/60Hz
U, V, W

PG PG

0. 0Hz	117. 6V	0. 0A	N N
电机速度 [Hz]: 0. 0Hz			
给定频率 [Hz]: 10. 0Hz			
母线电压		: 117. 6V	
电机电流		: 0. 0A	

Warning/Error

N | E

W | E

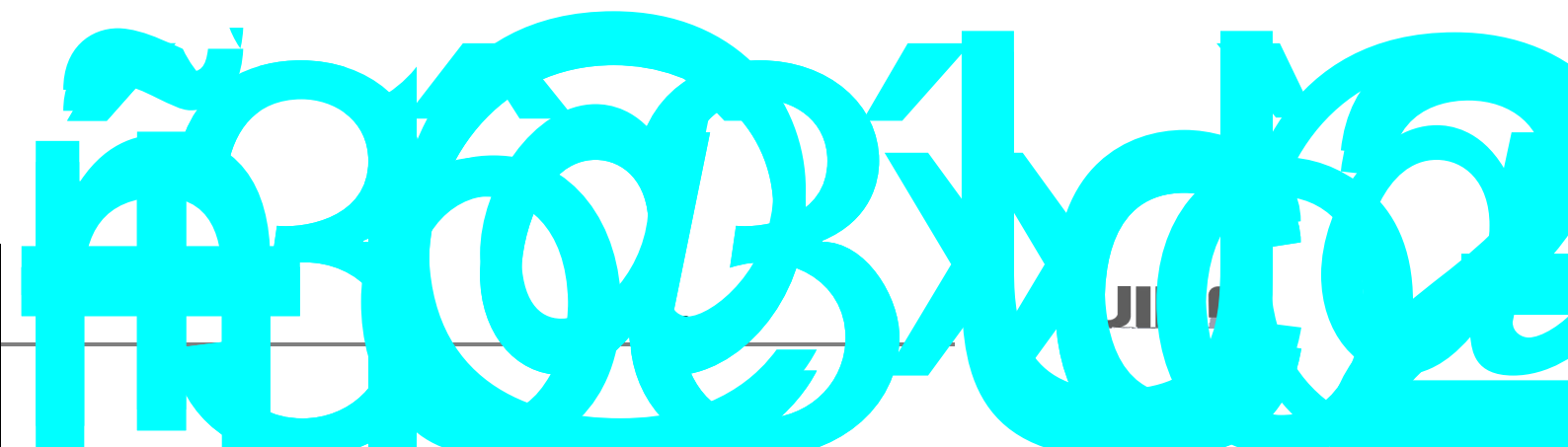
7.2.1

5.4 " "

7.2.2

P16.2			
P16.3			
P16.4			
P16.5			
P16.6			
P16.7		120× P16.5 / P16.6	
P16.9		120× P16.5/P16.7	
P16.11		[0] V/F [1] [2]	0
P16.14	V/F	[0] V/F [1] V/F [2]	0
P16.24		V/F	50 [Hz]
P8.16	1	P8.15	3
P8.35	1	P8.34	3
P8.0		[0] [1] [2] DP [3] MODBUS [4]	1

		[0] I/O	
		[1]	1
		[2]	2
P8.10		[3]	3
		[4] DP	
		[5] MODBUS	
		[6]	
P8.3		[0]	1
		[1]	
P7.0	[1]	0~	



4

50%

7.2.4

HF680N

	7.5%
	50% 50%
	1/5
	P16
	V/F

7.2.7

1				
2		LOC/REM	LOCAL	LOCAL
3		ENTER	[1]	RUN
	RUN			5Hz

8.

8.1

8.1.1

DI 1

DI 2

DI 3: 14

DI 4

DO2

DO3:

DO4

DO

DO5

1

380V

220V

PO. 1

"

"

"

"

" DO4A"

" DO4C"

" DO5A"

" DO5C"

DO2

PLC

1

P3. 0- P3. 7

0

PLC

DI

"

"

"

H L"

DI

1

P3. 0	1	
P3. 1	20	
P3. 2	14	LCL
P3. 3	5	
P4. 1 DO2	2	
P4. 2 DO3	1	

P4. 3	DC	0	DO
P4. 4		32	
P7. 0		180%	
P7. 4		200%	
P7. 12	730V		430V 800V
P8. 6	300s		300s 0. 5s
P16. 0	380V		
P16. 2			400kW 400kW
P16. 4			400kW 640A
P16. 11	3		
P16. 12	3		3K
P24. 7	0V		ADJ

$$P16. 0 + P24. 7 = P16. 0$$

AFE " Stop

P8.6 0.5s Run A B C

Stop

P N P N Local /Remote

P16. 0	375V			580V
375V	P16. 0	400V		600V
400V	P16. 0	430V		630V
430V	P16. 0	450V		665V
450V	P16. 0	460V		680V
P16. 0	460V			700V
	620V		P16. 0	380V P24. 7
20V		620V		
380V			" / "	" "

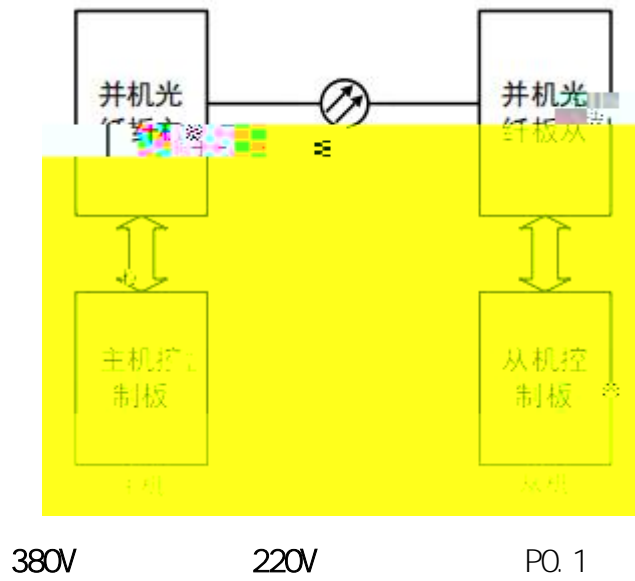
D02

D04

D05

1

D0



*

*

DI

DO

DO

" D04A"

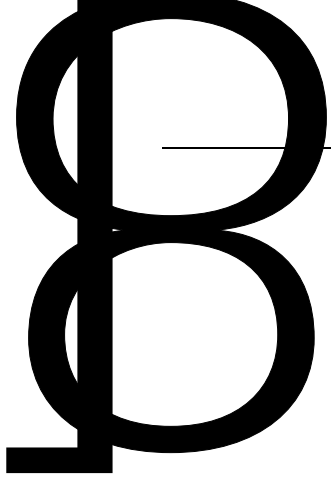
" D04C"

" D05A"

" D05C"

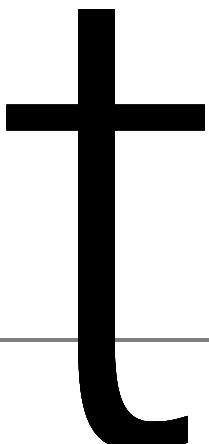
P16. 0	380V		
P16. 2		1/2	800kW 400kW
P16. 4		1/2	800kW 608A
P16. 11	3		
P16. 12	3		3K

P2. 0	1		
P2. 3	1		
P3. 0	1		
P3. 1	20		
P3. 2	14	LCL	
P3. 3	5		
P4. 1 D02	2		
P4. 2 D03	1		
P4. 3 D04	0		DO
P4. 4 D05	32		
P7. 0	180%		
P7. 4	200%		
P7. 12	730V		430V 800V
P8. 6	300s		300s 0. 5s
P16. 0	380V		
P16. 2			800kW 800kW
P16. 4			800kW 1216A



Local /Remote

Remote



P3. 0- P3. 7

0

PLC

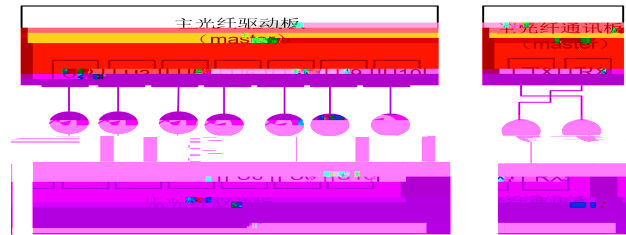
DI



DI


DI 1

参数	名称	16	13	12	11	10	9	8	7	6	5	4	3	2
101.5	数字量输入端子 [01 ~ 16]													
101.6	数字量输出端子 [01 ~ 16]													



P2. 0	2		
P3. 2	14	LCL	
P4. 3 DO4	0	DO	
P4. 4 DO5	32		
P4. 1 DO2	2		
P7. 0	180%		
P7. 4	200%		
P7. 12	730V	800V	430V
P16. 0	380V		
P16. 2	1/2	800kW	400kW
P16. 4	1/2	800kW	608A
P16. 11	3		
P16. 12	3		3K

P2. 0	1		
-------	---	--	--

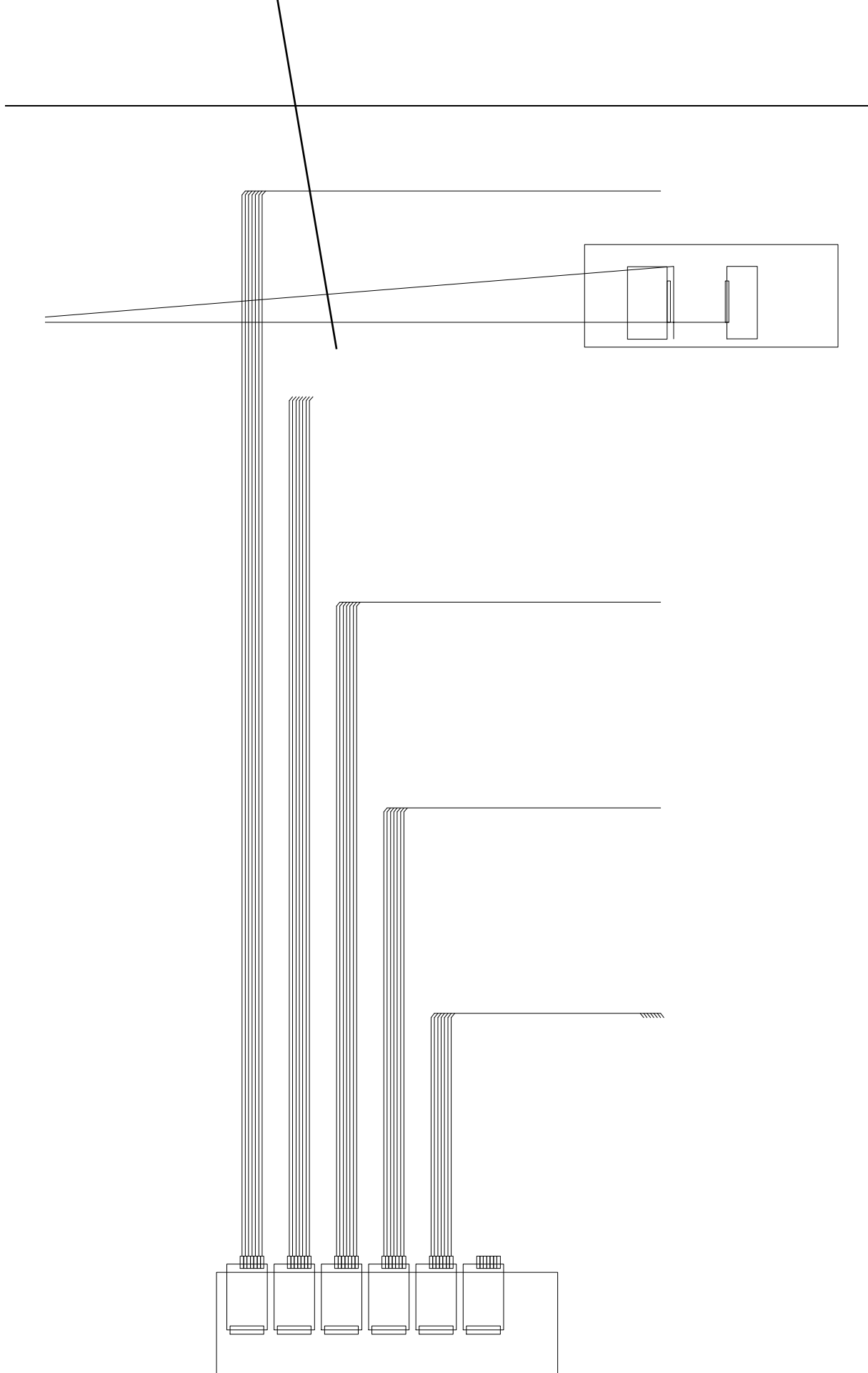
P2.3	1
P3.0	1
P3.1	20
P3.2	14
P3.3	5
P4.1 D02	2
	1
P4.3 D04	0
P4.4 D05	32
P7.0	180%
P7.4	200%
P7.12	730V
P8.6	300s
b	

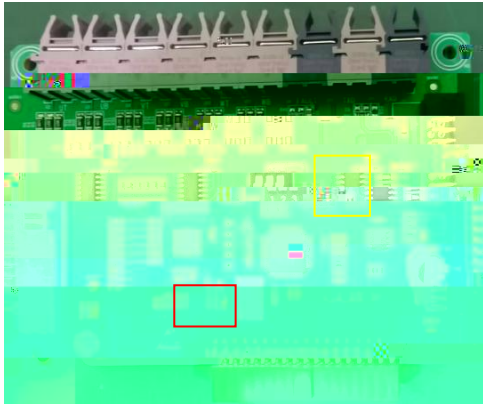
LCL

DO



430V





" "

PIN

PIN

DI1

DI2

DI4

DO2

DO4

DO5

DO

DI2

DO4

DO5

DO

PO.1

400KW

PO.1

1

" DO4A"

" DO4C"

1

1

" DO5A"

" DO5C"

1

P16.0 P24.7 =P16.0
+P24.7

620V P16.0 380V P24.7 20V
620V

101.2 [W1] 101.77 CAN
@ 101.80 CAN @ 0

"/ " " "

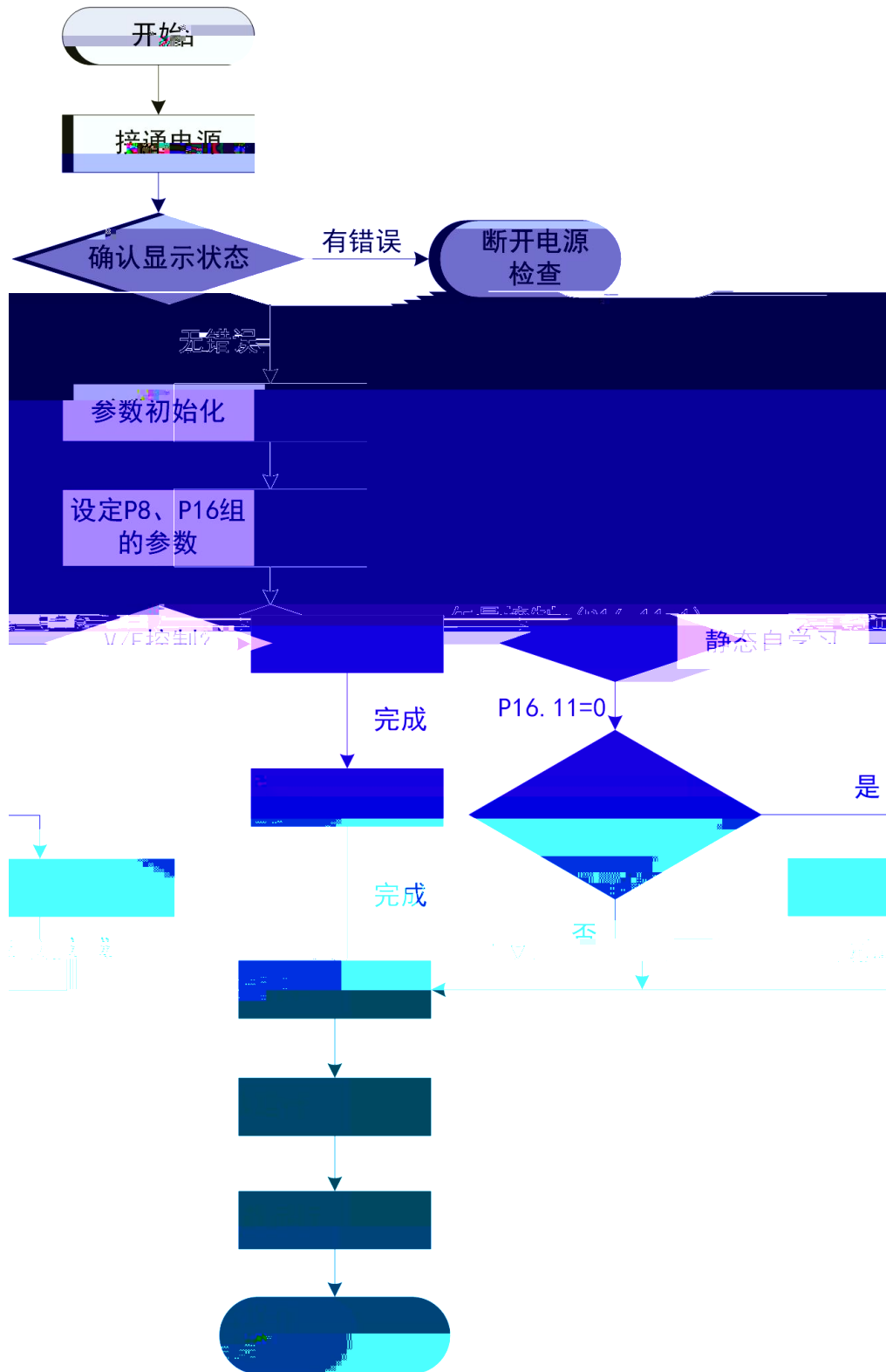
AFE 2s

IGBT 300s IGBT
103.31 49-51Hz

103.23 102.54 102.55
102.56

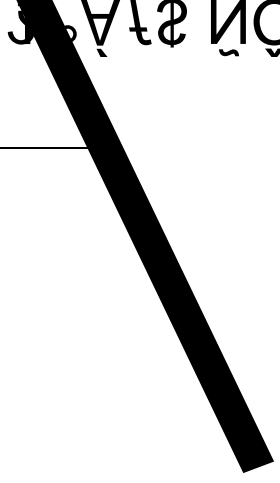
	A	B	C	
	102.54	102.55	102.56	
1	113.11	113.12	113.13	113.8
2	113.30	113.31	113.32	113.27
3	113.49	113.50	113.51	113.46

8.2





MT



8.3.3

6

8.3.4

	[0]	
	[1]	
P8.0	[2] DP	1
	[3] MODBUS	
	[4]	
P8.3	[0]	1
	[1]	
P8.6	0 300s	0
P8.7		

P16. 1		80
P16. 2		
P16. 3		
P16. 4		
P16. 5		
P16. 6		
P16. 7		(120× P16. 5 / P16. 6)
P16. 9		(120× P16. 5 / P16. 7)
P16. 11		[0] V/F [1] [2]

8. 3. 5

5

P16. 11 [1] [2]
[0] V/F

6

V/F (P20. 74)
P20. 74

P20. 78 P20. 79 P20. 84

"

"

"

BO

"

"

"

"

50%

P20. 98

P20. 98

8. 3. 6

HF680N

7. 5%

5

0%

50%

1

2

1

2

8.3.9

9.

9.1

9.1.1

P2.0		[0] [1] [2]	0 2	0	500kW [0] 500kW [1] [2]
P2.2		[0] [1]	0 1	0	
P2.3			0 5	1	

9.1.2

P3.0	1	0 32	1
P3.1	2	0 32	2
P3.2	3	0 32	5





P8. 6			0. 00 300. 00 [s]	0. 00 [s]	1 GBT
-------	--	--	-------------------------	--------------	-------

9. 1. 6

P16. 0			320 550 [V]	500 [V]	
P16. 2			0. 0 4000. 0 [kW]	[kW]	
P16. 4			0. 0 6500. 0 [A]	[A]	
P16. 11		[0] V/F [1] [2] [3] [4]	0 4	0	[3]
P16. 12			3 8 [kHz]	3 [kHz]	3 8kHz

9. 1. 7 AFE

P24. 0		[0] [1] 1 [2] 2 [3] [4] DP [5] MODBUS [6]	0 6	0	AFE [0]
P24. 1	@		0 347	0	

		[0]				
		[1]	1			AFE
P24. 2		[2]	2	0 5	0	
		[3] DP				[0]
		[4] MODBUS				
		[5]				
P24. 3	@			0 347	0	
P24. 7	ADJ					

P24. 28			0 6500 [nF]	0[nF]	
P24. 29			0 6500 [nF]	0	AFE
P24. 30			0 6.5 [nF]	0	AFE

10.

10.1

P2

P2.0

[0]

[1]

2		
3		
4	. NC	
5		</RST
6	1 0	8.2
7	2 1	
8	3 2	
9	4 3	
10		
11		
12		
13	. NC	
14		
15	. NC	
16		
17	0	1 0 00
18	1	1 01 2 10 3 11 4
19		
20		AFE
21		
22	FUNC 22	
23	FUNC 23	
24		
25	FUNC 25	
26		
27	FUNC 27	
28		
29	FUNC 29	

10.3

P4

18	1	2
19	2	3
20	3	4
21	FUNC 21	0 3

1

5 5 0 U

GUIDE

114

10.4

P5

P5.0	AI 1	[0] [1] 0 +10V [2] -10 +10V [3] 0 20mA	0 3	1	
P5.1	AI 1	AI 1	0.0 1000.0 [ms]	25.0 [ms]	
P5.2	AI 1	AI 1	-10.00 10.00 [V]	0.000 [V]	
P5.3	AI 1	AI 1	-20.00 20.00 [mA]	0.000 [mA]	
P5.4	AI 1	AI 1	-10.00 10.00 [V]	0.000 [V]	
P5.5	AI 1	AI 1	0.00 20.00 [mA]	0.000 [mA]	
P5.6	AI 1	AI 1	-300.0 300.0 [%]	0.0 [%]	
P5.7	AI 1	AI 1	-10.00 10.00 [V]	10.000 [V]	
P5.8	AI 1	AI 1	0.00 20.00 [mA]	20.000 [mA]	
P5.9	AI 1	AI 1	-300.0 300.0 [%]	100.0 [%]	
P5.18	AI 2	[0] [1] 0 +10V [2] -10 +10V [3] 0 20mA	0 3	3	

		AI 2			
P5. 19	AI 2		0. 0 1000. 0 [ms]	25. 0 [ms]	
P5. 20	AI 2	AI 2	-10. 00 10. 00 [V]	0. 000 [V]	
P5. 21	AI 2	AI 2	-20. 00 20. 00 [mA]	0. 000 [mA]	
P5. 22	AI 2	AI 2	-10. 00 10. 00 [V]	0. 000 [V]	
P5. 23	AI 2	AI 2	0. 00 20. 00 [mA]	0. 000 [mA]	
P5. 24	AI 2	AI 2	-300. 0 300. 0 [%]	0. 0 [%]	
P5. 25	AI 2	AI 2	-10. 00 10. 00 [V]	10. 000 [V]	
P5. 26	AI 2	AI 2	0. 00 20. 00 [mA]	20. 000 [mA]	
P5. 27	AI 2	AI 2	-300. 0 300. 0 [%]	100. 0 [%]	

10.5

P6

P6.0	A01		7-1	0	14	2
P6.1			1	0	1000	0
P6.2	A01		A01	-300.0	300.0	0.0
					[%]	[%]
P6.3	A01		A01	-300.0		

P6. 21	AO2	AO2 (P6. 14 [13])	0. 0 100. 0 [%]	0. 0 [%]	
P6. 22	AO2	AO1	0. 0 1000. 0 [ms]	10. 0 [ms]	

7-1

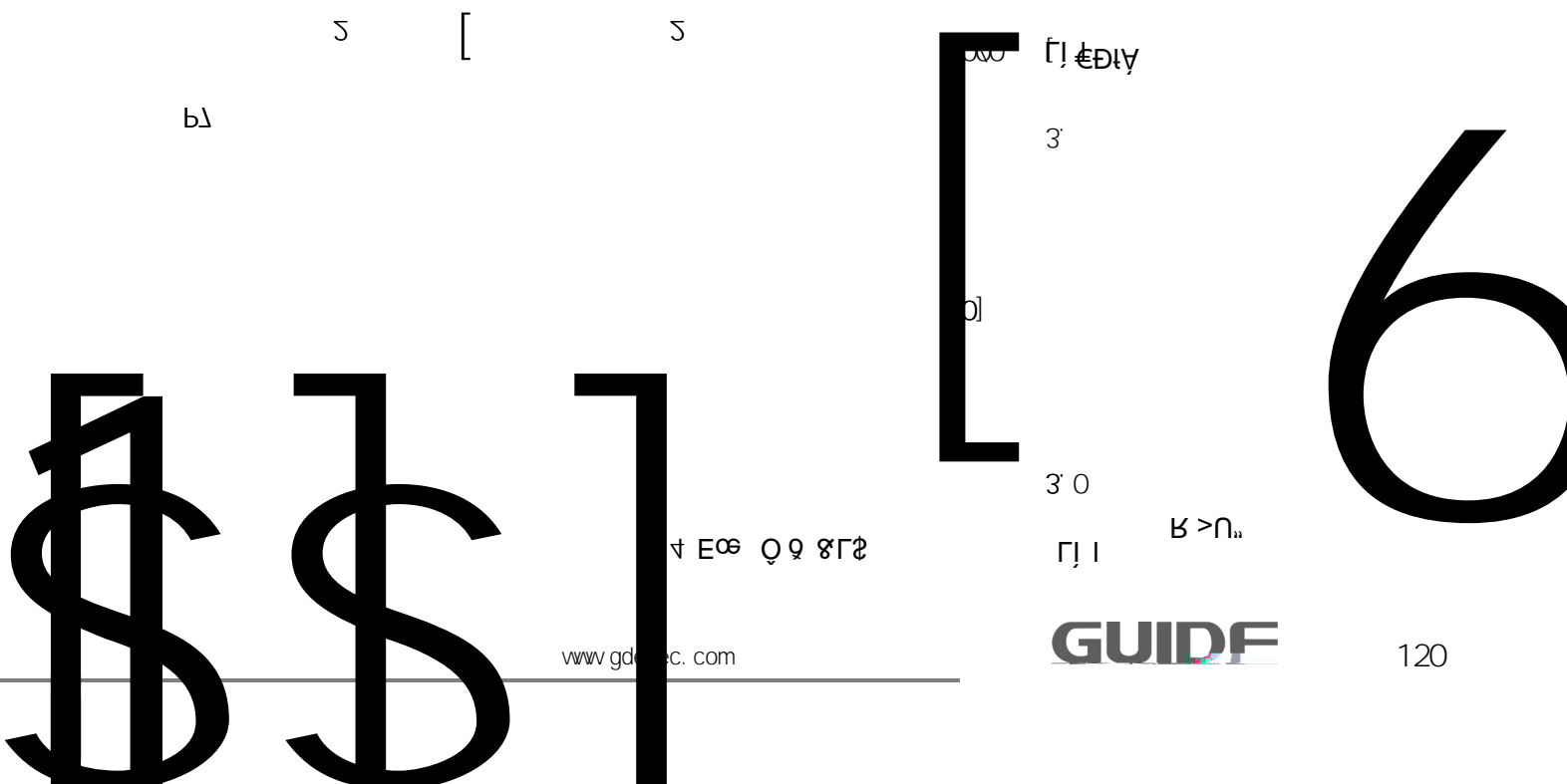
- 0
- 1
- 2
- 3
- 4
- 5
- 6

10.6

P7

P7.0	[1]	1	0.0 300.0 [%]	180.0 [%]	
P7.1	[2]	2	0.0 300.0 [%]	180.0 [%]	
P7.2	[3]	3	0.0 300.0 [%]	180.0 [%]	
P7.3	[4]	4	0.0 300.0 [%]	180.0 [%]	
P7.4	[1]	1	0.0 300.0 [%]	235.0 [%]	
P7.5	[2]	2	0.0 300.0 [%]	235.0 [%]	
P7.6	[3]	3	0.0 300.0 [%]	235.0 [%]	
P7.7	[4]	4	0.0 300.0 [%]	235.0 [%]	
P7.8	[1]	1	0.0 100.0 [%]	20.0 [%]	
P7.9	[2]	2	0.0 100.0 [%]	20.0 [%]	
P7.10	[3]	3	0.0 100.0 [%]	20.0 [%]	
P7.11	[4]	4	0.0 100.0 [%]	20.0 [%]	
P7.12			600 920 [V]	900 [V]	
P7.13			300 500 [V]	350 [V]	
P7.14			60.0 100.0 []	87.5 []	
P7.15			50.0 100.0 []	80.0 []	
P7.19	[1]	1	100.0 720.0 [%]	120.0 [%]	
P7.20	[2]	2	100.0 720.0 [%]	120.0 [%]	
P7.21	[3]	3	100.0 720.0 [%]	120.0 [%]	

P7. 22	[4]	4	100.0	720.0	120.0
			[%		[%
P7. 23	1 M	1	0.00	3.00	0.50
			[s]		[s]
P7. 24	1 M2	2	0.00	3.00	0.50
			[s]		[s]
P7. 25	1 M3	3	0.00	3.00	0.50
			[s]		[s]
P7. 26	1 M4	4	0.00	3.00	0.50
			[s]		[s]
P7. 27	1	1	0.00	3.00	2.00
			[s]		[s]
P7. 28	2	2	0.00	3.00	2.00
			[s]		[s]







P8. 37	2	P8. 34	P8. 36	0.0 300.0 [s]	4.00 [s]
P8. 38	3			0.0 300.0 [%]	240.0 [%]
P8. 39	3	P8. 36	P8. 38	0.0 300.0 [s]	7.00 [s]
P8. 40	4			0.0 300.0 [%]	300.0 [%]
	4	P8. 38	P8. 40	0.0 300.0 [s]	

8 3

b8

b



[0

[0

[0

10.8

2

P9

P9.0		[0] [1] [2] DP [3] MODBUS [4]	0 4	0	
P9.1					
P9.2					
P9.3		[0] [1]	0 1	0	
P9.6			0.00 300.00 [s]	0.00 [s]	
P9.7			0.00 300.00 [s]	0.00 [s]	
P9.10		[0] I/O [1] 1 [2] 2 [3] [4] DP [5] MODBUS [6]	0 6	0	
P9.11					
P9.13		[0] [1] PROFIBUS [2] MODBUS [3]	0 3	0	
P9.14			0.1 10.0	1.0	
P9.15	1		0.0 300.0 [%]	100.0 [%]	
P9.16	1	P9.15	0.0 300.0 [s]	3.00 [s]	
P9.17	2		0.0 300.0 [%]	200.0 [%]	

P9. 18	2	P9. 15	P9. 17	0.0 300.0 [s]	4.00 [s]	
P9. 19	3			0.0 300.0 [%]	240.0 [%]	
P9. 20	3	P9. 17	P9. 19	0.0 300.0 [s]	7.00 [s]	
P9. 21	4			0.0 300.0 [%]	300.0 [%]	
P9. 22	4	P9. 19	P9. 21	0.0 300.0 [s]	10.00 [s]	
P9. 23	5			0.0 300.0 [%]	300.0 [%]	
P9. 24	5	P9. 21	P9. 23	0.0 300.0 [s]	10.00 [s]	
P9. 25	6			0.0 300.0 [%]	300.0 [%]	
P9. 26	6	P9. 23	P9. 25	0.0 300.0 [s]	10.00 [s]	
P9. 27	7			0.0 300.0 [%]	300.0 [%]	
P9. 28	7	P9. 25	P9. 27	0.0 300.0 [s]	10.00 [s]	
P9. 29	8			0.0 300.0 [%]	300.0 [%]	
P9. 30	8	P9. 27	P9. 29	0.0 300.0 [s]	10.00 [s]	
P9. 32		[0] [1] PROFIBUS [2] MODBUS [3]		0 3	0	
P9. 33				0.1 10.0	1.0	
P9. 34	1			0.0 300.0 [%]	100.0 [%]	
P9. 35	1	P9. 34		0.0 300.0 [s]	3.00 [s]	
P9. 36	2			0.0 300.0 [%]	200.0 [%]	

P10. 18	2	P10. 15	P10. 17	0. 0 300. 0 [s]	4. 00 [s]	
P10. 19	3			0. 0 300. 0 [%]	240. 0 [%]	
P10. 20	3	P10. 17	P10. 19	0. 0 300. 0 [s]	7. 00 [s]	
P10. 21	4			0. 0 300. 0 [%]	300. 0 [%]	
P10. 22	4	P10. 19	P10. 21	0. 0 300. 0 [s]	10. 00 [s]	
P10. 23	5			0. 0 300. 0 [%]	300. 0 [%]	
P10. 24	5	P10. 21	P10. 23	0. 0 300. 0 [s]	10. 00 [s]	
P10. 25	6			0. 0 300. 0 [%]	300. 0 [%]	
P10. 26	6	P10. 23	P10. 25	0. 0 300. 0 [s]	10. 00 [s]	
P10. 27	7			0. 0 300. 0 [%]	300. 0 [%]	
P10. 28	7	P10. 25	P10. 27	0. 0 300. 0 [s]	10. 00 [s]	
P10. 29	8			0. 0 300. 0 [%]	300. 0 [%]	
P10. 30	8	P10. 27	P10. 29	0. 0 300. 0 [s]	10. 00 [s]	
P10. 32		[0] [1] PROFIBUS [2] MODBUS [3]		0 3	0	
P10. 33				0. 1 10. 0	1. 0	
P10. 34	1			0. 0 300. 0 [%]	100. 0 [%]	
P10. 35	1	P10. 34		0. 0 300. 0 [s]	3. 00 [s]	
P10. 36	2			0. 0 300. 0 [%]	200. 0 [%]	

P10. 37	2	P10. 34	P10. 36	0. 0 300. 0 [s]	4. 00 [s]	
P10. 38	3			0. 0 300. 0 [%]	240. 0 [%]	
P10. 39	3	P10. 36	P10. 38	0. 0 300. 0 [s]	7. 00 [s]	
P10. 40	4			0. 0 300. 0 [%]	300. 0 [%]	
P10. 41	4	P10. 38	P10. 40	0. 0 300. 0 [s]	10. 00 [s]	
P10. 42	5			0. 0 300. 0 [%]	300. 0 [%]	
P10. 43	5	P10. 40	P10. 42	0. 0 300. 0 [s]	10. 00 [s]	
P10. 44	6			0. 0 300. 0 [%]	300. 0 [%]	
P10. 45	6	P10. 42	P10. 44	0. 0 300. 0 [s]	10. 00 [s]	
P10. 46	7			0. 0 300. 0 [%]	300. 0 [%]	
P10. 47	7	P10. 44	P10. 46	0. 0 300. 0 [s]	10. 00 [s]	
P10. 48	8			0. 0 300. 0 [%]	300. 0 [%]	
P10. 49	8	P10. 46	P10. 48	0. 0 300. 0 [s]	10. 00 [s]	
P10. 54				0. 0 300. 0 [%]	0. 0 [%]	
P10. 55		[0] [1]		0 1	0	
P10. 56				0. 00 300. 00 [s]	3. 00 [s]	
P10. 57		[0] [1]		0 1	1	
P10. 58				0. 00 300. 00 [s]	1. 50 [s]	

10.10

4

P11

P11. 0		[0] [1] [2] DP [3] MODBUS [4]	0 4	0	
P11. 1					
P11. 2					
P11. 3		[0] [1]	0 1	0	
P11. 6			0.00 300.00 [s]	0.00 [s]	
P11. 7			0.00 300.00 [s]	0.00 [s]	
P11. 10		[0] I/O [1] 1 [2] 2 [3] [4] DP [5] MODBUS [6]	0 6	0	
P11. 11					
P11. 13		[0] [1] PROFIBUS [2] MODBUS [3]	0 3	0	
P11. 14			0.1 10.0	1.0	
P11. 15	1		0.0 300.0 [%]	100.0 [%]	
P11. 16	1	P11. 15	0.0 300.0 [s]	3.00 [s]	
P11. 17	2		0.0 300.0 [%]	200.0 [%]	



10.11

1

P12

P12.0

[0]

0 1

1

[1]

[0] [%

P12.1

[1] [Hz]

0 2

1

[2] [rpm]

P12.2

1

0.0 3000.0 10.0

P12.3

2

0.0 3000.0 20.0

P12.4

3

0.0 3000.0 35.0

P12.5

4

0.0 3000.0 50.0

P12.6

5

0.0 3000.0 50.0

P12.7

6

0.0 3000.0 50.0

P12.8

7

0.0 3000.0 50.0

P12.9

8

0.0 3000.0 50.0

P12.10

9

0.0 3000.0 50.0

P12.11

10

0.0 3000.0 50.0

P12.12

11

0.0 3000.0 50.0

P12.13

12

0.0 3000.0 50.0

P12.14

13

0.0 3000.0 50.0

P12.15

M0

P12. 27			0.00 2.00 [s]	0.00 [s]	
P12. 28			0.00 2.00 [s]	0.07 [s]	
P12. 29			0.00 2.00 [s]	0.07 [s]	
P12. 32			0.0 20.0 [%]	0.0 [%]	
P12. 33			0.0 20.0 [%]	0.0 [%]	
P12. 34			0.00 2.00 [s]	0.00 [s]	
P12. 35			0.00 2.00 [s]	0.00 [s]	
P12. 36			0.00 2.00 [s]	0.50 [s]	
P12. 37			0.00 2.00 [s]	0.50 [s]	

10.12

2

P13

P13.0		[0] [1]	0 1	1	
P13.1		[0] [% [1] [Hz] [2] [rpm]	0 2	1	
P13.2	1		0.0 3000.0	10.0	
P13.3	2		0.0 3000.0	20.0	
P13.4	3		0.0 3000.0	35.0	
P13.5	4		0.0 3000.0	50.0	
P13.6	5		0.0 3000.0	50.0	
P13.7	6		0.0 3000.0	50.0	
P13.8	7		0.0 3000.0	50.0	
P13.9	8		0.0 3000.0	50.0	
P13.10	9		0.0 3000.0	50.0	
P13.11	10		0.0 3000.0	50.0	
P13.12	11		0.0 3000.0	50.0	
P13.13	12		0.0 3000.0	50.0	
P13.14	13		0.0 3000.0	50.0	
P13.15	14		0.0 3000.0	50.0	
P13.16	15		0.0 3000.0	50.0	
P13.17	16		0.0 3000.0	50.0	
P13.22			0.0 20.0 [%	2.0 [%	
P13.23			0.0 20.0 [%	0.0 [%	
P13.24			0.0 200.0 [%	30.0 [%	
P13.25			0.0 200.0 [%	20.0 [%	
P13.26			0.00 2.00 [s]	0.00 [s]	

P13. 27			0.00 2.00 [s]	0.00 [s]	
P13. 28			0.00 2.00 [s]	0.07 [s]	
P13. 29			0.00 2.00 [s]	0.07 [s]	
P13. 32			0.0 20.0 [%]	0.0 [%]	
P13. 33			0.0 20.0 [%]	0.0 [%]	
P13. 34			0.00 2.00 [s]	0.00 [s]	
P13. 35			0.00 2.00 [s]	0.00 [s]	
P13. 36			0.00 2.00 [s]	0.50 [s]	
P13. 37			0.00 2.00 [s]	0.50 [s]	

10.13

3

P14

P14.0		[0] [1]	0 1	1	
P14.1		[0] [%] [1] [Hz] [2] [rpm]	0 2	1	
P14.2	1		0.0 3000.0	10.0	
P14.3	2		0.0 3000.0	20.0	
P14.4	3		0.0 3000.0	35.0	
P14.5	4		0.0 3000.0	50.0	
P14.6	5		0.0 3000.0	50.0	
P14.7	6		0.0 3000.0	50.0	
P14.8	7		0.0 3000.0	50.0	
P14.9	8		0.0 3000.0	50.0	
P14.10	9		0.0 3000.0	50.0	
P14.11	10		0.0 3000.0	50.0	
P14.12	11		0.0 3000.0	50.0	
P14.13	12		0.0 3000.0	50.0	
P14.14	13		0.0 3000.0	50.0	
P14.15	14		0.0 3000.0	50.0	
P14.16	15		0.0 3000.0	50.0	
P14.17	16		0.0 3000.0	50.0	
P14.22			0.0 20.0 [%]	2.0 [%]	
P14.23			0.0 20.0 [%]	0.0 [%]	
P14.24			0.0 200.0 [%]	30.0 [%]	
P14.25			0.0 200.0 [%]	20.0 [%]	
P14.26			0.00 2.00 [s]	0.00 [s]	

P14. 27	0.00	2.00	0.00
	[s]		[s]
P14. 28	0.00	2.00	0.07
	[s]		[s]
P14. 29	0.00	2.00	0.07
	[s]		[s]
P14. 32	0.0	20.0	0.0
	[%]		[%]
P14. 33	0.0	20.0	0.0
	[%]		[%]
P14. 34	0.00	2.00	0.00
	[s]		[s]
P14. 35	0.00	2.00	0.00
	[s]		[s]
P14. 36	0.00	2.0000	0.50
	[s]		[s]
P14. 37		.00	0.50
		[s]	[s]

10.14

4

P15

P15. 27	0.00 2.00	0.00
	[s]	[s]
P15. 28	0.00 2.00	0.07
	[s]	[s]
P15. 29	0.00 2.00	0.07
	[s]	[s]
P15. 32	0.0 20.0	0.0
	[%	[%
P15. 33	0.0 20.0	0.0
	[%	[%
P15. 34	0.00 2.00	0.00
	[s]	[s]
P05. 35	0.00 2.00	0.00
	[s]	[s]
P15. 36	0.00 2.00	0.50
	[s]	[s]
P15. 37	0.00 2.00	0.50
	[s]	[s]

10.15 1 V/F P16

P16. 0			320 550 [V]	500 [V]	
P16. 2			0.0 4000.0 [kW]	[kW]	
P16. 3			320 520 [V]	500 [V]	
P16. 4			0.0 6500.0 [A]	[A]	
P16. 5			0.0 300.0 [Hz]	50.0 [Hz]	
P16. 6			0 6000 [rpm]	1465 [rpm]	
P16. 7			2 12 [pole]	4 [pole]	
P16. 9			0 7200 [rpm]	1500 [rpm]	
P16. 11		[0] V/F [1] [2] [3] [4]	0 4	0	
P16. 12			1.00 10.00 [kHz]	3.00 [kHz]	
P16. 14	V/F	[0] V/F [1] V/F [2]	0 3	0	
P16. 15		[0] [1]	0 1	0	
P16. 16			2 500 [ms]	500 [ms]	
P16. 17	V/F	[0] [1]	0 1	0	
P16. 18			10 1000 [ms]	200 [ms]	
P16. 19		[0] [1]	0 1	0	

P16. 22			0.00 100.00	0.00
			[s]	[s]
P16. 23		V/F	0.00 300.00	0.00
			[Hz]	[Hz]
P16. 24		V/F	0.00 300.00	50.00
			[Hz]	[Hz]
P16. 25			0.0 120.0	100.0
			[%	[%
P16. 26	V/F	V/F	0.00 10.00	0.75
			[%	[%
P16. 27			0.0 200.0	100.0
			[%	[%
P16. 30			0.0 100.0	0.0
			[%	[%
P16. 33	V/F	V/F	0 6	2
P16. 34	V/F		0.0 300.0	5.0
	1		[Hz]	[Hz]
P16. 35	V/F		0.0 12.0	
	1			



10.16 2 V/F P17

P17. 0			320 550 [V]	500 [V]	
P17. 2			0.0 4000.0 [kW]	[kW]	
P17. 3			320 520 [V]	500 [V]	
P17. 4			0.0 6500.0 [A]	[A]	
P17. 5			0.0 300.0 [Hz]	50.0 [Hz]	
P17. 6			0 6000 [rpm]	1465 [rpm]	
P17. 7			2 12 [pole]	4 [pole]	
P17. 9			0 7200 [rpm]	1500 [rpm]	
P17. 11		[0] V/F [1] [2] [3] [4]	0 4	0	
P17. 12			1.00 10.00 [kHz]	3.00 [kHz]	
P17. 14	V/F	[0] V/F [1] V/F [2]	0 3	0	
P17. 15		[0] [1]	0 1	0	
P17. 16			2 500 [ms]	500 [ms]	
P17. 17	V/F	[0] [1]	0 1	0	
P17. 18			10 1000 [ms]	200 [ms]	
P17. 19		[0] [1]	0 1	0	

P17. 22			0.00 100.00 [s]	0.00 [s]	
P17. 23		V/F	0.00 300.00 [Hz]	0.00 [Hz]	
P17. 24		V/F	0.00 300.00 [Hz]	50.00 [Hz]	
P17. 25			0.0 120.0 [%]	100.0 [%]	
P17. 26	V/F	V/F	0.00 10.00 [%]	0.75 [%]	
P17. 27			0.0 200.0 [%]	100.0 [%]	
P17. 30			0.0 100.0 [%]	0.0 [%]	
P17. 33	V/F	V/F	0 6	2	
P17. 34	V/F 1		0.0 300.0 [Hz]	5.0 [Hz]	
P17. 35	V/F 1		0.0 125.0 [%]	11.5 [%]	
P17. 36	V/F 2		0.0 300.0 [Hz]	50.0 [Hz]	
P17. 37	V/F 2		0.0 125.0 [%]	100.0 [%]	
P17. 38	V/F 3		0.0 300.0 [Hz]	50.0 [Hz]	
P17. 39	V/F 3		0.0 125.0 [%]	100.0 [%]	
P17. 40	V/F 4		0.0 300.0 [Hz]	50.0 [Hz]	
P17. 41	V/F 4		0.0 125.0 [%]	100.0 [%]	
P17. 42	V/F 5		0.0 300.0 [Hz]	50.0 [Hz]	
P17. 43	V/F 5		0.0 125.0 [%]	100.0 [%]	
P17. 44	V/F 6		0.0 300.0 [Hz]	50.0 [Hz]	
P17. 45	V/F 6		0.0 125.0 [%]	100.0 [%]	
P17. 46	V/F @		0 300	0	
P17. 47	@		0 300	0	

10.17 3 V/F P18

P18.0			320 550 [V]	500 [V]	
P18.2			0.0 4000.0 [kW]	[kW]	
P18.3			320 520 [V]	500 [V]	
P18.4			0.0 6500.0 [A]	[A]	
P18.5			0.0 300.0 [Hz]	50.0 [Hz]	
P18.6			0 6000 [rpm]	1465 [rpm]	
P18.7			2 12 [pole]	4 [pole]	
P18.9			0 7200 [rpm]	1500 [rpm]	
P18.11		[0] V/F [1] [2] [3] [4]	0 4	0	
P18.12			1.00 10.00 [kHz]	3.00 [kHz]	
P18.14	V/F	[0] V/F [1] V/F [2]	0 3	0	
P18.15		[0] [1]	0 1	0	
P18.16			2 500 [ms]	500 [ms]	
P18.17	V/F	[0] [1]	0 1	0	
P18.18			10 1000 [ms]	200 [ms]	
P18.19		[0] [1]	0 1	0	

P18. 22			0.00 100.00 [s]	0.00 [s]	
P18. 23		V/F	0.00 300.00 [Hz]	0.00 [Hz]	
P18. 24		V/F	0.00 300.00 [Hz]	50.00 [Hz]	
P18. 25			0.0 120.0 [%]	100.0 [%]	
P18. 26	V/F	V/F	0.00 10.00 [%]	0.75 [%]	
P18. 27			0.0 200.0 [%]	100.0 [%]	
P18. 30			0.0 100.0 [%]	0.0 [%]	
P18. 33	V/F	V/F	0 6	2	
P18. 34	V/F 1		0.0 300.0 [Hz]	5.0 [Hz]	
P18. 35	V/F 1		0.0 125.0 [%]	11.5 [%]	
P18. 36	V/F 2		0.0 300.0 [Hz]	50.0 [Hz]	
P18. 37	V/F 2		0.0 125.0 [%]	100.0 [%]	
P18. 38	V/F 3		0.0 300.0 [Hz]	50.0 [Hz]	
P18. 39	V/F 3		0.0 125.0 [%]	100.0 [%]	
P18. 40	V/F 4		0.0 300.0 [Hz]	50.0 [Hz]	
P18. 41	V/F 4		0.0 125.0 [%]	100.0 [%]	
P18. 42	V/F 5		0.0 300.0 [Hz]	50.0 [Hz]	
P18. 43	V/F 5		0.0 125.0 [%]	100.0 [%]	
P18. 44	V/F 6		0.0 300.0 [Hz]	50.0 [Hz]	
P18. 45	V/F 6		0.0 125.0 [%]	100.0 [%]	
P18. 46	V/F @		0 300	0	
P18. 47	@		0 300	0	

P18. 48		[0] [1] P I D 1 [2] P I D 2 [3]	0 3	0	
P18. 49	@		0 300	0	
P18. 50			0.00 300.00 [s]	0.00 [s]	
P18. 51			0.0 150.0 [%]	70.0 [%]	
P18. 52			0.00 5.00 [Hz]	0.00 [Hz]	
P18. 54			0.00 300.00 [s]	0.00 [s]	
P18. 55			0.0 150.0 [%]	75.0 [%]	
P18. 56			0.00 5.00 [Hz]	0.00 [Hz]	
P18. 59			0.0 1000.0 [%]	100.0 [%]	
P18. 60			0.0 1000.0 [%]	100.0 [%]	
P18. 61			0.0 1000.0 [%]	100.0 [%]	
P18. 62			0.0 1000.0 [%]	100.0 [%]	
P18. 64	V/F	V/F	0.0 1000.0 [%]	100.0 [%]	
P18. 66		V/F	0.0 1000.0 [%]	100.0 [%]	
P18. 67			0.0 1000.0 [%]	100.0 [%]	
P18. 68			0.0 1000.0 [%]	100.0 [%]	
P18. 69			0.0 1000.0 [%]	100.0 [%]	
P18. 70			0.0 1000.0 [%]	100.0 [%]	

10.18 4 V/F P19

PR

P19. 22			0.00	100.00	0.00
			[s]		[s]
P19. 23		V/F	0.00	300.00	0.00
			[Hz]		[Hz]
P19. 24		V/F	0.00	300.00	50.00
			[Hz]		[Hz]
P19. 25			0.0	120.0	100.0
			[%]		[%]
P19. 26	V/F	V/F	0.00	10.00	0.75
			[%]		[%]
P19. 27			0.0	200.0	100.0
			[%]		[%]
P19. 30			0.0	100.0	0.0
			[%]		[%]
P19. 33	V/F	V/F	0	6	2
P19. 34	V/F	1	0.0	300.0	5.0
			[Hz]		[Hz]
P19. 35	V/F	1	0.0	125.0	11.5
			[%]		[%]
P19. 36	V/F	2	0.0	300.0	50.0
			[Hz]		[Hz]
P19. 37	V/F	2	0.0	125.0	100.0
			[%]		[%]
P19. 38	V/F	3	0.0	300.0	50.0
			[Hz]		[Hz]
P19. 39	V/F	3	0.0	125.0	100.0
			[%]		[%]
P19. 40	V/F	4	0.0	300.0	50.0
			[Hz]		[Hz]
P19. 41	V/F	4	0.0	125.0	100.0
			[%]		[%]
P19. 42	V/F	5	0.0	300.0	50.0
			[Hz]		[Hz]
P19. 43	V/F	5	0.0	125.0	100.0
			[%]		[%]
P19. 44	V/F	6	0.0	300.0	50.0
			[Hz]		[Hz]
P19. 45	V/F	6	0.0	125.0	100.0
			[%]		[%]
P19. 46	V/F	@	0	300	0
P19. 47		@	0	300	0

10.19	1	P20		
P20.0		[0]		0 1 0
		[1]		
		[0]		
		[1]	1	
		[2]	2	
P20.1		[3]		0 7 0
		[4]	P20.3	
		[5] DP		
		[6] MODBUS		
		[7]		
P20.2				0 7 0
P20.3				-300.0 300.0 0.0
				[%] [%]
P20.4	@			0 300 0
P20.5				0 1000 0
				[ms] [ms]
P20.6				0.0 200.0 100.0
				[%] [%]
		[0]		
		[1]	P20.8	
		P20.9		
		[2]	1	
P20.7		[3]	2	0 7 0
		[4]		
		[5] DP		
		[6] MODBUS		
		[7]		
P20.8		P20.7	[1]	0.0 300.0 200.0
				[%] [%]
P20.9		P20.7	[1]	0.0 300.0 200.0
				[%] [%]
P20.10				0

P20. 31

0.0 100.0 5.0
[%] [%]

P20. 32

0.0 100.0 5.0
[%] [%]

E

o e i o p o

P20. 53	Kp			0. 0	1000. 0	100. 0
				[%]		[%]
P20. 54	Ki			0. 0	1000. 0	100. 0
				[%]		[%]
P20. 55				0. 0	1000. 0	100. 0
				[%]		[%]
P20. 56				0. 0	1000. 0	100. 0
				[%]		[%]
P20. 57		[0]		0	1	0
		[1]				
P20. 58				0. 0	125. 0	100. 0
				[%]		[%]
P20. 59				1. 0	25. 0	2. 5
				[%]		[%]
P20. 60	DROOP	0	DROOP	0. 0	100. 0	0. 0
				[%]		[%]
P20. 61	DROOP		DROOP	30	2000	50
				[ms]		[ms]
P20. 62				0. 0	1000. 0	100. 0
				[%]		[%]
P20. 63				0. 0	1000. 0	100. 0
				[%]		[%]
P20. 66		1		0. 0	1000. 0	100. 0
			1	[%]		[%]
P20. 67						

P20. 77	2	2	90. 0	110. 0	100. 0
			[%]		[%]
P20. 78			0. 00	650. 00	0. 00
			[nOhm]		[nOhm]
P20. 79			0. 00	65. 50	0. 000
			[mH]		[mH]
P20. 80	1	1	0. 800	1. 350	1. 140
P20. 81	2	2	0. 800	1. 350	0. 940
P20. 82	3	3	0. 800	1. 350	1. 080
P20. 83	4	4	0. 800	1. 350	0. 950
P20. 84			0. 00	655. 00	0. 00
			[mH]		[mH]
P20. 85	85%	85%	40. 0	150. 0	108. 0
			[%]		[%]
P20. 86	87. 5%	87. 5%	40. 0	150. 0	106. 5
			[%]		[%]
P20. 87	90%	90%	40. 0	150. 0	105. 0
			[%]		[%]
P20. 88	92. 5%	92. 5%	40. 0	150. 0	103. 5
			[%]		[%]
P20. 89	95%	95%	40. 0	150. 0	102. 0
			[%]		[%]
P20. 90	102. 5%	102. 5%	40. 0	150. 0	99. 0
5%			[%]		[%]
P20. 91	105%	105%	40. 0	150. 0	96. 5
			[%]		[%]
P20. 92	110%	110%	40. 0	150. 0	93. 0
			[%]		[%]
P20. 93	115%	115%	40. 0	150. 0	88. 5
			[%]		[%]
P20. 94	120%	120%	40. 0	150. 0	83. 0
			[%]		[%]
P20. 95	125%	125%	40. 0	150. 0	77. 0
			[%]		[%]
P20. 96	130%	130%	40. 0	150. 0	70. 5
			[%]		[%]
P20. 97	135%	135%	40. 0	150. 0	63. 5
			[%]		[%]
P20. 98		()	0. 01	300. 00	0. 75
			[s]		[s]
P20. 99			0. 00	10. 00	0. 00
			[%]		[%]



P21. 54

Ki

0.0 1000.0 100.0
[%] [%]

P21. 55

P21. 78

0. 00 650. 00 0. 00
[nChm] [nChm]

P21. 79

0. 00 65. 50 0. 000
[mH] [mH]

P21. 80

1

1

0. 800 1. 350 1. 140

P21. 81

2

2

0. 800 1. 350 0. 940

P21. 82

3

3

0. 800 1. 350 1. 080

P21. 83

4

4

0. 800 1. 350 0. 950

P21. 84

0. 00 655. 00 0. 00
[mH] [mH]

P21. 85

85% 85%

P22. 0		[0] [1]	0 1	0	
P22. 1		[0] [1] 1 [2] 2 [3] [4] P22. 3 [5] DP [6] MODBUS [7]	0 7	0	
P22. 2			0 7	0	
P22. 3			-300.0 300.0 [%]	0.0 [%]	
P22. 4	@		0 300	0	
P22. 5			0 1000 [ms]	0 [ms]	
P22. 6			0.0 200.0 [%]	100.0 [%]	
P22. 7		[0] [1] P22. 8 P22. 9 [2] 1 [3] 2 [4] [5] DP [6] MODBUS [7]	0 7	0	
P22. 8		P22. 7 [1]	0.0 300.0 [%]	200.0 [%]	
P22. 9		P22. 7 [1]	0.0 300.0 [%]	200.0 [%]	
P22. 10			0 300	0	
P22. 11			0 1000 [ms]	0 [ms]	

P22. 31

0.0 100.0 5.0
[%] [%]

P22. 32

0.0 100.0 5.0
[%] [%]

P22. 34

[0]
[1]

0 1 0

P22. 35

0.0 100.0 0.0
[s] [s]

P22. 36

50.0 150.0 110.0
[%] [%]

P22. 37

0.0 150.0 100.0
[%] [%]

P22. 38

0.0 100.0 25.0
[%] [%]

P22. 39

0.0 120.0 100.0
[%] [%]

P22. 40

0.0 150.0 100.0
[%] [%]

P22. 41

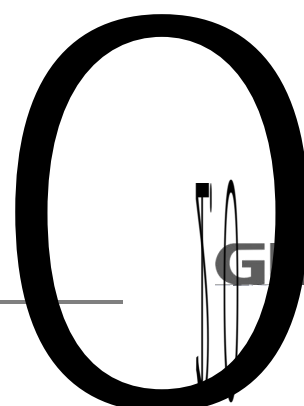
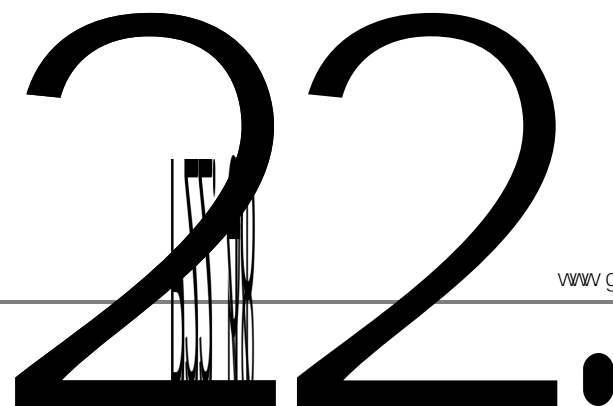
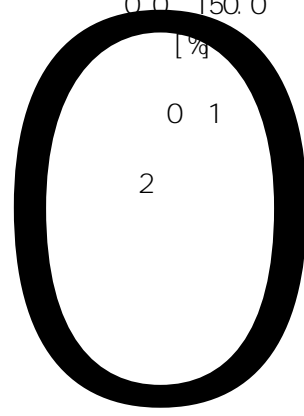
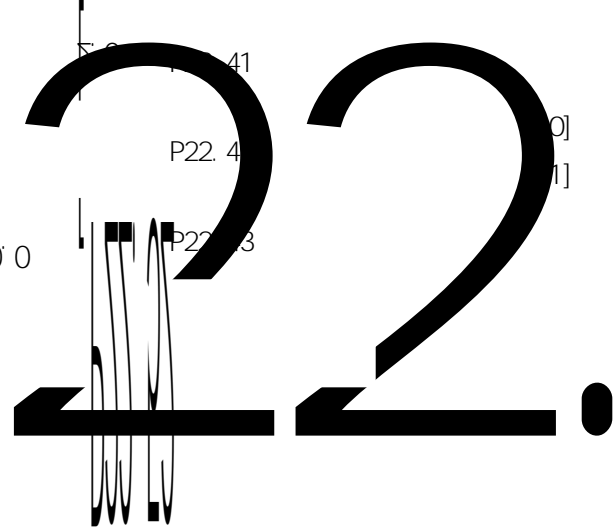
0.0 150.0 135.0
[%] [%]

P22. 42

0 1 1

P22. 43

2



P22. 53	Kp	0. 0	1000. 0	100. 0
			[%	[%
P22. 54	Ki	0. 0	1000. 0	100. 0
			[%	[%
P22. 55		0. 0	1000. 0	



10. 22

4

P23

P23. 0

E

2

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P23. 54	Ki		0. 0 1000. 0 [%]	100. 0 [%]	
P23. 55			0. 0 1000. 0 [%]	100. 0 [%]	
P23. 56			0. 0 1000. 0 [%]	100. 0 [%]	
P23. 57		[0] [1]	0 1	0	
P23. 58			0. 0 125. 0 [%]	100. 0 [%]	
P23. 59			1. 0 25. 0 [%]	2. 5 [%]	
P23. 60	DROOP	0 DROOP	0. 0 100. 0 [%]	0. 0 [%]	
P23. 61	DROOP	DROOP	30 2000 [ms]	50 [ms]	
P23. 62			0. 0 1000. 0 [%]	100. 0 [%]	
P23. 63			0. 0 1000. 0 [%]	100. 0 [%]	
P23. 66	1	1	0. 0 1000. 0 [%]	100. 0 [%]	
P23. 67	2	2	0. 0 1000. 0 [%]	100. 0 [%]	
P23. 69			0. 00 2. 00 [%]	1. 00 [%]	
P23. 70			0. 00 2. 00 [%]	1. 00 [%]	
P23. 71		[0] [1]	0 1	0	
P23. 72		[0] [1]	0 1	1	
P23. 73		[0] × 1 [1] × 10	0 1	0	
P23. 74			0. 00 650. 00 [nChm]	0. 00 [nChm]	
P23. 75			0. 70 1. 00	0. 90	
P23. 76	1	1	90. 0 110. 0 [%]	100. 0 [%]	
P23. 77	2	2	90. 0 110. 0 [%]	100. 0 [%]	

P23. 78			0. 00	650. 00	0. 00
			[nChm]		[nChm]
P23. 79			0. 00	65. 50	0. 000
			[nH]		[nH]
P23. 80	1	1	0. 800	1. 350	1. 140
P23. 81	2	2	0. 800		

10. 23

P33

P33. 0	Profi bus	[0]	0	1	0
		[1]			
P33. 1		PLC	1	255	1
		[0] PPO 1			
P33. 2		[1] PPO 2	0	3	2
		[2] PPO 5			
		[3] GUI DE			
P33. 3			0	16	14
P33. 4			ON		

E

[J]
[0]

P33. 31	[WØ]	7-2	0 37	0
P33. 32	[WØ]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 33	[W0]	7-2	0 37	0
P33. 34	[W0]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 35	[W1]	7-2	0 37	0
P33. 36	[W1]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 37	[W2]	7-2	0 37	0
P33. 38	[W2]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 39	[W3]	7-2	0 37	0
P33. 40	[W3]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 41	[W4]	7-2	0 37	0
P33. 42	[W4]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0
P33. 43	[W5]	7-2	0 37	0

P33. 44	[W5]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 45	[V0]	7-3	0 48	0	
P33. 46	[V0]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 47	[W1]	7-3	0 48	0	
P33. 48	[W1]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 49	[V2]	7-3	0 48	0	
P33. 50	[V2]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 51	[V3]	7-3	0 48	0	
P33. 52	[V3]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 53	[W4]	7-3	0 48	1	

P33. 54	[W4]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	0	
P33. 55	[W5]	7-3	0 48	19	
P33. 56	[W5]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	2	
P33. 57	[W6]	7-3	0 48	26	
P33. 58	[W6]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	6	
P33. 59	[W7]	7-3	0 48	30	
P33. 60	[W7]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	1	
P33. 61	[W8]	7-3	0 48	14	

P33. 62
[V8]

[0] × 1
[1] × 10
[2] × 100
[3] × 1000
[4] × 10000
[5] [% × 1
[6] [% × 10
[7] [% × 100

0



7-2

0	
1	0
2	1
3	2
4	3
5	4
6	[32]
7	[32]
8	32_MSW
9	32_LSW
10	
11	
12	0 @32bi t
13	1 @32bi t
14	2 @32bi t
15	3 @32bi t
16	4 @32bi t
17	5 @32bi t
18	[Hz]
19	[rpm]
20	[%]
21	[%]
22	[%]
23	[Hz]
24	
25	
26	1[%]
27	2[%]
28	
29	
30 37	SET_W12 19

7-3

0	
1	0
2	1
3	2
4	3
5	4
6	5
7	0 @32bi t
8	1 @32bi t
9	2 @32bi t
10	3 @32bi t
11	4 @32bi t
12	5 @32bi t
13	[32]
14	[32]
15	32bi t_MSW
16	32bi t_LSW
17	
18	
19	
20	[rpn]
21	[rpn]
22	
23	
24	
25	
26	
27	A
28	B

29	C
30	
31	
32	
33	1
34	2
35	
36	
37	
38	
39	
40	
41 48	AV22 29

11.

11.1

! Ę! Ę! Ę! Ę!

V01	SYS_NOT_RDY	(Ready)			
V02	NO_DRV_ENABLE		[P3
V03	LOCAL_EM		[P3
V04	REMOTE_EM		[P3
V06	O.T)		P7.14(
V09	DP	DP			DP
V10	MODBUS	Modbus			Modbus
V15	PARAMETER ERROR				
V18	Temp_Sensing Fail				
V20	SLV_NOT_RDY				
V21	1		1		1
V22	2		2	ž AŃ j FJAŃi Ę	2
V23	3		3		

[E113]	MP	
[E114]	MP	
[E115]	OS	P7. 19 P7. 19
[E116]	SLVC Fai l	P7. 23
[E117]	MOTOR STALL	P20. 14 P20. 15
[E118]	PG ERROR	P20. 14 P20. 15
[E119]	SPEED ABNORMAL	P20. 14 P20. 15 P7. 31 P7. 32
[E121]	I GBT1 OT1	
[E122]	I GBT2 OT2	
[E123]	I GBT3 OT3	
[E124]	I GBT4 OT4	
[E125]	I GBT5 OT5	
[E126]	I GBT6 OT6	
[E127]	I GBT7 OT7	
[E128]	I GBT8 OT8	
[E137]	FAN STALL	

[E138]	TEMP_SENSI NG FAI L		
[E139]	Pre_Chargi ng Fai l		P7. 95
[E140]	Li ne UV		
[E141]	Li ne OPEN		
[E142]	Li ne Detecti on Error		
[E143]	Li ne SWFai l	DI	
[E144]	Li ne SWSHORT		
[E145]	(AFE) Li ne OV		P16. 0
[E146]	(AFE) Li ne Over_Freq		
[E151]	U IGBT PDP [UT]	I GBT I GBT	
[E152]	U IGBT PDP [UB]	I GBT I GBT	
[E153]	V IGBT PDP [VT]	I GBT I GBT	
[E154]	V IGBT PDP [VB]	I GBT I GBT	
[E155]	W IGBT PDP [WT]	I GBT I GBT	
[E156]	W IGBT PDP [WB]	I GBT I GBT	

Q
1.3

GB3

• ON COM)

• ON COM (

•)

•

•

12 2

1.
2

1.
2

1.
2
3

1. > 40
< 95%

2

1.
2

1.
2
3

1



5



(400-0077-570)

- 1 40
- 2 80%
- 3 24 /

12 5

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2

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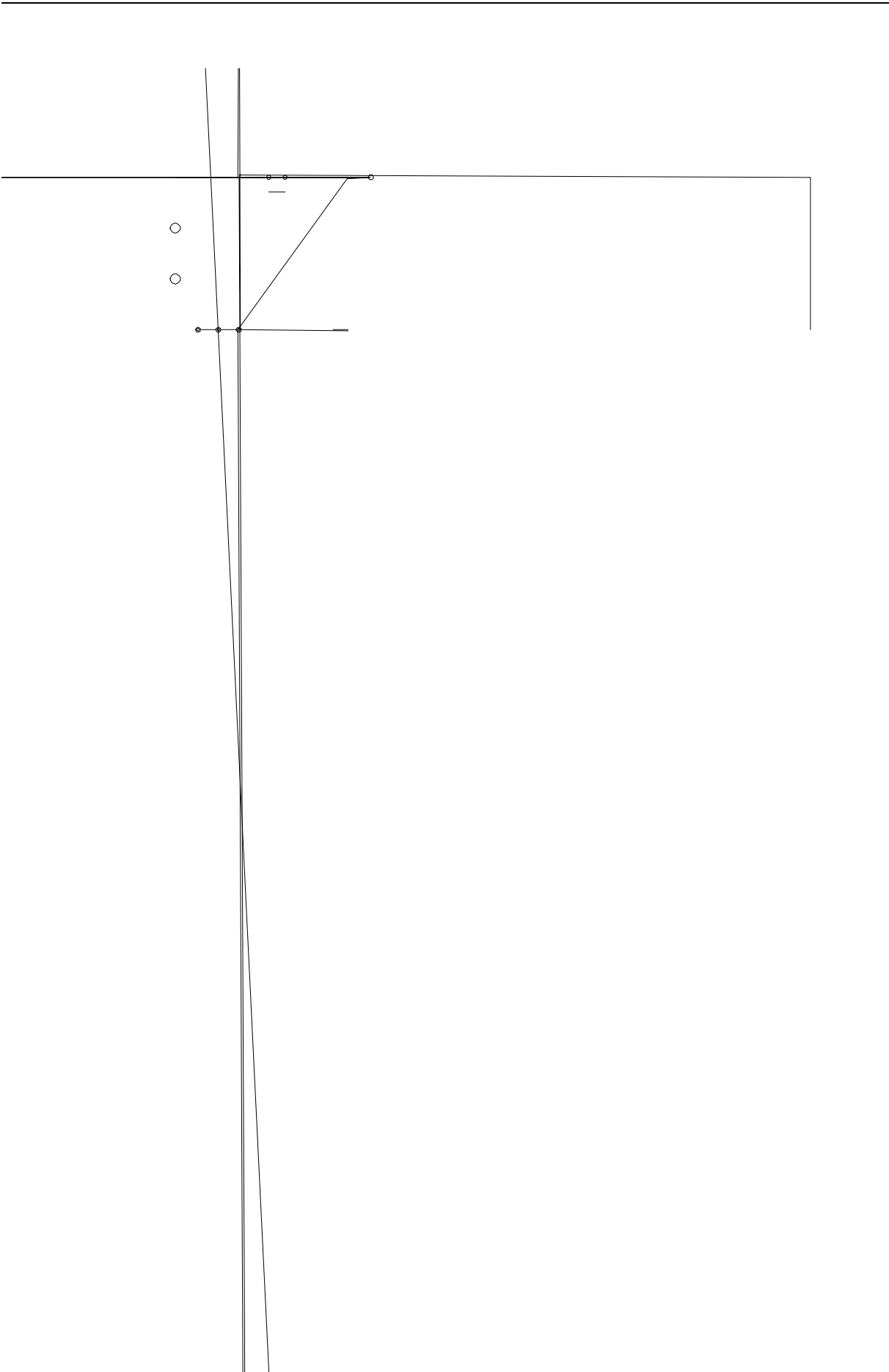
5

FJ

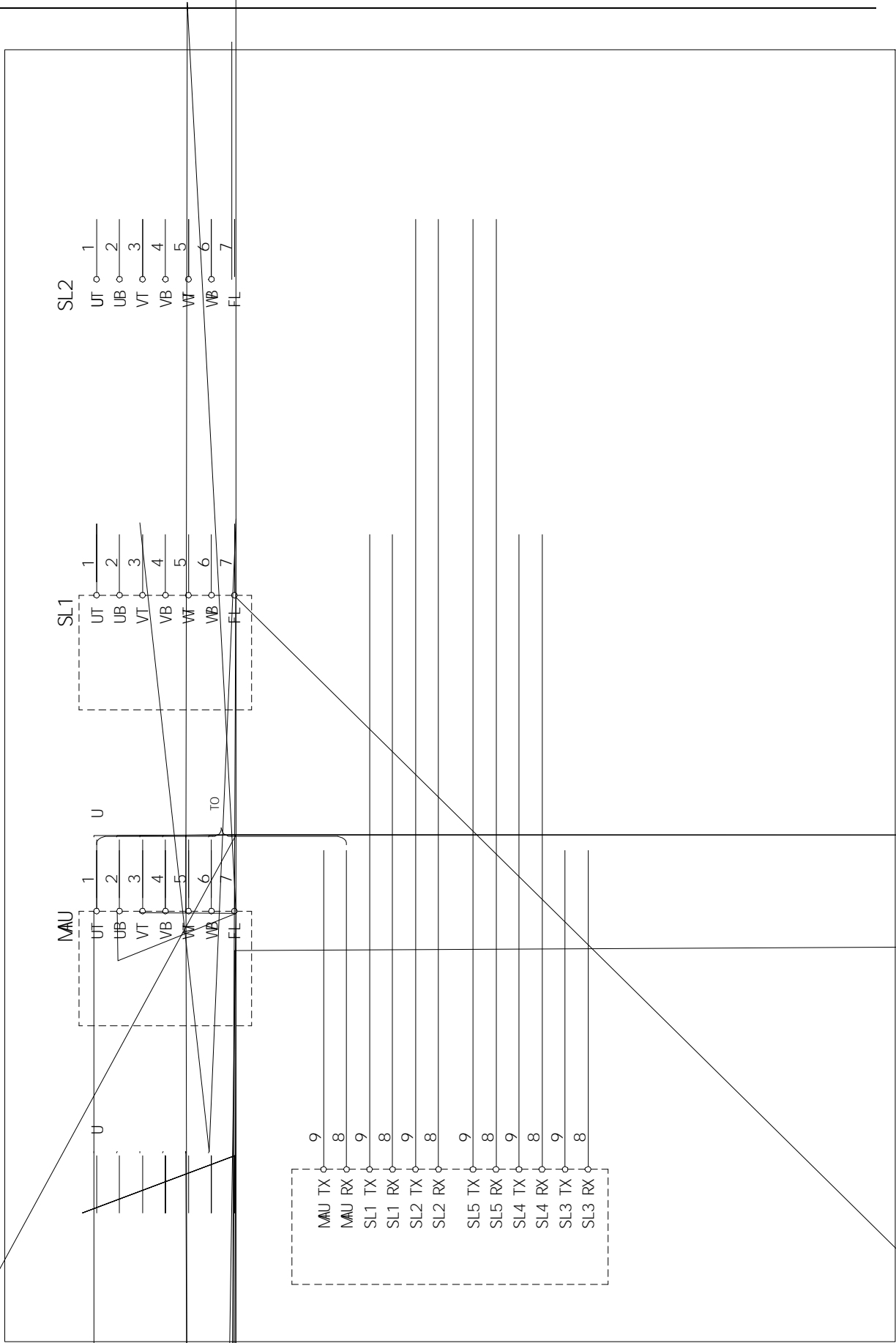
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HF680N-5

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GUIDE

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Wuhan Guide Technology Co., Ltd.

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430223

86-027-87927230

shfw@gdetec.com

www.gdetec.com

400-0077-570

Wuhan Guide Technology Co., Ltd.