

# GUIDE

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Ki \Ub ; i ] XY HYW\bc` c[m 7c" ž@hX"





HF680NLC



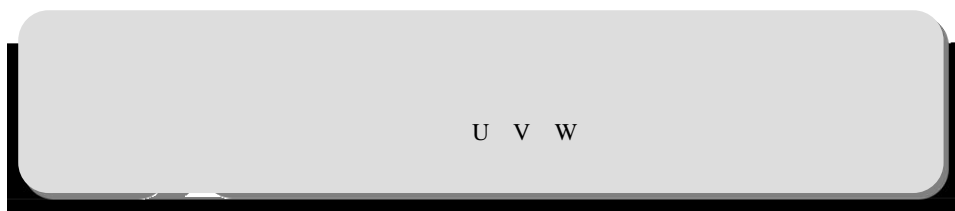
1.	.....	%
1.1	.....	1
1.2	.....	5
1.3	.....	5
2	.....	*
2.1	.....	6
2.2	.....	6
2.3	.....	7
2.4	.....	9
3	.....	%
3.1	.....	14
3.2	.....	14
3.3	.....	20
3.4	.....	21
3.5	.....	22
3.6	.....	23
3.7	.....	23
4	.....	&)
4.1	.....	25
4.2	.....	25
4.3	.....	30
4.4	.....	34
4.5	.....	34
5	.....	)
5.1	.....	35
6	.....	*
6.1	.....	36
6.2	.....	37
6.3	.....	37
6.4	.....	38
7	.....	()
7.1	.....	45
7.2	.....	46
8	.....	)%
8.1	.....	51
8.3	.....	71
9	.....	++
9.1	.....	77
10	.....	,
10.1	P2.....	83
10.2	P3.....	83
10.3	P4.....	85
10.4	P5.....	87
10.5	P6.....	88
10.6	P7.....	90
10.7	1 P8.....	92



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1.

1.1



U V W

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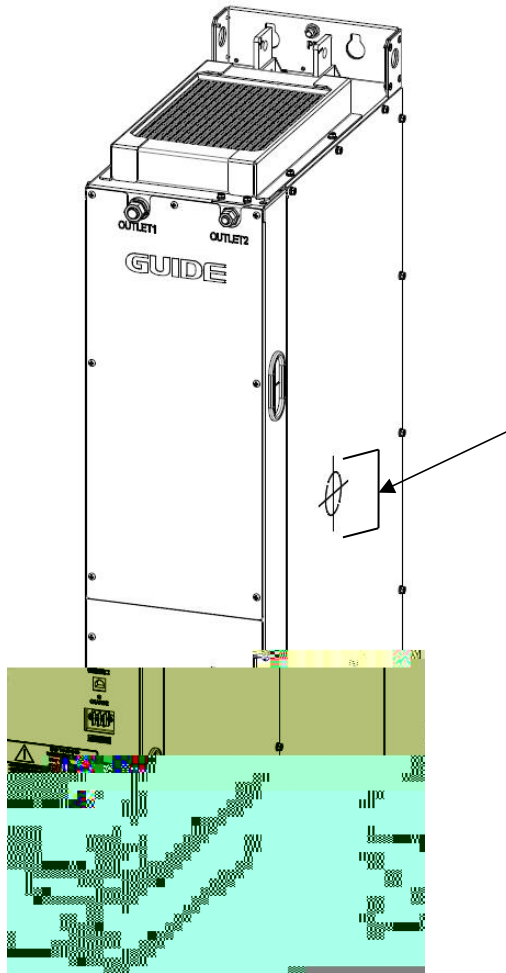
1

RCM RCD  
RCM RCD  
B RCD RCD

2

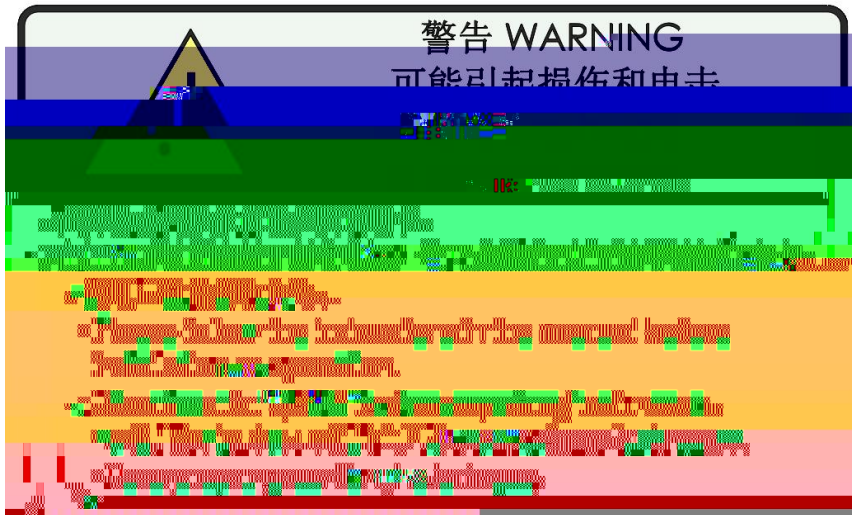
RCD RCD  
500V  
5M

3



HF680NLC03M 630- 4





1.2

(1)

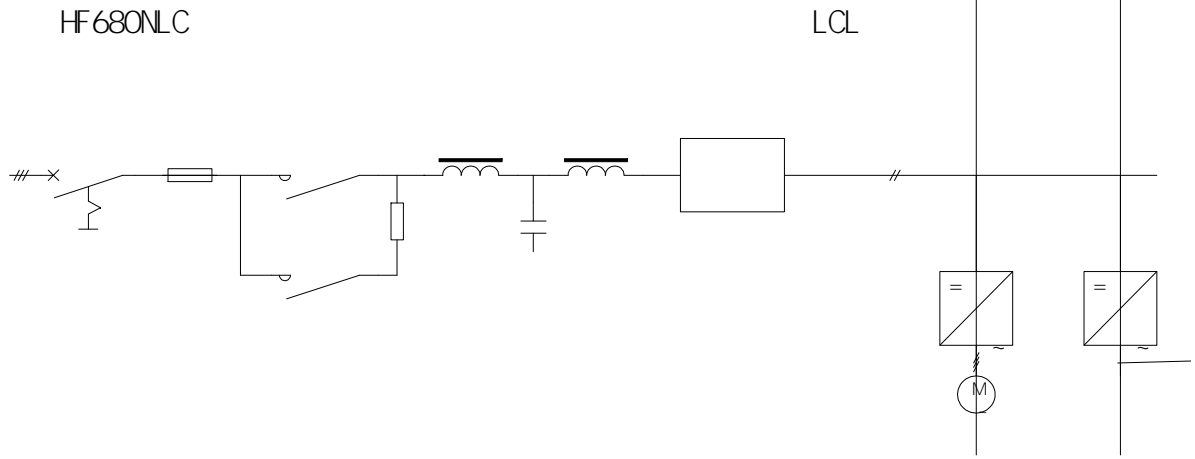
(2)

(3)

1.3

2

2 1







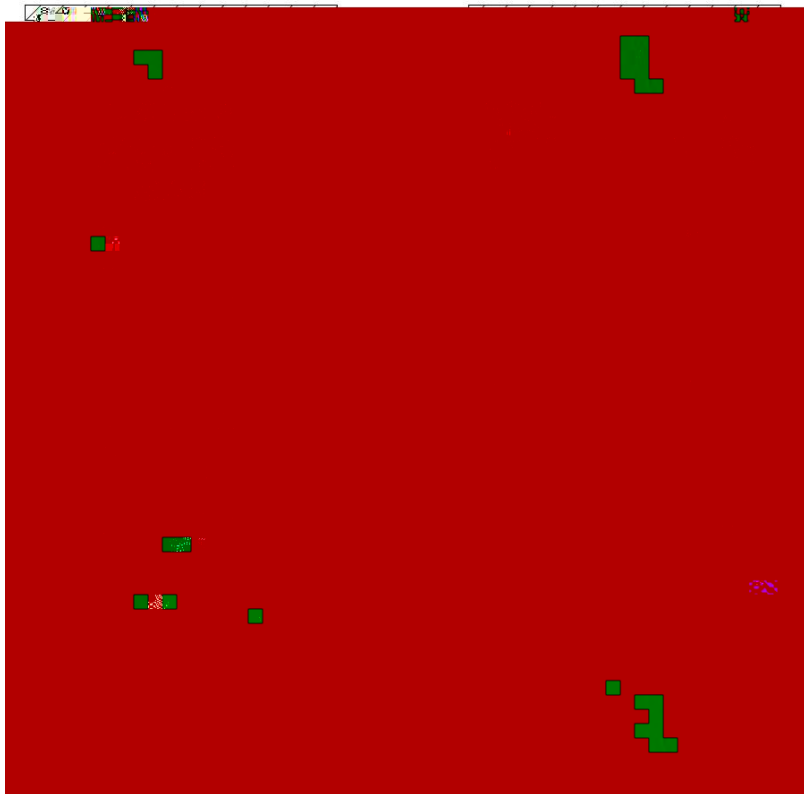


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2 4 1

		10
	MPa	0.6
	(kPa)	80~250
	(mm)	: ø16 ø13 ø12 ø9
		PA Teflon SMC T1613W
		T1209W

2.4.2



	A 250mm

50mm

2.4.3

1 1 11

2 2



HF680NLC03M 630- 4

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## 2.4.4

1	2	1	
2	4		2
3			
4		4	3
5			

4 . è .

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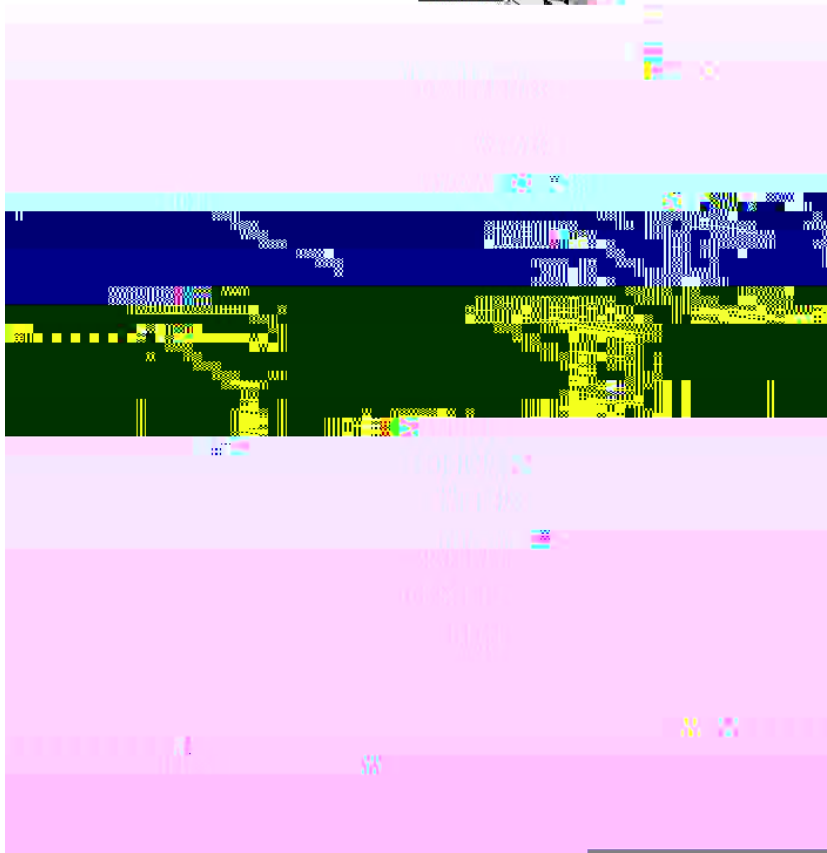
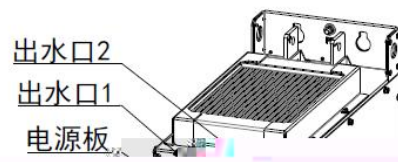
3.

3.1

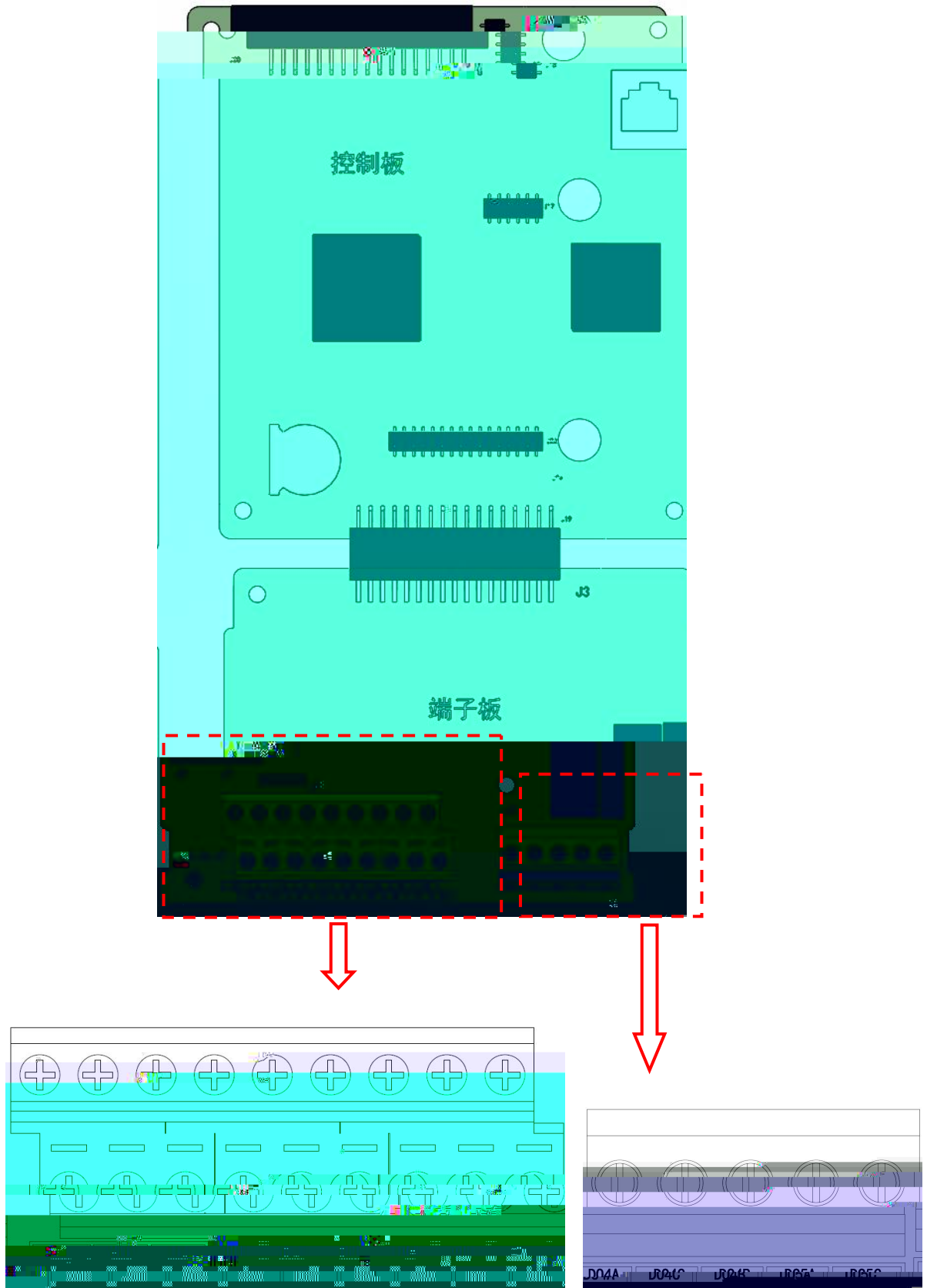
LCL

LCL

3.2



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+10V- GND

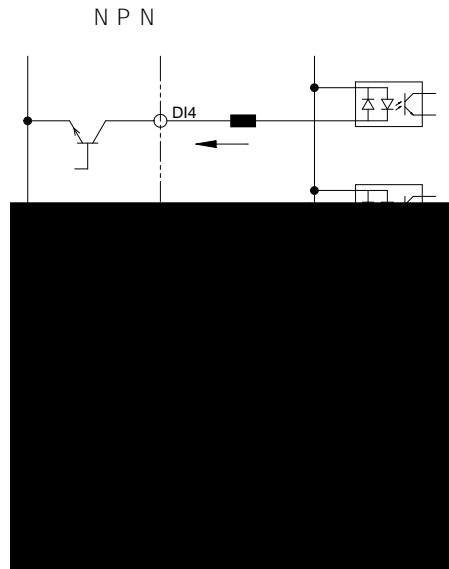
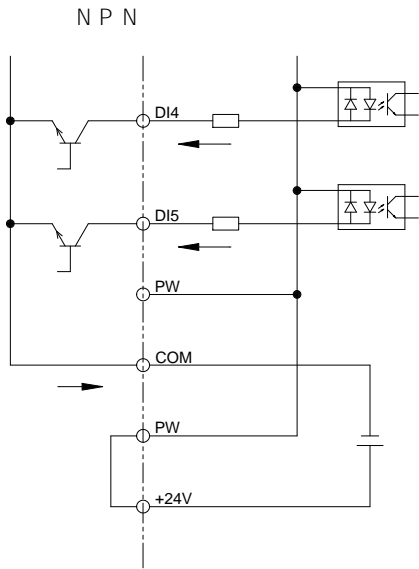
10V

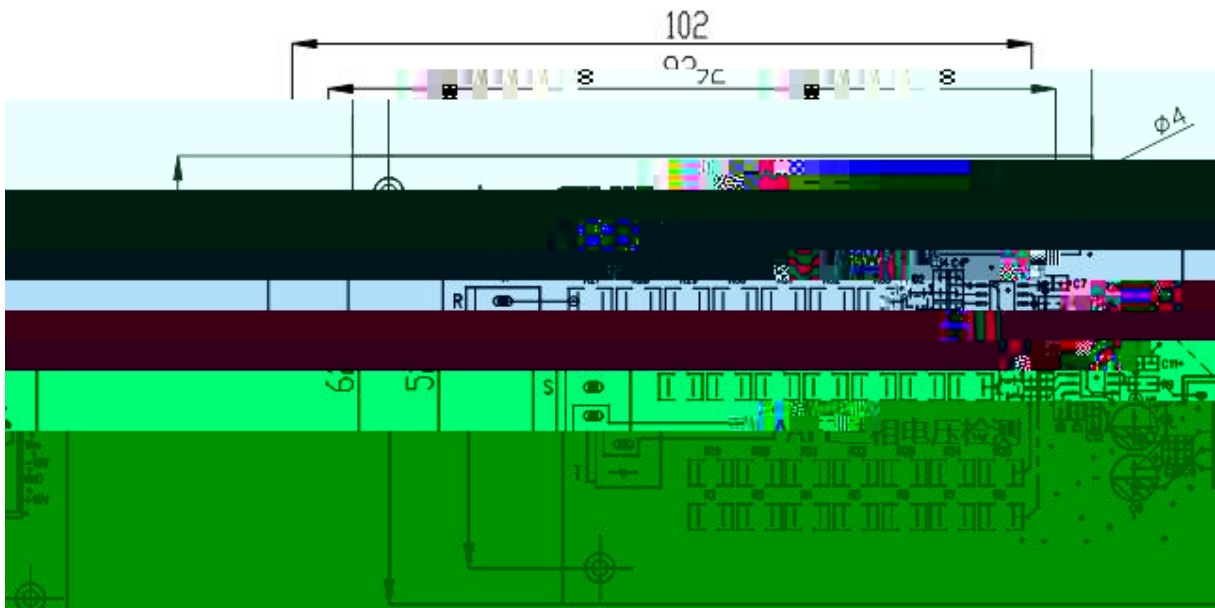
+10V

50mA

OV

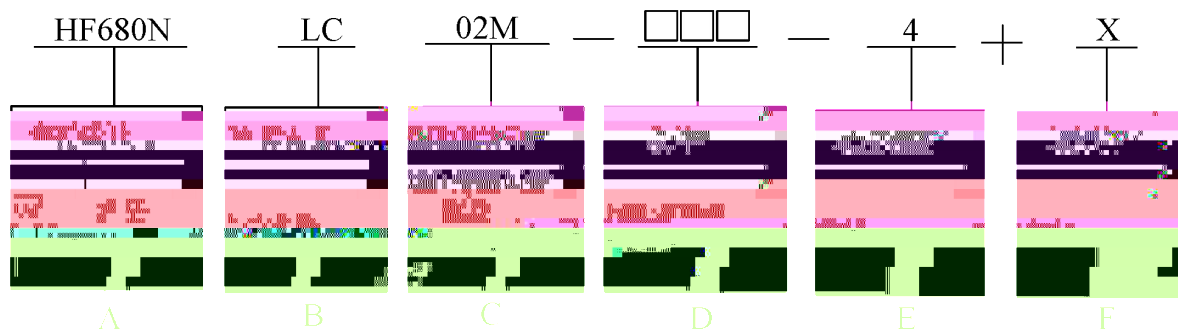
NPN





	J1	1121S- 7P	
	J2	2001S- 5P(T)	

### 3.3



A	
B	LC
C	02M                      02C
D	500   500kW 630   630kW
E	4   380V
F	

Mdbus RTU

MBO1

GDHF-ANBX1

Mdbus RTU

DP

DPO1

GDHF-ADPX1

Profibus DP

620V

	[A]	[kW]		H*W*D <sup>mm</sup>	kg
HF 680NLC02M 500- 4	970	500	Q1	1100*253*525	120
HF 680NLC02M 630- 4	1103	630			

- 1 HF 680NLC02M  
LCD
- 2 HF 680NLC02M

### 3.4

LCL

	Lf/μ H	Lb/μ H	Cf/μ F	
HF 680NLC02M 500- 4	22uH	90uH	190uF	3× 2R5
HF 680NLC02M 630- 4	18uH	71uH	240uF	3× 2R5

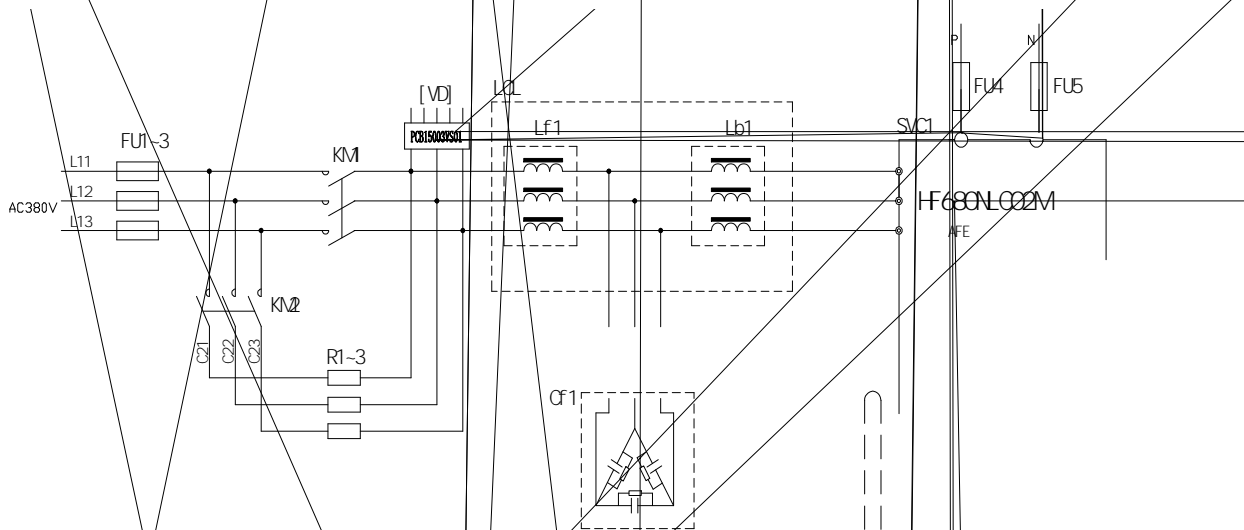
1. LCL

Lf

Lb

Cf

3.5



[VD] ≡≡≡

### 3.6

		380V 480V
		50 / 60Hz
		-15% +10%
		<AC320V 15ms
		AFE
		0.999
		3%
		630KW 150% 5 1 110% 5 1
		570V 710V
		1kHz 10kHz

### 3.7

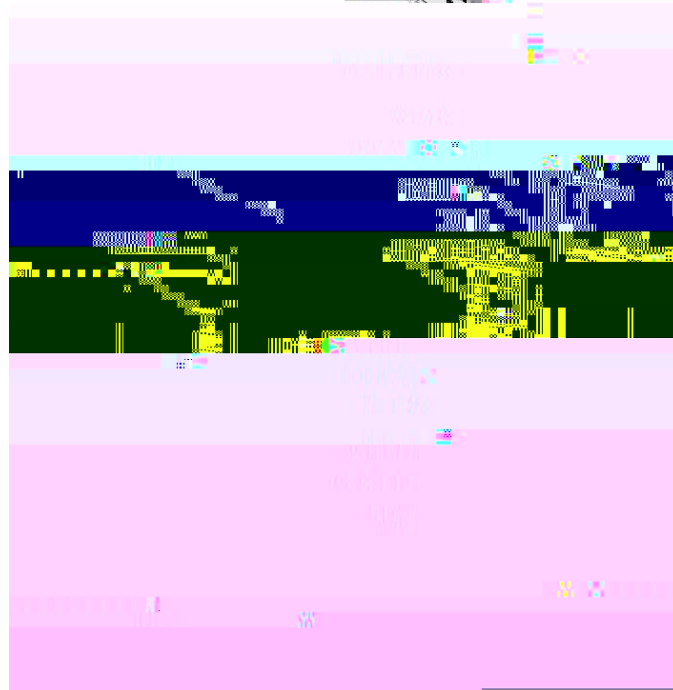
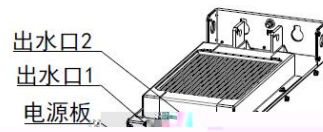
- (1) IGBT
- (2) 50%
- (3) 0.999
- (4) 3% GB/T 24337-2009
- (5) 380V 480V -15% +10%
- (6) DP PN
- (7)

- 
- (8) IGBT
  - (9) 50%
  - (10) 0.999
  - (11) 3% GB/T 24337-2009
  - (12) 380V 480V -15% +10%
  - (13) DP PN
  - (14)

4.

4.1

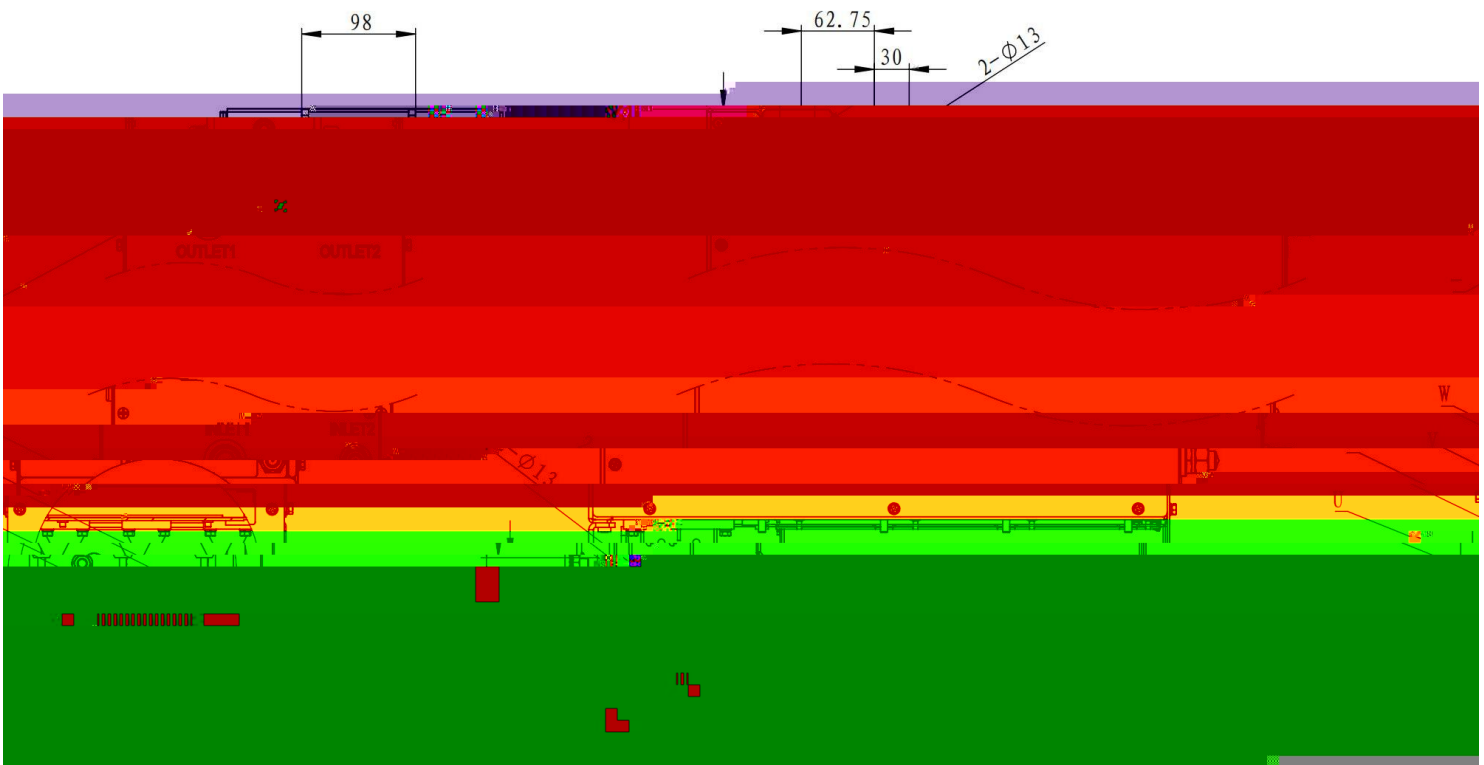
4.2

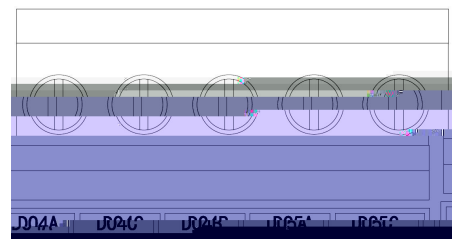
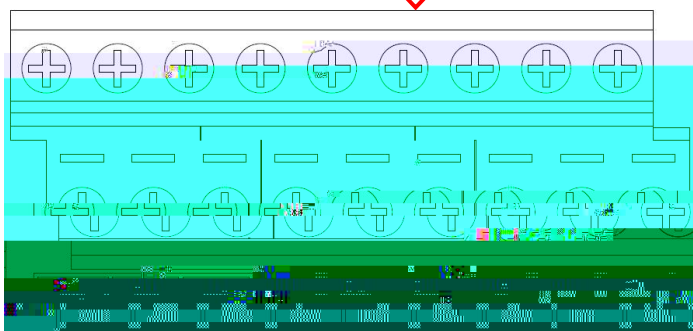
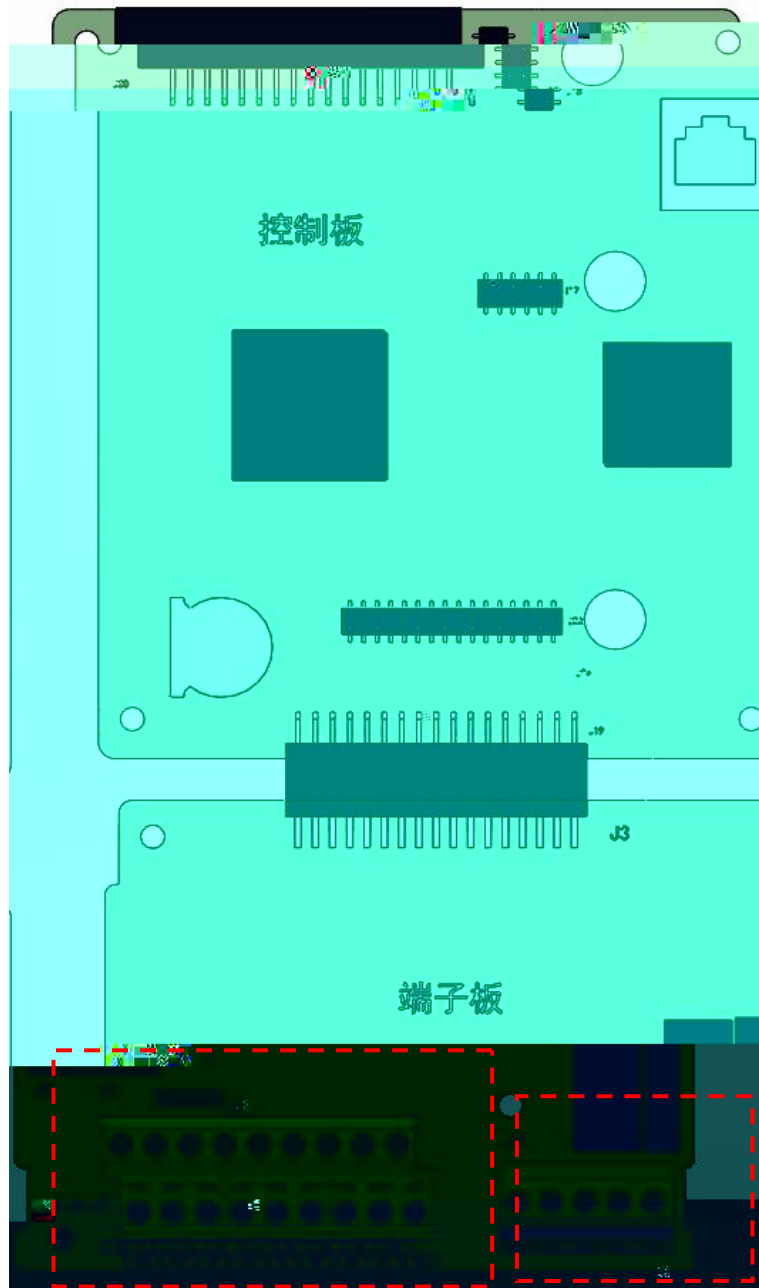


		MWSTBW 2. 5/4- STF- 5. 08		
1	1	KFG2H1613- 03	SMC	
1	1	T1613W	SMC	
2	2	KFG2H1209- 03	SMC	
2	2	T1209W	SMC	

1

+	
-	
U V W	
PE	





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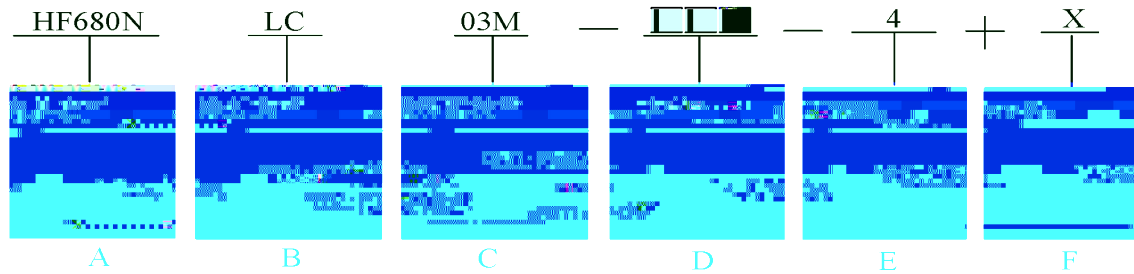
+10V- GND	10V		+10V	50mA	1k -5k
+24V- COM	24V		+24V		200mA
PW			24V	DI 1-DI 5 DO1	PW
AI 1- GND		1	24V	DC - 10V~10V	
			100k	- 10VDC~10VDC/0mA~20mA	
AI 2- GND		2	J1		100k
			500		
DI 1- PW		1			

b

J



### 4.3



A	
B	LC
C	03M      03C
D	250   250kW 630   630kW
E	4   380V
F	

Mdbus RTU

MB01

GDHF-AMBX1

Mdbus RTU

DP

DP01

GDHF-ADPX1

Profibus DP

PN

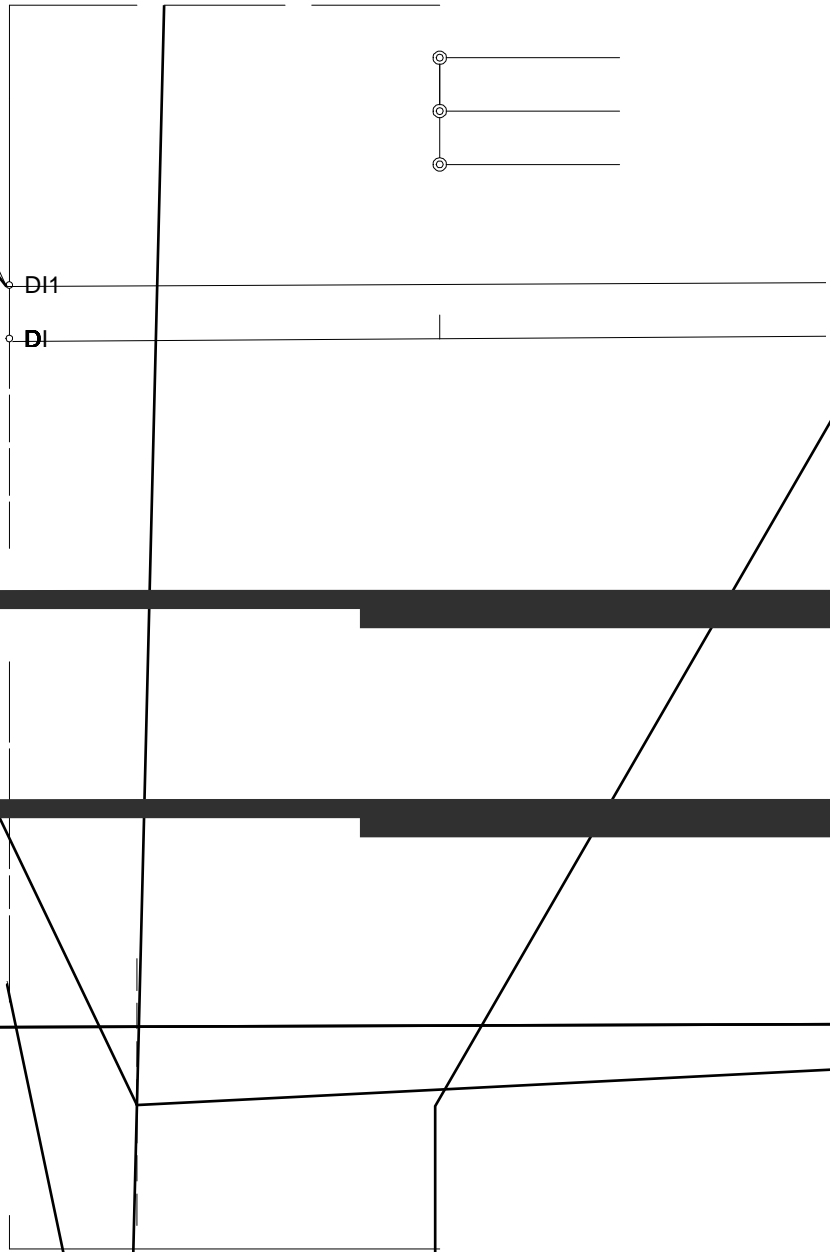
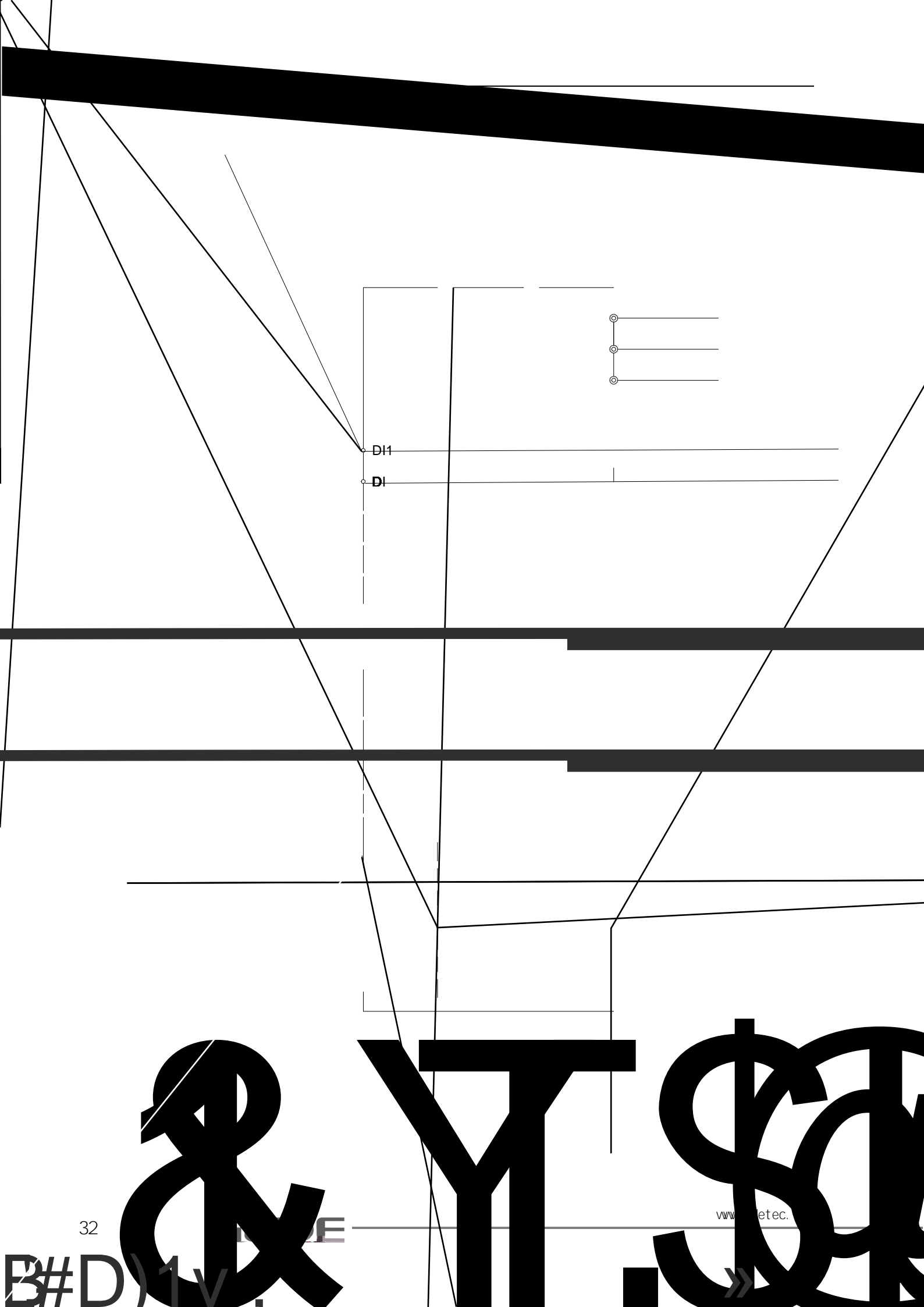
PN01

GDHF-APNX1

Profinet

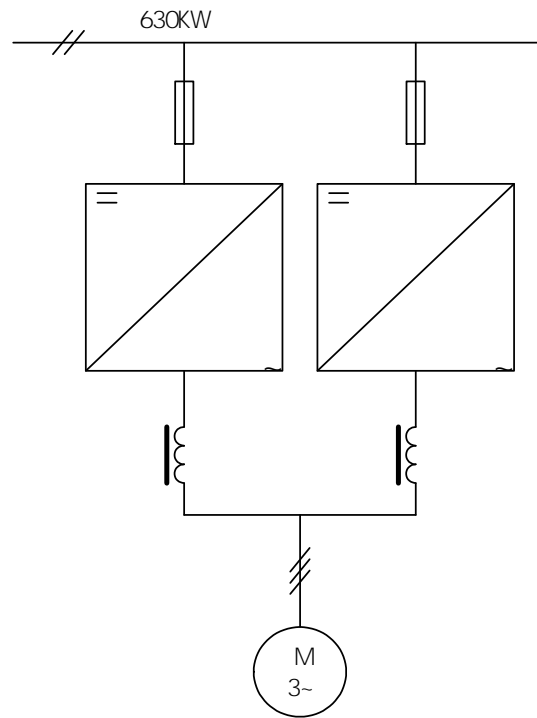
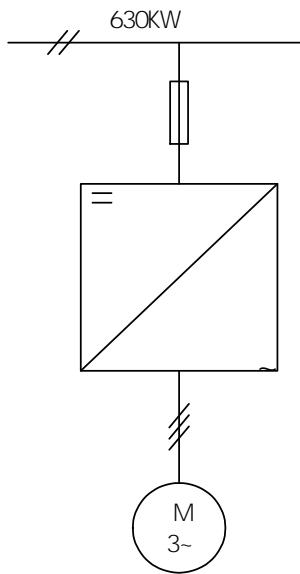
	[A]	[kW]		H*W*D <sup>mm</sup>	kg
HF680NLC03M 250- 4	485	250	Q1	1100*253*525	120
HF680NLC03M 280- 4	545	280			
HF680NLC03M 315- 4	610	315			
HF680NLC03M 355- 4	668	355			
HF680NLC03M 400- 4	720	400			
HF680NLC03M 450- 4	820	450			
HF680NLC03M 500- 4	970	500			
HF680NLC03M 560- 4	1030	560			
HF680NLC03M 630- 4	1103	630			

- 1 200%
- 2 50% HF680NLC03M
- 3 HF680NLC03M



B#D)1v.





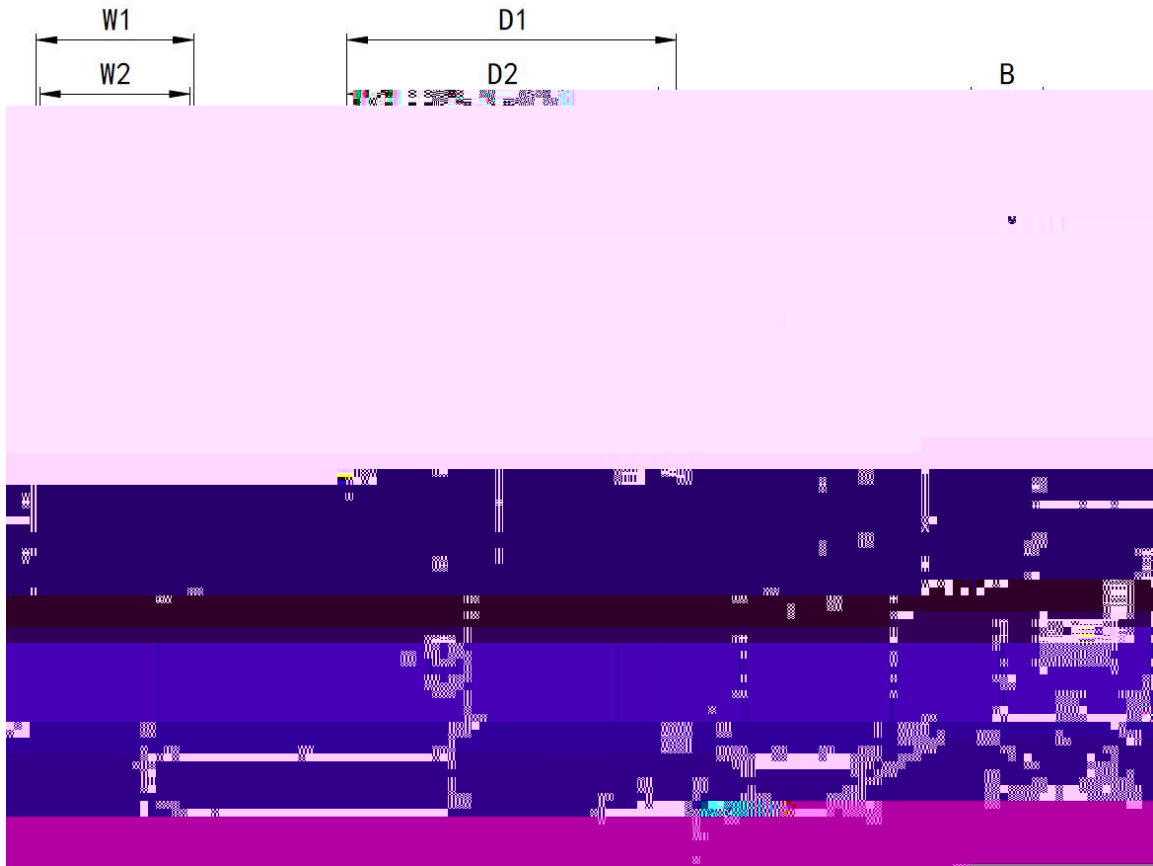
	mm <sup>2</sup>	V/A
HF 680NLC03M 250- 4	2× 95	1000/600
HF 680NLC03M 280- 4	2× 95	1000/700
HF 680NLC03M 315- 4	2× 120	1000/700
HF 680NLC03M 355- 4	2× 120	1000/800
HF 680NLC03M 400- 4	2× 150	1000/900
HF 680NLC03M 450- 4	2× 185	1000/1000
HF 680NLC03M 500- 4	4× 95/2× 240	1000/1200
HF 680NLC03M 560- 4	4× 95/2× 240	1000/1400
HF 680NLC03M 630- 4	4× 120/2× 300	1000/1600

630kW



5.

5.1



	mm					mm		8.8	kg	
	H1	V1	V2	D1	D2	A	B			
HF 680NL CO3M 250- 4	1100	253	241	525	500	1055	115	4- 13	4-M2	120
HF 680NL CO3M 280- 4										
HF 680NL CO3M 315- 4										
HF 680NL CO3M 355- 4										
HF 680NL CO3M 400- 4										
HF 680NL CO3M 450- 4										
HF 680NL CO3M 500- 4										
HF 680NL CO3M 560- 4										
HF 680NL CO3M 630- 4										

---

6.

6.1

HF680N F1  
LOCAL/REMOTE F2 RUN STOP /RESET ENTER

6.2

ENTER  
 RUN STOP  
 LOCAL/REMOTE /

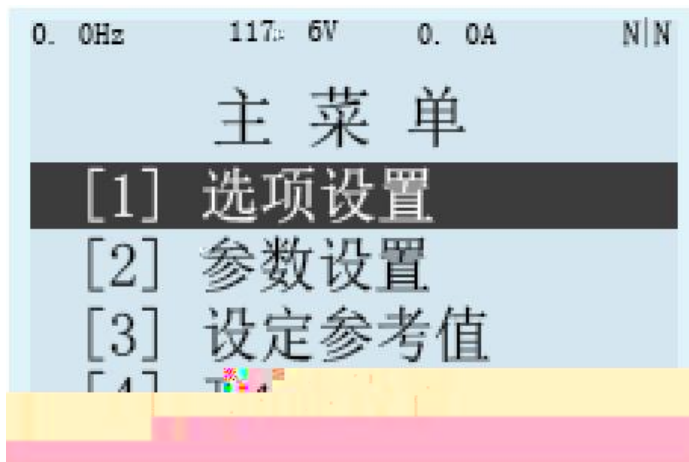
6.3



" " " " 2

|

	" _"
	:V
	A
	W E N N



4

ENTER

F1/F2

## 6.4

1	Option Set	
2	Parameter Setting	/
3	Reference Set	
4	Function Setting	
5	Fault Record	

---

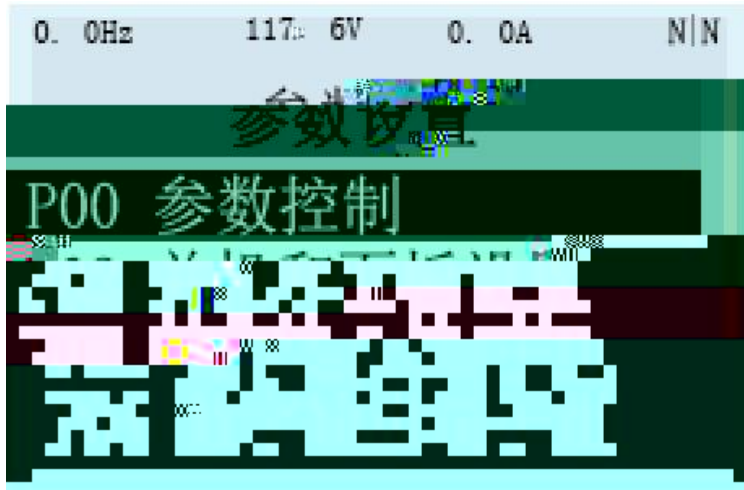
6	Security	
---	----------	--

6.4.1

- 1 Choose Direction
- 2 Reset Error
- 3 Menu Language

8	OLD COM	
---	---------	--

#### 6.4.2



Parameter Setting

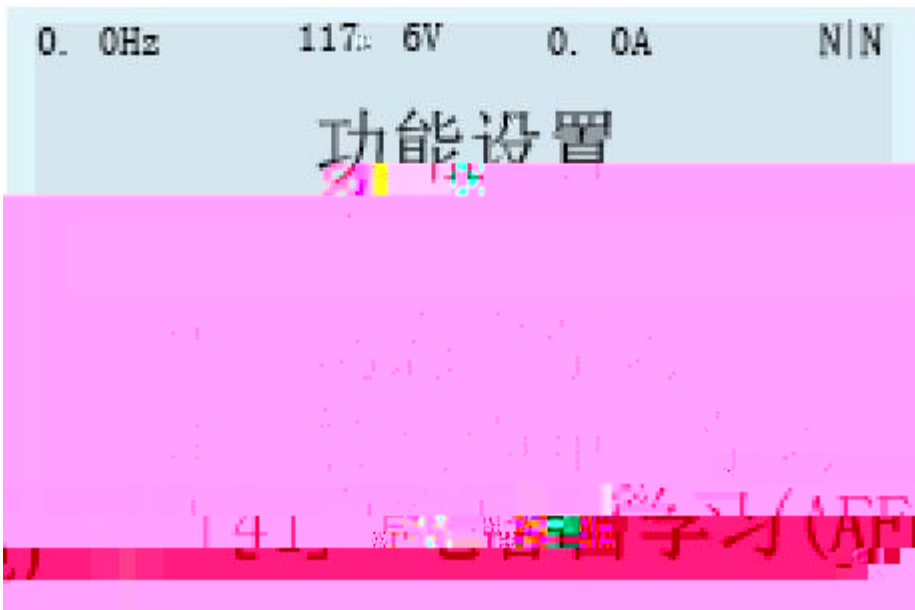
#### 6.4.3



Reference Set

Reference Set	Speed	[Hz]	Hz
		[%]	%
	Torque	[%]	%
	Torque Limiter	[%]	%
	1	[%]	1
	2	[%]	2

6.4.4



Function Setting

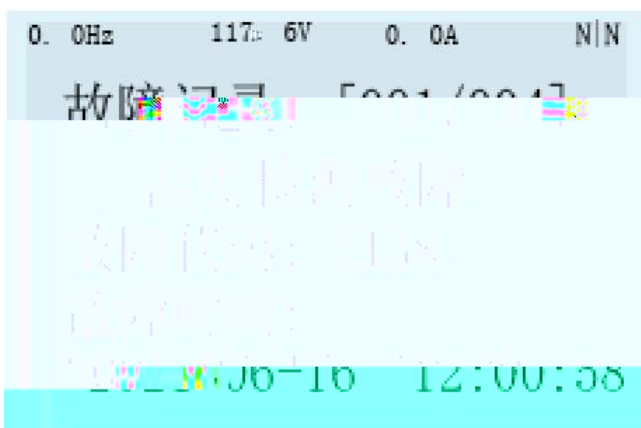
1	MtoTuning I		
2	MtoTuning II		
3	MtoTuning III		
4	DC-Link Tuning (AFE)		AFE
5	Shortcut Paras Setting		
6	Parameter Initialization		
7	Delete Fault Records		
8	System Restart		
9	Backup Parameter		
10	Recover Parameter		
11	Compare Parameter		
12	Backup Para DSP DSP		DSP
13	Restore Para DSP DSP		DSP

---

1  
2  
5

" Enter"

#### 6.4.5

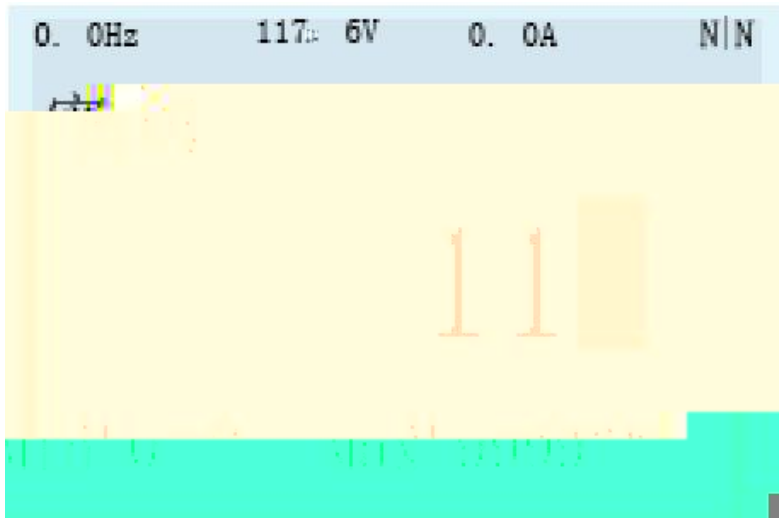


Fault Record

---

6. 4. 6

Access Permi ssi ons





---

/

V/F	P16. 11=0	V/F
	P16. 11=2	P16. 11=1

## 7.2

1		
2		
3		
4	AC380~480V	50/60Hz
5		U, V, W
6		
7	PG	PG
Ä8	; A50 D(æ	

---

7.2.1

5.4 " "

7.2.2

P16.2

P16.3

P16.4

P16.5

P16.6

P16.7

120x P16.5 / P16.6

P16.9

9

616.

gdetec.com

6

GUIDE

47

P8. 10		[ 0] I / O [ 1] 1 [ 2] 2 [ 3] [ 4] DP [ 5] MODBUS [ 6]	3
P8. 3		[ 0] [ 1]	1
P7. 0	[ 1]	0-300[ %]	180%
P7. 4	[ 1]	0-300[ %]	235%
P7. 19	[ 1]	100. 0 720. 0[ %]	120%

### 7. 2 3

∇  
1

P16. 11

[ 1] [ 2]

" m'

H

---

4

50%

7.2.4

HF680N

---

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"

---

P4.3 D04 0

AFE " Stop

P8. 6 0. 5s Run

A B C

Stop

P N P N Local /Remote

Local P24. 21 0 " "

" " Stop P24. 28

P24. 21 1

Local /Remote Remote PLC

2

380V 220V

<http://www.gui-de-edrive.com>

P0. 1

P16. 11 0 V/F P4. 1 57 P4. 3 58

P4. 4 59

100. 15 100. 16 100. 17 1

D02 PLC D04 D05

100. 15 100. 16 100. 17 0

参数	名称	值	单位
100. 15	DO 功能本地测试 1	1	
100. 16	DO 功能本地测试 2	0	
100. 17	DO 功能本地测试 3	0	

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]													

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													
P4.4 D05	32													
P7.0	180%													
P7.4	200%													
P7.12	730V													
P8.6	300s													
P16.0	380V													
P16.2														
P16.4														
P16.11	3													
P16.12	3													
P24.7	0V													

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

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

运行

"/F 0;"

103.23

I GBT

300s

103.31

AFE

49-51Hz

103.30

AFE

停止

P8.6

0.5s

运行

È

103.23

102.54

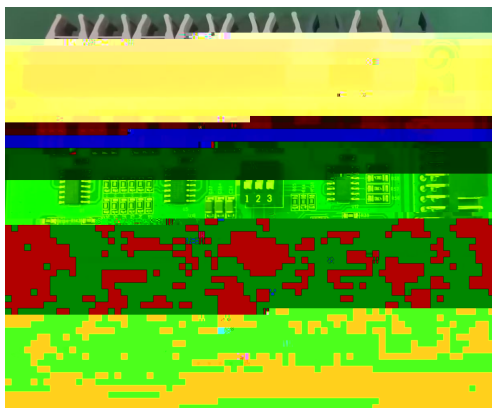
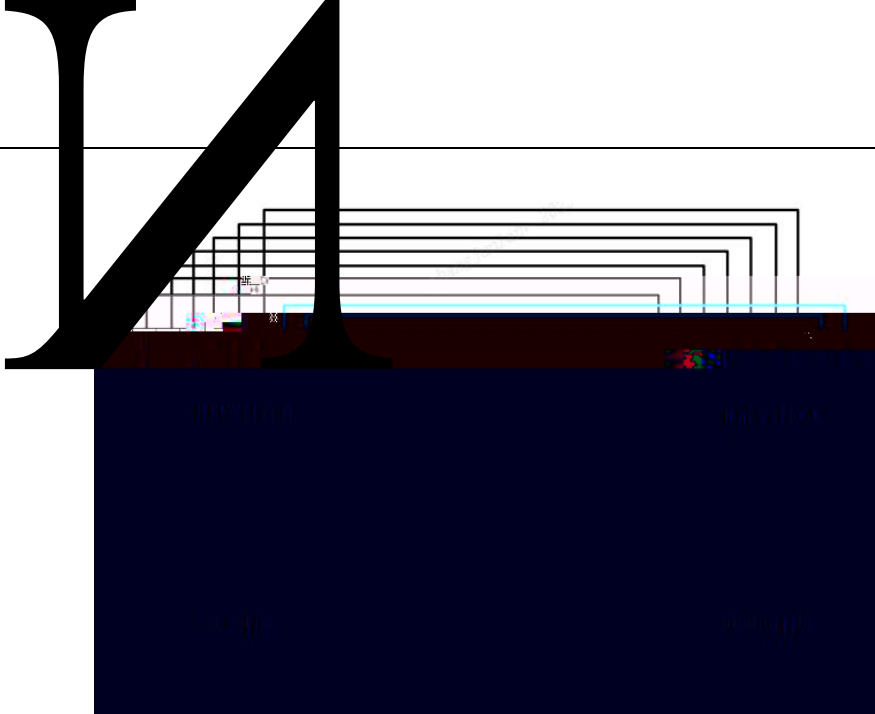
102.55

102.56

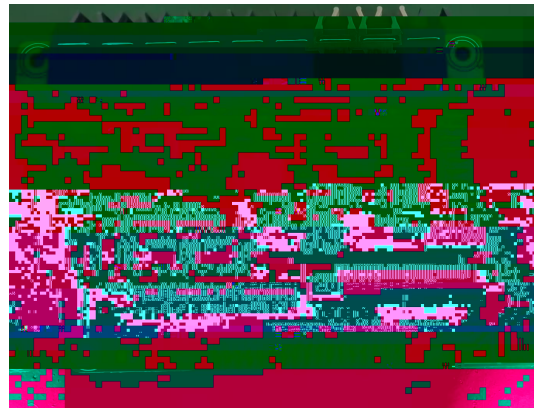
P N

P ÑN





F



PIN

m

F

---

P16. 0            380V

P16. 2                            1/2            800kW                            400kW

P16. 4                                    1/2            800kW                            608A

P16. 11

P16. 11	3	
P16. 12	3	3K
P24. 7	OV	ADJ

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

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  
220V 220V  
[ W ]  
380V Local /Remote Local Run  
I GBT 300s  
" AFE " 49- 51Hz " AFE "  
Stop  
P8. 6 0. 5s Run  
A B C  
Stop  
P N P N Local /Remote  
Local P24. 21 0 " "  
" " Stop P24. 28  
P24. 21 1

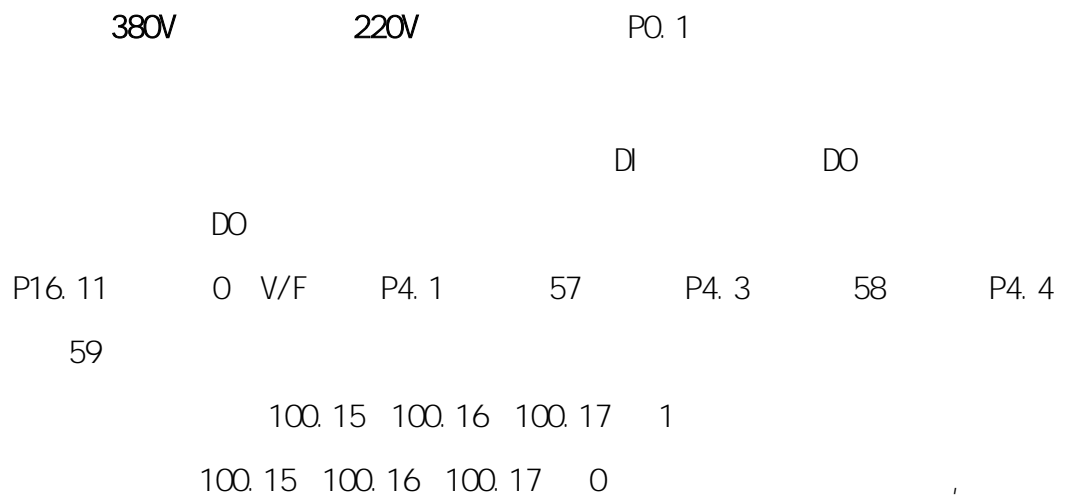
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Local /Remote

Remote

R/C FTT•

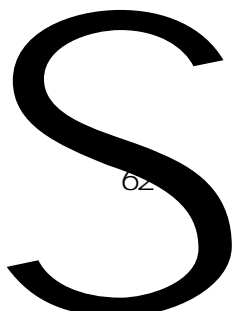
2



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 D04	0													DO
P4.4 D05	32													
P4.1 D02	2													
P7.0	180%													
P7.4	200%													
P7.12	730V													430V
P16.0	380V													800V
P16.2		0												

P3. 1	20			
P3. 2	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		800V	430V
P8. 6	300s			300s
		0. 5s		
P16. 0	380V			
P16. 2		800kW		800kW
P16. 4		800kW		1216A
P16. 11	3			
P16. 12	3			3K
P24. 7	OV		ADJ	



620V 6.0 380V P24.7  
20V 620V

È 220V 220V  
01.2 [W] 101.77 CAN

@ 101.80 CAN @ 0

380V " / " F9j" 运行

I GBT 300s 103.31

49-51Hz 103.30 AFE

停止

P8.6 0.5s 运行

103.23 102.54

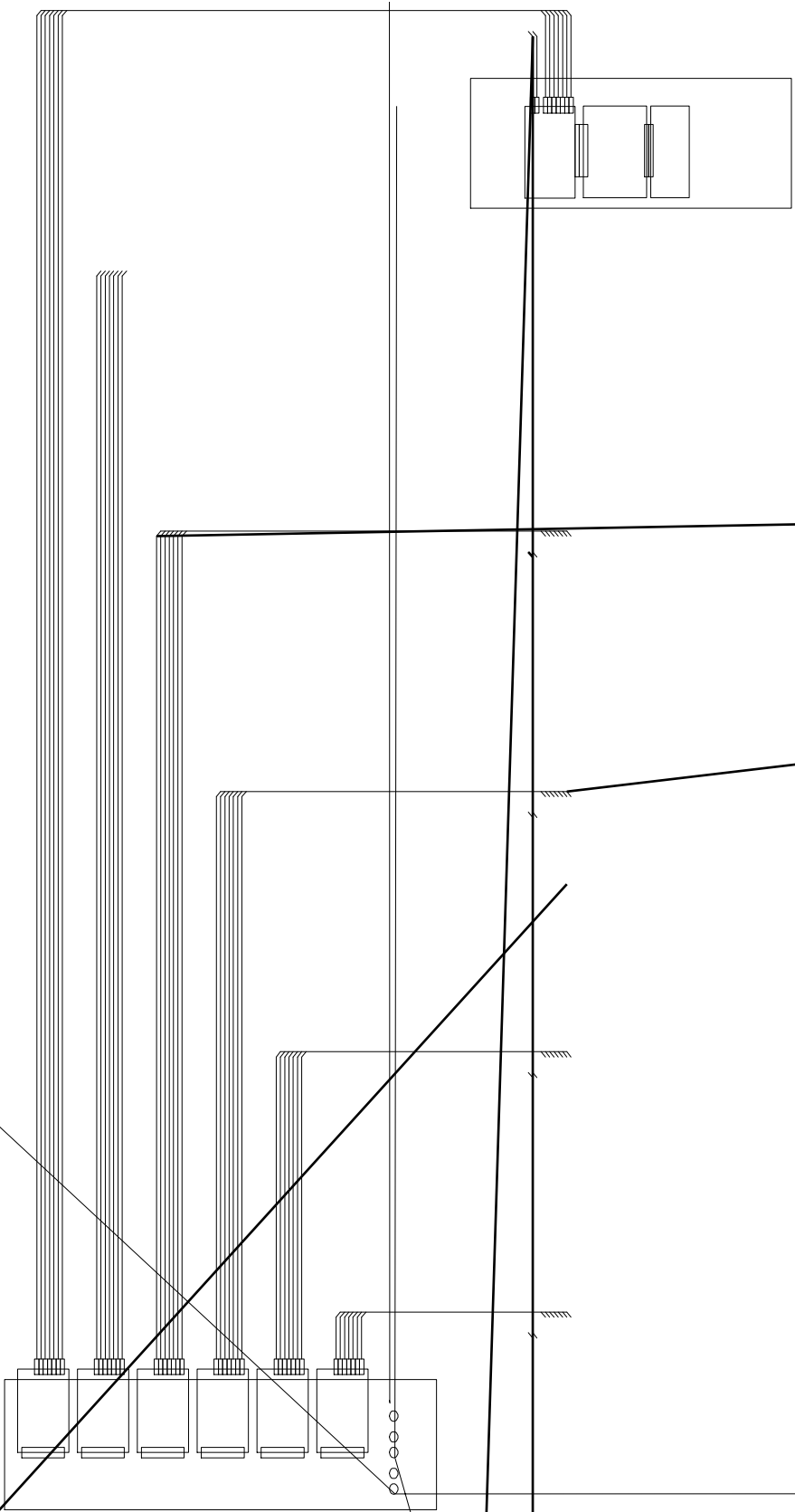
102.55 102.56 113.11 \$ 102.54

停止

° Q P Æ M O, Q È

停止

停止





1 " D05A" " D05C" 1

D02 PLC 1

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]										

220V

1 2 3 4 5

AFE

P2. 0 2

P3. 1 20

P3. 2

50





+P24.7

**P16.0 375V**

**375V P16.0 400V**

**400V P16.0 430V**

**430V P16.0 450V**

**450V P16.0 460V**

**P16.0 460V**

620V

620V

**220V**

@

**380V**

" / " " "

AFE

IGBT

103.3-

m i

**P8.06**

**0.5s**

2s

**P8.06**

**300**

300s

IGBT

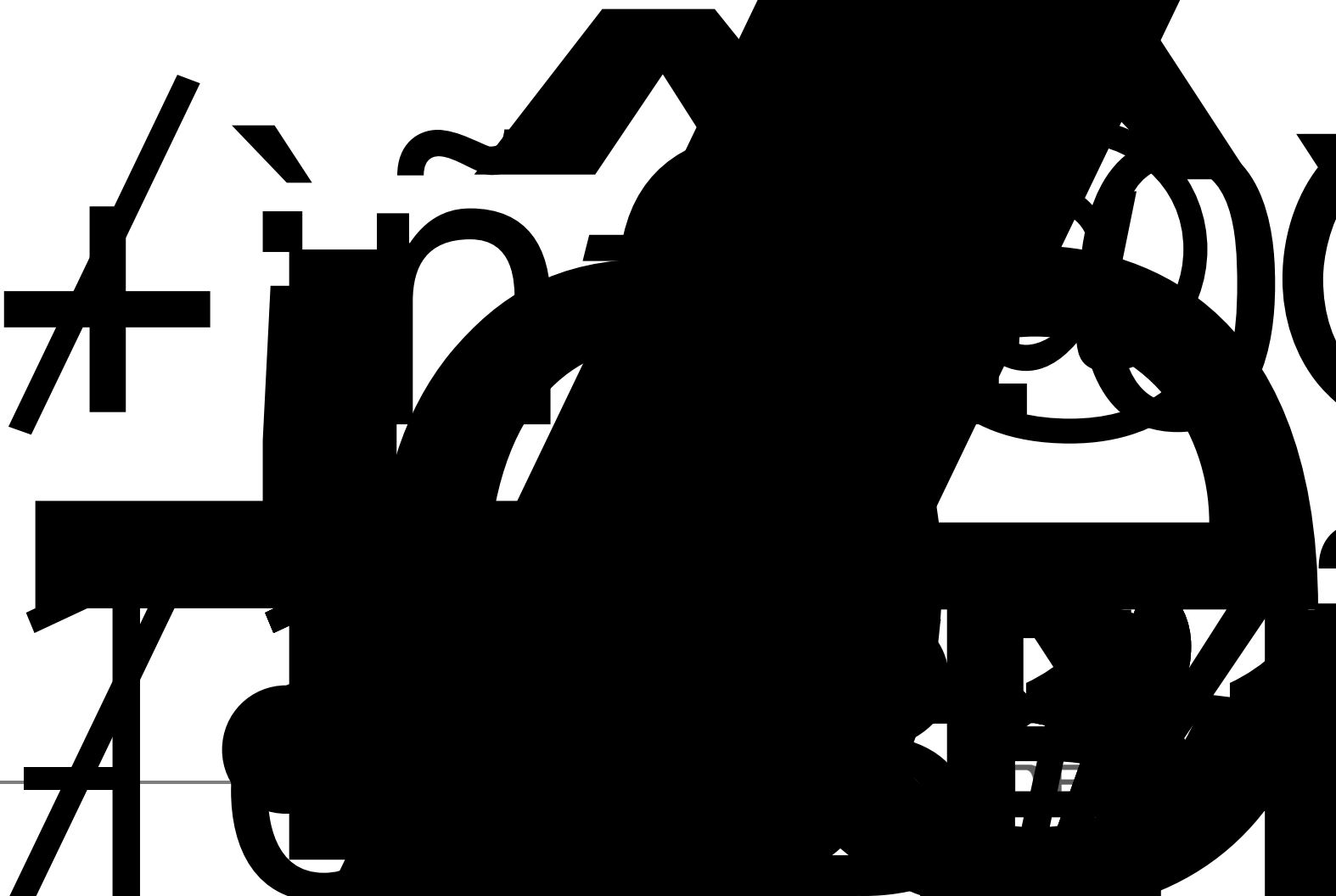
**103.30**

**AFE**

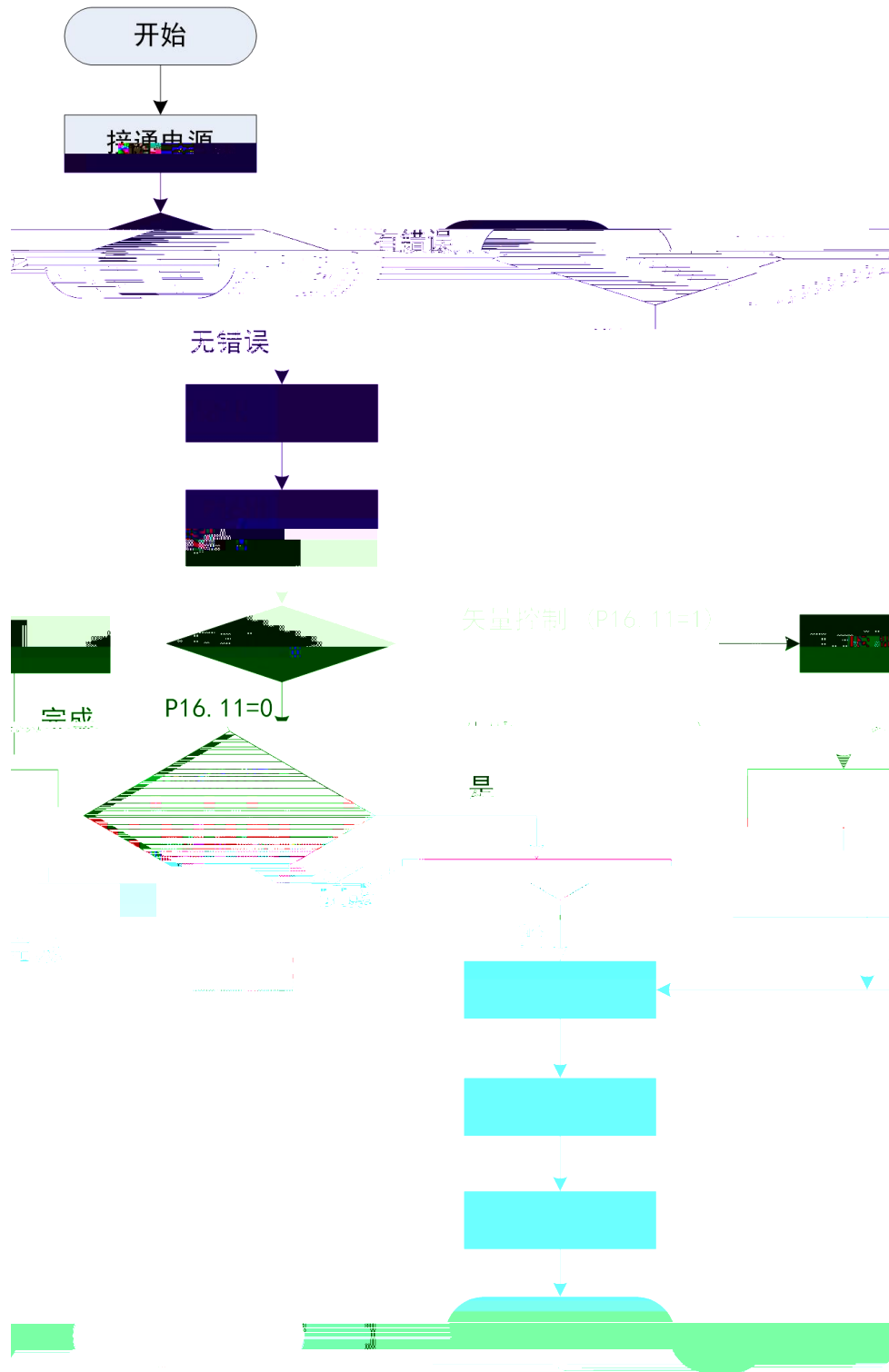


9

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



8.2





---

### 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			0 300s	0
		[0] I/O		
		[1]	1	
		[2]	2	
P8.10		[3]		3
		[4] DP		
		[5] MODBUS		
		[6]		
P8.14		0.1 10.0		1
P8.15	1			

P16. 0		380V
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

"

"

"

"

7

P20. 79 P20. 84

P20. 85-P20. 97

---

8

"

"

"

"

P20. 98

P20. 98

50%

### 8. 3. 6

HF680N

	7. 5%
	50% 50%
	1/5
	P16
	V/F

---

---

1

2

1

2

8.3.9

---

## 9.

### 9.1

#### 9.1.1

P2.0		[0] [1] [2]	0 2	0	450kW [0] 450kW [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	
P3.3		4	0 32	6	
P3.4		5	0 32	7	
P3.5		6	0 32	8	
P3.6		7	0 32	0	
P3.7		8	0 32	0	

0		
1		
5		</RST
14		
15	. NC	
20		

### 9.1.3

P4.0

1

0 6

0		
1		
2		ON
32		

#### 9.1.4

P7.0	[ 1]		0.0 300.0 [%]	180.0 [%]	
P7.4	[ 1]		0.0 300.0 [%]	235.0 [%]	
P7.12			600 820 [V]	800 [V]	
P7.13			300 500 [V]	350 [V]	
P7.14			60.0 100.0 [ ]	87.5 [ ]	
P7.47			0.0 300.0 [%]	100.0 [%]	
P7.48	1	1	0.0 300.0 [%]	150.0 [%]	
P7.49	1	1	0.00 60.00 [s]	60.00 [s]	
P7.50	2	2	0.0 300.0 [%]	200.0 [%]	
P7.51	2	2	0.00 5.00 [s]	5.00 [s]	
P7.95			0.0 20.0 [s]	15.00 [s]	

### 9.1.5

P8.0		[0] [1] [2] DP [3] MODBUS [4]	0 4	0	
P8.6			0.00 300.00 [s]	0.00 [s]	1GBT

### 9.1.6

P16.0			320 460 [V]	380 [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

		[ 0]				
		[ 1]	1			
		[ 2]	2			
P24. 0		[ 3]		0 6	0	AFE [ 0]
		[ 4]	DP			
		[ 5]	MODBUS			
		[ 6]				
P24. 1	@			0 347	0	
		[ 0]				
		[ 1]	1			
		[ 2]	2			
P24. 2		[ 3]	DP	0 5	0	AFE [ 0]
		[ 4]	MODBUS			
		[ 5]				
P24. 3	@			0 347	0	
P24. 7	ADJ			- 30	0 [ V]	
				30 [ V]		
P24. 12	Kp			0	100 [ %]	
				1000 [ %]		
P24. 13	Ki			0	100 [ %]	
				1000 [ %]		
P24. 14	@			0	200 [ %]	
				1000 [ %]		
P24. 15	@			0	200 [ %]	
				1000 [ %]		
P24. 16	Kp			0	100 [ %]	
				1000 [ %]		
P24. 17	Ki			0	100 [ %]	
				1000 [ %]		

---

P24. 21			[0] [1]	0 1	0	
P24. 22				0 300[ms]	30[ms]	
P24. 25			[0] [1]	0 1	1	
P24. 26				0 150[%]	100[%]	
P24. 27	PWM	LB	LB	0 65 [mH]	0	AFE
P24. 28	2					

10.

10.1

P2

P2.0		[0] [1] [2]	0 2	0	
P2.1		[0] [1] DP	0 1	0	
P2.2		[0] [1]	0 1	0	
P2.3			0 5	1	

10.2

P3

P3.0	1		0 32	1	
P3.1	2		0 32	2	
P3.2	3		0 32	5	
P3.3	4		0 32	6	
P3.4	5		0 32	7	
P3.5	6		0 32	8	
P3.6	7		0 32	0	
P3.7	8		0 32	0	
P3.12		[0] [1]	0 1	0	



---

24		
25	FUNC 25	
26		
27	FUNC 27	
28		
29	FUNC 29	

10.3

P4



---

10. 4

P5



P6. 7	AO1	AO1 [ 13]	(P6. 0 )	0. 0 100. 0[ %]	0. 0[ %]	
P6. 8	AO1		AO1	0. 0 1000. 0 [ ms]	10. 0[ ms]	
P6. 14	AO2		7-1	0 14	4	
P6. 15		2		0 1000	0	
P6. 16	AO2		AO2	- 300. 0 300. 0[ %]	0. 0[ %]	
P6. 17	AO2		AO2	- 300. 0 300. 0[ %]	100. 0[ %]	
P6. 18	AO2	[ mA V]	AO2	0. 0 100. 0[ %]	0. 0[ %]	
P6. 19	AO2	[ mA V]	AO2	0. 0 100. 0[ %]	100. 0[ %]	
P6. 20	AO2		AO2	- 100. 00 100. 00[ %]	0. 00[ %]	
P6. 21	AO2		AO2 [ 13]	(P6. 14 )	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		
7		
8	(%)	( )
9		
10		
11	(%)	( 150 )
12	DP	Profibus
13		P6.7 P6.21
14		

## 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			600 820[V]	800[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[s]	0.50[s]

---

P7. 24

P7. 74			300 500[V]	460[V]	
P7. 75			0.0 1000.0[%]	100.0[%]	
P7. 76			0.00 300.00[s]	1.00[s]	
P7. 77			0.0 200.0[%]	15.0[%]	
P7. 94		[0] [1]	0 1	1	
P7. 95		AFE	0.0 3000.0[s]	15.0[s]	
P7. 96			0.00 300.00[s]	0.00[s]	

## 10.7 1 P8

P8. 0		[0] [1] [2] DP [3] MODBUS [4]	0 4	0	
P8. 1					
P8. 2					
P8. 3		[0] [1]	0 1	0	
P8. 6			0.00 300.00 [s]	0.00[s]	
P8. 7			0.00 300.00 [s]	0.00[s]	
P8. 10		[0] I/O [1] 1 [2] 2 [3] [4] DP [5] MODBUS [6]	0 6	0	
P8. 11					

P8. 13		[ 0] [ 1] PROFIBUS [ 2] MODBUS [ 3]	0 3	0	
P8. 14			0.1 10.0	1.0	
P8. 15	1		0.0 300.0 [%]	100.0[%]	
P8. 16	1	P8. 15	0.0 300.0 [s]	3.00[s]	
P8. 17	2		0.0 300.0 [%]	200.0[%]	
P8. 18	2	P8. 15 P8. 17	0.0 300.0[s]	4.00[s]	
P8. 19	3		0.0 300.0[%]	240.0[%]	
P8. 20	3	P8. 17 P8. 19	0.0 300.0[s]	7.00[s]	
P8. 21	4		0.0 300.0[%]	300.0[%]	
P8. 22	4	P8. 19 P8. 21	0.0 300.0[s]	10.00[s]	
P8. 23	5		0.0 300.0[%]	300.0[%]	
P8. 24	5	P8. 21 P8. 23	0.0 300.0[s]	10.00[s]	
P8. 25	6		0.0 300.0[%]	300.0[%]	
P8. 26	6	P8. 23 P8. 25	0.0 300.0[s]	10.00[s]	
P8. 27	7		0.0 300.0[%]	300.0[%]	
P8. 28	7	P8. 25 P8. 27	0.0 300.0[s]	10.00[s]	
P8. 29	8		0.0 300.0[%]	300.0[%]	
P8. 30	8	P8. 27 P8. 29	0.0 300.0[s]	10.00[s]	
P8. 32		[ 0] [ 1] PROFIBUS [ 2] MODBUS [ 3]	0 3	0	
P8. 33			0.1 10.0	1.0	
P8. 34	1		0.0 300.0[%]	100.0[%]	



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. 37	2	P9. 34	P9. 36	0. 0 300. 0 [ s]	4. 00 [ s]	
P9. 38	3			0. 0 300. 0 [ %]	240. 0 [ %]	
P9. 39	3	P9. 36	P9. 38	0. 0 300. 0 [ s]	7. 00 [ s]	
P9. 40	4			0. 0 300. 0 [ %]	300. 0 [ %]	
P9. 41	4	P9. 38	P9. 40	0. 0 300. 0 [ s]	10. 00 [ s]	
P9. 42	5			0. 0 300. 0 [ %]	300. 0 [ %]	
P9. 43	5	P9. 40	P9. 42	0. 0 300. 0 [ s]	10. 00 [ s]	
P9. 44	6			0. 0 300. 0 [ %]	300. 0 [ %]	
P9. 45	6	P9. 42	P9. 44	0. 0 300. 0 [ s]	10. 00 [ s]	
P9. 46	7			0. 0 300. 0 [ %]	300. 0 [ %]	
P9. 47	7	P9. 44	P9. 46	0. 0 300. 0 [ s]	10. 00 [ s]	
P9. 48	8			0. 0 300. 0 [ %]	300. 0 [ %]	
P9. 49	8	P9. 46	P9. 48	0. 0 300. 0 [ s]	10. 00 [ s]	
P9. 54				0. 0 300. 0 [ %]	0. 0 [ %]	
P9. 55		[ 0 [ 1]		0 1	0	
P9. 56				0. 00 300. 00 [ s]	3. 00 [ s]	
P9. 57		[ 0 [ 1]		0 1	1	
P9. 58				0. 00 300. 00 [ s]	1. 50 [ s]	

---

10.9

3

P10

P10.0

[0]

[1]

[2] DP

[3] MODBUS

[4]

0 4

0

P10.1

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 0.00  
[s] [s]

[ ]  
0.00

↓

2A

↓  
0.00 300.00  
0  
↓  
[ ]

>Ⓞ

# 11.2

P11. 18	2	P11. 15	P11. 17	0.0 300.0 [s]	4.00 [s]	
P11. 19	3			0.0 300.0 [%]	240.0 [%]	
P11. 20	3	P11. 17	P11. 19	0.0 300.0 [s]	7.00 [s]	
P11. 21	4			0.0 300.0 [%]	300.0 [%]	
P11. 22	4	P11. 19	P11. 21	0.0 300.0 [s]	10.00 [s]	
P11. 23	5			0.0 300.0 [%]	300.0 [%]	
P11. 24	5	P11. 21	P11. 23	0.0 300.0 [s]	10.00 [s]	
P11. 25	6			0.0 300.0 [%]	300.0 [%]	
P11. 26	6	P11. 23	P11. 25	0.0 300.0 [s]	10.00 [s]	
P11. 27	7			0.0 300.0 [%]	300.0 [%]	
P11. 28	7	P11. 25	P11. 27	0.0 300.0 [s]	10.00 [s]	
P11. 29	8			0.0 300.0 [%]	300.0 [%]	
P11. 30	8	P11. 27	P11. 29	0.0 300.0 [s]	10.00 [s]	
P11. 32		[0] [1] PROFIBUS [2] MODBUS [3]		0 3	0	
P11. 33				0.1 10.0	1.0	
P11. 34	1			0.0 300.0 [%]	100.0 [%]	
P11. 35	1	P11. 34		0.0 300.0 [s]	3.00 [s]	
P11. 36	2			0.0 300.0 [%]	200.0 [%]	

P11. 37	2	P11. 34	P11. 36	0.0 300.0 [s]	4.00 [s]	
P11. 38	3			0.0 300.0 [%]	240.0 [%]	
P11. 39	3	P11. 36	P11. 38	0.0 300.0 [s]	7.00 [s]	
P11. 40	4			0.0 300.0 [%]	300.0 [%]	
P11. 41	4	P11. 38	P11. 40	0.0 300.0 [s]	10.00 [s]	
P11. 42	5			0.0 300.0 [%]	300.0 [%]	
P11. 43	5	P11. 40	P11. 42	0.0 300.0 [s]	10.00 [s]	
P11. 44	6			0.0 300.0 [%]	300.0 [%]	
P11. 45	6	P11. 42	P11. 44	0.0 300.0 [s]	10.00 [s]	
P11. 46	7			0.0 300.0 [%]	300.0 [%]	
P11. 47	7	P11. 44	P11. 46	0.0 300.0 [s]	10.00 [s]	
P11. 48	8			0.0 300.0 [%]	300.0 [%]	
P11. 49	8	P11. 46	P11. 48	0.0 300.0 [s]	10.00 [s]	
P11. 54				0.0 300.0 [%]	0.0 [%]	
P11. 55		[0] [1]		0 1	0	
P11. 56				0.00 300.00 [s]	3.00 [s]	
P11. 57		[0] [1]		0 1	1	
P11. 58				0.00 300.00 [s]	1.50 [s]	

P12 0		[0] [1]	0 1	1	
P12 1		[0] [% [1] [Hz] [2] [rpm]	0 2	1	
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	14		0.0 3000.0	50.0	
P12 16	15		0.0 3000.0	50.0	
P12 17	16		0.0 3000.0	50.0	
P12 22			0.0 20.0 [%	2.0 [%	
P12 23			0.0 20.0 [%	0.0 [%	
P12 24			0.0 200.0 [%	30.0 [%	
P12 25			0.0 200.0 [%	20.0 [%	
P12 26			0.00 2.00 [s]	0.00 [s]	

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. 3-2		0.00 2.00 [s]	0.50 [s]	

10. 12

P13

P13. 0		[1]	0 1	1
P13. 1		[0][%] [1][Hz] [2][rpm]	0 2	1
P13. 2	1		0.0 3000.0	
P13. 3	2		0.0 3000.0	
P13. 4	3		0.0 3000.0	
P13. 5	4		0.0 3000.0	
P13. 6	5		0.0 3000.0	
P13. -2			0.0 3000.0	
P13. 8	-22			
P13. 9	8		0.0 3000.0	
P13. 10	9		0.0 3000.0	

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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	0.00
			[s]	[s]
P13. 27		0.00	2.00	0.00
			[s]	[s]
P13. 28		0.00	2.00	0.07
			[s]	[s]
P13. 29		0.00	2.00	0.07
			[s]	[s]
P13. 32		0.0	20.0	0.0
			[%	[%
P13. 33				

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]

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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 2.00	0.50
	[s]	[s]
P14. 37	0.00 2.00	
	[s]	

3

[s]



P15. 11	10		0. 0 3000. 0	50. 0	
P15. 12	11		0. 0 3000. 0	50. 0	
P15. 13	12		0. 0 3000. 0	50. 0	
P15. 14	13		0. 0 3000. 0	50. 0	
P15. 15	14		0. 0 3000. 0	50. 0	
P15. 16	15		0. 0 3000. 0	50. 0	
P15. 17	16		0. 0 3000. 0	50. 0	
P15. 22			0. 0 20. 0 [%]	2. 0 [%]	
P15. 23			0. 0 20. 0 [%]	0. 0 [%]	
P15. 24			0. 0 200. 0 [%]	30. 0 [%]	
P15. 25			0. 0 200. 0 [%]	20. 0 [%]	
P15. 26			0. 00 2. 00 [s]	0. 00 [s]	
P15. 27			0. 00 2. 00 [s]	0. 00 [s]	
P15. 28			0. 00 2. 00 [s]	0. 07 [s]	
P15. 29			0. 00 2. 00 [s]	0. 07 [s]	
P15. 32			0. 0 20. 0 [%]	0. 0 [%]	
P15. 33			0. 0 20. 0 [%]	0. 0 [%]	
P15. 34			0. 00 2. 00 [s]	0. 00 [s]	
P15. 35			0. 00 2. 00 [s]	0. 00 [s]	
P15. 36			0. 00 2. 00 [s]	0. 50 [s]	
P15. 37			0. 00 2. 00 [s]	0. 50 [s]	



P16. 22			0. 00 100. 00 [s]	0. 00 [s]	
P16. 23		V/F	0. 00 300. 00 [Hz]	0. 00 [Hz]	
P16. 24		V/F	0. 00 300. 00 [Hz]	50. 00 [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 1		0. 0 300. 0 [Hz]	5. 0 [Hz]	
P16. 35	V/F 1		0. 0 125. 0 [%]	11. 5 [%]	
P16. 36	V/F 2		0. 0 300. 0 [Hz]	50. 0 [Hz]	
P16. 37	V/F 2		0. 0 125. 0 [%]	100. 0 [%]	
P16. 38	V/F 3		0. 0 300. 0 [Hz]	50. 0 [Hz]	
P16. 39	V/F 3		0. 0 125. 0 [%]	100. 0 [%]	
P16. 40	V/F 4		0. 0 300. 0 [Hz]	50. 0 [Hz]	
P16. 41	V/F 4		0. 0 125. 0 [%]	100. 0 [%]	
P16. 42	V/F 5		0. 0 300. 0 [Hz]	50. 0 [Hz]	
P16. 43	V/F 5		0. 0 125. 0 [%]	100. 0 [%]	
P16. 44	V/F 6		0. 0 300. 0 [Hz]	50. 0 [Hz]	
P16. 45	V/F 6		0. 0 125. 0 [%]	100. 0 [%]	
P16. 46	V/F @		0 300	0	
P16. 47	@		0 300	0	

P16. 48		[0] [1] P I D 1 [2] P I D 2 [3]	0 3	0	
P16. 49	@		0 300	0	
P16. 50			0.00 300.00 [s]	0.00 [s]	
P16. 51			0.0 150.0 [%]	70.0 [%]	
P16. 52			0.00 5.00 [Hz]	0.00 [Hz]	
P16. 54			0.00 300.00 [s]	0.00 [s]	
P16. 55			0.0 150.0 [%]	75.0 [%]	
P16. 56			0.00 5.00 [Hz]	0.00 [Hz]	
P16. 59			0.0 1000.0 [%]	100.0 [%]	
P16. 60			0.0 1000.0 [%]	100.0 [%]	
P16. 61			0.0 1000.0 [%]	100.0 [%]	
P16. 62			0.0 1000.0 [%]	100.0 [%]	
P16. 64	V/F	V/F	0.0 1000.0 [%]	100.0 [%]	
P16. 66		V/F	0.0 1000.0 [%]	100.0 [%]	
P16. 67			0.0 1000.0 [%]	100.0 [%]	
P16. 68			0.0 1000.0 [%]	100.0 [%]	
P16. 69			0.0 1000.0 [%]	100.0 [%]	
P16. 70			0.0 1000.0 [%]	100.0 [%]	

10.16    2    V/F    P17

P17.0			320 460 [V]	380 [V]	
P17.2			0.0 4000.0 [kW]	[kW]	
P17.3			320 460 [V]	380 [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	

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P17. 22			0. 00 100. 00	0. 00
			[s]	[s]
P17. 23		V/F	0. 00 300. 00	0. 00
			[Hz]	[Hz]
P17. 24		V/F	0. 00 300. 00	50. 00
			[Hz]	[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				

V! 0B8XB 9

P17. 48		[0] [1] P I D 1 [2] P I D 2 [3]	0 3	0	
P17. 49	@		0 300	0	
P17. 50			0.00 300.00 [s]	0.00 [s]	
P17. 51			0.0 150.0 [%]	70.0 [%]	
P17. 52			0.00 5.00 [Hz]	0.00 [Hz]	
P17. 54			0.00 300.00 [s]	0.00 [s]	
P17. 55			0.0 150.0 [%]	75.0 [%]	
P17. 56			0.00 5.00 [Hz]	0.00 [Hz]	
P17. 59			0.0 1000.0 [%]	100.0 [%]	
P17. 60			0.0 1000.0 [%]	100.0 [%]	
P17. 61			0.0 1000.0 [%]	100.0 [%]	
P17. 62			0.0 1000.0 [%]	100.0 [%]	
P17. 64	V/F	V/F	0.0 1000.0 [%]	100.0 [%]	
P17. 66		V/F	0.0 1000.0 [%]	100.0 [%]	
P17. 67			0.0 1000.0 [%]	100.0 [%]	
P17. 68			0.0 1000.0 [%]	100.0 [%]	
P17. 69			0.0 1000.0 [%]	100.0 [%]	
P17. 70			0.0 1000.0 [%]	100.0 [%]	



P18.23				0.00	300.00	0.00
			V/F	[Hz]		[Hz]
P18.24				0.00	300.00	50.00
			V/F	[Hz]		[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	5.0
				[Hz]		[Hz]
P18.35	V/F	1		0.0	125.0	11.5
				[%]		[%]
P18.36	V/F	2		0.0	300.0	50.0
				[Hz]		[Hz]
P18.37	V/F	2		0.0	125.0	100.0
				[%]		[%]
P18.38	V/F	3		0.0	300.0	50.0
				[Hz]		[Hz]
P18.39	V/F	3		0.0	125.0	100.0
				[%]		[%]
P18.40	V/F	4		0.0	300.0	50.0
				[Hz]		[Hz]
P18.41	V/F	4		0.0	125.0	100.0
				[%]		[%]
P18.42	V/F	5		0.0	300.0	50.0
				[Hz]		[Hz]
P18.43	V/F	5		0.0	125.0	100.0
				[%]		[%]
P18.44	V/F	6		0.0	300.0	50.0
				[Hz]		[Hz]
P18.45	V/F	6		0.0	125.0	100.0
				[%]		[%]
P18.46	V/F	@		0	300	0
P18.47		@		0	300	0



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10.18    4    V/F    P19

P19.0



P19. 48		[ 0] [ 1] P I D 1 [ 2] P I D 2 [ 3]	0 3	0	
P19. 49	@		0 300	0	
P19. 50			0. 00 300. 00 [ s]	0. 00 [ s]	
P19. 51			0. 0 150. 0 [ %]	70. 0 [ %]	
P19. 52			0. 00 5. 00 [ Hz]	0. 00 [ Hz]	
P19. 54			0. 00 300. 00 [ s]	0. 00 [ s]	
P19. 55			0. 0 150. 0 [ %]	75. 0 [ %]	
P19. 56			0. 00 5. 00 [ Hz]	0. 00 [ Hz]	
P19. 59			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 60			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 61			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 62			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 64	V/F	V/F	0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 66		V/F	0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 67			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 68			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 69			0. 0 1000. 0 [ %]	100. 0 [ %]	
P19. 70			0. 0 1000. 0 [ %]	100. 0 [ %]	

10.19	1	P20		
P20.0		[0]	u	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
				[%] [%]

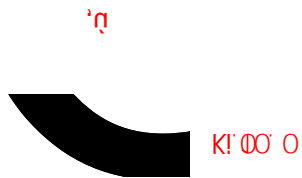
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P20. 11			0 1000 [ms]	0 [ms]
P20. 13			20.0 500.0 [ms]	100.0 [ms]
P20. 14		1	0 60000	1024
P20. 15	[0] [1]		0 1	0
P20. 16			0.0 300.0 [%]	100.0 [%]
P20. 17			0.0 300.0 [%]	100.0 [%]
P20. 18			0.0 300.0 [%]	0.0 [%]
P20. 19				

P20. 30		[0] P20. 31 P20. 32 [1] 1 [2] 2 [3]	0 3	0	
P20. 31			0.0 100.0 [%]	5.0 [%]	
P20. 32			0.0 100.0 [%]	5.0 [%]	
P20. 34		[0] [1]	0 1	0	
P20. 35			0.0 100.0 [s]	0.0 [s]	
P20. 36			50.0 150.0 [%]	110.0 [%]	
P20. 37			0.0 150.0 [%]	100.0 [%]	
P20. 38			0.0 100.0 [%]	25.0 [%]	
P20. 39			0.0 120.0 [%]	100.0 [%]	
P20. 40			0.0 150.0 [%]	100.0 [%]	
P20. 41			0.0 150.0 [%]	135.0 [%]	
P20. 42		[0] [1]	0 1	1	
P20. 43			25 1000 [ns]	75 [ns]	
P20. 44			25 1000 [ns]	250 [ns]	
P20. 45			0.0 100.0 [%]	22.0 [%]	
P20. 46			0.0 100.0 [%]	18.0 [%]	
P20. 47			0.0 200.0 [%]	92.0 [%]	
P20. 48			0.0 200.0 [%]	87.0 [%]	

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P20. 49		0.0 150.0	100.0
		[%	[%
P20. 51		0.0 1000.0	100.0
		[%	[%
P20. 52		0.0 1000.0	100.0
		[%	[%
P20. 53	Kp	0.0 1000.0	100.0
		[%	[%
P20. 54	Ki	0.0 1000.0	100.0
		[%	[%
P20. 55		0.0 1000.0	1000.0
		[%	[%



JO O

0200

GUIDE 54



P20. 95	5%	12	125%	40. 0 150. 0 [%]	77. 0 [%]	
P20. 96	0%	13	130%	40. 0 150. 0 [%]	70. 5 [%]	
P20. 97	5%	13	135%	40. 0 150. 0 [%]	63. 5 [%]	
P20. 98			( )	0. 01 300. 00 [s]	0. 75 [s]	
P20. 99				0. 00 10. 00 [%]	0. 00 [%]	

10. 20 2 P21

P21. 0 [0] 0 1 0  
[1]

P21. 1

---

[0]  
[

P21. 7

P21. 25			0.0 200.0 [%]	100.0 [%]	
P21. 26			0.0 1000.0 [%]	0.0 [%]	
P21. 27			0.00 15.00 [%]	2.00 [%]	
P21. 28		[0] P21. 16 P21. 17 [1] [2] [3] DP	0 3	0	
P21. 30		[0] P21. 32 P21. 31 [1] 1 [2] 2 [3]	0 3	0	
P21. 31			0.0 100.0 [%]	5.0 [%]	
P21. 32			0.0 100.0 [%]	5.0 [%]	
P21. 34		[0] [1]	0 1	0	
P21. 35			0.0 100.0 [s]	0.0 [s]	
P21. 36			50.0 150.0 [%]	110.0 [%]	
P21. 37			0.0 150.0 [%]	100.0 [%]	
P21. 38			0.0 100.0 [%]	25.0 [%]	
P21. 39			0.0 120.0 [%]	100.0 [%]	
P21. 40			0.0 150.0 [%]	100.0 [%]	
P21. 41			0.0 150.0 [%]	135.0 [%]	
P21. 42		[0] [1]	0 1	1	
P21. 43			25 1000 [ns]	75 [ns]	



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P21. 67	2	2	0. 0 1000. 0 [ %]	100. 0 [ %]
P21. 69			0. 00 2. 00 [ %]	1. 00 [ %]
P21. 70			0. 00 2. 00 [ %]	1. 00 [ %]
P21. 71	[ 0] [ 1]		0 1	0
P21. 72	[ 0] [ 1]		0 1	1
P21. 73	[ 0] × 1 [ 1] × 10		0 1	0
P21. 74			0. 00 650. 00 [ nChn]	0. 00 [ nChn]
P21. 75			0. 70 1. 00	0. 90
P21. 76	1	1	90. 0 110. 0 [ %]	100. 0 [ %]
P21. 77	2			

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P21. 91	105%	105%	40.0 150.0 [%]	96.5 [%]	
P21. 92	110%	110%	40.0 150.0 [%]	93.0 [%]	
P21. 93	115%	115%	40.0 150.0 [%]	88.5 [%]	
P21. 94	120%	120%	40.0 150.0 [%]	83.0 [%]	
P21. 95	125%	125%	40.0 150.0 [%]	77.0 [%]	
P21. 96	130%	130%	40.0 150.0 [%]	70.5 [%]	
P21. 97	135%	135%	40.0 150.0 [%]	63.5 [%]	
P21. 98		( )	0.01 300.00 [s]	0.75 [s]	
P21. 99			0.00 10.00 [%]	0.00 [%]	

10. 21      3                      P22

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. 24			0.0 300.0[ $\mu$ s]	100.0[ $\mu$ s]
P22. 25			0.0 200.0[ $\mu$ s]	100.0[ $\mu$ s]
P22. 26			0.0 1000.0[ $\mu$ s]	0.0[ $\mu$ s]
P22. 27			0.00 15.00[ $\mu$ s]	2.00[ $\mu$ s]
P22. 28	[0] P22. 16 P22. 17 [1] [2] [3] DP		0 3	0
P22. 30	[0] P22. 31 P22. 32 [1] 1 [2] 2 [3]		0 3	0
P22. 31			0.0 100.0[ $\mu$ s]	5.0[ $\mu$ s]
P22. 32			0.0 100.0[ $\mu$ s]	5.0[ $\mu$ s]
P22. 34	[0] [1]		0 1	0
P22. 35			0.0 100.0[ $\mu$ s]	0.0[ $\mu$ s]
P22. 36			50.0 150.0[ $\mu$ s]	110.0[ $\mu$ s]
P22. 37			0.0 150.0[ $\mu$ s]	100.0[ $\mu$ s]
P22. 38			0.0 100.0[ $\mu$ s]	25.0[ $\mu$ s]
P22. 39			0.0 120.0[ $\mu$ s]	100.0[ $\mu$ s]
P22. 40			0.0 150.0[ $\mu$ s]	100.0[ $\mu$ s]
P22. 41			0.0 150.0[ $\mu$ s]	135.0[ $\mu$ s]
P22. 42	[0] [1]		0 1	1
P22. 43			25 1000[ $\mu$ s]	75[ $\mu$ s]
P22. 44			25 1000[ $\mu$ s]	250[ $\mu$ s]

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P22. 45	0.0	100.0 [%]	22.0 [%]
P22. 46	0.0	100.0 [%]	18.0 [%]
P22. 47	0.0	200.0 [%]	92.0 [%]
P22. 48	0.0	200.0 [%]	87.0 [%]
P22. 49	0.0	150.0 [%]	100.0 [%]
P22. 51	0.0	1000.0 [%]	100.0 [%]
P22. 52	0.0	1000.0 [%]	100.0 [%]
P22. 53			

0

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P22.

P22. 99			0. 00 10. 00 [%]	0. 00[%]	
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10. 22      4                      P23

P23. 0		[ 0] [ 1]	0 1	0	
P23. 1		[ 0] [ 1]            1 [ 2]            2 [ 3] [ 4]                      P23. 3  [ 5] DP [ 6] MODBUS [ 7]	0 7	0	
P23. 2			0 7	0	
P23. 3			- 300. 0 300. 0[%]	0. 0 [%]	
P23. 4	@		0 300	0	
P23. 5			0 1000[ms]	0 [ms]	
P23. 6			0. 0 200. 0[%]	100. 0 [%]	
P23. 7		[ 0] [ 1]                      P23. 8 P23. 9 [ 2]            1 [ 3]            2 [ 4] [ 5] DP [ 6] MODBUS [ 7]	0 7	0	
P23. 8		P23. 7 [ 1]	0. 0 300. 0[%]	200. 0 [%]	
P23. 9		P23. 7 [ 1]	0. 0 300. 0[%]	200. 0 [%]	
P23. 10			0 300	0	

P23. 11			0 1000 [ms]	0 [ms]
P23. 13			20.0 500.0 [ms]	100.0 [ms]
P23. 14		1	0 60000	1024
P23. 15	[0] [1]		0 1	0
P23. 16			0.0 300.0[%]	100.0[%]
P23. 17			0.0 000.0[%] 0.0 300.0[%]	0.0[%] 100.0[%] 00.0[%]
P23. 18			0.0 300.0[%]	0.0[%]
P23. 19			0.0 300.0[%]	0.0[%] 50.0[%]
P23. 20	[0] [1]		0 1	0
P23. 21	[0] [1]		0 1	0
P23. 22	[	0	0.0 300.0[%]	160.0[%]
P23. 23	[		0.0 200.0[%]	20.0[%]
P23. 24			0.0 300.0[%]	100.0[%]
P23. 25			00.0[%]	

P2000%

---

	[0]	P23. 31	P23. 32		
P23. 30	[1]	1		0 3	0
	[2]	2			
	[3]				
P23. 31				0.0 100.0[%]	5.0[%]
P23. 32				0.0 - -	

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P23.

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P23. 79

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**GUIDE**

41





P33. 31	[VØ]	7-2	0 37	0	
P33. 32	[VØ]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 33	[VM0]	7-2	0 37	0	
P33. 34	[VM0]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 35	[VM1]	7-2	0 37	0	
P33. 36	[VM1]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 37	[VM2]	7-2	0 37	0	
P33. 38	[VM2]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 39	[VM3]	7-2	0 37	0	
P33. 40	[VM3]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 41	[VM4]	7-2	0 37	0	
P33. 42	[VM4]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33. 43	[VM5]	7-2	0 37	0	

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		[0] × 1		
		[1] × 10		
P33. 44	[W5]	[2] × 100	0 4	0
		[3] × 1000		
		[4] × 10000		
P33. 45	[W0]			

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P33. 62	[V8]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 63	[V9]	7-3	0 48	13	
P33. 64	[V9]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 65	[V10]	7-3	0 48	40	
P33. 66	[V10]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	6	
P33. 67	[V11]	7-3	0 48	0	
P33. 68	[V11]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [% × 1 [6] [% × 10 [7] [% × 100	0 7	0	
P33. 69	[V12]	7-3	0 48	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



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

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11.

1

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## 11. 2

[E050] U  
ERR\_UT n

[ E113]	MP	
[ E114]	MP	
[ E115]	OS	P7. 19 P7. 19
[ E116]	SLVC Fai I	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	

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[ E138]

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[E160]	SLVE_FAULT	
[E161]	SLV_NOT_RDY	
[E162]	1 SLV1_CAN_ERR	1
[E163]	2 SLV2_CAN_ERR	2
[E164]	3 SLV3_CAN_ERR	3
[E165]	4 SLV4_CAN_ERR	4
[E166]		





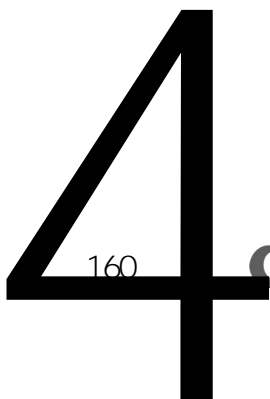
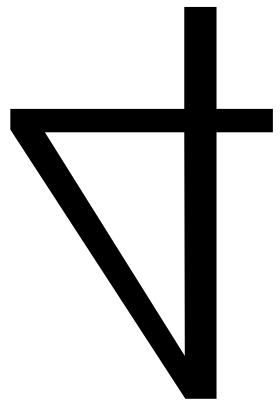
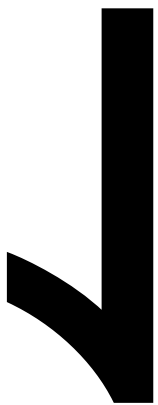
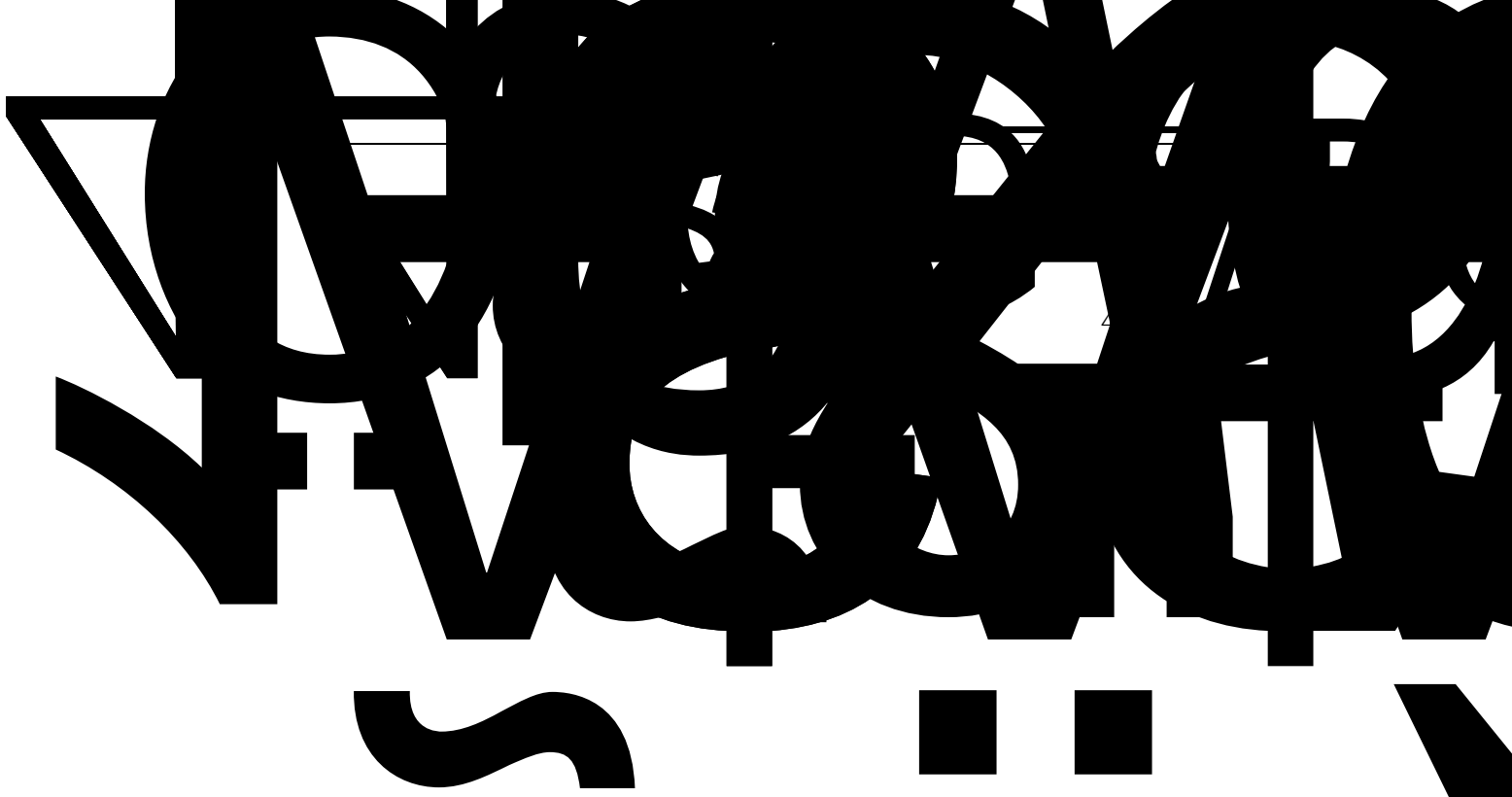
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12.

1	
2	
3	
4	
1	CMOS
2	
3	

12.1

12.2



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12 4

5





400V

HF680NLC

250-630kW

GUIDE

1.00

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2  
3

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