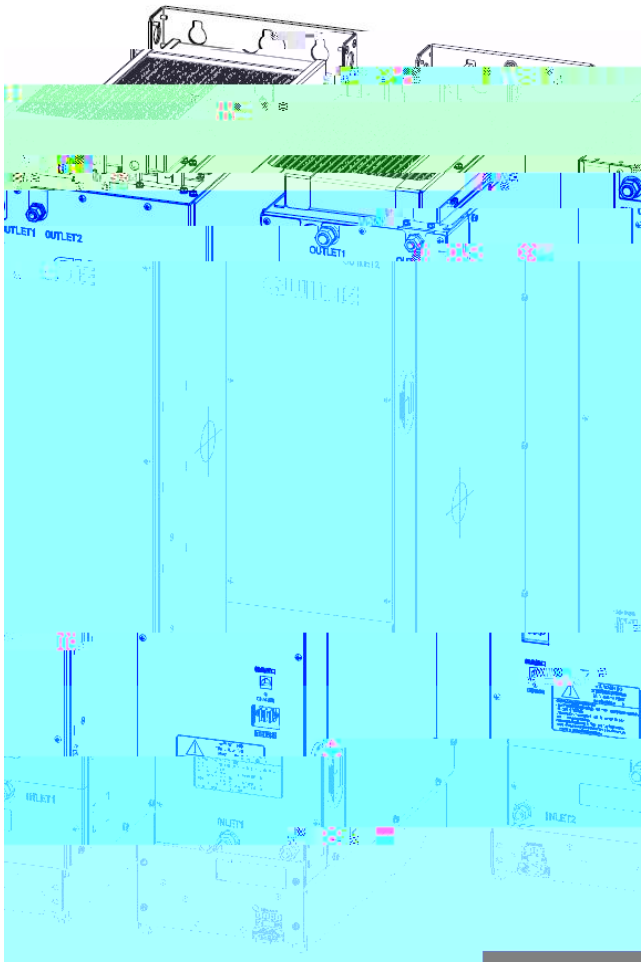
HF680NLC

690V 160~1935kW

1.07

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Wuhan GUIDE Technology Co.,Ltd



HF680NLC

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2.2 6
2.3 7
2.4 9
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11.3 160
11.4 161
11.5 161

1.

1.1





1

RCD

RCM RCD

RCM

B RCD RCD

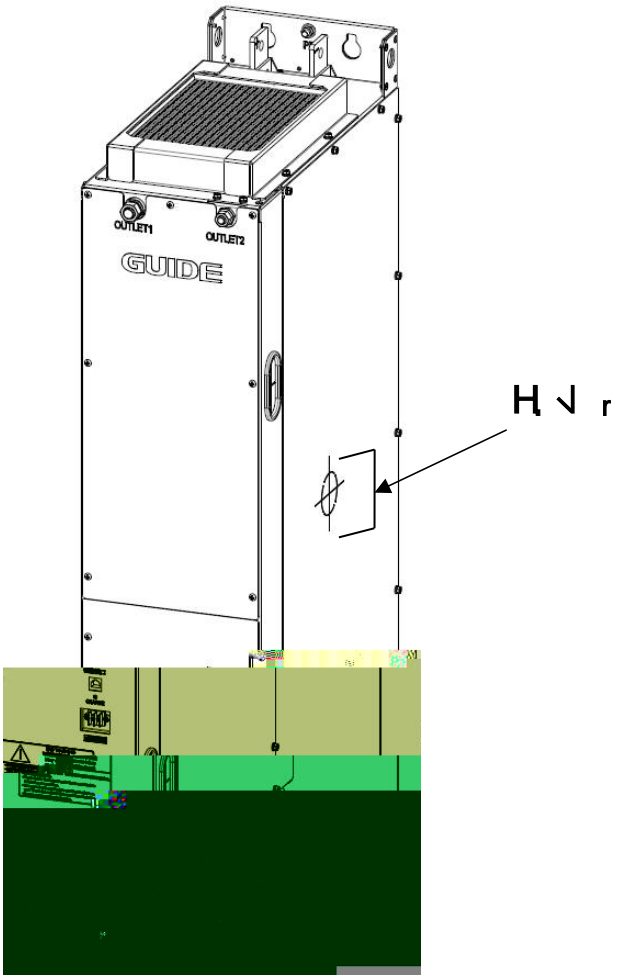
RCD RCD

2

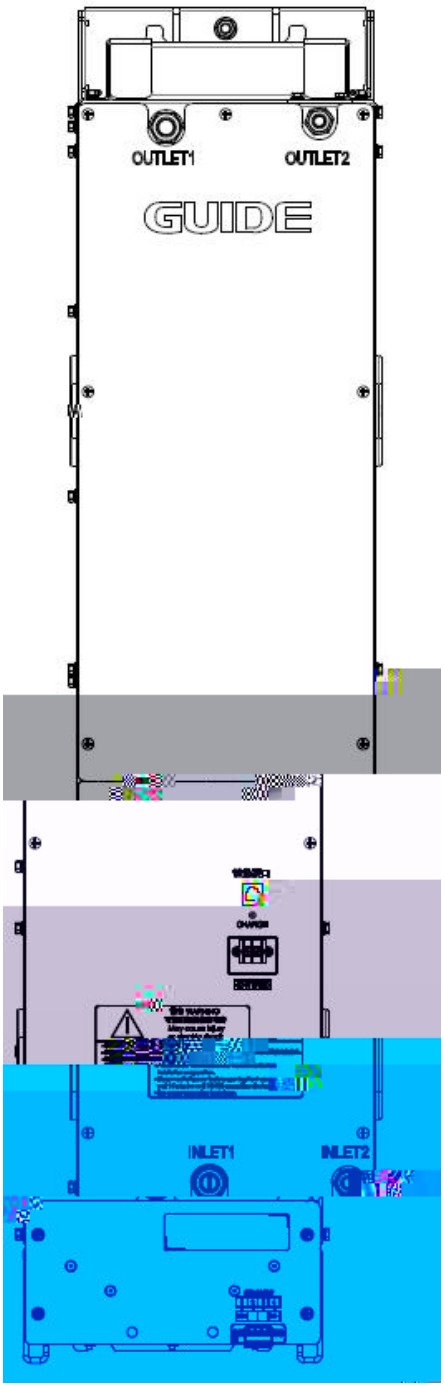
500V

5MΩ

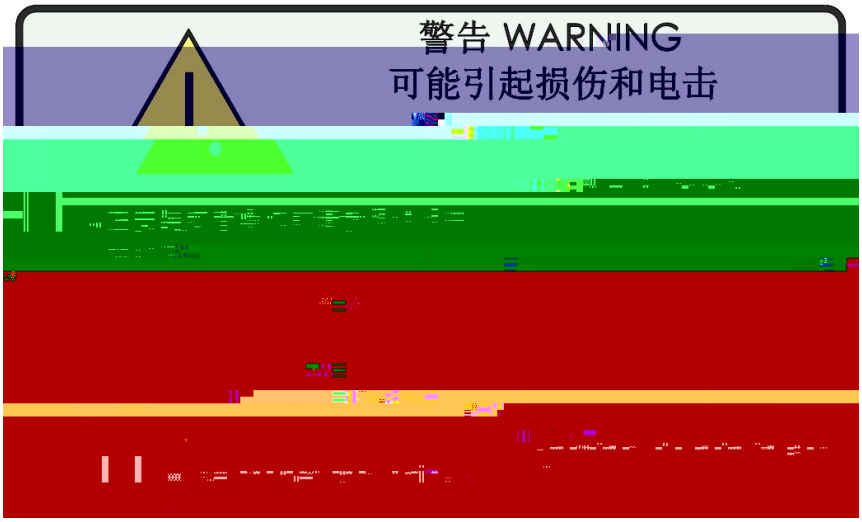
3



HF680NLC-560-6



HF61



1.2

(1)

(2)

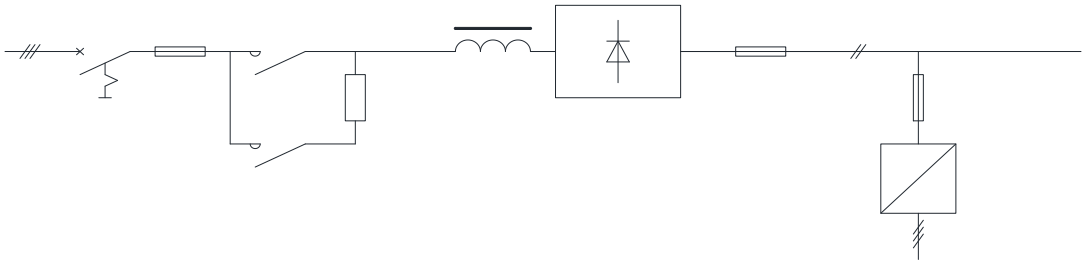
(3)

1.3

2.

2.1

HF680NLC



GDHF-AKZY1 LCD HF680NLC01M

GDHF-AKZY1 HF680NLC03M

2.8*8.8 2 HF680NLC01M

2 HF680NLC03M

2.8*8.8 2

2

GDHF-KL4 4 HF680NLC01M

4 GDHF-KL4 HF680NLC03M 4

1 HF680NLC01M o ز q

GDHF-FB01

2.4


1. / “ ” / 2. 3. - R S T - U V W - + - 4. 15 5.

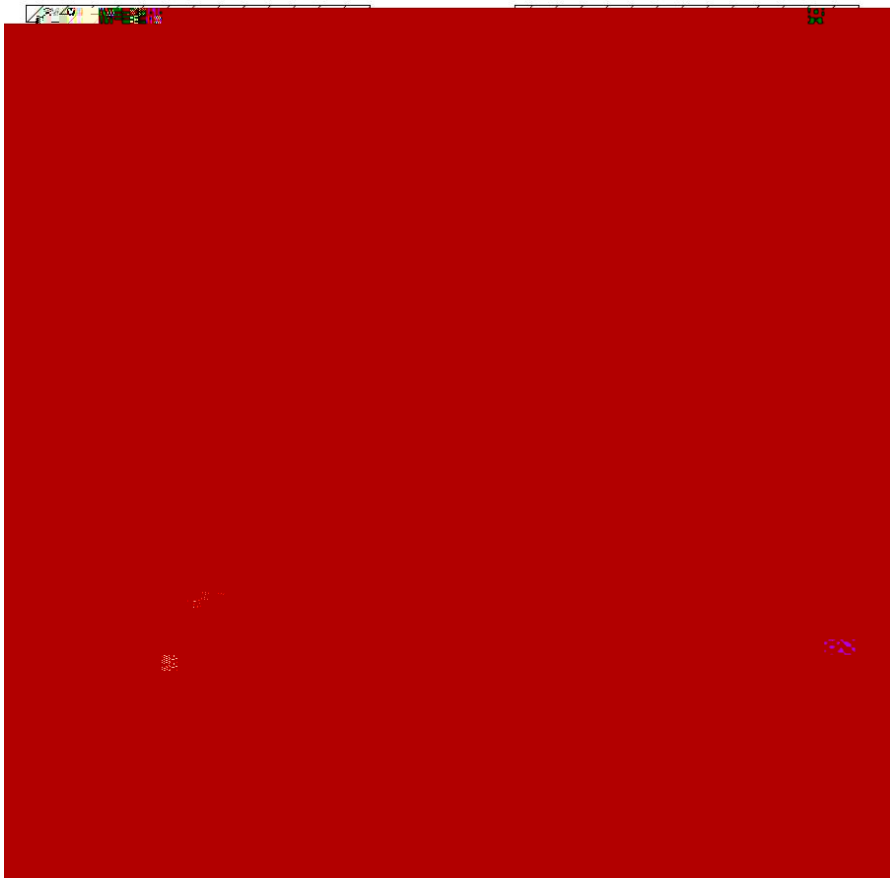
1. 2. 3. 40   4. 1.2

2.4.1

	10cm 5cm	6	
	0 +55 , +45 55 °C, (0.5% / 1) 0	-40 +70	-40 +70
	70 106 kPa 0.7 1.05	70 106 kPa 0.7 1.05	60 106 kPa 0.6 1.05
	1mm(5~13.2Hz) 7m/s2(13.2~100Hz)	1mm(5~13.2Hz) 7m/s2(13.2~100Hz)	3.5mm(2~9Hz) 10m/s2(9~200Hz) 15m/s2(200~ 500Hz)
		100m/s^2 11ms	100m/s^2 11ms
		250mm <100kg 100mm ≥100kg	250mm <100kg 100mm ≥100kg
	95%RH		
	1000 1000 100 1% 3000		
	2		

	/ / 6 4
( )	55
	10
MPa	0.6
(kPa)	80~250
(mm)	: ø16 ø13; ø12 ø9
	PA Teflon SMC T1613W T1209W

2.4.2



	A ≥ 250㎜

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2.4.4

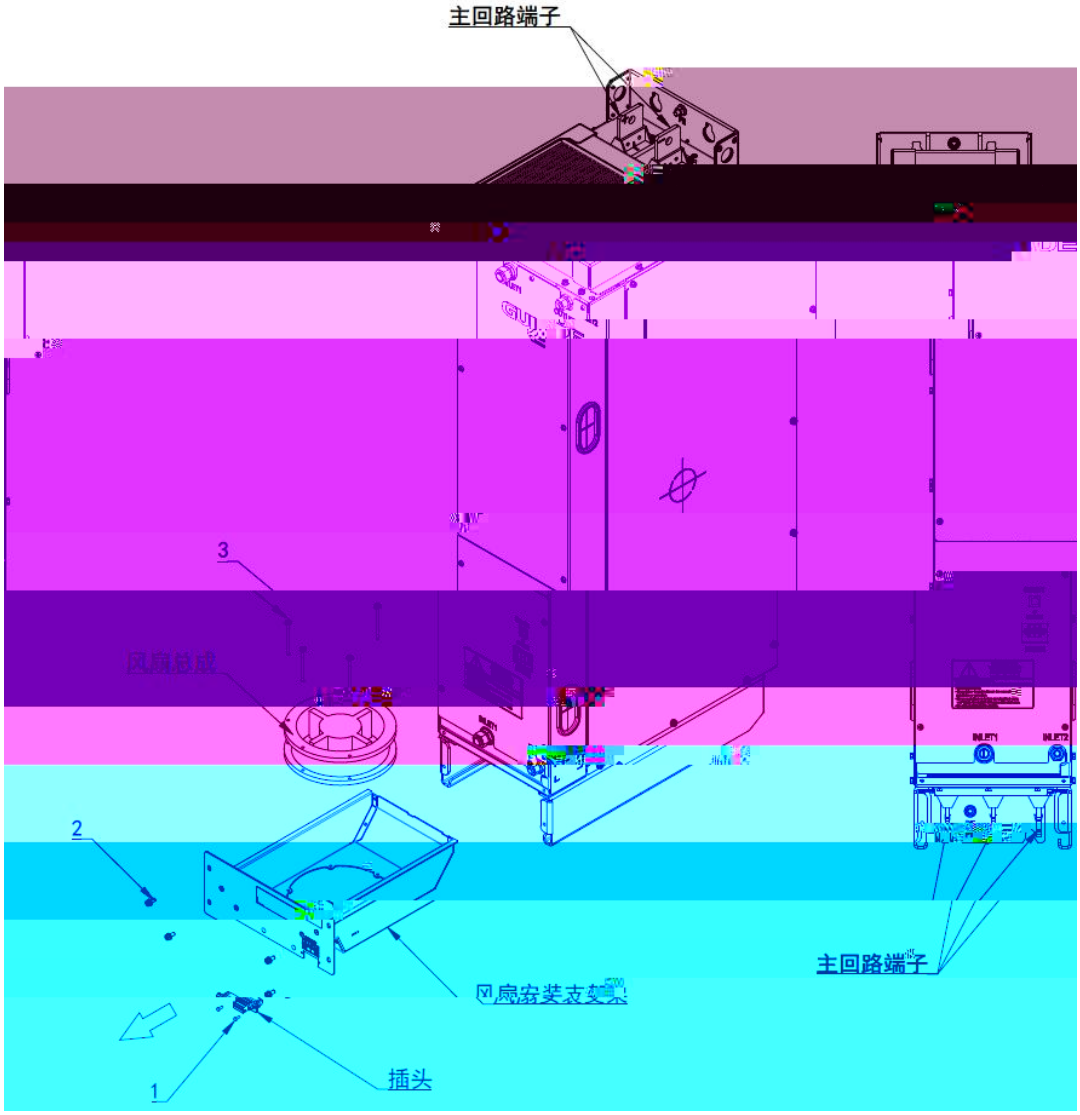
1 2 1

2 4 2

3

4 4 3

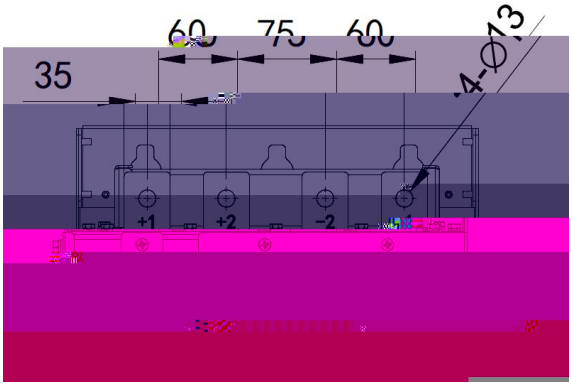
5

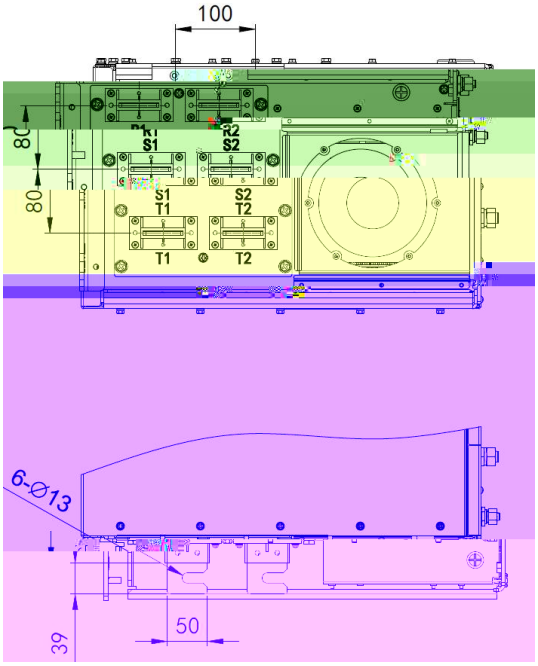


HF680NLC-560-6

1

+1 +2	
-1 -2	
R1 R2 S1 S2 T1 T2	
PE	





2

	+10V-GND	10V	+10V 50mA 1kΩ~5kΩ
	+24V-COM	24V	+24V 200mA
	PW		24V DI1~DI5 DO1 PW 24V
	AI1-GND	1	DC -10V~10V 100kΩ
	AI2-GND	2	-10VDC~10VDC/0mA~20mA J1 100kΩ 500Ω
	DI1- PW	1	3.3kΩ 9V~30V DI1-DI4 500Hz DI5 20KHz
	DI2- PW	2	
	DI3- PW	3	
	DI4- PW	4	
	DI5- PW	5	
	AO1-GND	1	J2 0V~10V 0mA~20mA
	DO1-PW	1	0V~24V 0mA~50mA
	DO4A-DO4C	1	250VAC 3A 30VDC 1A
	DO4B-DO4C	2	
	DO5A-DO5C	3	

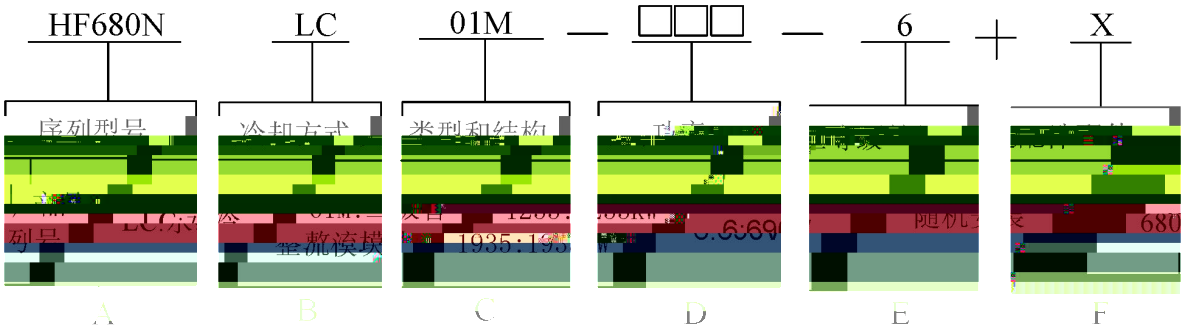
	J2	AO1	
	J1	AI2	

3

0V NPN



3.3



A	
B	LC
C	01M
D	1233 1233kW 1935 1935kW
E	6 690V
F	

Modbus RTU	MB01	GDHF-AMBX1	Modbus RTU
DP	DP01	GDHF-ADPX1	Profibus DP
PN	PN01	GDHF-APNX1	Profinet
CAN	CAN01	GDHF-ACNX1	CANopen

1 HF680NLC01M-1233-6+PN01 690V/1233kW Profinet

	A AC	A DC	kVA	A DC	A DC	
HF680NLC01M-1233-6	1143	1400	1370	1344	1120	P1
HF680NLC01M-1935-6	1796	2200	2150	2112	1760	

1935kW

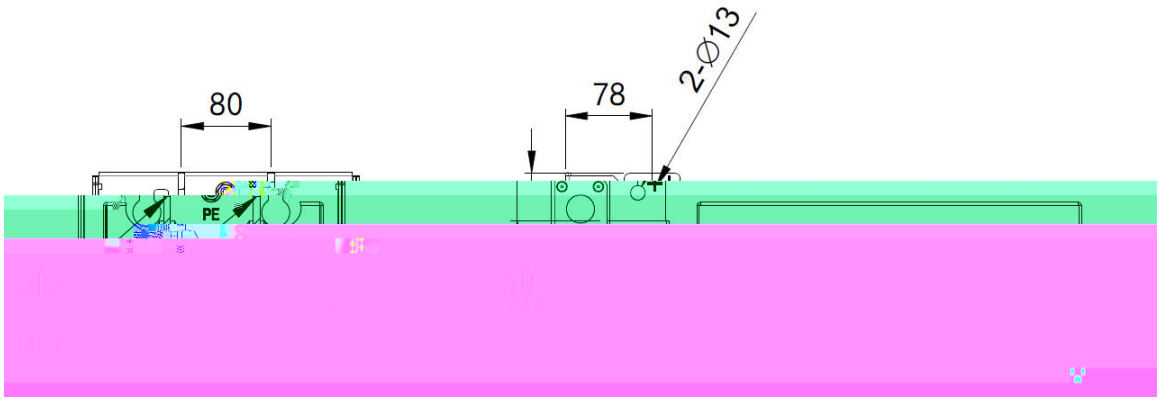
	(kW)	(l)	(l/min)
HF680NLC01M-1233-6	8.22	2.2	21
HF680NLC01M-1935-6	12.9	2.2	26

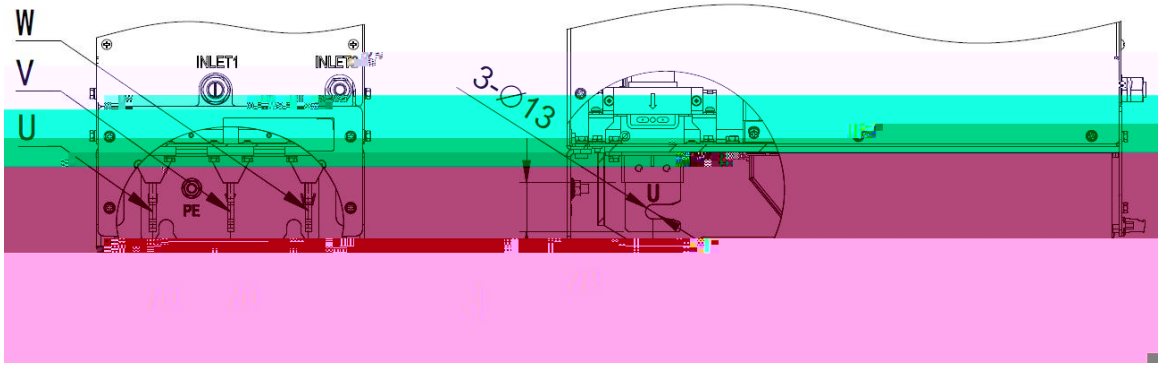
1

2 LCD LCD

1

+	
-	
U V W	
PE	





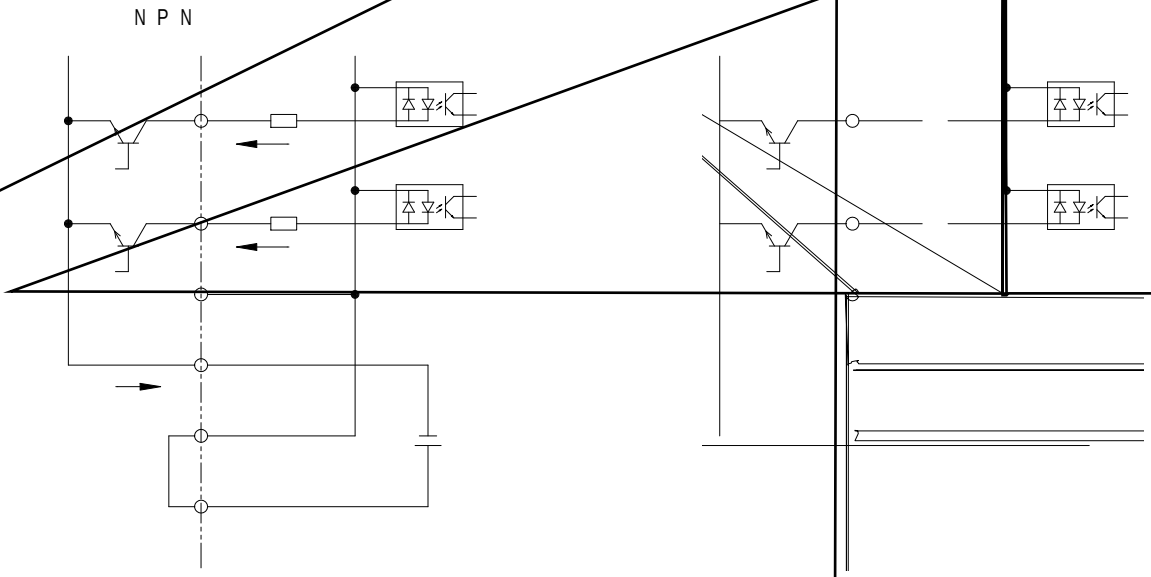
2

	+10V-GND	10V	+10V 50mA 1kΩ~5kΩ
	+24V-COM	24V	+24V 200mA
	PW		24V DI1~DI5 DO1 PW 24V
	AI1-GND	1	DC -10V~10V 100kΩ
	AI2-GND	2	-10VDC~10VDC/0mA~20mA J1 100kΩ 500Ω
	DI1- PW	1	3.3kΩ 9V~30V DI1-DI4 500Hz DI5 20KHz
	DI2- PW	2	
	DI3- PW	3	
	DI4- PW	4	
	DI5- PW	5	
	AO1-GND	1	J2 0V~10V 0mA~20mA
	DO1-PW	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

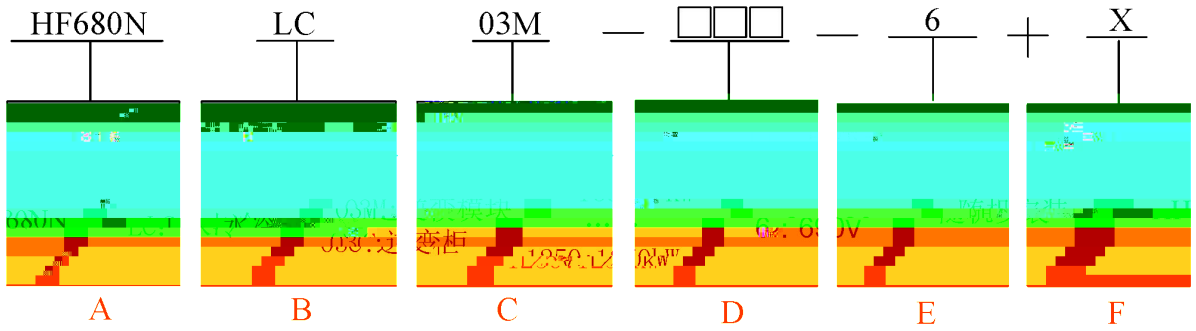
3

0V

NPN



4.3



A	HF680N
B	LC
C	03M 03C
D	160 160kW 1250 1250kW
E	6 690V
F	

Modbus RTU	MB01	GDHF-AMBX1	Modbus RTU
DP	DP01	GDHF-ADPX1	Profibus DP
PN	PN01	GDHF-APNX1	Profinet
CAN	CAN01	GDHF-ACNX1	CANopen

HF680NLC03M-250-6+PN01 690V/250kW Profinet

HF680NLC03M-560-6	6.4856	1.6	20
HF680NLC03M-630-6	7.285	1.6	23
HF680NLC03C-710-6	8.134	1.6	24
HF680NLC03C-800-6	9.215	1.6	24
HF680NLC03C-900-6	10.511	1.6	24

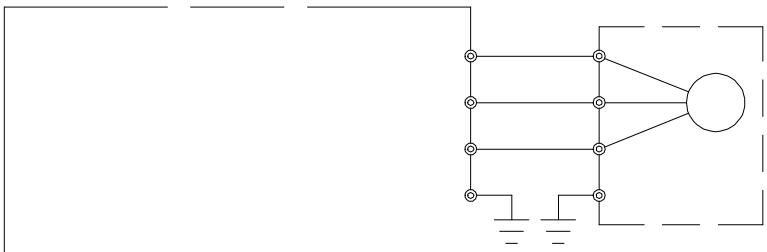
4.4

HF680NLC03M-160-6	OCL-200/250-6
HF680NLC03M-200-6	OCL-200/250-6
HF680NLC03M-250-6	OCL-200/250-6
HF680NLC03M-280-6	OCL-315/355-6
HF680NLC03M-315-6	OCL-315/355-6
HF680NLC03M-355-6	OCL-315/355-6
HF680NLC03M-400-6	OCL-400/450-6
HF680NLC03M-450-6	OCL-400/450-6
HF680NLC03M-500-6	OCL-500/560-6
HF680NLC03M-560-6	OCL-500/560-6
HF680NLC03M-630-6	OCL-630/710-6
HF680NLC03C-710-6	OCL-630/710-6
HF680NLC03C-800-6	OCL-800/900-6
HF680NLC03C-900-6	OCL-800/900-6

1 200%

2 50% HF680NLC03M

3 HF680NLC03M



4.5

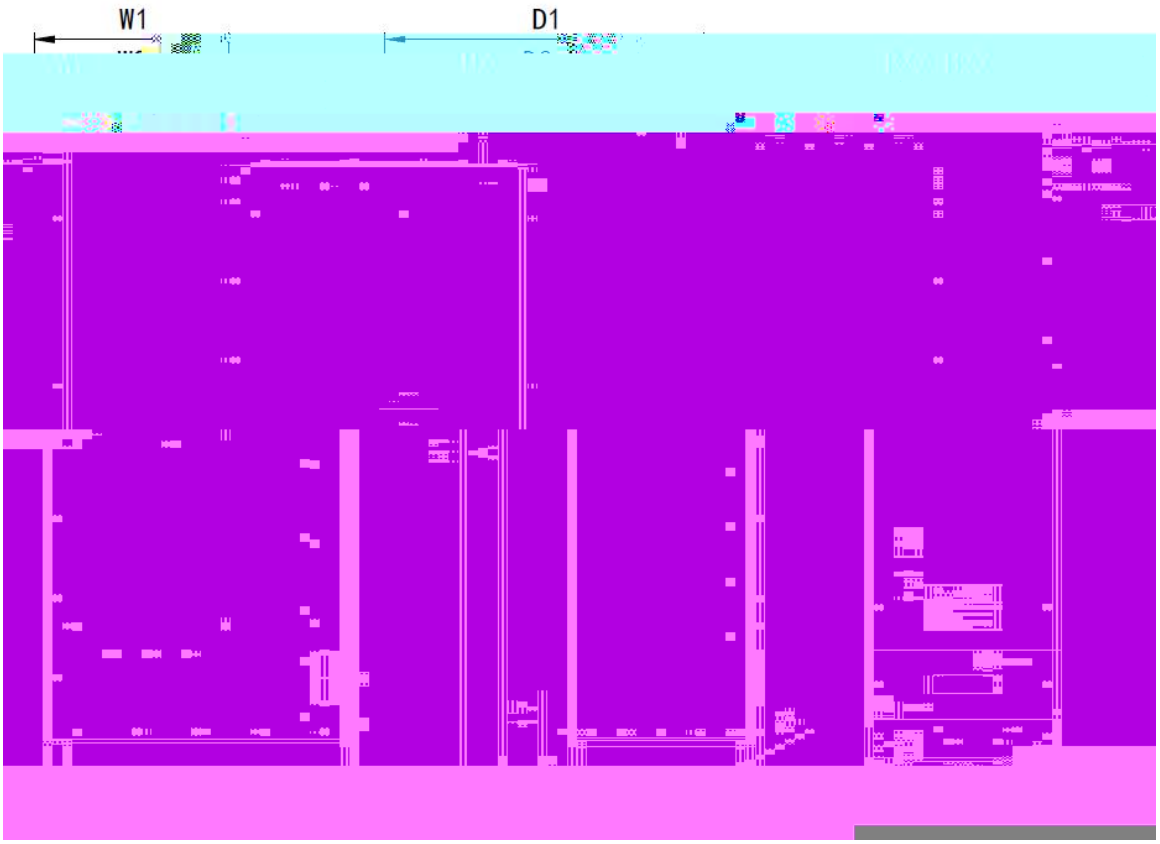
800V 1150V

24V

(VCC ϟ ϩ صم" (

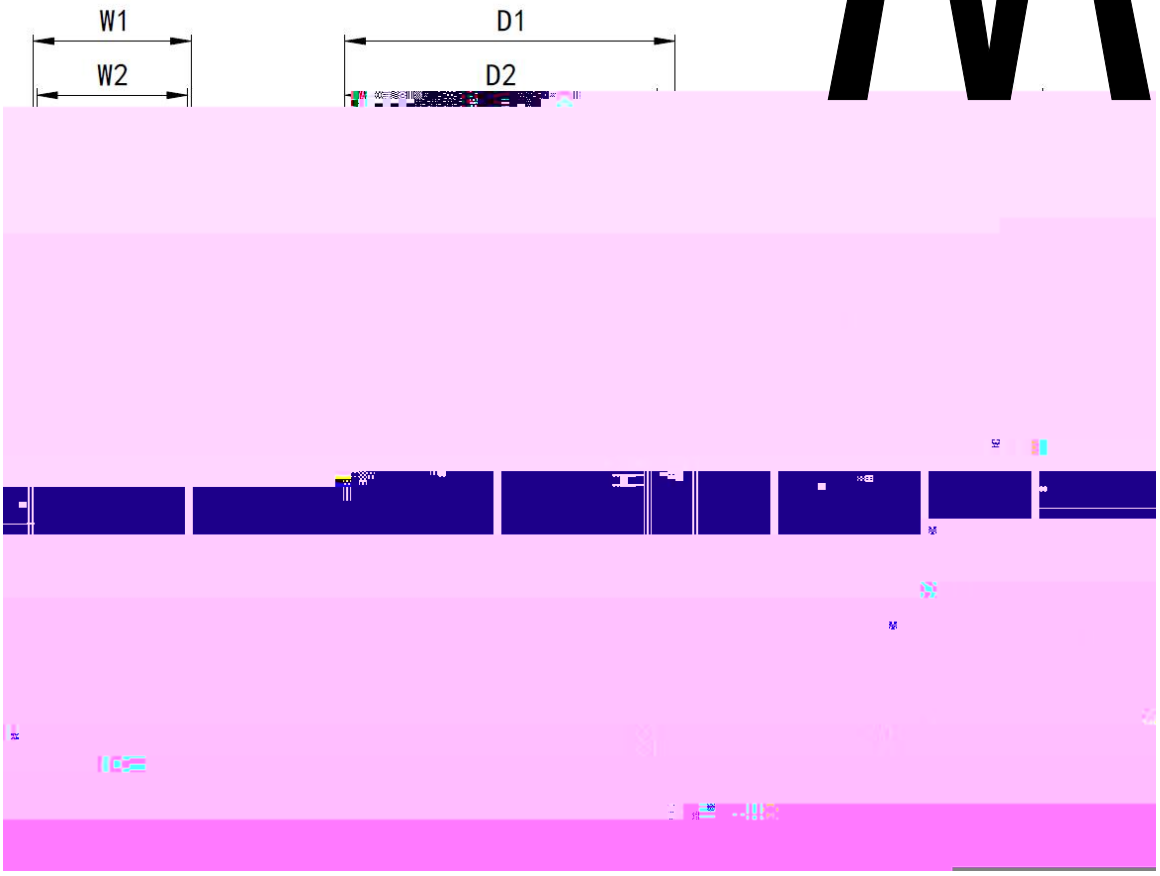
5.

5.1



	mm					mm			8.8	kg
	H1	W1	W2	D1	D2	A	B			
HF680NLC01M-1233-6	1100	320	307	525	500	1064	200	6-φ13	6-M12	260
HF680NLC01M-1935-6										

5.2



mm mm

H1 8.8 kg

6.

6.1 LCD

HF680NLC F1

LOCAL/REMOTE F2 RUN STOP /RESET ENTER



6.1.1 LCD

▼

▲

ENTER

RUN STOP

LOCAL/REMOTE /

LCD



“ ” “ ” 2

|

	“ - ”
	:V
	A
	N|N W E

4

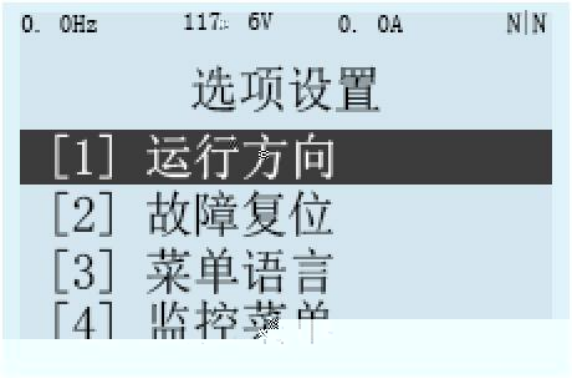
ENTER F1/F2

6.1.2 LCD



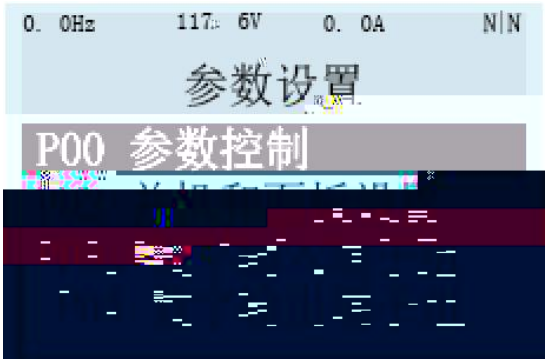
1	Option Set	
2	Parameter Setting	/
3	Reference Set	
4	Function Setting	
5	Fault Record	
6	Security	

6.1.3 LCD



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

1 LCD



Parameter Setting

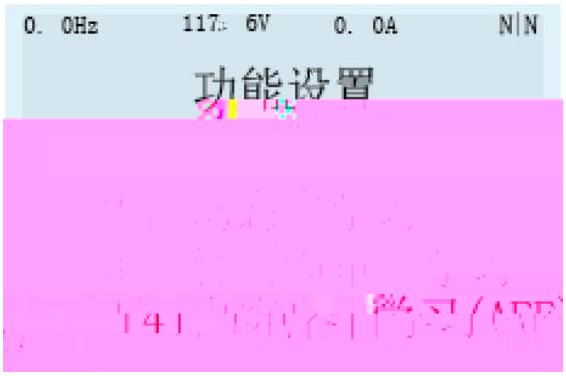
2 LCD



Reference Set

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

3 LCD



Function Setting

1	MotoTuning I	
2	MotoTuning II	
3	MotoTuning 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

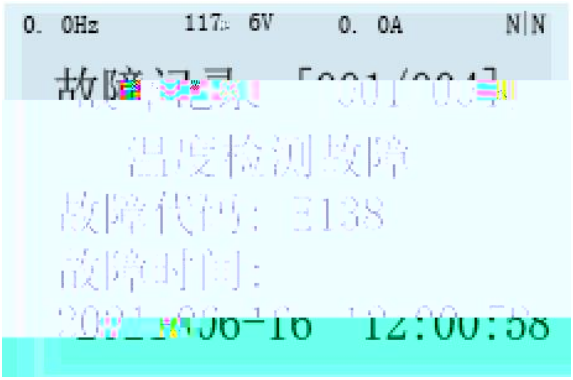
1

2 5

▼

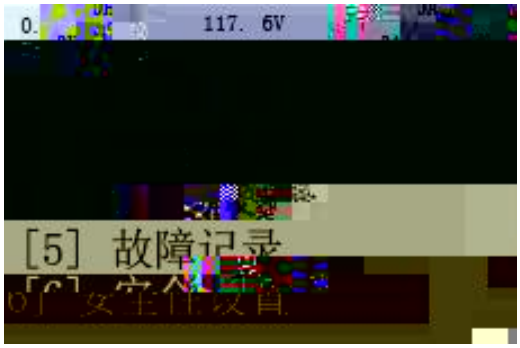
▲ “ Enter ”

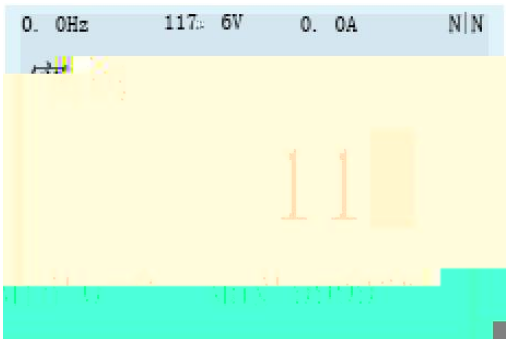
4 LCD



Fault Record

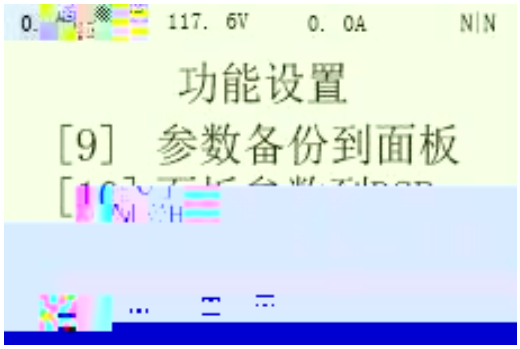
5 LCD

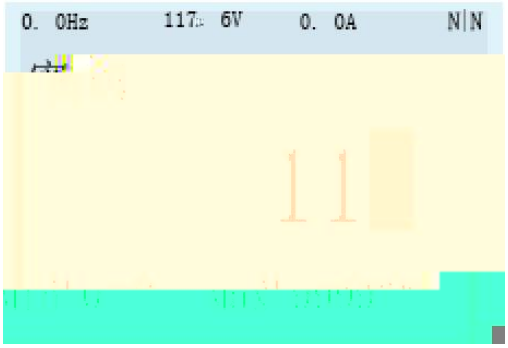




1. Access Permissions

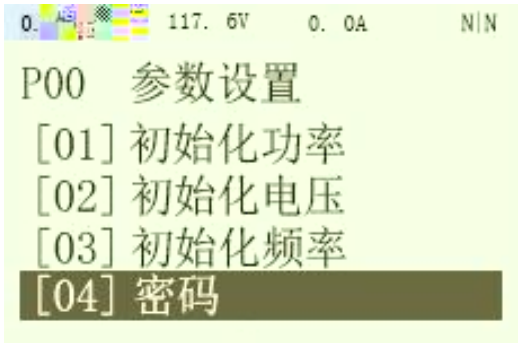
“ENTER” “ ” “ ” “[12] ”

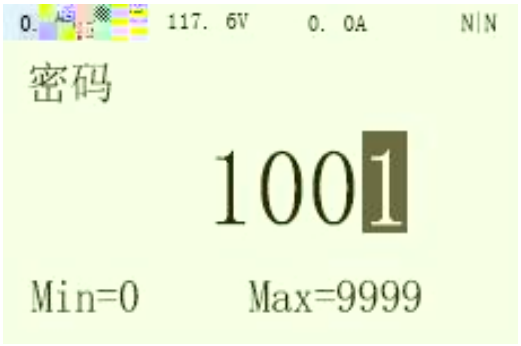




2. “ ” “ ” “ ENTER ”

“ ENTER ” “ ”

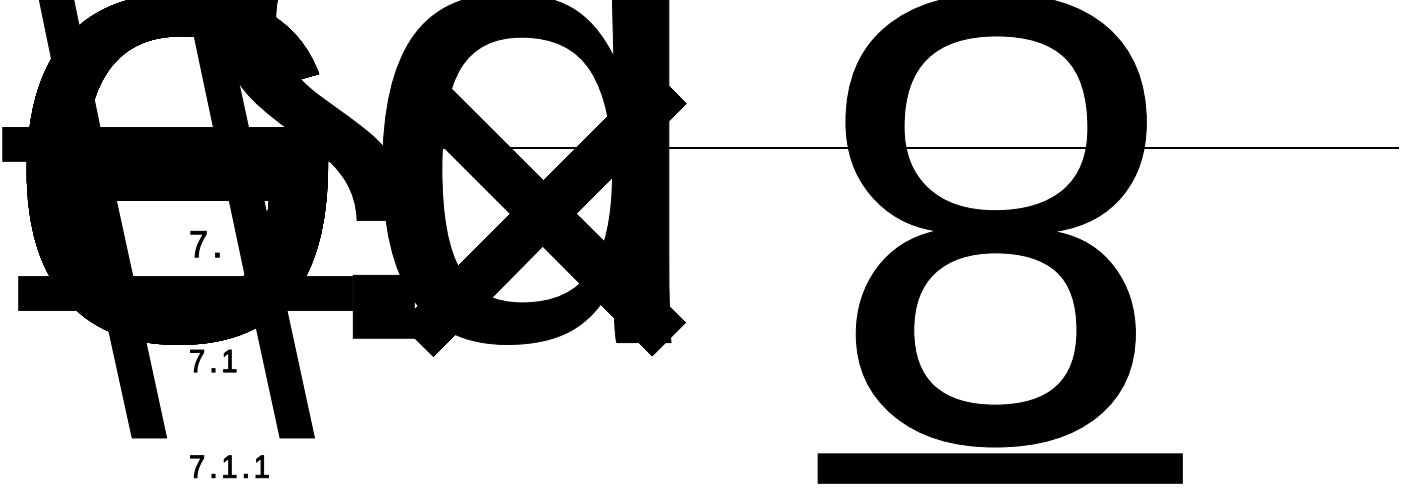




3.

“ ” ” P00 ” “ [04] ”

“ ENTER ”



7.

7.1

7.1.1

DI1 DI2 DI4

D02

A¼

D04 D0

D05

1

690V 220V

P0.1 ò

P0.1 F9

F

!•
1\

. “ D04A ” “ D04C ” È “ D05A ” D05C È f

u A¼ D02 F Ď

P4.3 DO4	0	DO
P4.4 DO5	32	
P7.0	180%	
P7.4	200%	
P7.12	1200V	
P8.6	0	
P16.0	690V	
P16.4		1233kW 1143A
P16.11	3	
P16.12	3	3K
P24.7	0V	ADJ

690V Local/Remote Local Run

2s

“ AFE ” 49-51Hz “

AFE ”

970V A B

C Stop

+ - + -

Local/Remote Remote PLC

2

690V 220V

http://www.guide.com

P0.1

P16.0	690V	
P16.2		1233kW 1233kW
P16.4		1233kW 1143A
P16.11	3	
P24.7	0V	ADJ

690V “ / ” “ ”

运行

103.23

2s 103.31 AFE

49-51Hz 103.30 AFE

103.23 970V

102.54 102.55 102.56

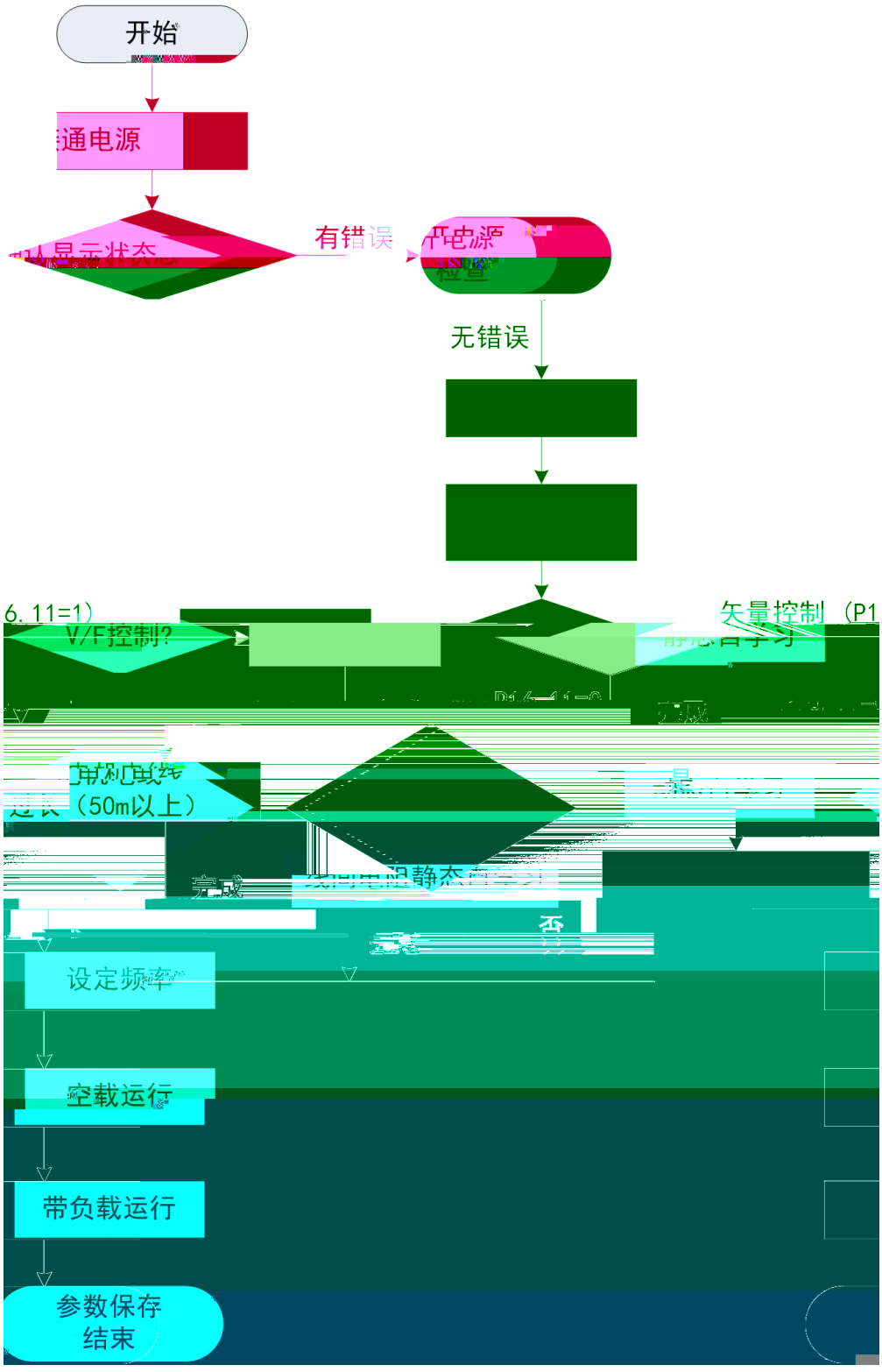
停止

+ - + -

“ / ” “ ”

PLC

7.2



/

V/F P16.11=0 V/F

P16.11=2 P16.11=1

7.3

7.3.1

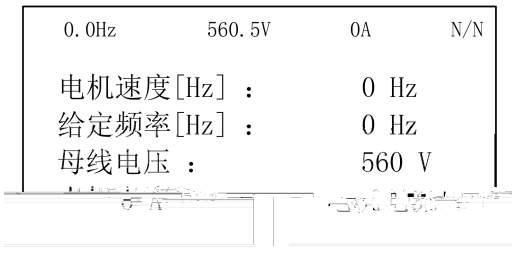
1 ±5V

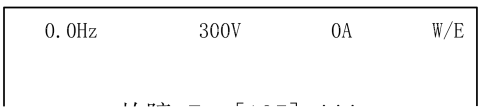
2 U,V,W

3

4 PG PG

7.3.2





7.3.3

6

7.3.4

	[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]]MODBUS 2		
P8.10	[3]		

P16.0		690V
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]

7.3.5

1

P16.11 [1] [2]

[0] V/F

2

V/F (P20.74)

P20.74

P20.78 P20.79 P20.84

“

” “ ”

3

P20.79 P20.84

P20.85~P20.97

“

” “ ”

4

50%

P20.98 P20.98

7.3.6

HF680NLC

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

1

2

1

2

7.3.9

, ‘

8.

8.1

8.1.1

P2.0		[0]	0	0	
P2.2		[0] [1]	0 1	0	

8.1.2

0

1

5 </RST

14

8.1.4

8.1.5

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

8.1.6

P16.0			560 760 [V]	690 [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

8.2

8.2.1 P2

P2.0		[0] [1] [2]	0 2	0	8.1
P2.1		[0] [1]DP	0 1	0	
P2.2		[0] [1]	0 1	0	
P2.3			0 5	1	

8.2.2 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	

0

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4

8.2.3 P4

16	FUNC 16				
17	0	1			
18	1	2			
19	2	3			
20	3	4			
21	FUNC 21				
22					
23					
24 31	FUNC 24 FUNC 31				
32					
33 48	FUNC 33 FUNC 48				
49	PROFIBUS	1		PROFIBUS	1
50	PROFIBUS	2		PROFIBUS	2
51	PROFIBUS	3		PROFIBUS	3
52	PROFIBUS	4		PROFIBUS	4
53	PROFIBUS	5		PROFIBUS	5
54 56	FUNC 54 FUNC 56				
57	1				
58	2				
59	3				
60	4				
61	1			1	
62	2			2	

8.2.4 P5

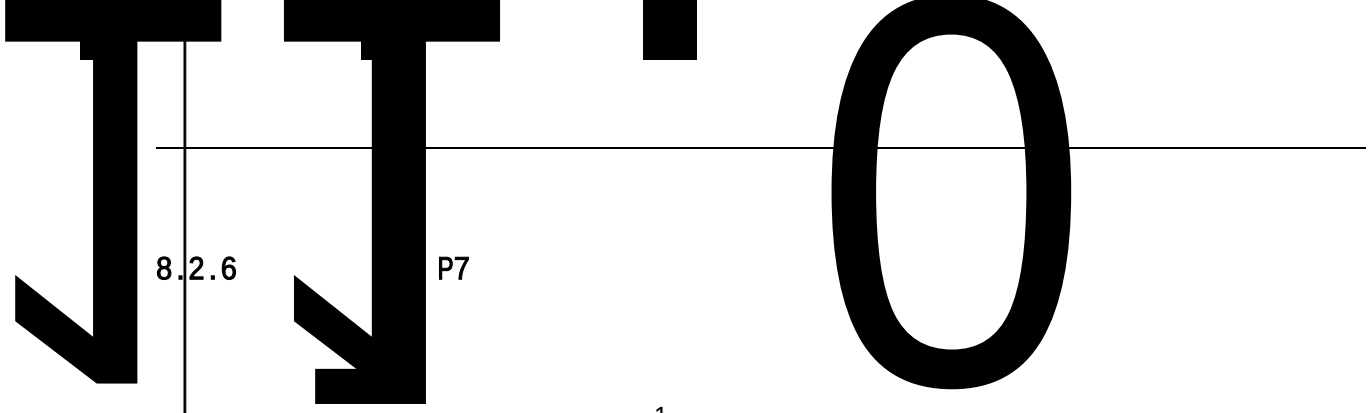
P5.0	AI1	[0] [1]0 +10V [2]-10 +10V [3]0 20mA AI1	0	3	1
P5.1	AI1		0.0 [ms]	1000.0 [ms]	25.0 [ms]
P5.2	AI1	AI1	-10.00 [V]	10.00 [V]	0.000 [V]
P5.3	AI1	AI1	-20.00 [mA]	20.00 [mA]	0.000 [mA]

P5.19 AI2

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 ضخ ضخ ضخ



8.2.6 P7

1

P7.0 [1]

P7.21	[3]	3	100.0 720.0 [%]	120.0 [%]	9.6
P7.22	[4]	4	100.0 720.0 [%]	120.0 [%]	9.6
P7.23	1 M1	1	0.00 3.00 [s]	0.50 [s]	9.6
P7.24	1 M2	2	0.00 3.00 [s]	0.50 [s]	9.6
P7.25	1 M3	3	0.00 3.00 [s]	0.50 [s]	9.6
P7.26	1 M4	4	0.00 3.00 [s]	0.50 [s]	9.6
P7.27	1	1	0.00 3.00 [s]	2.00 [s]	
P7.28	2	2	0.00 3.00 [s]	2.00 [s]	
P7.29	3	3	0.00 3.00 [s]	2.00 [s]	
P7.30	4	4	0.00 3.00 [s]	2.00 [s]	
P7.31			0.0 100.0 [%]	25.0 [%]	
P7.32			0.00 5.00 [s]	1 [s]	
P7.33			0.0 1000.0 [s]	360.0 [s]	
P7.47			0.0 300.0 [%]	100.0 [%]	9.6
P7.48	1	1	0.0 300.0 [%]	150.0 [%]	9.6
P7.49	1	1	0.00 60.00 [s]	60.00 [s]	9.6
P7.50	2	2	0.0 300.0 [%]	200.0 [%]	9.6
P7.51	2	2	0.00 5.00 [s]	5.00 [s]	9.6
P7.55		[0] [1]	0 1	0	
P7.56			0.0 200.0 [%]	120.0 [%]	
P7.57			0.0 12.0 [s]	5 [s]	

P7.59		[0] [1]	0 1	1	
P7.60			0.10 3.00 [s]	0.30 [s]	
P7.69		[0] [1]	0 1	0	9.6
P7.70			-25 100 [V]	0 [V]	9.6
P7.71	1	[0] 5 [1]	0 1	0	9.6
P7.73					

0

0

8.2.7 1 P8

	[0]			
	[1]			
P8.0	[2]DP	0	4	0
	[3]MODBUS			
	[4]			

P8.1

P8.17	2		0.0 300.0 [%]	200.0 [%]	8.7
P8.18	2	P8.15 P8.17	0.0 300.0 [s]	4.00 [s]	8.7
P8.19	3		0.0 300.0 [%]	240.0 [%]	8.7
P8.20	3	P8.17 P8.19	0.0 300.0 [s]	7.00 [s]	9.7
P8.21	4		0.0 300.0 [%]	300.0 [%]	9.7
P8.22	4	P8.19 P8.21	0.0 300.0 [s]	10.00 [s]	9.7
P8.23	5		0.0 300.0 [%]	300.0 [%]	9.7
P8.24	5	P8.21 P8.23	0.0 300.0 [s]	10.00 [s]	9.7
P8.25	6		0.0 300.0 [%]	300.0 [%]	9.7
P8.26	6	P8.23 P8.25	0.0 300.0 [s]	10.00 [s]	9.7
P8.27	7		0.0 300.0 [%]	300.0 [%]	9.7
P8.28	7	P8.25 P8.27	0.0 300.0 [s]	10.00 [s]	9.7
P8.29	8		0.0 300.0 [%]	300.0 [%]	9.7
P8.30	8	P8.27 P8.29	0.0 300.0 [s]	10.00 [s]	9.7
P8.32		[0] [1]PROFIBUS [2]MODBUS [3]	0 3	0	9.7
P8.33			0.1 10.0	1.0	9.7
P8.34	1		0.0 300.0 [%]	100.0 [%]	9.7
P8.35	1	P8.34	0.0 300.0 [s]	3.00 [s]	9.7

8.2.8 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	9.7
P9.6			0.00 300.00 [s]	0.00 [s]	9.7
P9.7			0.00 300.00 [s]	0.00 [s]	9.7
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	9.7
P9.14			0.1 10.0	1.0	9.7
P9.15	1		0.0 300.0 [%]	100.0 [%]	9.7
P9.16	1	P9.15	0.0 300.0 [s]	3.00 [s]	9.7
P9.17	2		0.0 300.0 [%]	200.0 [%]	9.7

		P9.34	P9.36	0.0	300.0	4.00	
				[s]		[s]	

8.2.9 3 P10

P10.18	2	P10.15 P10.17	0.0 300.0 [s]	4.00 [s]	9.7
P10.19	3		0.0 300.0 [%]	240.0 [%]	9.7
P10.20	3	P10.17 P10.19	0.0 300.0 [s]	7.00 [s]	9.7
P10.21	4		0.0 300.0 [%]	300.0 [%]	9.7
P10.22	4	P10.19 P10.21	0.0 300.0 [s]	10.00 [s]	9.7
P10.23	5		0.0 300.0 [%]	300.0 [%]	9.7
P10.24	5	P10.21 P10.23	0.0 300.0 [s]	10.00 [s]	9.7
P10.25	6		0.0 300.0 [%]	300.0 [%]	9.7
P10.26	6	P10.23 P10.25	0.0 300.0 [s]	10.00 [s]	9.7
P10.27	7		0.0 300.0 [%]	300.0 [%]	9.7
P10.28	7	P10.25 P10.27	0.0 300.0 [s]	10.00 [s]	9.7
P10.29	8		0.0 300.0 [%]	300.0 [%]	9.7
P10.30	8	P10.27 P10.29	0.0 300.0 [s]	10.00 [s]	9.7
P10.32		[0] [1]PROFIBUS [2]MODBUS [3]	0 3	0	9.7
P10.33			0.1 10.0	1.0	9.7
P10.34	1		0.0 300.0 [%]	100.0 [%]	9.7
P10.35	1	P10.34	0.0 300.0 [s]	3.00 [s]	9.7
P10.36	2		0.0 300.0 [%]	200.0 [%]	9.7

P10.37	2	P10.34 P10.36	0.0 300.0 [s]	4.00 [s]	9.7
P10.38	3		0.0 300.0 [%]	240.0 [%]	9.7
P10.39	3	P10.36 P10.38	0.0 300.0 [s]	7.00 [s]	9.7
P10.40	4		0.0 300.0 [%]	300.0 [%]	9.7
P10.41	4	P10.38 P10.40	0.0 300.0 [s]	10.00 [s]	9.7
P10.42	5		0.0 300.0 [%]	300.0 [%]	9.7
P10.43	5	P10.40 P10.42	0.0 300.0 [s]	10.00 [s]	9.7
P10.44	6		0.0 300.0 [%]	300.0 [%]	9.7
P10.45	6	P10.42 P10.44	0.0 300.0 [s]	10.00 [s]	9.7
P10.46	7		0.0 300.0 [%]	300.0 [%]	9.7
P10.47	7	P10.44 P10.46	0.0 300.0 [s]	10.00 [s]	9.7
P10.48	8		0.0 300.0 [%]	300.0 [%]	9.7
P10.49	8	P10.46 P10.48	0.0 300.0 [s]	10.00 [s]	9.7
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]	

8.2.10 4 P11

		[0] [1]				
P11.0		[2]DP [3]MODBUS [4]		0 4	0	
P11.1						
P11.2						
P11.3		[0] [1]		0 1	0	9.7
P11.6				0.00 300.00 [s]	0.00 [s]	9.7
P11.7				0.00 300.00 [s]	0.00 [s]	9.7
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	9.7
P11.14				0.1 10.0	1.0	9.7
P11.15	1			0.0 300.0 [%]	100.0 [%]	9.7
P11.16	1		P11.15	0.0 300.0 [s]	3/	

P11.18	2	P11.15 P11.17	0.0 300.0 [s]	4.00 [s]	9.7
P11.19	3		0.0 300.0 [%]	240.0 [%]	9.7
P11.20	3	P11.17 P11.19	0.0 300.0 [s]	7.00 [s]	9.7
P11.21	4		0.0 300.0 [%]	300.0 [%]	9.7
P11.22	4	P11.19 P11.21	0.0 300.0 [s]	10.00 [s]	9.7
P11.23	5		0.0 300.0 [%]	300.0 [%]	9.7
P11.24	5	P11.21 P11.23	0.0 300.0 [s]	10.00 [s]	9.7
P11.25	6		0.0 300.0 [%]	300.0 [%]	9.7
P11.26	6	P11.23 P11.25	0.0 300.0 [s]	10.00 [s]	9.7
P11.27	7		0.0 300.0 [%]	300.0 [%]	9.7
P11.28	7	P11.25 P11.27	0.0 300.0 [s]	10.00 [s]	9.7
P11.29	8		0.0 300.0 [%]	300.0 [%]	9.7
P11.30	8	P11.27 P11.29	0.0 300.0 [s]	10.00 [s]	9.7
P11.32		[0] [1]PROFIBUS [2]MODBUS [3]	0 3	0	9.7
P11.33			0.1 10.0	1.0	9.7
P11.34	1		0.0 300.0 [%]	100.0 [%]	9.7
P11.35	1	P11.34	0.0 300.0 [s]	3.00 [s]	9.7
P11.36	2		0.0 300.0 [%]	200.0 [%]	9.7

P11.37	2	P11.34 P11.36	0.0 300.0 [s]	4.00 [s]	9.7
P11.38	3		0.0 300.0 [%]	240.0 [%]	9.7
P11.39	3	P11.36 P11.38	0.0 300.0 [s]	7.00 [s]	9.7
P11.40	4		0.0 300.0 [%]	300.0 [%]	9.7
P11.41	4	P11.38 P11.40	0.0 300.0 [s]	10.00 [s]	9.7
P11.42	5		0.0 300.0 [%]	300.0 [%]	9.7
P11.43	5	P11.40 P11.42	0.0 300.0 [s]	10.00 [s]	9.7
P11.44	6		0.0 300.0 [%]	300.0 [%]	9.7
P11.45	6	P11.42 P11.44	0.0 300.0 [s]	10.00 [s]	9.7
P11.46	7		0.0 300.0 [%]	300.0 [%]	9.7
P11.47	7	P11.44 P11.46	0.0 300.0 [s]	10.00 [s]	9.7
P11.48	8		0.0 300.0 [%]	300.0 [%]	9.7
P11.49	8	P11.46 P11.48	0.0 300.0 [s]	10.00 [s]	9.7
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]	

8.2.11 1 P12

P12.0		[0] [1]	0	1	1	9.8
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					

P12.27			0.00 2.00 [s]	0.00 [s]	9.8
P12.28			0.00 2.00 [s]	0.07 [s]	9.8
P12.29			0.00 2.00 [s]	0.07 [s]	9.8
P12.32			0.0 20.0 [%]	0.0 [%]	9.8
P12.33			0.0 20.0 [%]	0.0 [%]	9.8
P12.34			0.00 2.00 [s]	0.00 [s]	9.8
P12.35			0.00 2.00 [s]	0.00 [s]	9.8
P12.36			0.00 2.00 [s]	0.50 [s]	9.8
P12.37			0.00 2.00 [s]	0.50 [s]	9.8

8.2.12 2 P13

P13.0		[0] [1]	0 1	1	9.8
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 [%]	9.8
P13.23			0.0 20.0 [%]	0.0 [%]	9.8
P13.24			0.0 200.0 [%]	30.0 [%]	9.8
P13.25			0.0 200.0 [%]	20.0 [%]	9.8
P13.26	0		0.00 2.00 [s]	0.00 [s]	9.8

P13.27			0.00 2.00 [s]	0.00 [s]	9.8
P13.28			0.00 2.00 [s]	0.07 [s]	9.8
P13.29			0.00 2.00 [s]	0.07 [s]	9.8
P13.32			0.0 20.0 [%]	0.0 [%]	9.8
P13.33			0.0 20.0 [%]	0.0 [%]	9.8
P13.34			0.00 2.00 [s]	0.00 [s]	9.8
P13.35			0.00 2.00 [s]	0.00 [s]	9.8
P13.36			0.00 2.00 [s]	0.50 [s]	9.8
P13.37			0.00 2.00 [s]	0.50 [s]	9.8

8.2.13 3 P14

P14.0		[0] [1]	0	1	1	9.8
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					

P14.27			0.00 2.00 [s]	0.00 [s]	9.8
P14.28			0.00 2.00 [s]	0.07 [s]	9.8
P14.29			0.00 2.00 [s]	0.07 [s]	9.8
P14.32			0.0 20.0 [%]	0.0 [%]	9.8
P14.33			0.0 20.0 [%]	0.0 [%]	9.8
P14.34			0.00 2.00 [s]	0.00 [s]	9.8
P14.35			0.00 2.00 [s]	0.00 [s]	9.8
P14.36			0.00 2.00 [s]	0.50 [s]	9.8
P14.37			0.00 2.00 [s]	0.50 [s]	9.8

8.2.14 4 P15

P15.27	0.00 [s]	2.00 [s]	0.00 [s]		9.8
P15.28	0.00 [s]	2.00 [s]	0.07 [s]		9.8
P15.29	0.00 [s]	2.00 [s]	0.07 [s]		9.8
P15.32	0.0 [%]	20.0 [%]	0.0 [%]		9.8
P15.33	0.0 [%]	20.0 [%]	0.0 [%]		9.8
P15.34	0.00 [s]	2.00 [s]	0.00 [s]		9.8
P15.35	0.00 [s]	2.00 [s]	0.00 [s]		9.8
P15.36	0.00	2.00			

8.2.15 1 V/F P16

P16.19	[0] [1]	0 1	0		
P16.22		0.00 100.00 [s]	0.00 [s]		9.9
P16.23					

P16.47	@		0 300	0
P16.48		[0] [1]PID 1 [2]PID 2 [3]	0 3	0
P16.49	@		0 300	0
P16.50			0.00 300.00 [s]	

8.2.16 2 V/F P17

P17.0			560 760 [V]	690 [V]	
P17.2			0.0 3000.0 [kW]	 [kW]	
P17.3			0 700 [V]	690 [V]	
P17.4			0.0 3000.0 [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]	9.9
P17.9			0 7200 [rpm]	1500 [rpm]	9.9
P17.11		[0]V/F [1] [2] [3] [4]	0 4	0	
P17.12			1.00 10.00 [kHz]	3.00 [kHz]	9.9
P17.14	V/F	[0] V/F [1] V/F [2]	0 3	0	9.9
P17.15		[0] [1]	0 1	0	9.9
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]	9.9
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 [%]	9.9
P17.27		0.0 200.0 [%]	100.0 [%]	9.9
P17.30		0.0 100.0 [%]	0.0 [%]	9.9

P17.33 V/F

P17.48		[0] [1]PID 1 [2]PID 2 [3]	0 3	0	
P17.49	@		0 300	0	
P17.50			0.00 300.00 [s]	0.00 [s]	9.9
P17.51			0.0 150.0 [%]	70.0 [%]	9.9
P17.52			0.00 5.00 [Hz]	0.00 [Hz]	9.9
P17.54			0.00 300.00 [s]	0.00 [s]	9.9
P17.55			0.0 150.0 [%]	75.0 [%]	9.9
P17.56			0.00 5.00 [Hz]	0.00 [Hz]	9.9
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 [%]	9.9
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 [%]	

P18.22			0.00 100.00 [s]	0.00 [s]	8.9
P18.23		V/F	0.00 300.00 [Hz]	0.00 [Hz]	
P18.24		V/F	0.00 00.00 [Hz]	[Hz]	
P18.25			0.0 20.0 [%]	[%]	
P18.26	V/F	V/F	0.00 0.00 [%]	0.75 [%]	9.9
P18.27			0.0 00.0 [%]	100.0 [%]	9.9
P18.30			0.0 00.0 [%]	0.0 [%]	9.9
P18.33	V/F	V/F		2	9.9
P18.34	V/F 1		0.0 00.0 [Hz]	5.0 [Hz]	
P18.35	V/F 1		0.0 25.0 [%]	11.5 [%]	
P18.36	V/F 2		0.0 00.0 [Hz]	50.0 [Hz]	
P18.37	V/F 2		0.0 25.0 [%]	100.0 [%]	
P18.38	V/F 3		0.0 00.0 [Hz]	50.0 [Hz]	
P18.39	V/F 3		0.0 25.0 [%]	100.0 [%]	
P18.40	V/F 4		0.0 00.0 [Hz]	50.0 [Hz]	
P18.41	V/F 4		0.0 25.0 [%]	100.0 [%]	
P18.42	V/F 5		0.0 00.0 [Hz]	50.0 [Hz]	
P18.43	V/F 5		0.0 25.0 [%]	100.0 [%]	
P18.44	V/F 6		0.0 00.0 [Hz]	50.0 [Hz]	
P18.45	V/F 6		0.0 25.0 [%]	100.0 [%]	
P18.46	V/F @		0 00	0	
P18.47	@		0 00	0	

8.2.18 4 V/F P19

P19.0		560 760 [V]	690 [V]	
P19.2		0.0 3000.0 [kW]	 [kW]	
P19.3		0 700 [V]	690 [V]	
P19.4		0.0 3000.0 [A]	 [A]	
P19.5		0.0 300.0 [Hz]	50.0 [Hz]	
P19.6		0 6000 [rpm]	1465 [rpm]	
P19.7		2 12 [pole]	4 [pole]	9.9
P19.9		0 7200 [rpm]	1500 [rpm]	9.9
P19.11	[0]V/F [1] [2] [3] [4]	0 4	0	
P19.12		1.00 10.00 [kHz]	3.00 [kHz]	9.9
P19.14 V/F	[0] V/F [1] V/F [2]	0 3	0	9.9
P19.15	[0] [1]	0 1	0	9.9
P19.16				

P19.48		[0] [1]PID 1 [2]PID 2 [3]	0 3	0	
P19.49	@		0 300	0	
P19.50			0.00 300.00 [s]	0.00 [s]	9.9
P19.51			0.0 150.0 [%]	70.0 [%]	9.9
P19.52			0.00 5.00 [Hz]	0.00 [Hz]	9.9
P19.54			0.00 300.00 [s]	0.00 [s]	9.9
P19.55			0.0 150.0 [%]	75.0 [%]	9.9
P19.56			0.00 5.00 [Hz]	0.00 [Hz]	9.9
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 [%]	9.9
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 [%]	

8.2.19 1 P20

P20.

P20.12			0.0 2000.0 [%]	100.0 [%]	9.10
P20.13			20.0 500.0 [ms]	100.0 [ms]	9.10
P20.14		1	0 60000	1024	
P20.15	[0] [1]				

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	9.10
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 [%]	9.10
P20.38			0.0 100.0 [%]	25.0 [%]	9.10
P20.39			0.0 120.0 [%]	100.0 [%]	9.10
P20.40			0.0 150.0 [%]	100.0 [%]	9.10
P20.41			0.0 150.0 [%]	135.0 [%]	
P20.42		[0] [1]	0 1	1	
P20.43			25 1000 [ms]	75 [ms]	
P20.44			25 1000 [ms]	250 [ms]	
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 [%]	

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 [%]	100.0 [%]	9.10
P20.56		0.0	1000.0 [%]	100.0 [%]	9.10
P20.57					

P20.74					0.00 [mOhm]	650.00 [mOhm]
P20.75					0.70	1.00
P20.76		1		1	90.0 [%]	110.0 [%]
P20.77		2		2	90.0 [%]	110.0 [%]
P20.78					0.00 [mOhm]	650.00 [mOhm]
P20.79					0.00 [mH]	65.50 [mH]
P20.80	1		1		0.800	1.350
P20.81	2		2		0.800	1.350
P20.82	3		3		0.800	1.350
P20.83	4		4		0.800	1.350
P20.84					0.00 [mH]	655.00 [mH]
P20.85		85%	85%		40.0 [%]	150.0 [%]
P20.86		87.5%	87.5%		40.0 [%]	150.0 [%]
P20.87		90%	90%		40.0 [%]	150.0 [%]
P20.88		92.5%	92.5%		40.0 [%]	150.0 [%]
P20.89		95%	95%		40.0 [%]	150.0 [%]
P20.90	5%	102.	102.5%		40.0 [%]	150.0 [%]
P20.91		105%	105%		40.0 [%]	150.0 [%]
P20.92		110%	110%		40.0 [%]	150.0 [%]

0.00 [mOhm]	650.00 [mOhm]	0.00 [mOhm]
0.70	1.00	0.90
90.0 [%]	110.0 [%]	100.0 [%]
90.0 [%]	110.0 [%]	100.0 [%]
0.00 [mOhm]	650.00 [mOhm]	0.00 [mOhm]
0.00 [mH]	65.50 [mH]	0.000 [mH]
0.800	1.350	1.140
0.800	1.350	0.940
0.800	1.350	1.080
0.800	1.350	0.950
0.00 [mH]	655.00 [mH]	0.00 [mH]
40.0 [%]	150.0 [%]	108.0 [%]
40.0 [%]	150.0 [%]	106.5 [%]
40.0 [%]	150.0 [%]	105.0 [%]
40.0 [%]	150.0 [%]	103.5 [%]
40.0 [%]	150.0 [%]	102.0 [%]
40.0 [%]	150.0 [%]	99.0 [%]
40.0 [%]	150.0 [%]	96.5 [%]
40.0 [%]	150.0 [%]	93.0 [%]

P20.98		( )	0.01 300.00 [s]	0.75 [s]	
P20.99			0.00 10.00 [%]	0.00 [%]	

8.2.20 2 P21

P21.0		[0] [1]	0 1	0	9.10
P21.1		[0] [1] 1 [2] 2 [3] [4] P21.3 [5]DP [6]MODBUS [7]	0 7	0	9.10
P21.2			0 7	0	
P21.3			-300.0 300.0 [%]	0.0 [%]	9.10
P21.4	@		0 300	0	
P21.5			0 1000 [ms]	0 [ms]	
P21.6			0.0 200.0 [%]	100.0 [%]	9.10
P21.7		[0] [1] P21.8 P21.9 [2] 1 [3] 2 [4] [5]DP [6]MODBUS [7]	0 7	0	9.10
P21.8		P21.7 [1]	0.0 300.0 [%]	200.0 [%]	9.10
P21.9		P21.7 [1]	0.0 300.0 [%]	200.0 [%]	9.10

P21.10		0 300	0	
P21.11		0 1000 [ms]	0 [ms]	
P21.12		0.0 2000.0 [%]	100.0 [%]	9.10
P21.13		20.0 500.0 [ms]	100.0 [ms]	9.10
P21.14	1	0 60000	1024	
P21.15	[0] [1]	0 1	0	9.10
P21.16		0.0 300.0 [%]	100.0 [%]	
P21.17		0.0 300.0 [%]	100.0 [%]	
P21.18		0.0 300.0 [%]	0.0 [%]	
P21.19		0.0 300.0 [%]	0.0 [%]	
P21.20	[0] [1]	0 1	0	
P21.21	[0] [1]	0 1	0	
P21.22		0.0 300.0 [%]	160.0 [%]	
P21.23		0.0 200.0 [%]	20.0 [%]	
P21.24		0.0 300.0 [%]	100.0 [%]	
P21.25		0.0 200.0 [%]	100.0 [%]	
P21.26		0.0 1000.0 [%]	0.0 [%]	9.10
P21.27		0.00 15.00 [%]	2.00 [%]	9.10
P21.28	[0] P21.16 P21.17 [1] [2] [3]DP	0 3	0	

P21.30		[0] P21.31 P21.32 [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	9.10
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 [%]	9.10
P21.38			0.0 100.0 [%]	25.0 [%]	9.10
P21.39			0.0 120.0 [%]	100.0 [%]	9.10
P21.40			0.0 150.0 [%]	100.0 [%]	9.10
P21.41			0.0 150.0 [%]	135.0 [%]	
P21.42		[0] [1]	0 1	1	
P21.43			25 1000 [ms]	75 [ms]	
P21.44			25 1000 [ms]	250 [ms]	
P21.45			0.0 100.0 [%]	22.0 [%]	
P21.46			0.0 100.0 [%]	18.0 [%]	
P21.47			0.0 200.0 [%]	92.0 [%]	
P21.48			0.0 200.0 [%]	87.0 [%]	

P21.98		( )	0.01 300.00 [s]	0.75 [s]	
P21.99			0.00 10.00 [%]	0.00 [%]	

8.2.21 3 P22

P2 \ɣ g \ \

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	Kp		0.0 1000.0 [%]	100.0 [%]	
P22.54	Ki		0.0 1000.0 [%]	100.0 [%]	
P22.55			0.0 1000.0 [%]	100.0 [%]	9.10
P22.56			0.0 1000.0 [%]	100.0 [%]	9.10
P22.57		[0] [1]	0 1	0	9.10
P22.58			0.0 125.0 [%]	100.0 [%]	9.10
P22.59			1.0 25.0 [%]	2.5 [%]	9.10
P22.60	DROOP	0 DROOP	0.0 100.0 [%]	0.0 [%]	9.10
P22.61	DROOP	DROOP	30 2000 [ms]	50 [ms]	9.10
P22.62			0.0 1000.0 [%]	100.0 [%]	9.10
P22.63			0.0 1000.0 [%]	100.0 [%]	9.10
P22.66	1	1	0.0 1000.0 [%]	100.0 [%]	
P22.67	2	2	0.0 1000.0 [%]	100.0 [%]	
P22.69			0.00 2.00 [%]	1.00 [%]	
P22.70			0.00 2.00 [%]	1.00 [%]	
P22.71		[0] [1]	0 1	0	
P22.72		[0] [1]	0 1	1	
P22.73		[0] × 1 [1] × 10	0 1	0	

P22.74			0.00 650.00 [mOhm]	0.00 [mOhm]	
P22.75			0.70 1.00	0.90	
P22.76	1	1	90.0 110.0 [%]	100.0 [%]	
P22.77	2	2	90.0 110.0 [%]	100.0 [%]	
P22.78			0.00 650.00 [mOhm]	0.00 [mOhm]	
P22.79			0.00 65.50 [mH]	0.000 [mH]	
P22.80	1	1	0.800 1.350	1.140	
P22.81	2	2	0.800 1.350	0.940	
P22.82	3	3	0.800 1.350	1.080	
P22.83	4	4	0.800 1.350	0.950	
P22.84			0.00 655.00 [mH]	0.00 [mH]	
P22.85	85%	85%	40.0 150.0 [%]	108.0 [%]	
P22.86	87.5%	87.5%	40.0 150.0 [%]	106.5 [%]	
P22.87	90%	90%	40.0 150.0 [%]	105.0 [%]	
P22.88	92.5%	92.5%	40.0 150.0 [%]	103.5 [%]	
P22.89	95%	95%	40.0 150.0 [%]	102.0 [%]	
P22.90	102.5%	102.5%	40.0 150.0 [%]	99.0 [%]	
P22.91	105%	105%	40.0 150.0 [%]	96.5 [%]	
P22.92	110%	110%	40.0 150.0 [%]	93.0 [%]	
P22.93	115%	115%	40.0 150.0 [%]	88.5 [%]	
P22.94	120%	120%	40.0 150.0 [%]	83.0 [%]	
P22.95	125%	125%	40.0 150.0 [%]	77.0 [%]	
P22.96	130%	130%	40.0 150.0 [%]	70.5 [%]	
P22.97	135%	135%	40.0 150.0 [%]	63.5 [%]	

P22.98 ( )



P23.10	0 300	0
P23.11	0 1000 [ms]	0 [ms]
P23.12	0.0 2000.0 [%]	

P23.74			0.00 [mOhm]	650.00 [mOhm]	0.00 [mOhm]
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 [mOhm]	650.00 [mOhm]	0.00 [mOhm]
P23.79			0.00 [mH]	65.50 [mH]	0.000 [mH]
P23.80					

P23.98		( )	0.01 300.00 [s]	0.75 [s]	
P23.99			0.00 10.00 [%]	0.00 [%]	

8.2.23 MODBUS P32

P32.0	MODBUS	[0] [1]	0 1	0	
P32.1	MODBUS ID		1 255	1	
P32.2		[0]RS485 [1]RS232	0 1	0	
P32.3		[0] 9600 BPS [1] 14400 BPS [2] 19200 BPS [3] 38400 BPS [4] 56000 BPS [5] 57600 BPS [6] 115200 BPS	0 6	3	
P32.4		[0] None_8_1_CFG [1] Even_8_1_CFG [2] Odd_8_1_CFG [3] None_8_2_CFG [4] Even_8_2_CFG [5] Odd_8_2_CFG	0 5	0	
P32.5	Modbus	Modbus 0 Modbus	0 100 [s]	0 [s]	0s
P32.6	Modbus	0- 1-	0 1	0	

8.2.24 P33

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P33.18	[W2]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.19	[W3]	7-2	0 37	0	
P33.20	[W3]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.21	[W4]	7-2	0 37	1	
P33.22	[W4]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.23	[W5]	7-2	0 37	18	
P33.24	[W5]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	2	
P33.25	[W6]	7-2	0 37	21	
P33.26	[W6]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	1	
P33.27	[W7]	7-2	0 37	22	
P33.28	[W7]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	1	
P33.29	[W8]	7-2	0 37	23	
P33.30	[W8]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	1	

P33.31	[W9]	7-2	0 37	0	
P33.32	[W9]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.33	[W10]	7-2	0 37	0	
P33.34	[W10]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.35	[W11]	7-2	0 37	0	
P33.36	[W11]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.37	[W12]	7-2	0 37	0	
P33.38	[W12]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.39	[W13]	7-2	0 37	0	
P33.40	[W13]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.41	[W14]	7-2	0 37	0	
P33.42	[W14]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.43	[W15]	7-2	0 37	0	

P33.44	[W15]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000	0 4	0	
P33.45	[W0]	7-3	0 48	0	
P33.46	[W0]	[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	[W2]	7-3	0 48	0	
P33.50	[W2]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	0	
P33.51	[W3]	7-3	0 48	0	
P33.52	[W3]	[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	

P33.70	[W12]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	0	
P33.71	[W13]	7-3	0 48	0	
P33.72	[W13]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	0	
P33.73	[W14]	7-3	0 48	0	
P33.74	[W14]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	0	
P33.75	[W15]	7-3	0 48	0	
P33.76	[W15]	[0] × 1 [1] × 10 [2] × 100 [3] × 1000 [4] × 10000 [5] [%] × 1 [6] [%] × 10 [7] [%] × 100	0 7	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 @32bit
13	1 @32bit
14	2 @32bit
15	3 @32bit
16	4 @32bit
17	5 @32bit
18	[Hz]
19	[rpm]
20	[%]
21	[%]
22	[%]
23	[Hz]
24	
25	
26	1[%]
27	2[%]
28	
29	
30 37	SET_W12 19

7-3

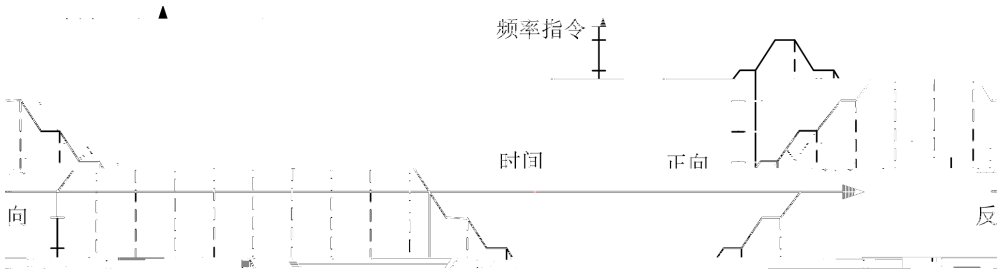
0	
1	0
2	1
3	2
4	3
5	4
6	5
7	0 @32bit
8	1 @32bit
9	2 @32bit
10	3 @32bit
11	4 @32bit
12	5 @32bit
13	[32]
14	[32]
15	32bit_MSW
16	32bit_LSW
17	
18	
19	
20	[rpm]
21	[rpm]
22	
23	
24	
25	
26	
27	A
28	B

29	C
30	
31	
32	
33	1
34	2
35	
36	
37	
38	
39	
40	
41	Mwh
42	Kwh
43	Mwh
44	Kwh
45 48	AW26 29

2 [1]

4 16 (8421)

(FORWARD) (REVERSE) P12.2(1)

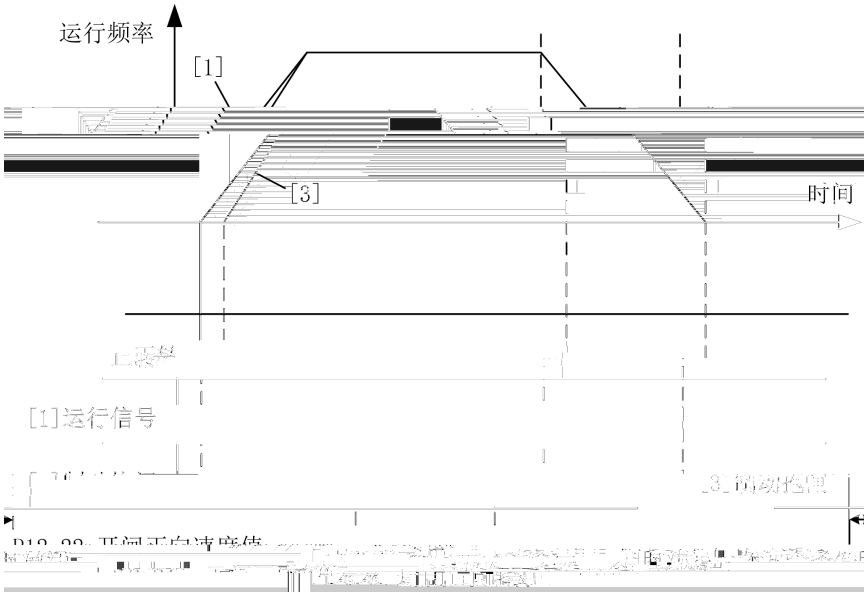


9.3

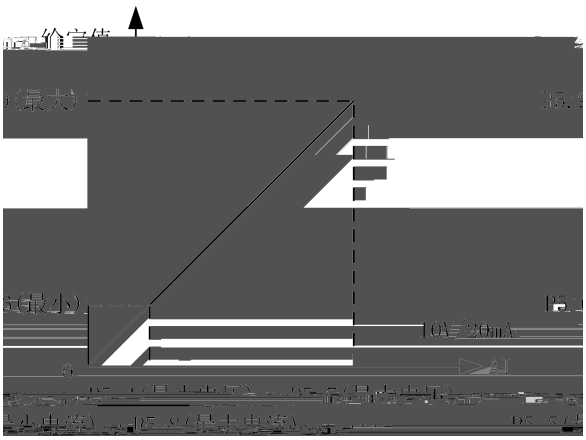
/

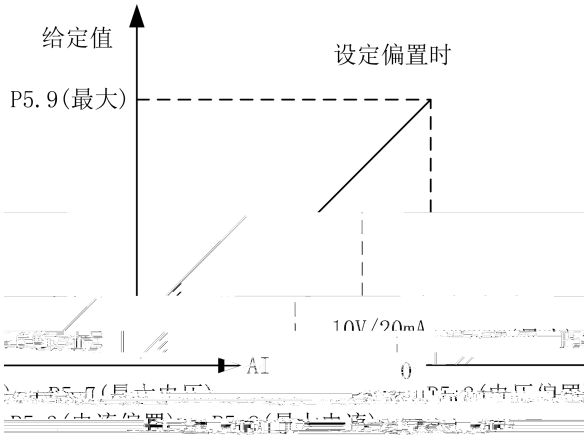
[1] [3] [3]

[1] [3]

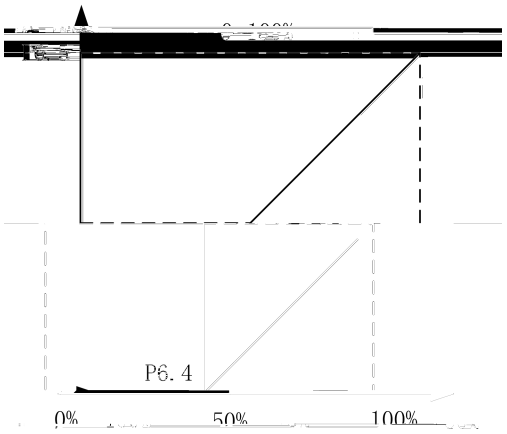


9.4

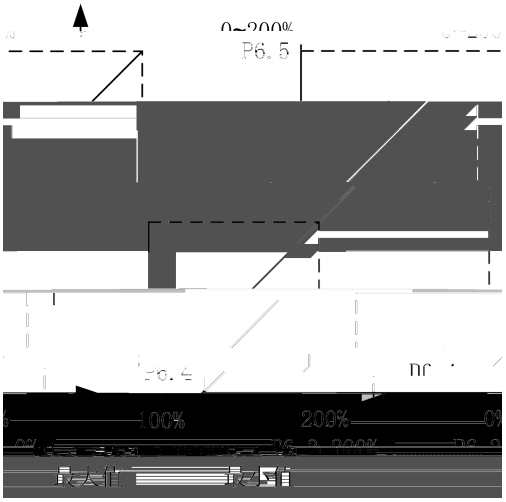




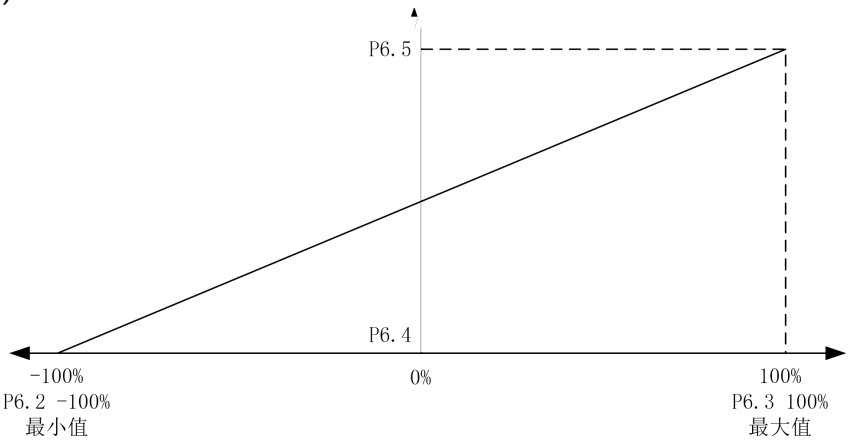
9.5



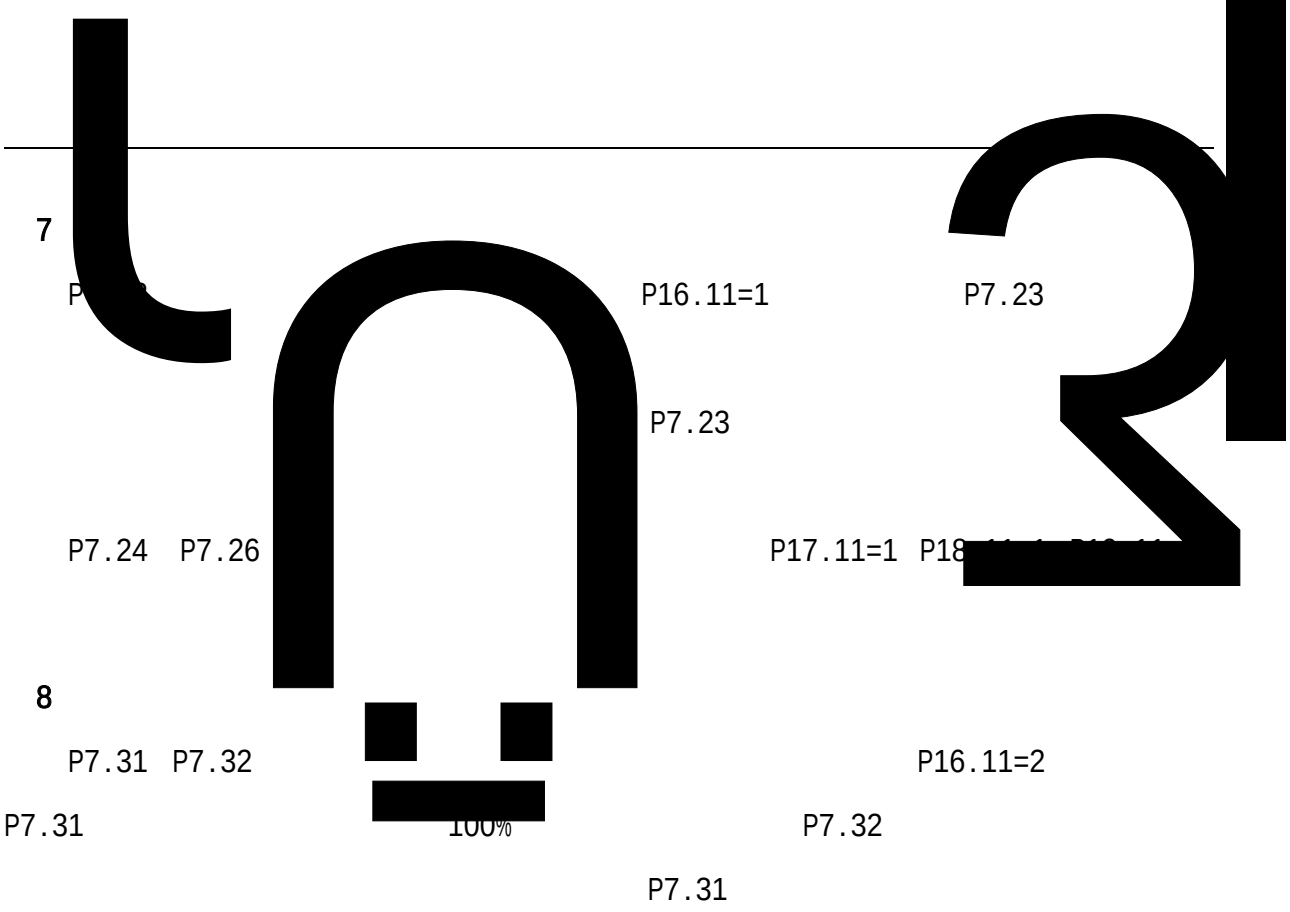
(a) 0~100%



b 0~200%



c -100~100%



7

P16.11=1 P7.23

P7.23

P7.24 P7.26 P17.11=1

8

P7.31 P7.32 P16.11=2

P7.31 100% P7.32

P7.31

11

9.7

1

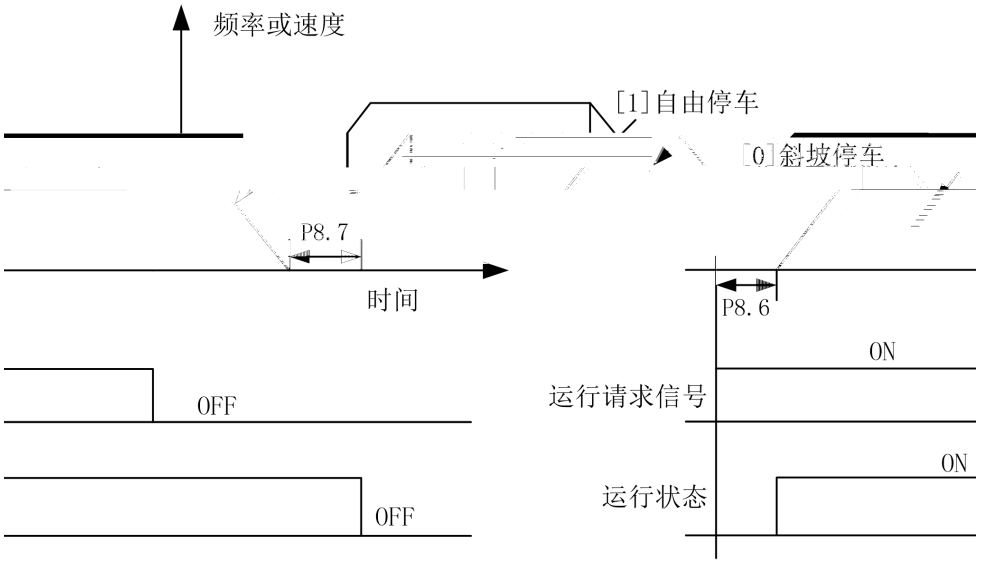
P8.3

[0]

[1]

P8.6 P8.6

P8.7

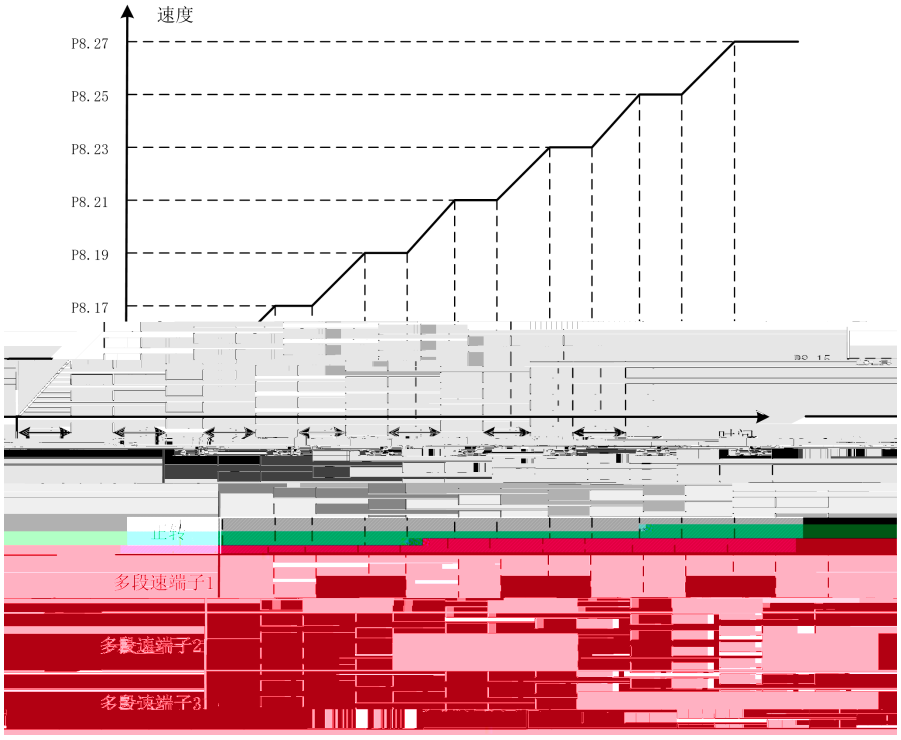


2

P8.14

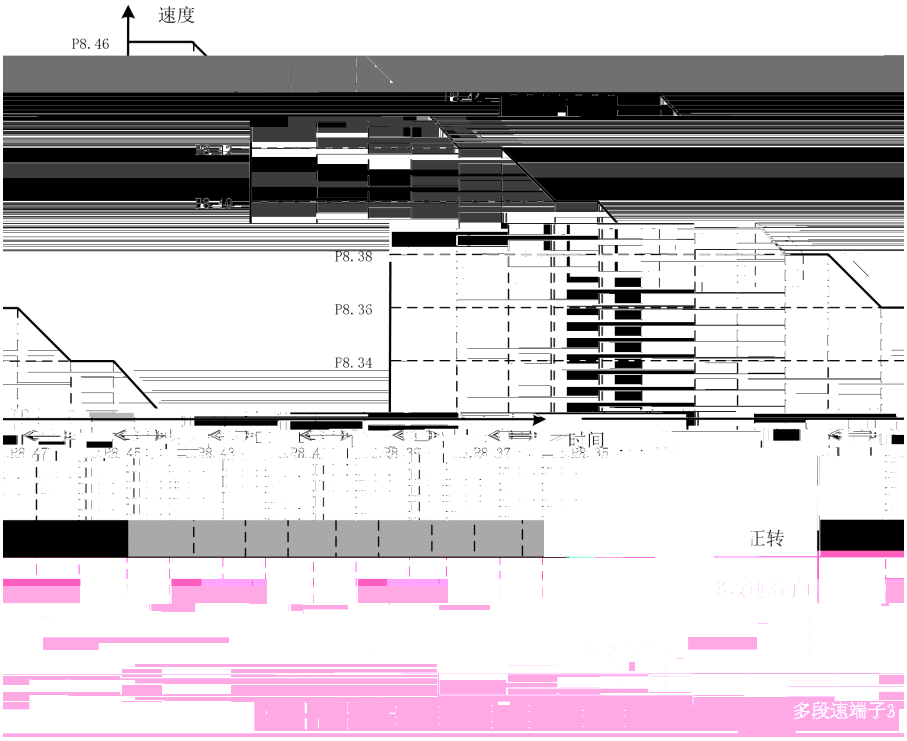
P8.14 P8.33

P8.33



P8.15 < P8.17 < P8.19 < P8.21 < P8.23 < P8.25 < P8.27

P8.15	P8.17	P8.19	P8.21	P8.23	P8.25	P8.27
10%	20%	30%	50%	60%	80%	100%



P8.34 < P8.36 < P8.38 < P8.40 < P8.42 < P8.44 < P8.46

P8.34	P8.36	P8.38	P8.40	P8.42	P8.44	P8.46
10%	20%	30%	50%	60%	80%	100%

3

PROFIBUS MODBUS

P8.13 P8.32

1 =P8.14 × P8.16 × (× 0.001)

1 =P8.33 × P8.35 × (× 0.001)

9.8

1

P12.2 P12.17

2

P12.22 P12.37

[3]

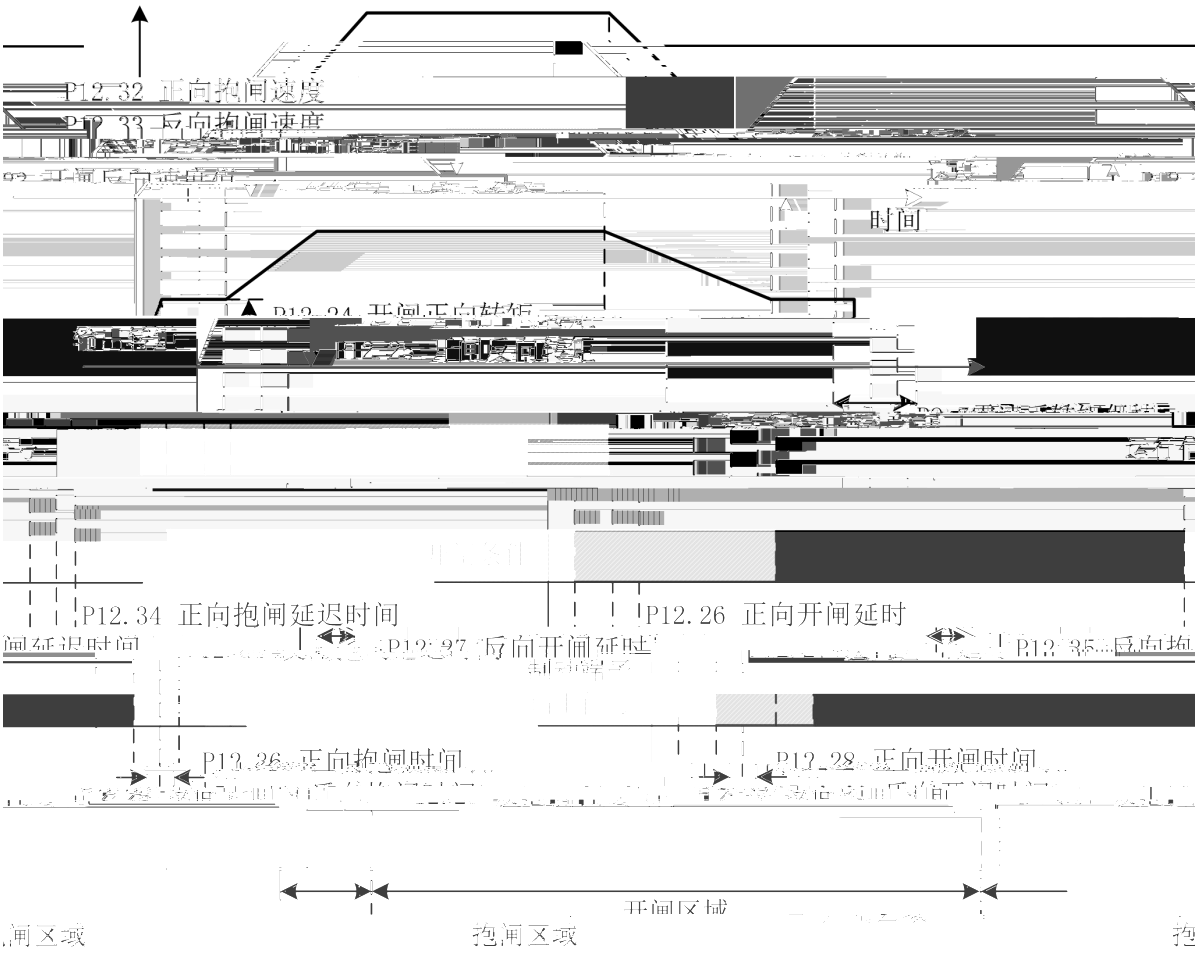
P12.22 P12.23 P12.24 P12.25

P12.32[ ] P12.33[ ]

P12.28 P12.29

P12.36 P12.37

P16



V/F

P16.0 P16.9

P16.7

120 × P16.5/P P16.9

12 .7

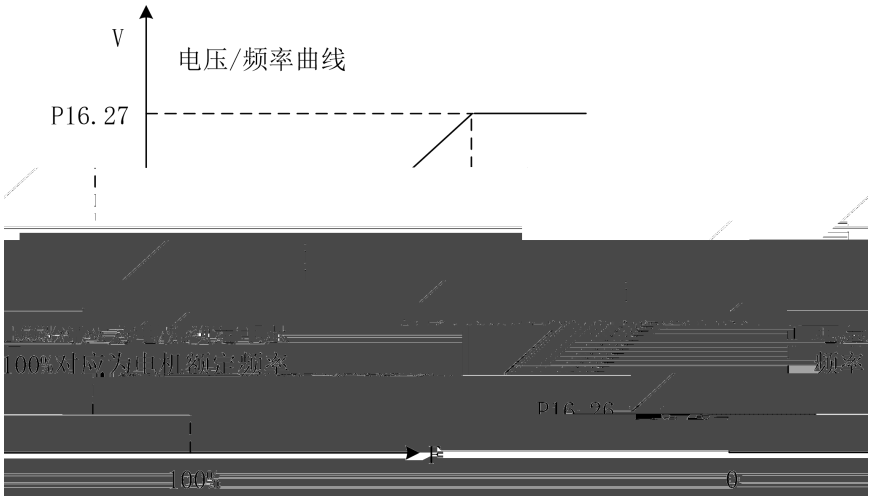
P16.4

2

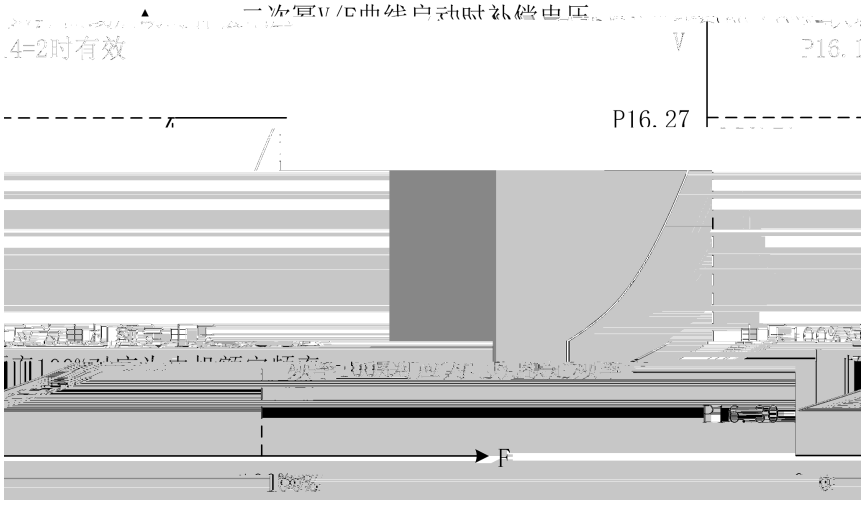
P16.12

[1] V/F P16.33 P16.45 V/F

[2]



P16.14=[2] V/F P16.30 P16.30 P16.27



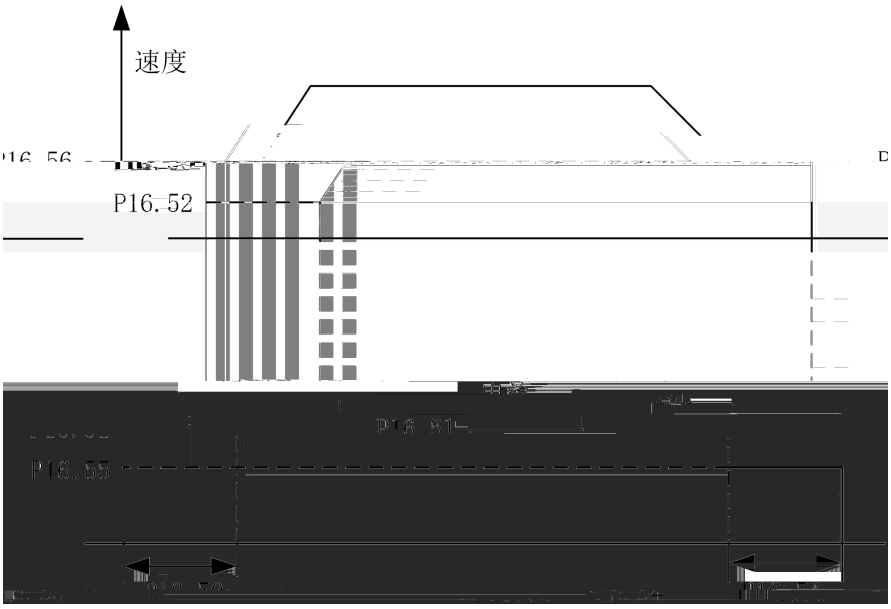
6

P16.50 P16.56

V/F

P16.50 P16.51 P16.52

P16.54 P16.55 P16.56



7

P16.64

9.10

1

P20.0

P20.0=0 P20.1=0 P20.2=0

P20.0=0 P20.1≠0 P20.2≠0

P20.0=1 P20.1≠0 P20.2≠0 1

0

P16.11 [1] [2]

P20.3 P20.1 [4]

2

P20.7

P20.8 P20.9 P20.7=1

3

P20.13

4

P20.15 A B

A B U V W

[0]

[1] A B

5

GDHF-PGD1 PG

GDHF-PGD1 PG

DI “[10] ” DP “CW0.9 ”

P20.26 P20.27 0

2%

P20.34 [0] 1

0 P20.26 P20.27 0

P20.26 50% 100% P20.27 3% 5%

P20.34 [1] 2

200 P20.26 P20.27 0

HF650LC P20.34 [1]

9.11

P16.64
V/F (10 40Hz) 100 80 150

Î
P16.12

V/F

10.

10.1

W01 SYS_NOT_RDY (Ready)

[P3

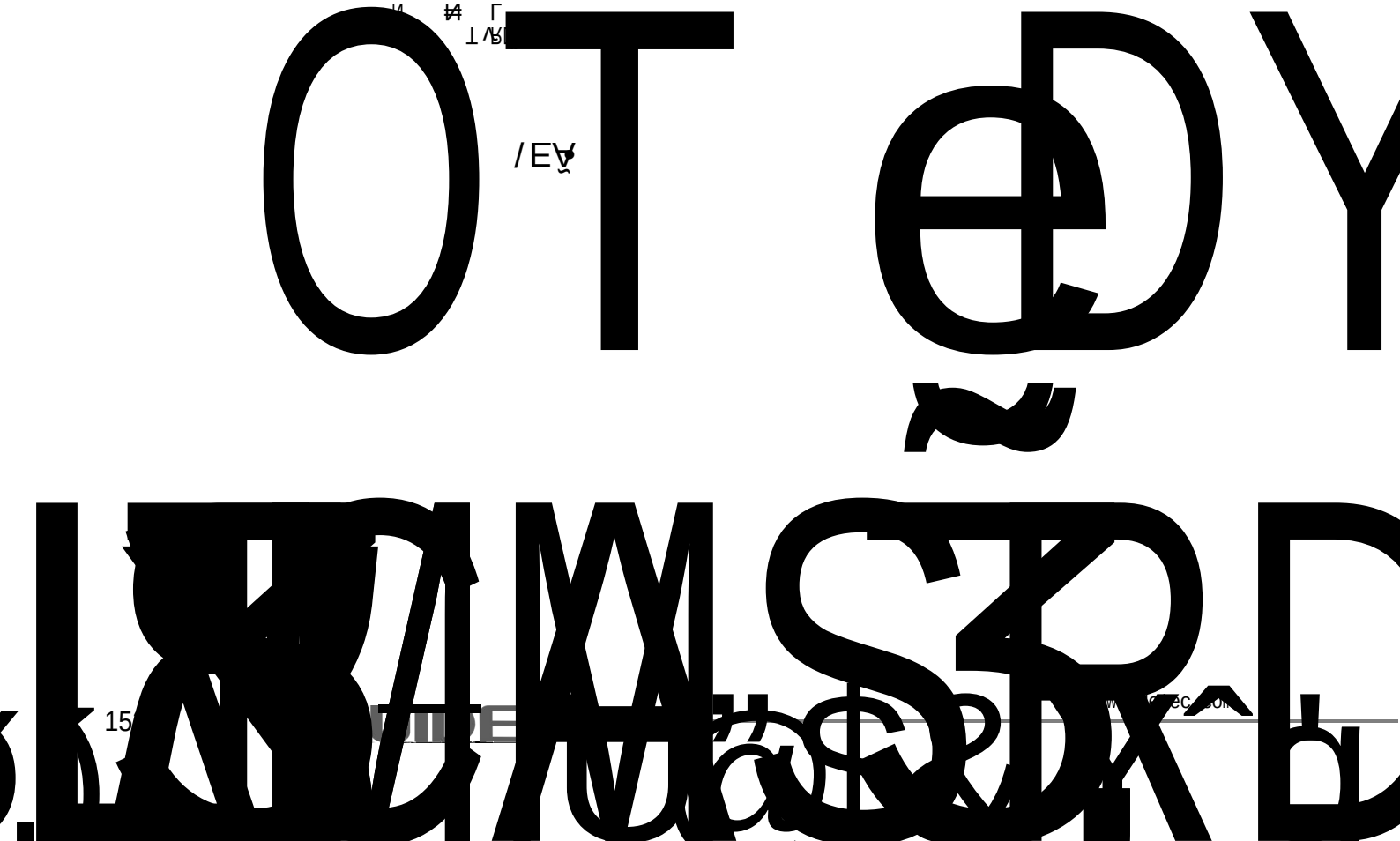
W02]
NO_DRV_ENABLE

[P3 X

W03
LOCAL_EM]

[

W04
REMOTE_EM



IGBT

[E050] U ERR_UT not reset IGBT

IGBT

[E051] U ERR_UT not reset IGBT

IGBT

[E052] V ERR_UT not reset IGBT

IGBT

[E053] V ERR_UT not reset IGBT

IGBT

[E054] W ERR_UT not reset IGBT

IGBT

[E055] W ERR_UT not reset IGBT

[E056] ERR_SLAVE_FAULT not reset

[E100] OV P8.35(1) P7.12( )

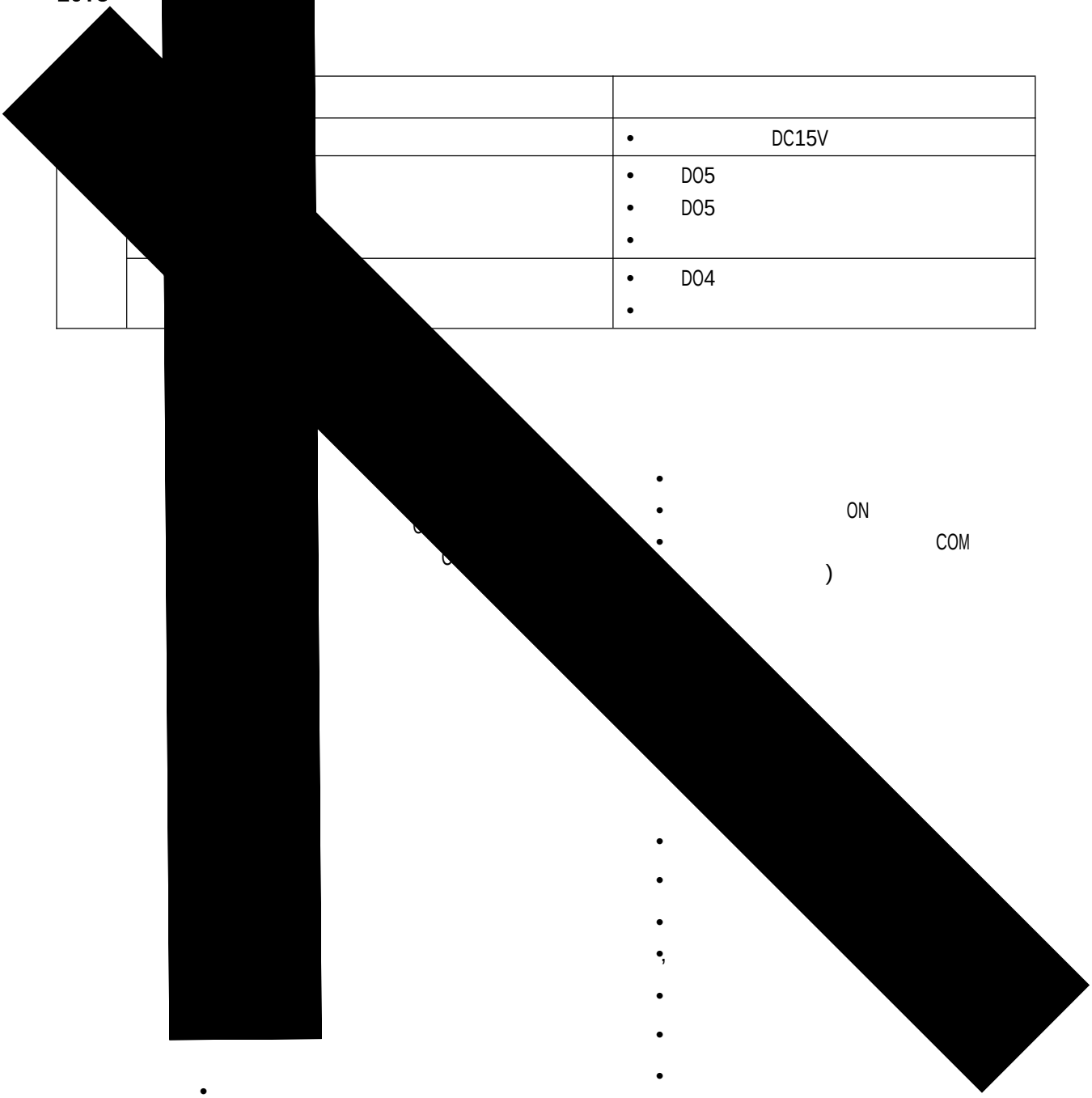
[E105] " UVV

[E112]	ZC	P7.8
[E113]	MIP	
[E114]	MOP	
[E115]	OS	P7.19 P7.19
[E116]	SLVC Fail	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]	IGBT1 OT1	
[E122]	IGBT2 OT2	
[E123]	IGBT3 OT3	
[E124]	IGBT4 OT4	
[E125]	IGBT5 OT5	
[E126]	IGBT6 OT6	
[E127]	IGBT7 OT7	

[E128]	IGBT8 OT8
[E137]	FAN STALL
[E138]	TEMP_SENSING FAIL
[E139]	Pre_Charging Fail
	P7.95
[E140]	Line UV
[E141]	Line OPEN
[E142]	Line Detection Error
	DI
[E143]	Line SW Fail o?ﺯﺼ N ﻲN אn

10.3

		• DC15V
		• D05 • D05 •
		• D04 •



	•	• •
	• • •	• • •
	•	•
	•	•
	•	•
	• ( )	•
	•	•

11.


1 2 3 4

1 CMOS 2 3

11.1

11.2

	1. 2.	1. > 40 < 95% 2.
	1. 2. 3.	1. 2. 3. 4. 5. 6.
	1. 2. 3.	1. 2. 3.
	1. 2.	1. 2.
	1. 2.	1. 2.

11.3

	2	1 2
PCB		

11.4

Ǔ