GUIDE

HF680N

1. ..... 1
1.1 ..... 1
1.2 ..... 5
1.3 ..... 5
2. ..... 6
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. . . . . 194

# 1.

## 1.1

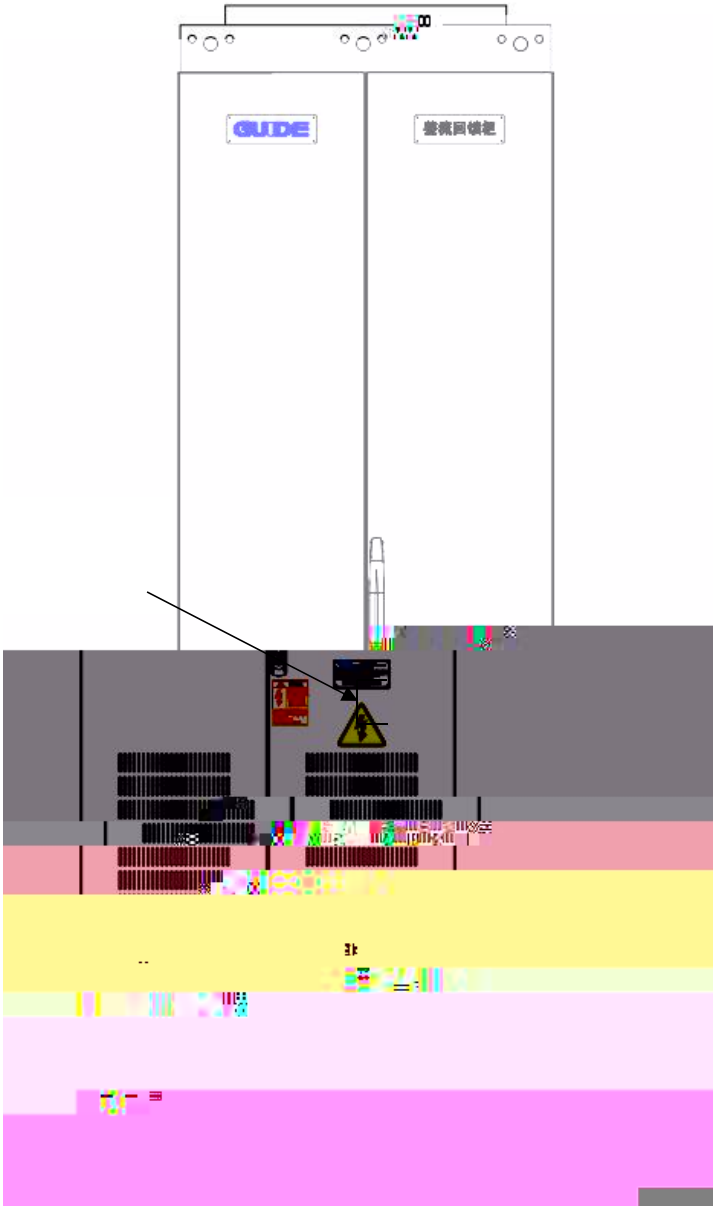


# 1

RCD

RCM

HF680N02C-400-5



## 1.2

(1)

(2)

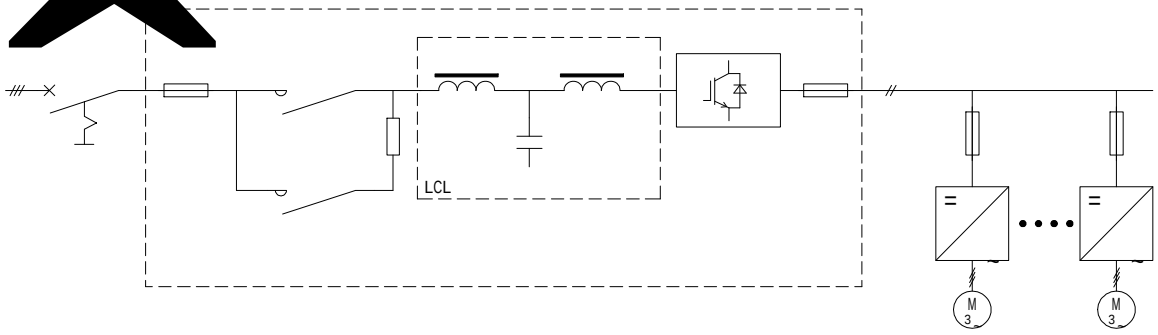
(3)

## 1.3

## 2

### 1

HF680N LCL




IGBT AFE

DC24V

IGBT

### 2.2

1

AFE

2

| | | |
|---|---|---|
| | | |
| | | |
| | | PID |
| | | / / |
| | | HE |
| | | / / |
| | | |

## 2.3

GDHF-ADPX1 DP Profibus DP GDHF-ADPX1 HF680N02M HF680N03M

GDHF-APGX1 PG F6 PG GDHF-APGX1 HF680N03M 15V PG

PN

## 2.4

| |
|---|
| 1. / “ ”<br><br>/<br>2.<br>3.<br>- R S T<br>- U V W<br>- P N<br>4. 5<br>5. , , |
|  |
| 1.<br>ä<br>2.<br>3.<br>40<br>4. 1.2 ‘ |

### 2.4.1

- 
- -20 +60
- 0% 95%
- 
- 
- 

1 5

## 2.4.2

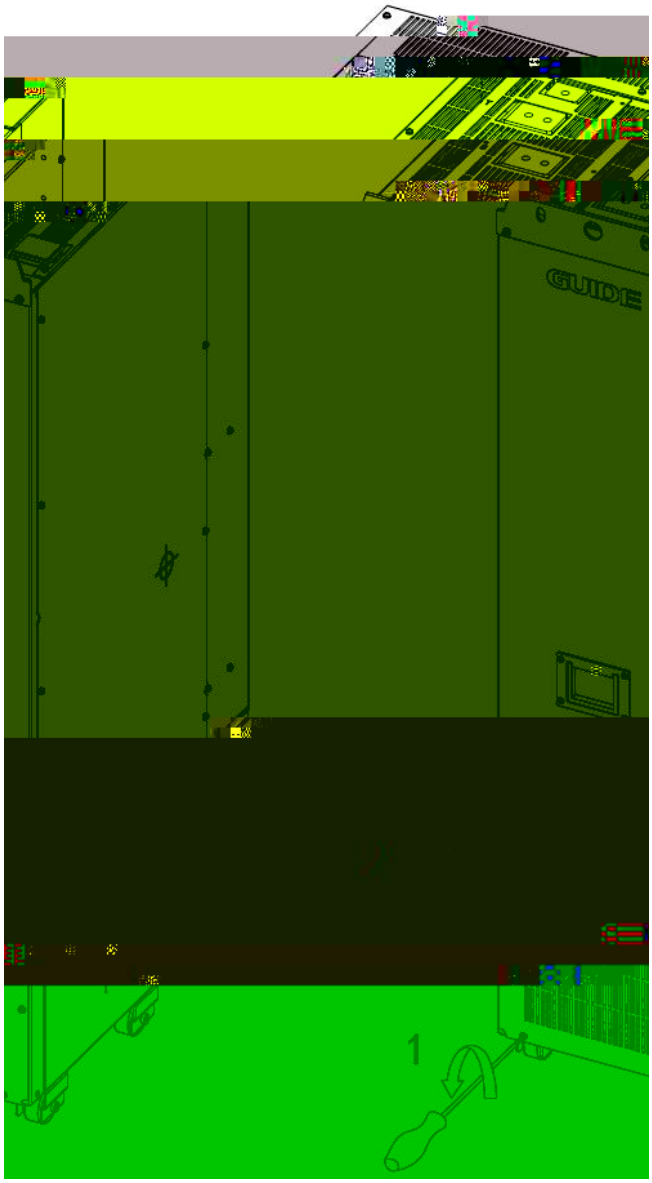
- 
- -10 +40 +40 +50 1
  2% 50
- 95%RH
- 
- 
- 
- 
- 
- 1000 1000 100 1%
  3000

### 2.4.3



| | | |
|---|---|---|
| | A ≥ 200mm | B ≥ 50mm |

50mm




LCL

# 3.

## 3.1

LCL

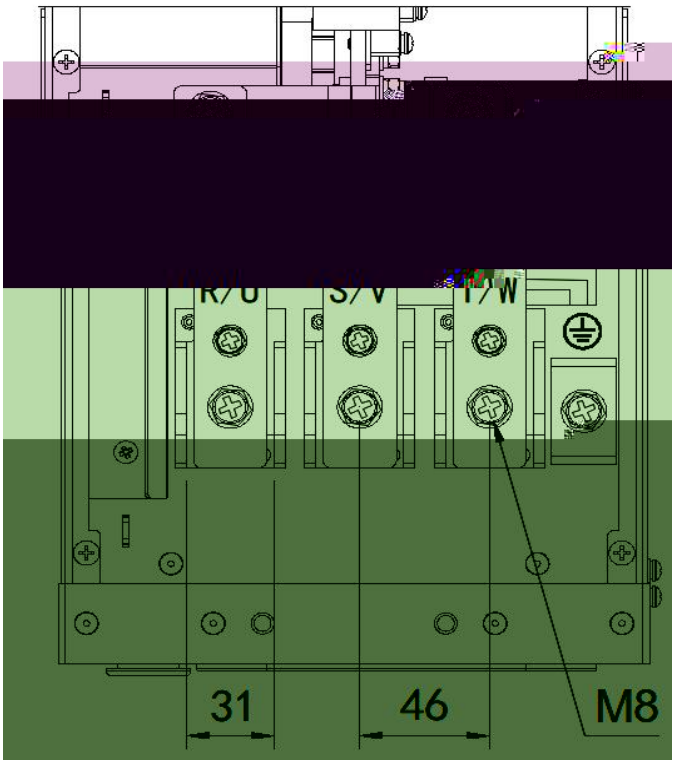
LCL

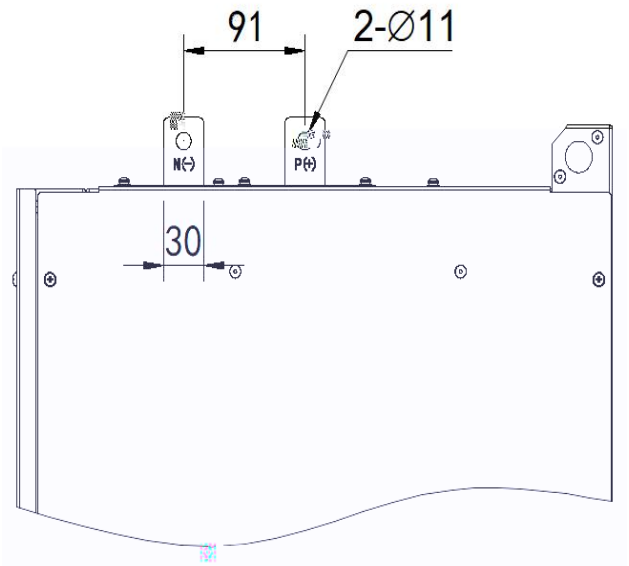
## 3.2

1

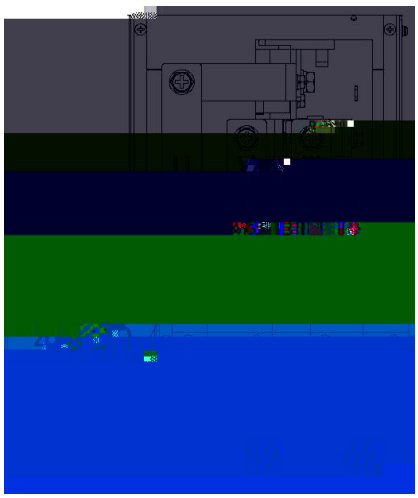
| | |
|---|---|
| P + | |
| N - | |
| R S T | |
|  | |

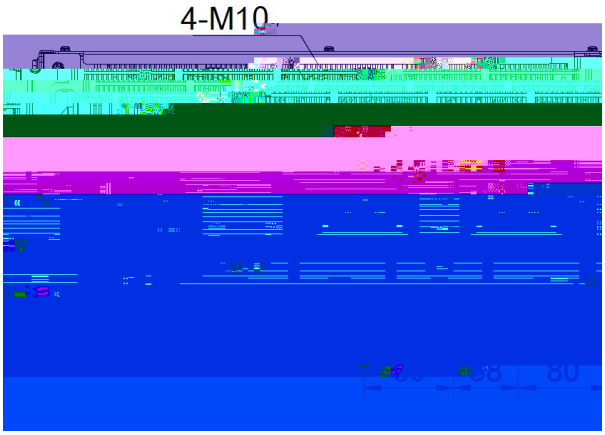
B4



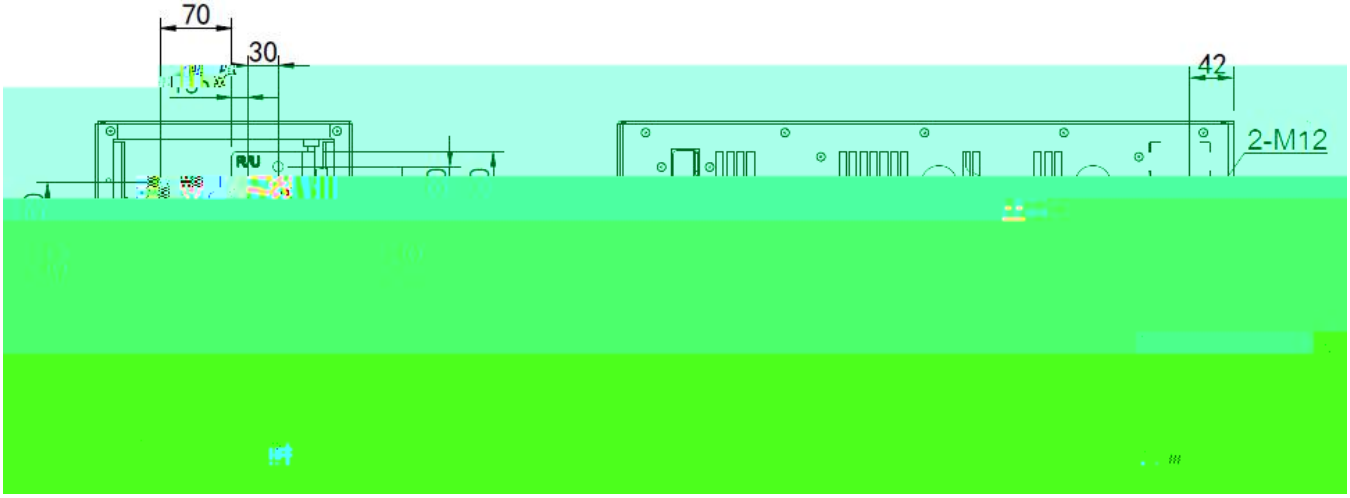
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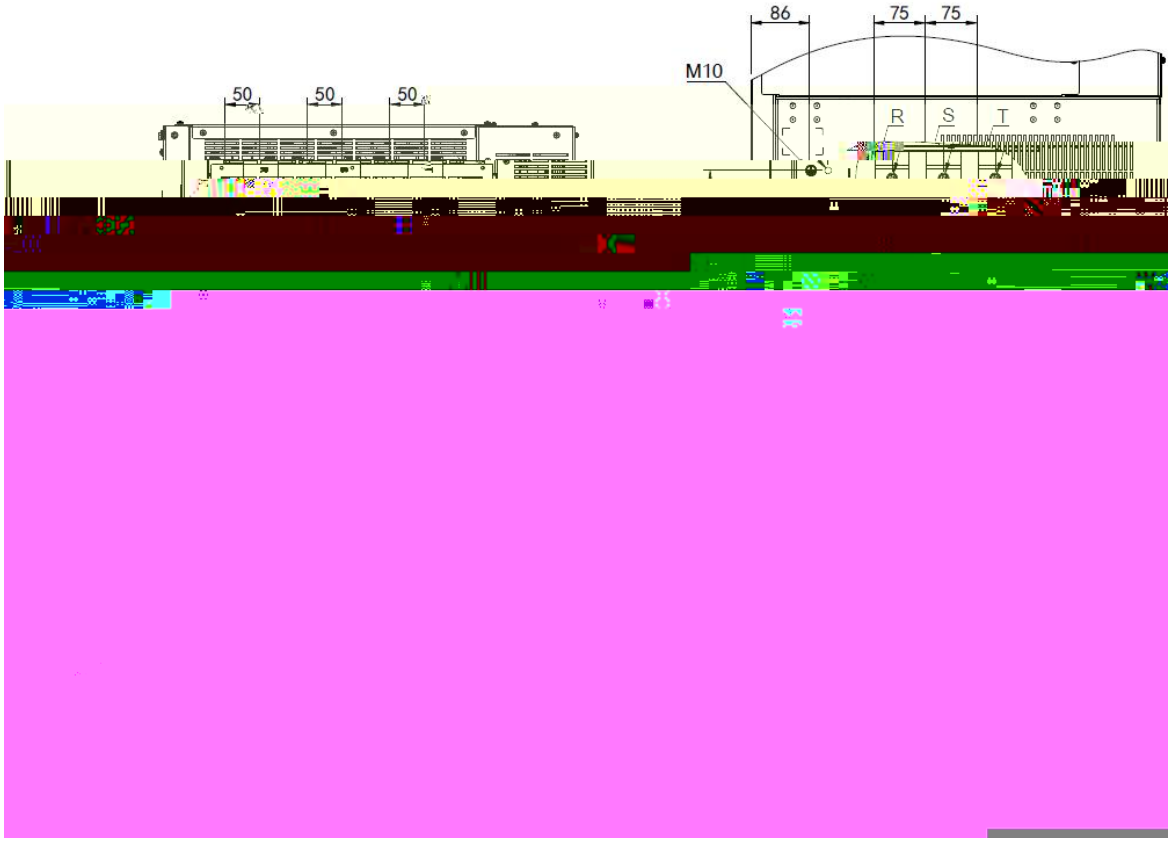

B6





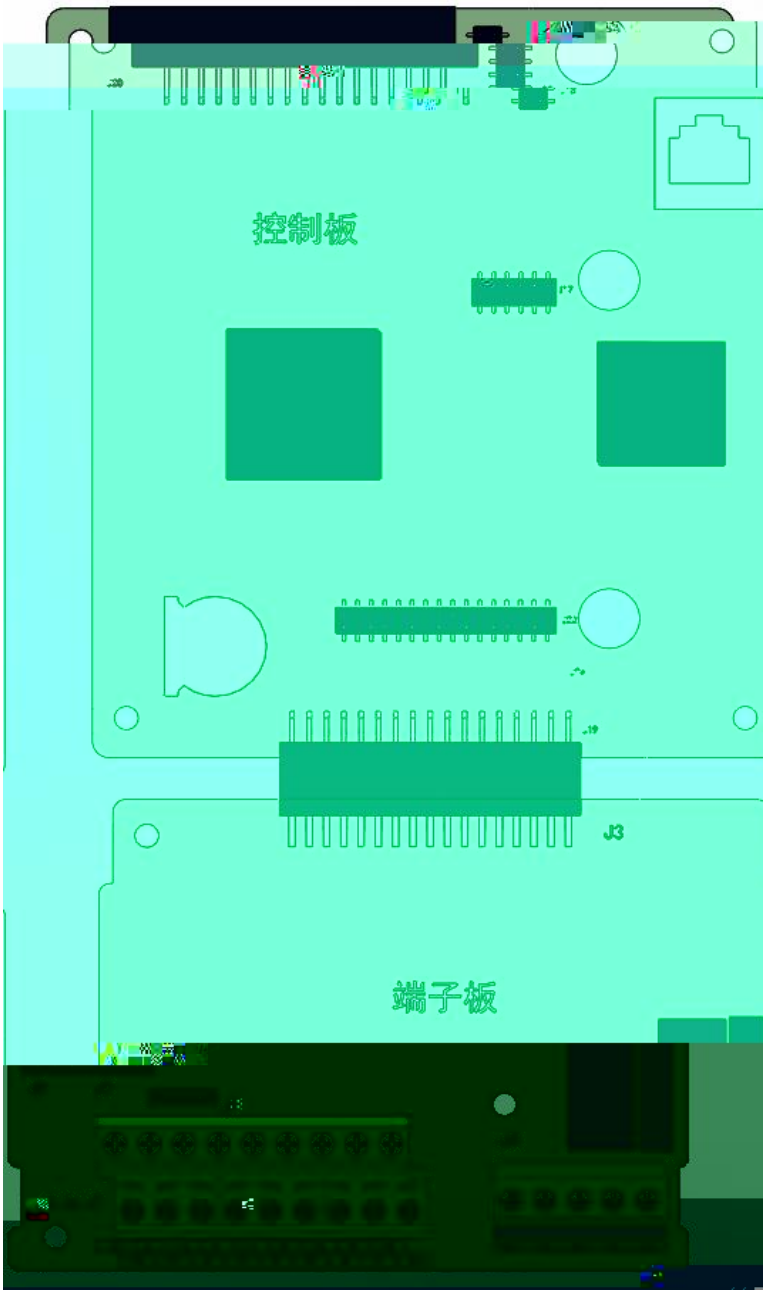
2 LCL

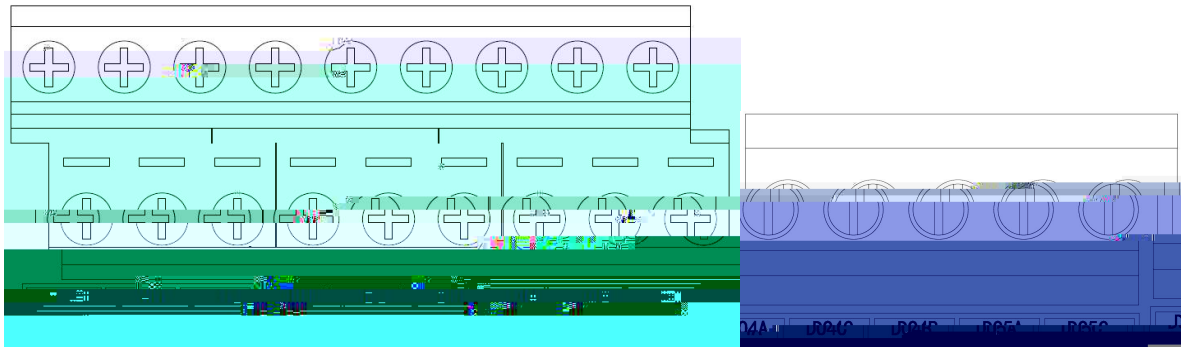
| | |
|---|---|
| R S T | LCL |
| | LCL |
| P + N - | LCL |
| PTC | LCL |




B6 LCL

2

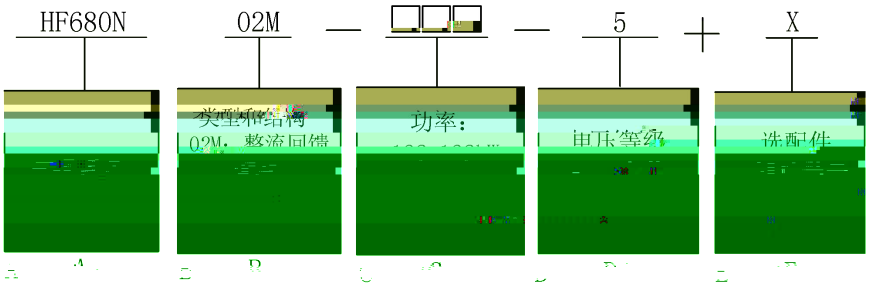


| | | | |
|---|---|---|---|
| | +10V-GND | 10V | +10V 50mA<br>1kΩ~5kΩ |
| | +24V-COM | 24V | +24V<br>200mA |
| | PW | | 24V<br>DI1~DI5 DO1 PW<br>24V |
| | AI1-GND | 1 | DC -10V~10V 100kΩ |
| | AI2-GND | 2 | -10VDC~10VDC/0mA~20mA<br>J1<br>100kΩ 500Ω |
| | DI1- PW | 1 | 3.3kΩ<br>9V~30V DI1-DI4<br>500Hz DI5 20KHz |
| | DI2- PW | 2 | |
| | DI3- PW | 3 | |
| | DI4- PW | 4 | |
| | DI5- PW | 5 | |
| | AO1-GND | 1 | J2<br>0V~10V<br>0mA~20mA |
| | AO2-GND | 2 | J8<br>0V~10V<br>0mA~20mA |
| | DO1-COM | 1 | 0V~24V<br>0mA~50mA |
| | DO4A-DO4C | 1 | 250VAC 3A COSϕ=0.4<br>30VDC 1A |
| | DO4B-DO4C | 2 | |
| | DO5A-DO5C | 3 | 250VAC 2A COSϕ=0.4<br>30VDC 1A |

| | | | |
|---|---|---|---|
| | J1 | AI2 | |
| | J2 | AO1 | |
| | J3 | AO2 | |






| | |
|---|---|
| A | |
| B | 02M 02C |
| C | 132 132kW 3000 3000kW |
| D | 5 380V 5 500V |
| E | |

| | | | |
|---|---|---|---|
| MB01 | Modbus RTU | DP01 | Profibus DP |
| PN01 | Profinet | CAN01 | CANopen |

| | Iac A | | | | | Pdch kW | |
|---|---|---|---|---|---|---|---|
| | | Idc A | Pdc kW | Idch 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<br>180% 5 1 |
| | | 570 810V |
| | | 1kHz 10kHz |

## 3.7

| +LCL | | kW |
|---|---|---|
| HF680N02M-160-5+GDHF680N-LCL-160-5 | B4 | 4.6 |
| HF680N02M-220-5+GDHF680N-LCL-220-5 | B5 | 6.3 |
| HF680N02M-315-5+GDHF680N-LCL-355-5 | B6 | 9.0 |
| HF680N02M-355-5+GDHF680N-LCL-355-5 | | 10.1 |
| HF680N02M-400-5+GDHF680N-LCL-450-5 | | 11.4 |
| HF680N02M-450-5+GDHF680N-LCL-450-5 | | 12.8 |
| HF680N02M-500-5+GDHF680N-LCL-560-5 | | 14.3 |
| HF680N02M-560-5+GDHF680N-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

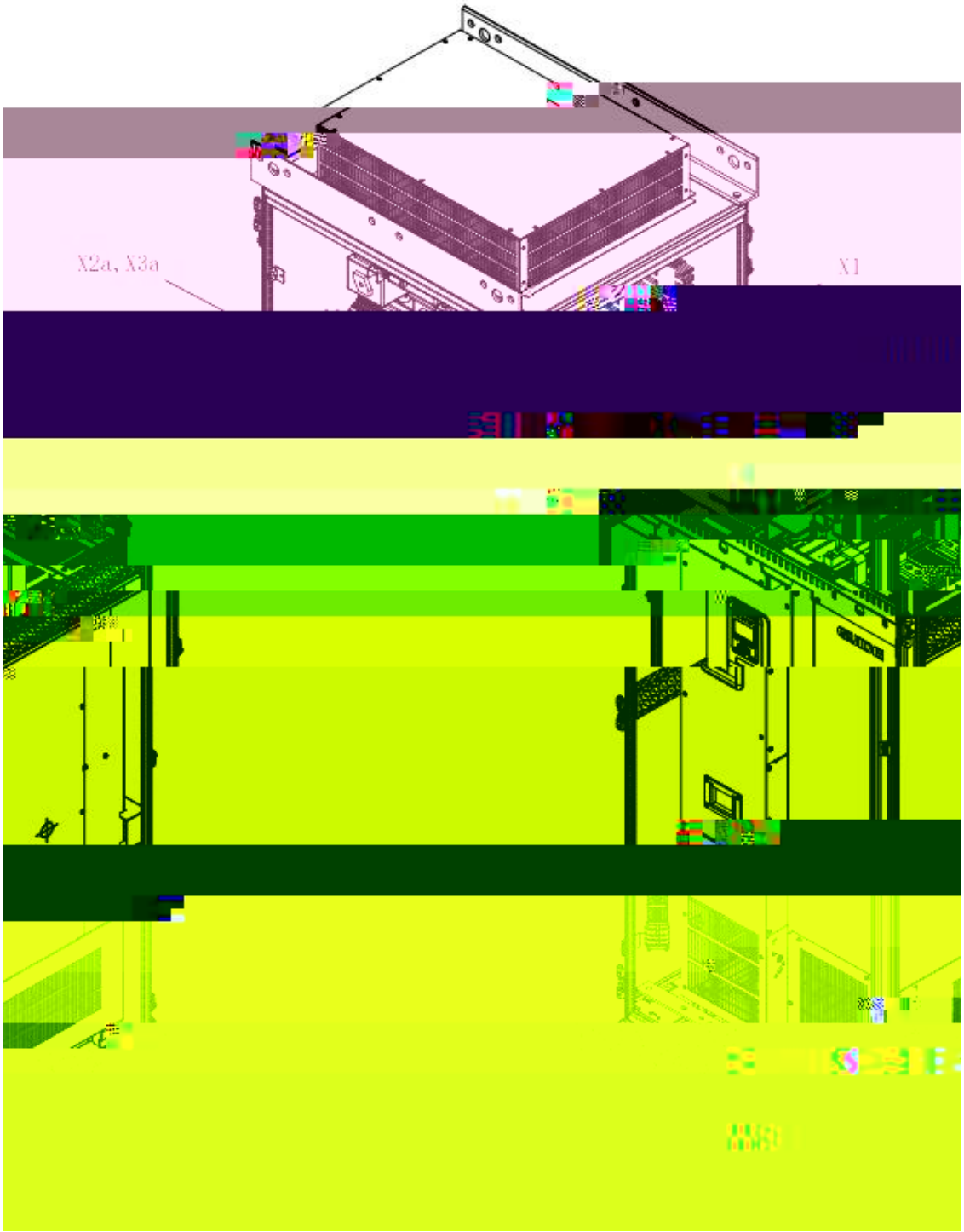
1

2 500kW

500kW



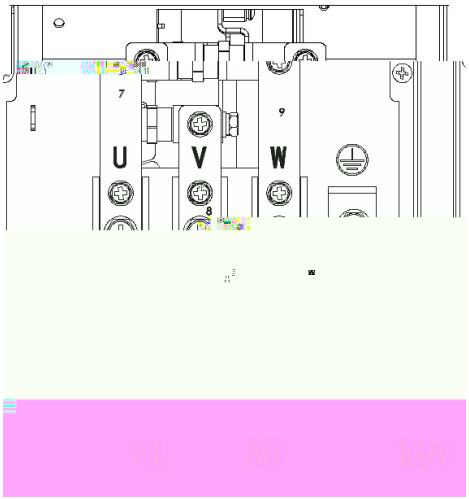
1 ( ) a

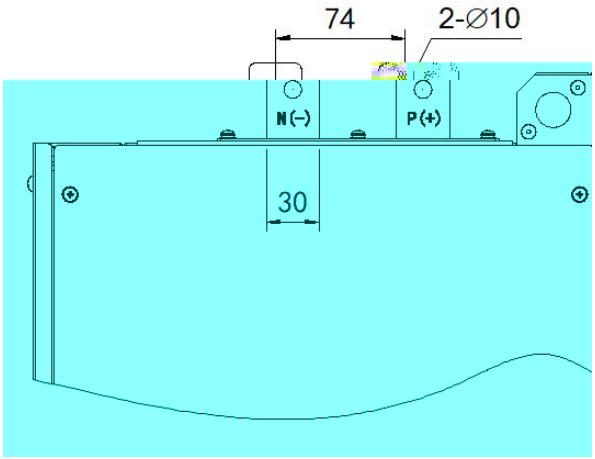



2 b

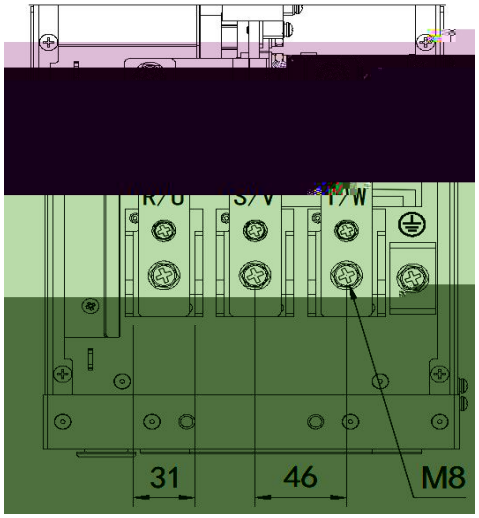
W نم ₡W

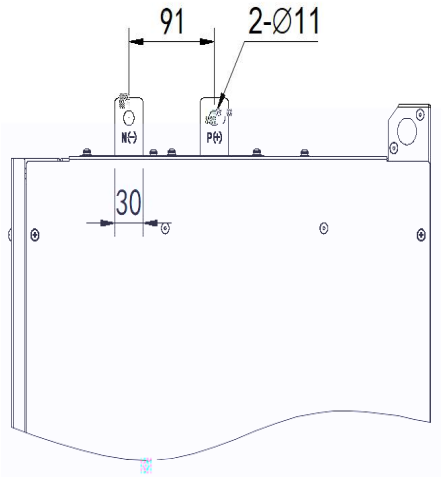
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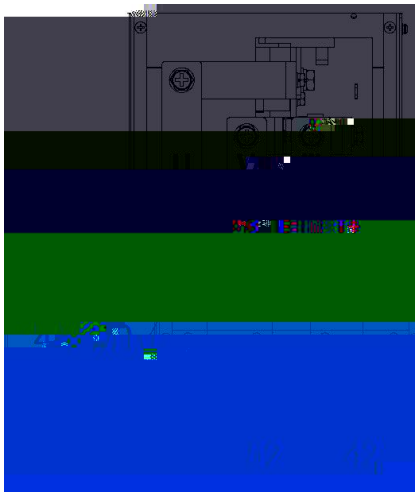



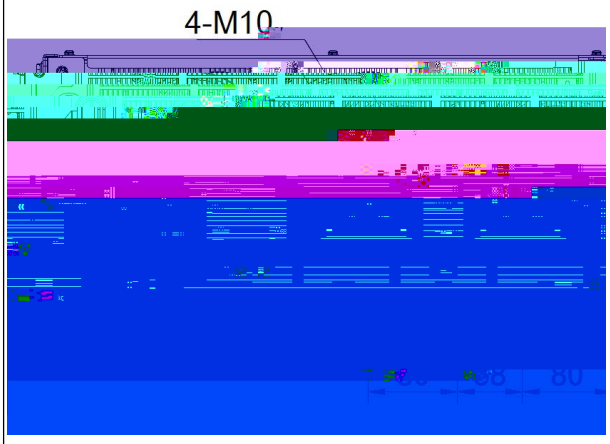

B4



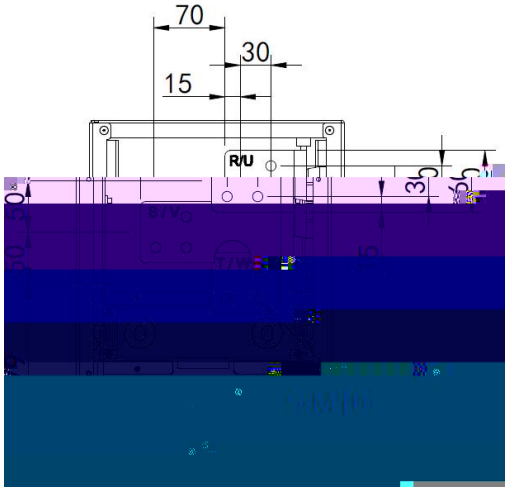



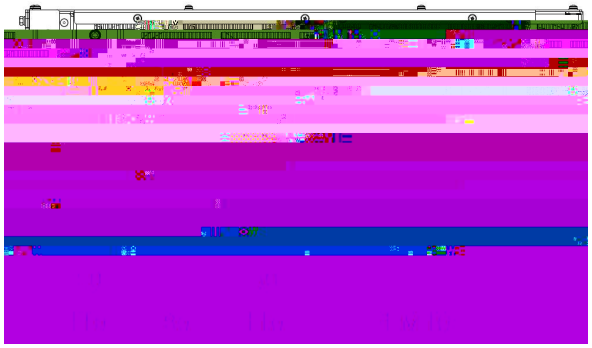
B5

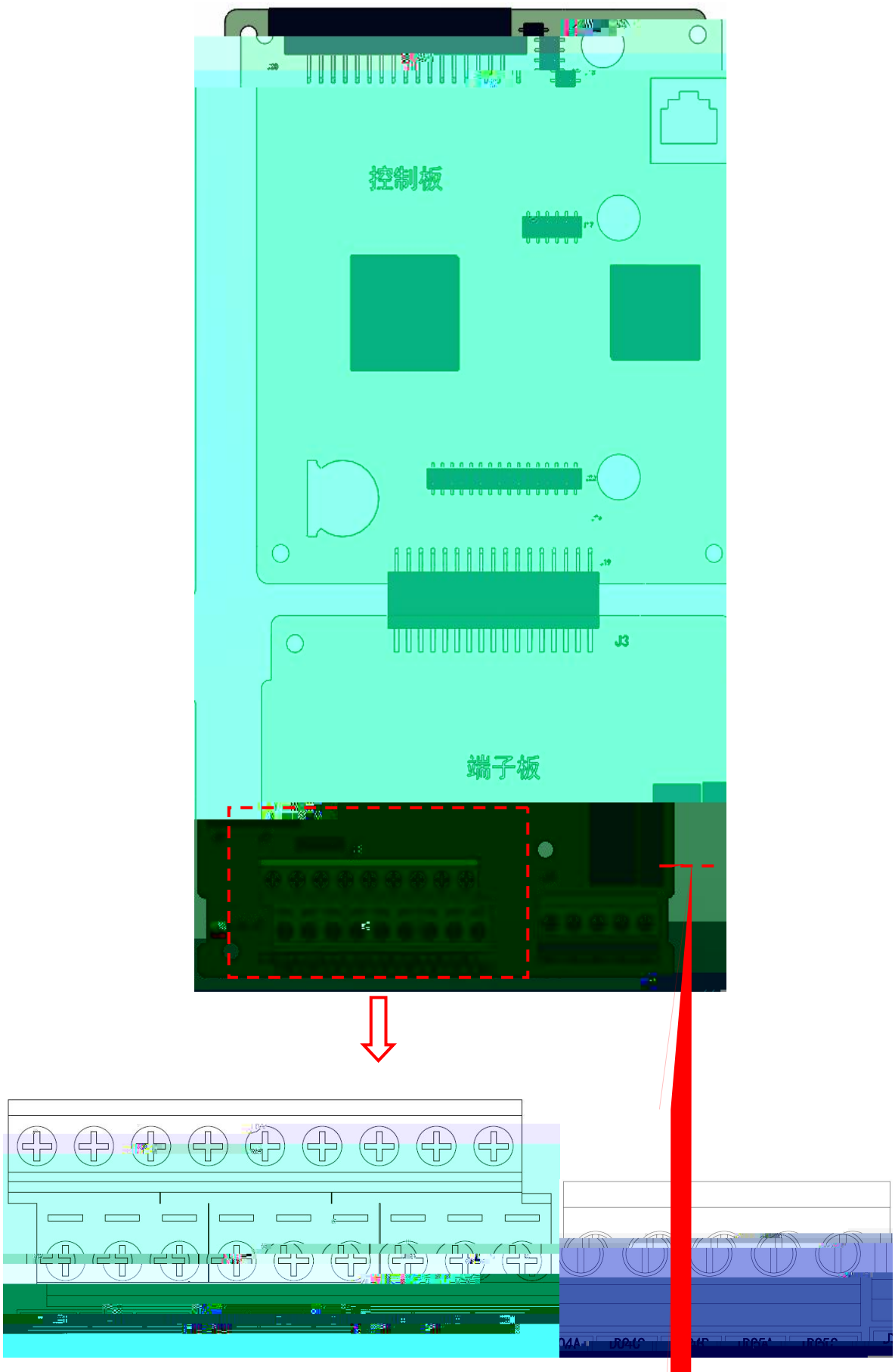





B6

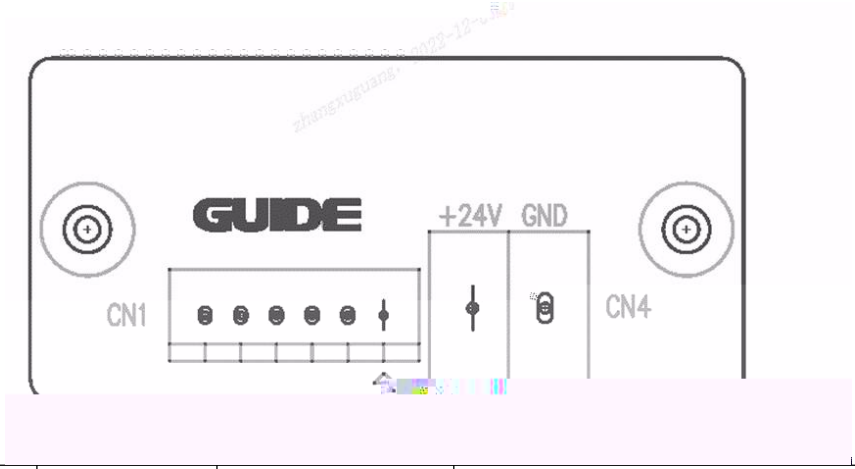



控制板
J3
端子板

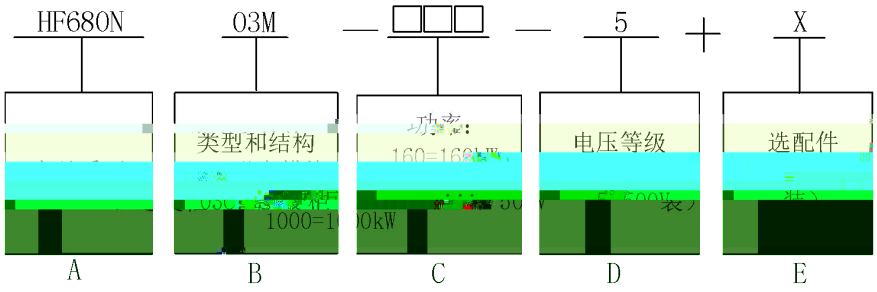
| | | | |
|---|---|---|---|
| | +10V-GND | 10 | +10V 50mA<br>1kΩ~5 |
| | +24V-COM | 24V | +24V<br>200mA |
| | PW | 71 | 24V<br>DI1~DI5 DO1 PW<br>24V |
| | AI1-GND | 1 | DC -10V~10V 100kΩ |
| | AI2-GND | 2 J1 | -10VDC~10VDC/0mA~20mA<br>100kΩ 500Ω |
| | DI1- PW | 1 | 3.3kΩ<br>9V~30V DI1-DI4<br>500Hz DI5 20KHz |
| | DI2- PW | 2 | |
| | DI3- PW | 3 | |
| | DI4- PW | 4 | |
| | DI5- PW | 5 | |
| | AO1-GND | 1 | J2<br>0V~10V<br>0mA~20mA |
| | AO2-GND | 2 | J8<br>0V~10V<br>0mA~20mA |
| | DO1-COM | 1 | 0V~24V<br>0mA~50mA |
| | DO4A-DO4C | 1 | 250VAC 3A COSϕ=0.4 |
| | DO4B-DO4C | 2 | 30VDC 1A |
| | DO5A-DO5C | 3 | Y2 250VAC 2A COSϕ=0.4<br>30VDC 1A |

2



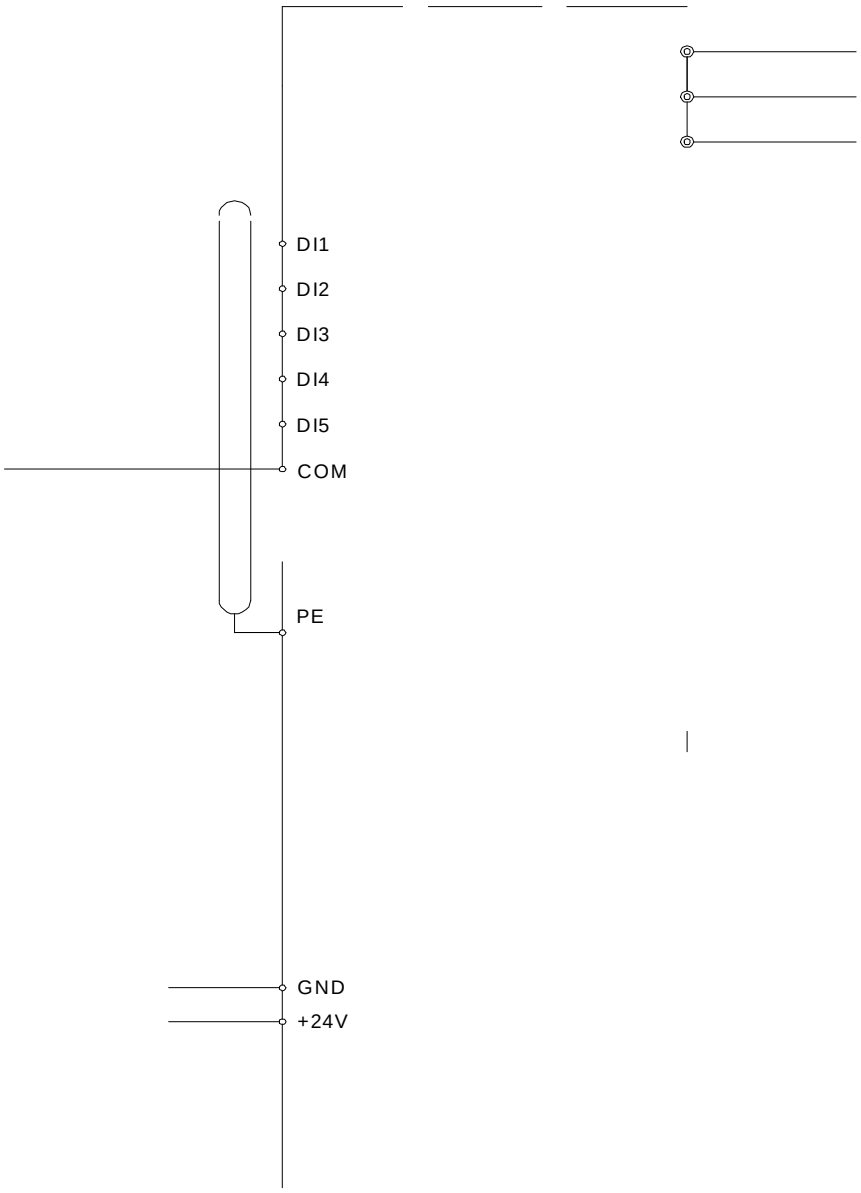

| | | | |
|---|---|---|---|
| DC+24V | CN4 | +24V-GND | |
| | CN1 | | L1/L2/L3 |

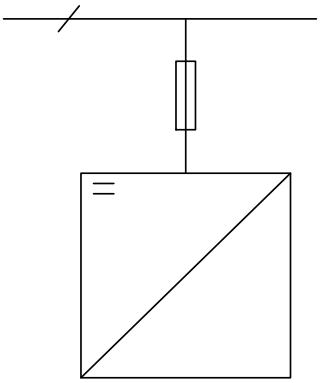
**4.3**




| | |
|---|---|
| A | |
| B | 03M 03C |
| C | 160 160kW 1000 1000kW |
| D | 5 380V 5 500V |
| E | |

## 4.5





| | | |
|---|---|---|
| HF680N03M-220-5 | 120 | 498 |
| HF680N03M-250-5 | 150 | 549 |
| HF680N03M-280-5 | 70*2 | 611 |
| HF680N03M-315-5 | 70*2 | 687 |
| HF680N03M-355-5 | 90*2 | 792 |
| HF680N03M-400-5 | 120*2 | 925 |
| HF680N03M-450-5 | 150*2 | 1055 |
| HF680N03M-500-5 | 70*4/185*2 | 1160 |
| HF680N03M-560-5 | 70*4/185*2 | 1270 |

1. 560kW

2. HF680N

## 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<br>180% 5 1 |

## 4.7

| | | kW | | | kW |
|---|---|---|---|---|---|
| HF680N03M-045-5 | B3 | 0.8 | HF680N03M-220-5 | B5 | 4.2 |
| HF680N03M-055-5 | | 1.0 | HF680N03M-250-5 | | 4.8 |
| HF680N03M-075-5 | B4 | 1.4 | HF680N03M-280-5 | B6 | 5.6 |
| HF680N03M-090-5 | | 1.7 | HF680N03M-315-5 | | 6.3 |
| HF680N03M-110-5 | | 2.1 | HF680N03M-355-5 | | 7.1 |
| HF680N03M-132-5 | | 2.5 | HF680N03M-400-5 | | 8.0 |
| HF680N03M-160-5 | | 3.0 | HF680N03M-450-5 | | 9.0 |
| HF680N03M-185-5 | B5 | 3.5 | HF680N03M-500-5 | | 10.0 |
| HF680N03M-200-5 | | 3.8 | HF680N03M-560-5 | | 11.2 |

## 4.7

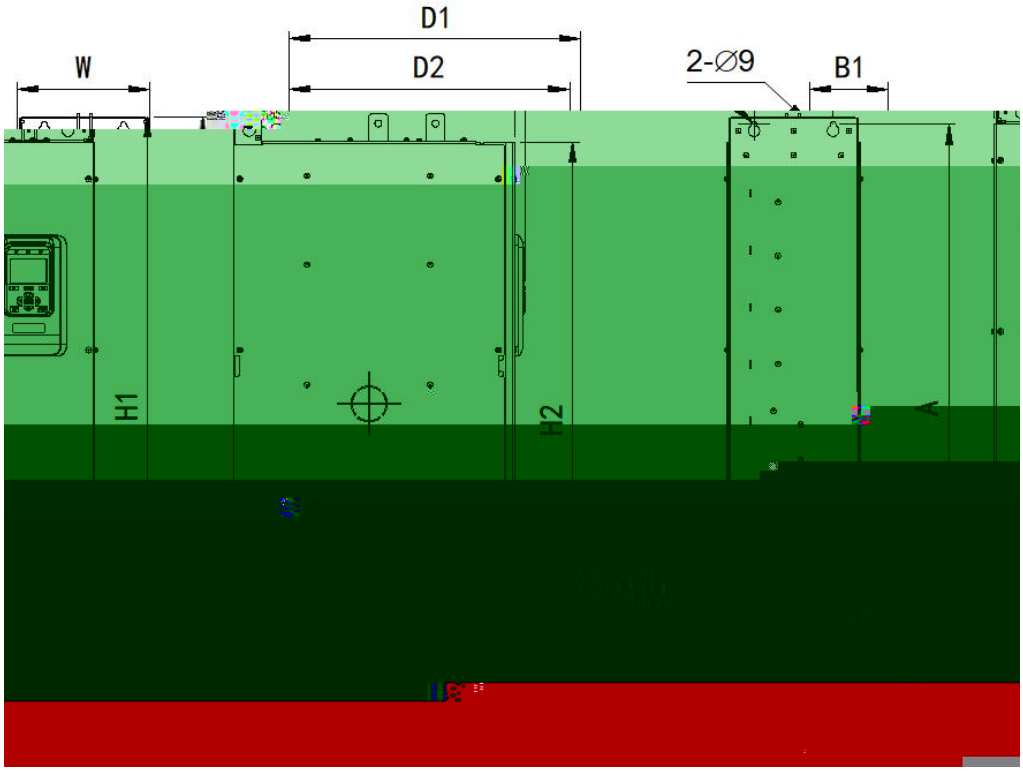
(1) 200%

(2) 50% HF680N

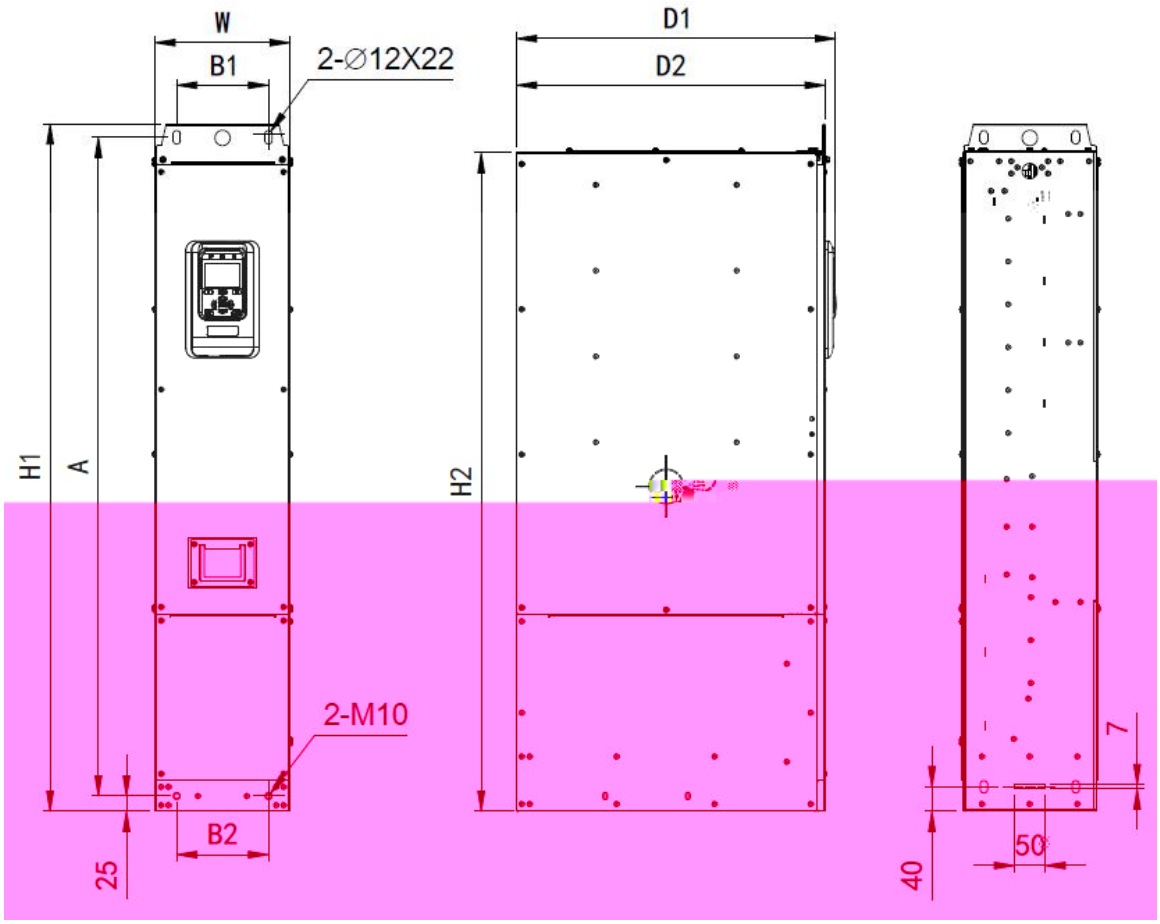
(3) HF680N

5.

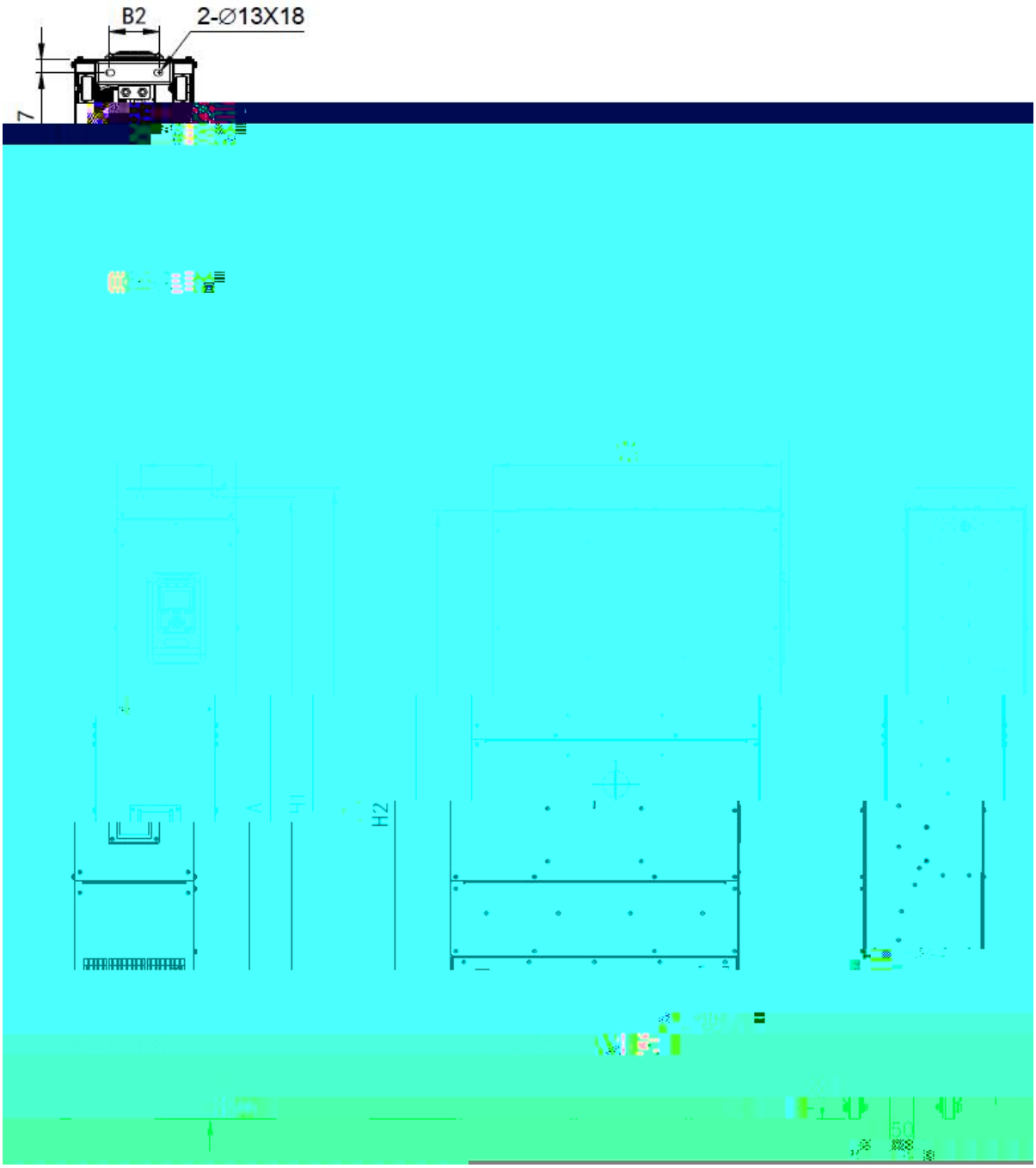
5.1



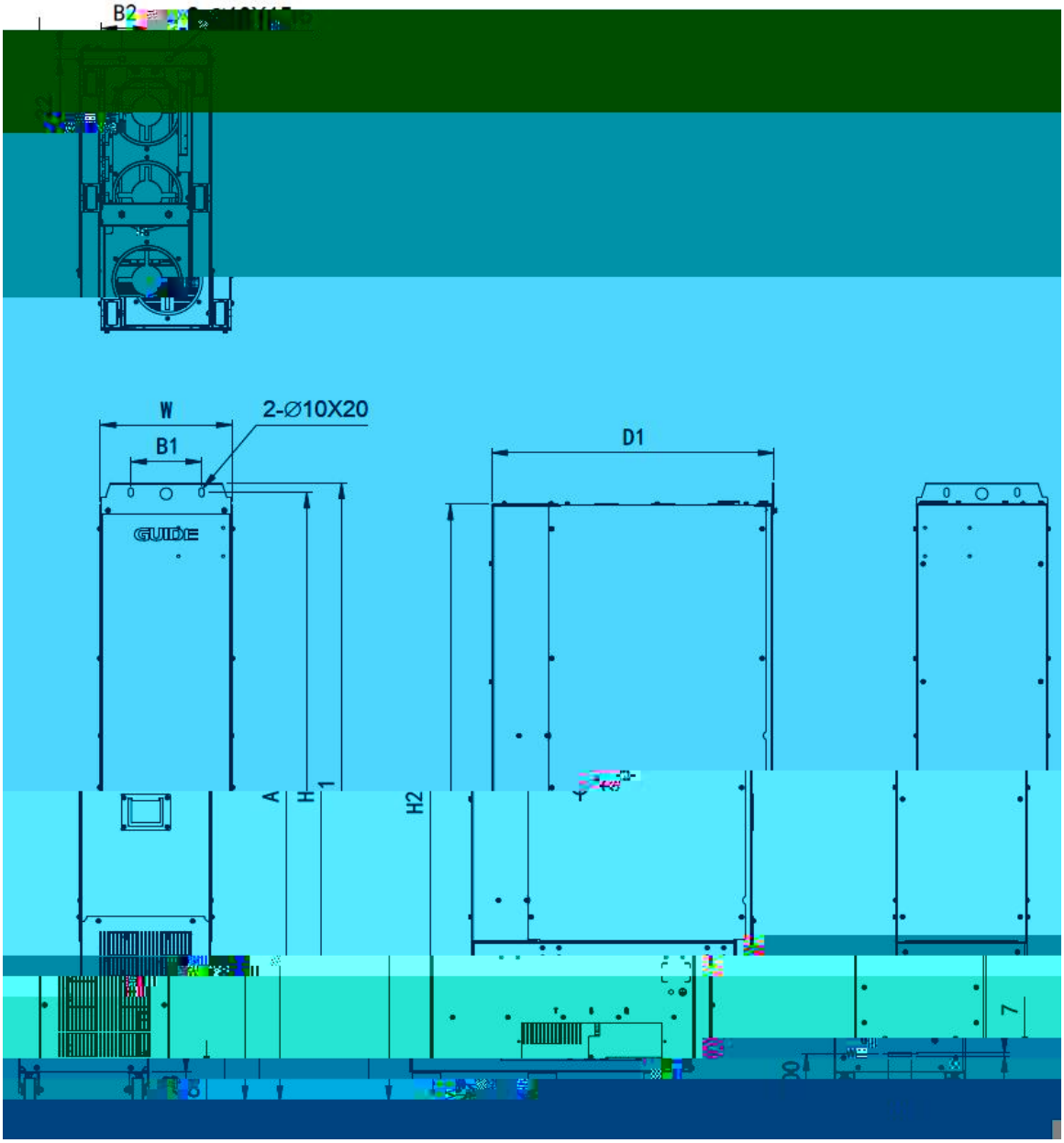

B4




B5




B6

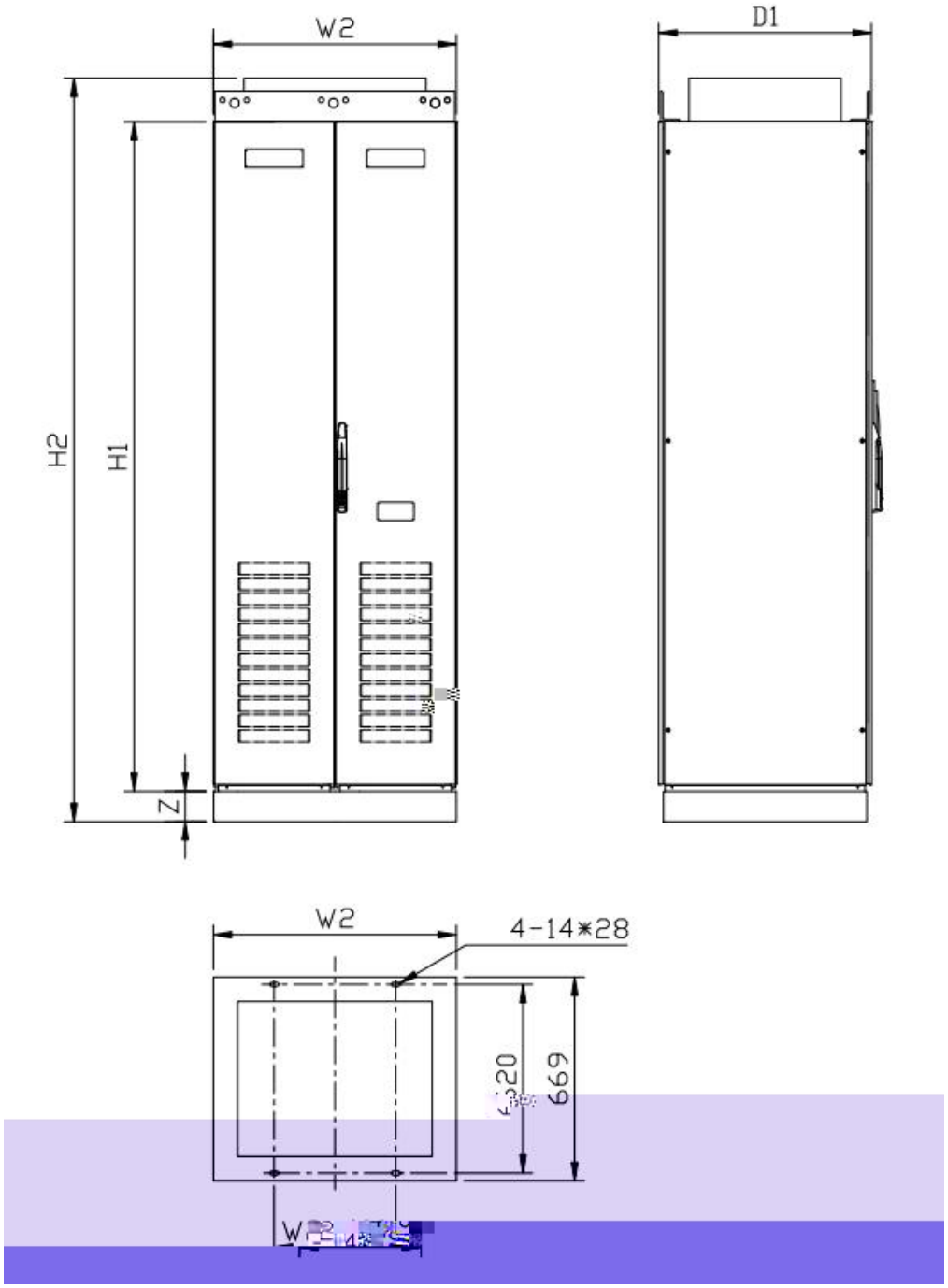



LCL

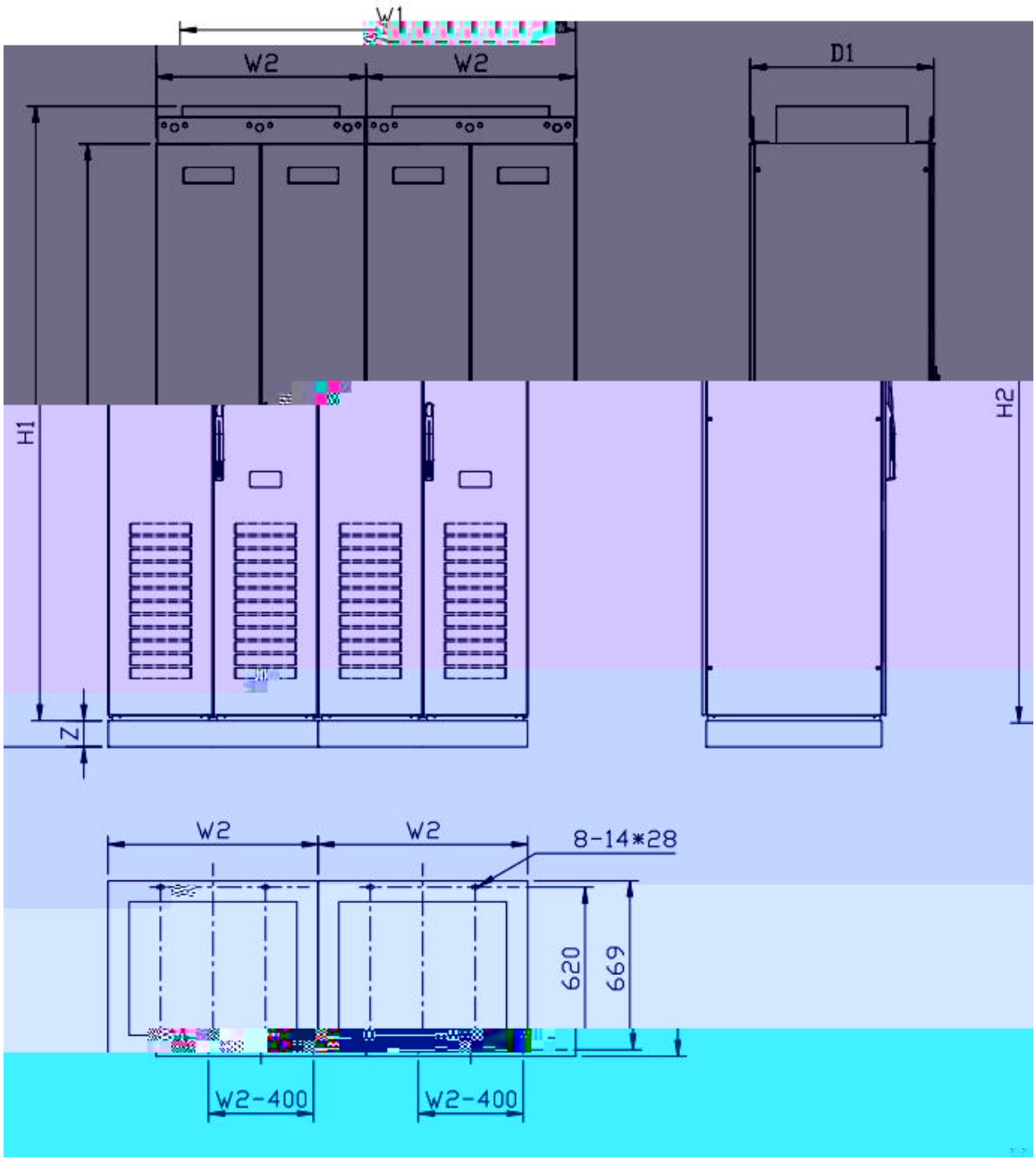
| | | mm | | | | | mm | | | 8.8 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H1 | H2 | W | D1 | D2 | A | B1 | B2 | | |
| HF680N02M-160-5 | B4 | 920 | 880 | 210 | 462 | 444 | 899 | 125 | 150 | 4-M8 | 55 |
| HF680N02M-220-5 | B5 | 1125 | 1075 | 220 | 520 | 505 | 1075 | 150 | 150 | 4-M10 | 80 |
| HF680N02M-315-5 | B6 | 1315 | 1268 | 250 | 618 | 600 | 1295 | 150 | 100 | 4-M12 | 120 |
| HF680N02M-355-5 | | | | | | | | | | | |
| HF680N02M-400-5 | | | | | | | | | | | |
| HF680N02M-450-5 | | | | | | | | | | | |
| HF680N02M-500-5 | | | | | | | | | | | |
| HF680N02M-560-5 | | | | | | | | | | | |

## 5.2

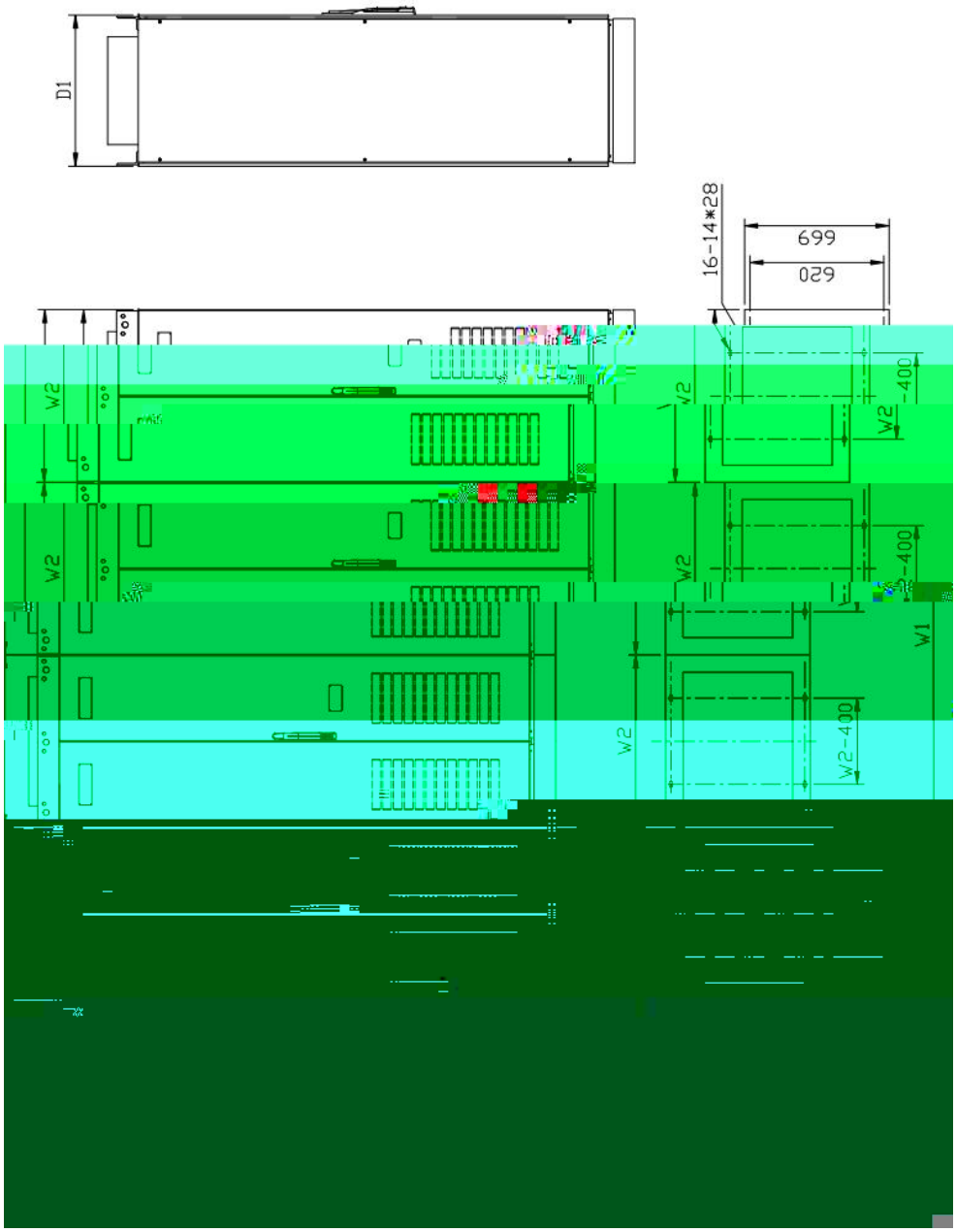
315kW~3200kW

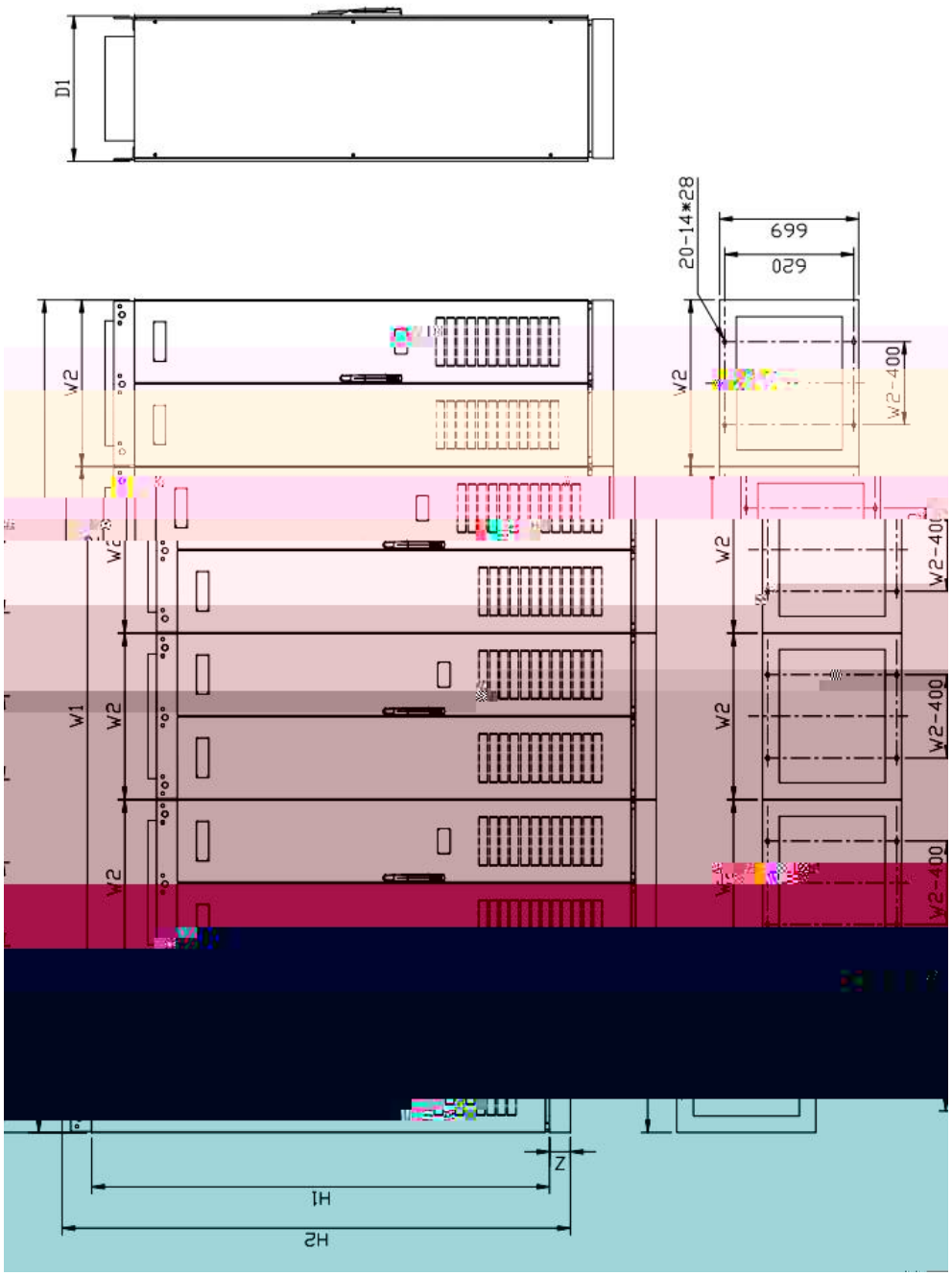



HF680N02C-315-5 HF680N02C-400-5 HF680N02C-560-5




HF680N02C-800-5 HF680N02C-1000-5

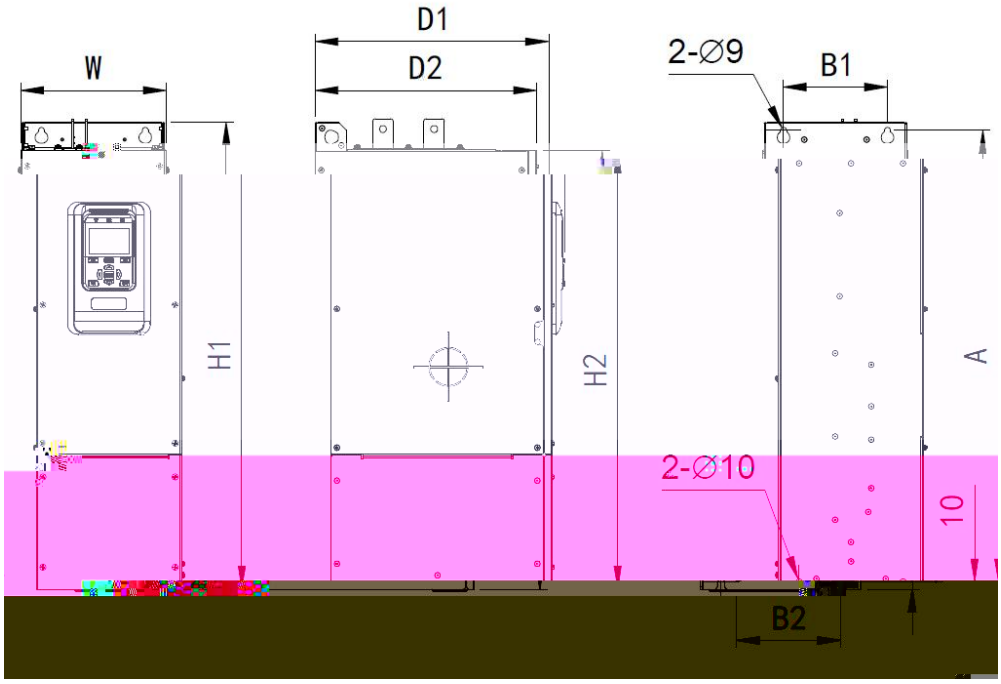

D1
16-14*28
699
620
W2
W2
W2
W2
W2
W2-400
W1


D1
20-14*28
699
620
W2
W2-400
W1
Z
H1
H2

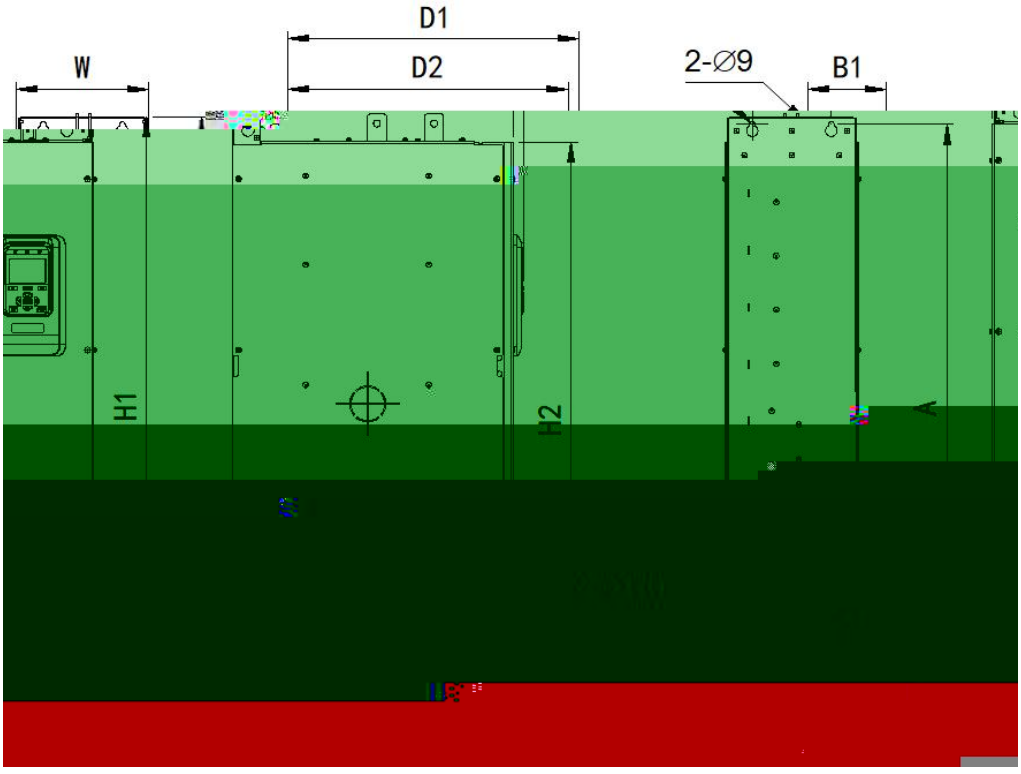

D1
699
629
W2
W2
2-400

| | | mm | | | | | | kg |
|---|---|---|---|---|---|---|---|---|
| | | H1 | H2 | W1 | W2 | D1 | Z | |
| 4 | HF680N02C-800-5+Z4<br>HF680N02C-1000-5+Z4 | 2200 | 2640 | 1600 | 800 | 700 | 300 | 1800 |

5.3



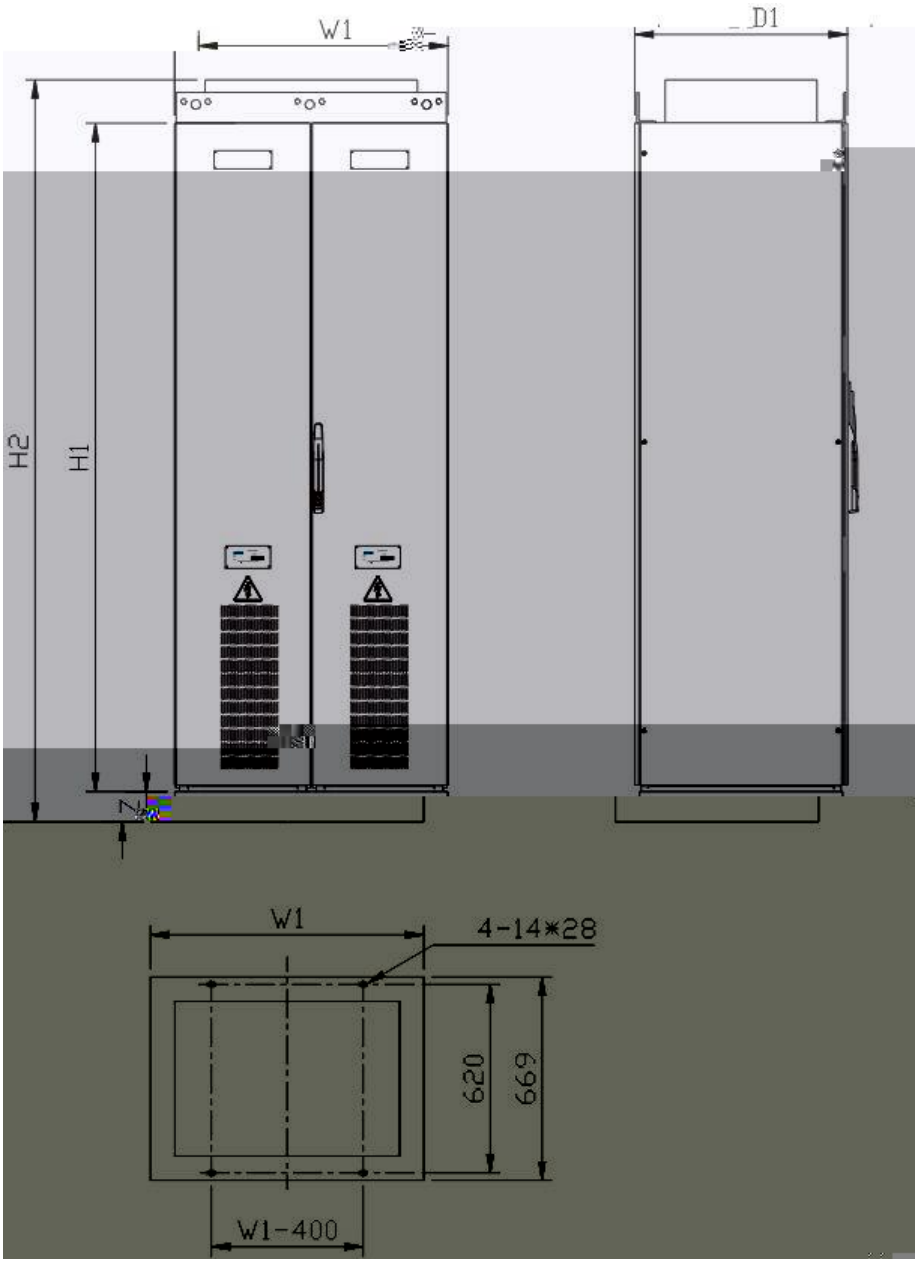

B3




B4

| | | mm | | | | | mm | | | 8.8 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H1 | H2 | W | D1 | D2 | A | B1 | B2 | | |
| HF680N03M-045-5 | B3 | 673 | 633 | 210 | 337 | 320 | 652 | 150 | 150 | 4-M8 | 30 |
| HF680N03M-055-5 | | | | | | | | | | | |
| HF680N03M-075-5 | B4 | 920 | 880 | 210 | 462 | 444 | 899 | 125 | 150 | 4-M8 | 55 |
| HF680N03M-090-5 | | | | | | | | | | | |
| HF680N03M-110-5 | | | | | | | | | | | |
| HF680N03M-132-5 | | | | | | | | | | | |
| HF680N03M-160-5 | | | | | | | | | | | |
| HF680N03M-200-5 | B5 | 1122 | 1075 | 221 | 522 | 505 | 1075 | 150 | 150 | 4-M10 | 80 |
| HF680N03M-220-5 | | | | | | | | | | | |
| HF680N03M-250-5 | | | | | | | | | | | |
| HF680N03M-280-5 | | | | | | | | | | | |
| HF680N03M-315-5 | B6 | 1315 | 1268 | 250 | 618 | 600 | 1295 | 150 | 100 | 4-M12 | 120 |
| HF680N03M-355-5 | | | | | | | | | | | |
| HF680N03M-400-5 | | | | | | | | | | | |
| HF680N03M-450-5 | | | | | | | | | | | |
| HF680N03M-500-5 | | | | | | | | | | | |
| HF680N03M-560-5 | | | | | | | | | | | |

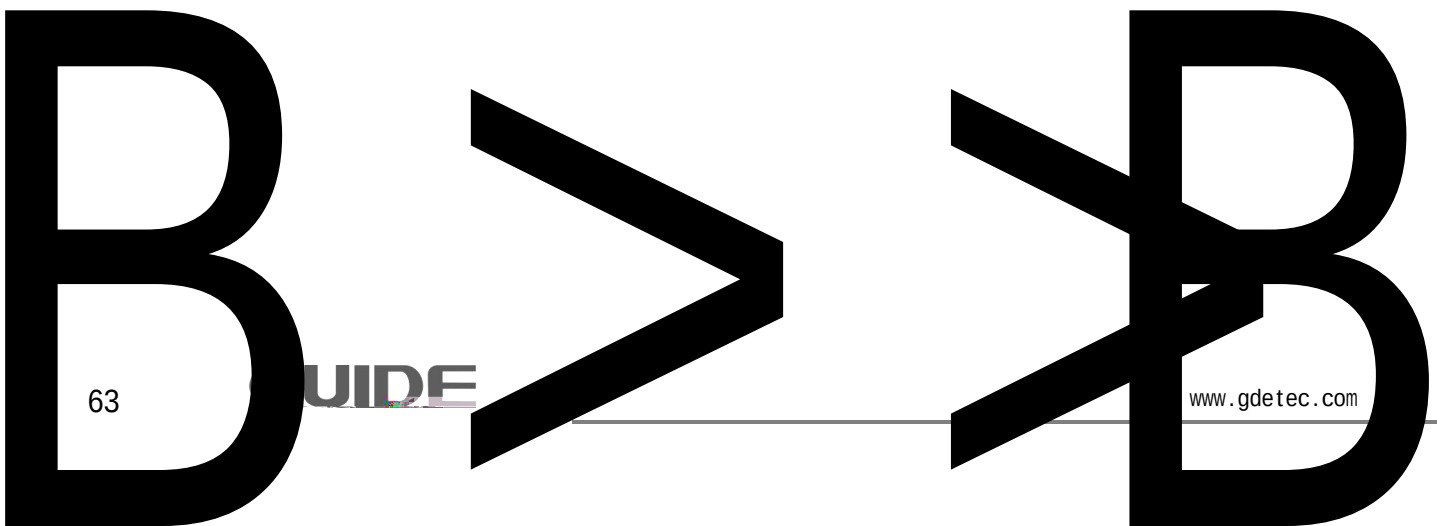
## 5.4



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

6.





B₴

| | |
|---|---|
| | N|N<br>W<br>E |




4

ENTER F1/F2

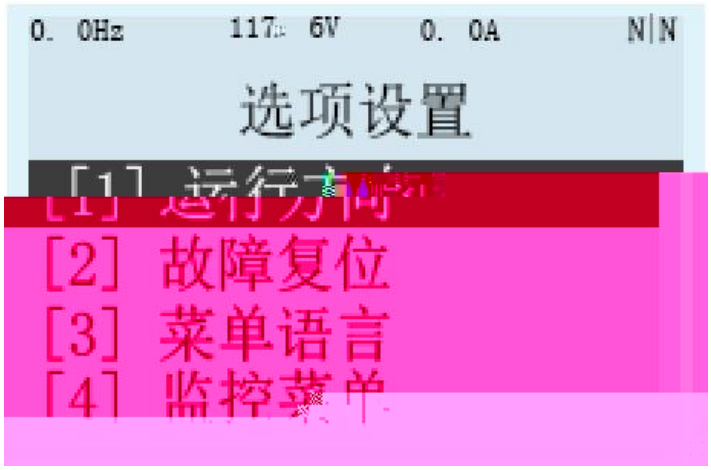
## 6.4

Option Set

1

2

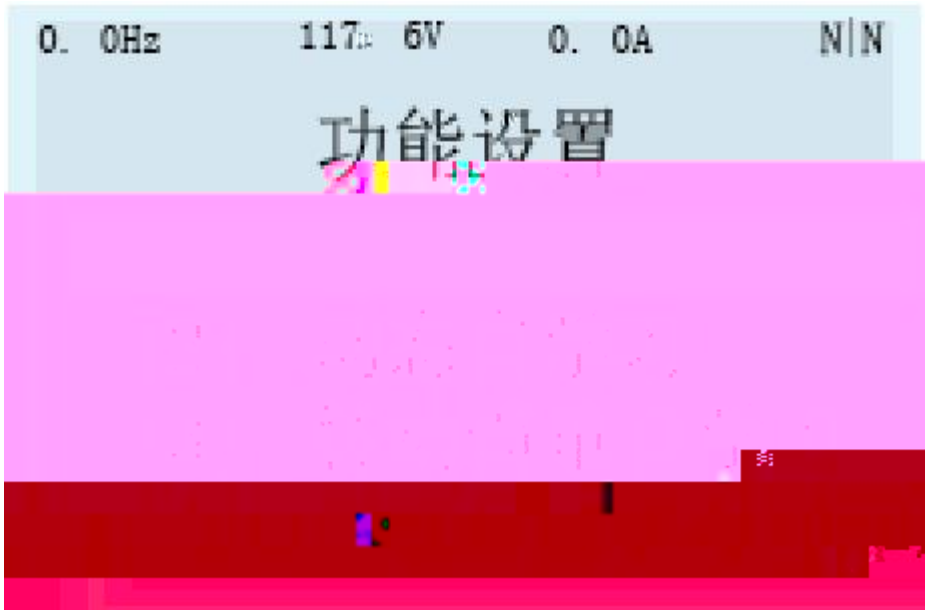
6.4.1




| | | |
|---|---|---|
| | | |
| 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<br>Analog output1 | [%] | 1 |
| | 2<br>Analog output2 | [%] | 2 |

6.4.4




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 |

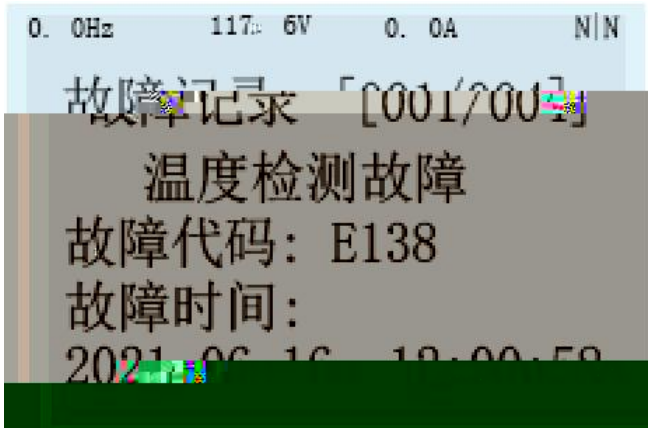
1

2

5

▼ ▲ “Enter”

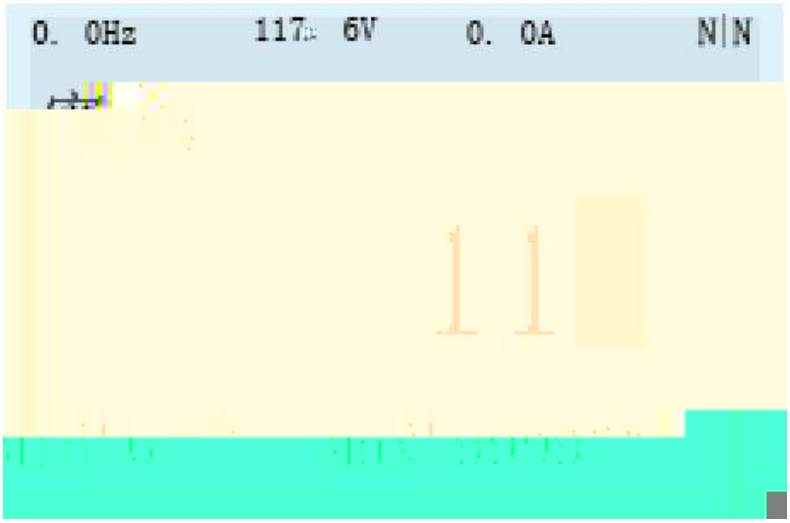
6.4.5




Fault Record

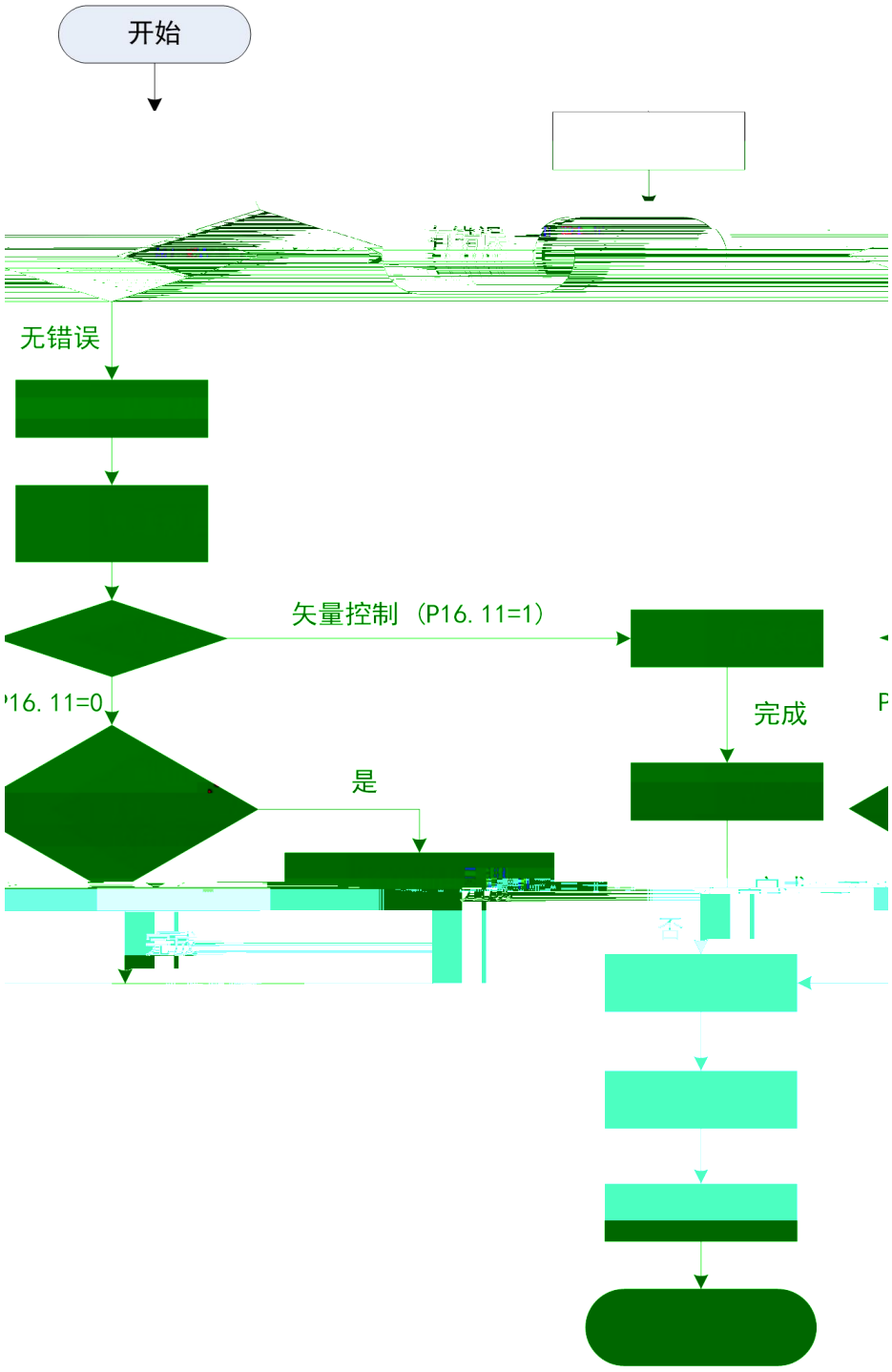
6.4.6

Access Permissions



# 7.

## 7.1



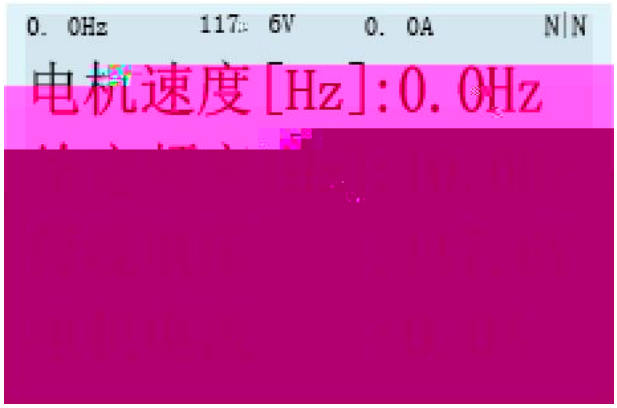
/

V/F P16.11=0 V/F

P16.11=2 P16.11=1

## 7.2

1
2
3
4 AC380~500V 50/60Hz
5 U,V,W
6
7 PG PG
8
9
10




Warring/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<br>[1]<br>[2] | 0 |
| P16.14 | V/F | [0] V/F<br>[1] V/F<br>[2] | 0 |
| P16.24 | | V/F | 50<br>[Hz] |
| P8.16 | 1 | P8.15 | 3 |
| P8.35 | 1 | P8.34 | 3 |
| P8.0 | | [0]<br>[1]<br>[2]DP<br>[3]MODBUS<br>[4] | 1 |

| | | | |
|---|---|---|---|
| | | [0]I/O | |
| | | [1] 1 | |
| | | [2] 2 | |
| P8.10 | | [3] | 3 |
| | | [4]DP | |
| | | [5]MODBUS | |
| | | [6] | |
| P8.3 | | [0]<br>[1] | 1 |
| P7.0 | [ 1] | 0~ | |

gr com

4

50%

### 7.2.4

HF680N

| | |
|---|---|
| | |
| | 7.5%<br>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

DI1 DI2

DI3: 14 DI4

DO2 DO3:

DO4 DO

DO5

1

380V 220V P0.1

“ ” “ ”

“ 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. DO4 | 0 | DO |
| P4 DO5 | 32 | |
| 0 | 180% | |
| P7.4 | 200% | |
| P7.12 | 730V | 430V9<br>800V |
| P8.6 | 300s | 30s ≤<br>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

+P24.7 P16.0

AFE ” Stop

**P8.6** **0.5s** Run

A B C

Stop

**P N** **P N** Local/Remote

| 参数 | 名称 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 DO2 2

P4.2 DO3 1

P4.3 DO4 0
DO

P4.4 DO5 32

P7.0 180%

P7.4 200%

430V

P7.12 730V
800V

300s

P8.6 300s
0.5s

P16.0 380V

P16.2 400kW 400kW

400kW 640A

P16.4

P16.11 3

P16.12 3 3K

ADJ

P24.7 0V

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

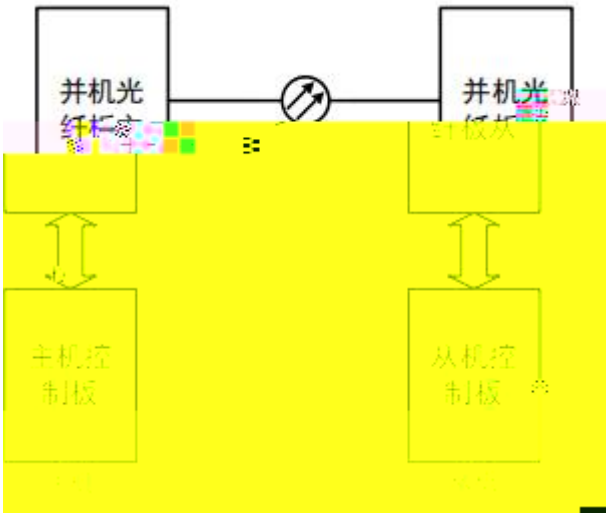
**380V** “ / ” “

D02

D04 D0

D05

1




380V 220V P0.1

DI DO

DO

“ D04A ” “ D04C ” “ D05A ”

“ D05C ” D02 PLC

1

P3.0-P3.7 0 PLC DI “

” “ H:L ” DI 1

E

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

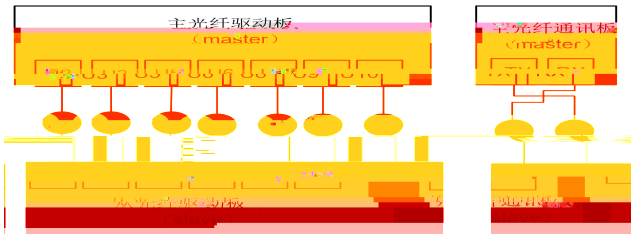
| | | |
|---|---|---|
| | | |
| P2.0 | 1 | |
| P2.3 | 1 | |
| P3.0 | 1 | |
| P3.1 | 20 | |
| P3.2 | 14 | LCL |
| P3.3 | 5 | |
| P4.1 DO2 | 2 | |
| P4.2 DO3 | 1 | |
| P4.3 DO4 | 0 | DO |
| P4.4 DO5 | 32 | |
| P7.0 | 180% | |
| P7.4 | 200% | |
| P7.12 | 730V | 430V 800V |
| P8.6 | 300s | 300s 0.5s |
| 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 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 430V<br>800V |
| 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 | DO2 | 2 | |
| [redacted] | | 1 | |
| P4.3 | DO4 | 0 | DO |
| P4.4 | DO5 | 32 | |
| P7.0 | | 180% | |
| P7.4 | | 200% | |
| P7.12 | | 730V | 430V<br>800V |
| P8.6 | | 300s | |

b

P16.0 0V 600V

≤430V 630V

P16.0≤450V 665V

P16.0 0V 680V

700V

620V P16.0 380V P24.7

20V 620V

220V 220V

101.2 [W1] 101.77 CAN

@ 101.80 CAN " @ 0

-m " ; 380V " / " " 运行

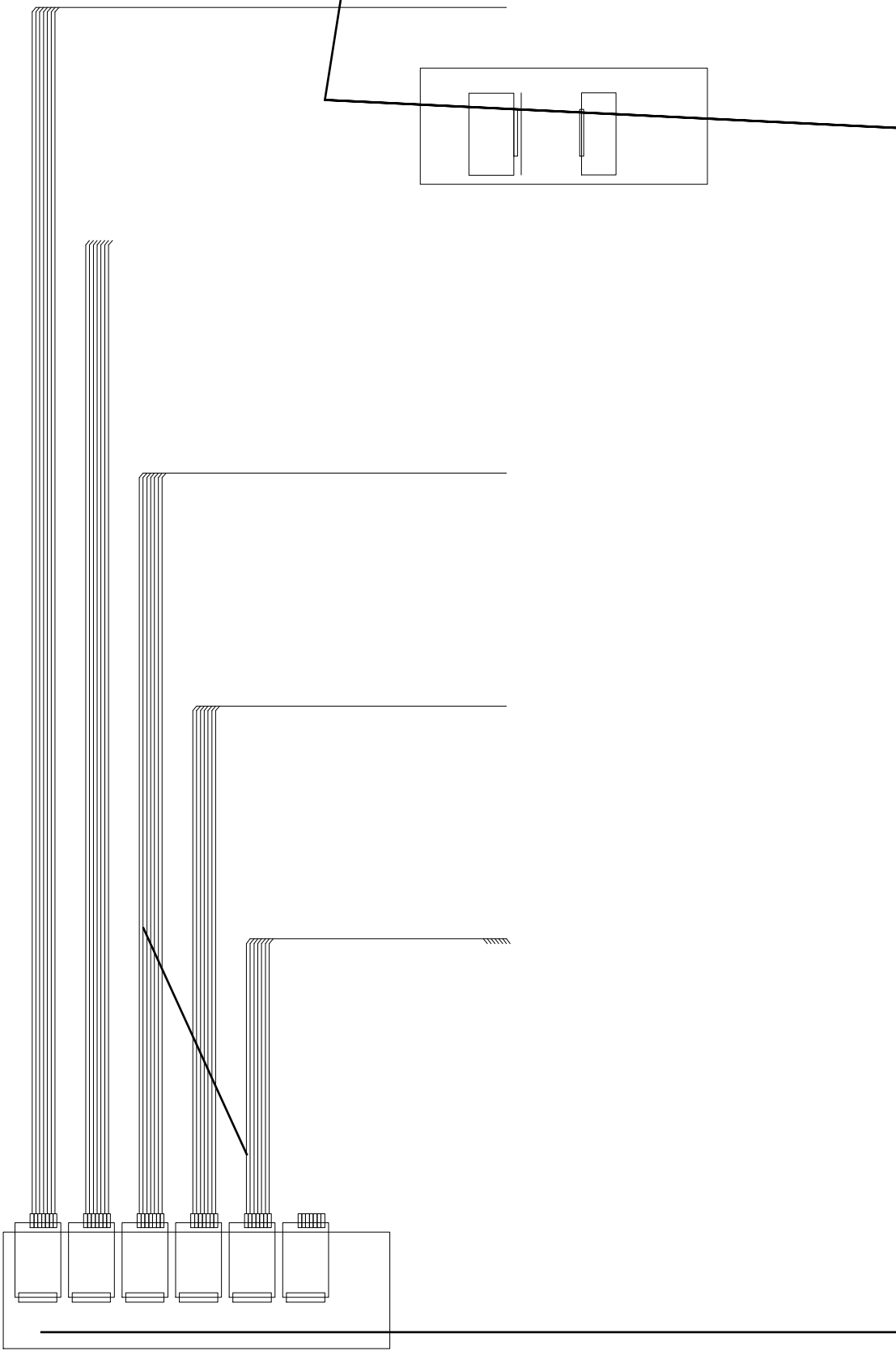
IGBT 300s 103.31

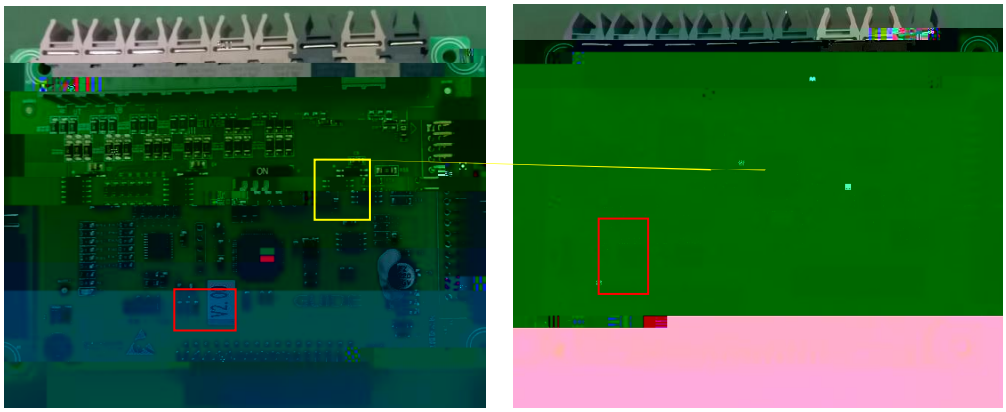
49-51Hz 103.30 AFE

停止

P8.6 0.5s 运行

103.23





PIN

“ ” PIN

DI1 DI2 DI4

DO2

DO4 DO

DO5

DI2

DO4 DO

DO5

P0.1 400KW

P0.1

1 “ DO4A ” “ DO4C ” 1

1 “ DO5A ” “ DO5C ” 1

DO2 PLC 1

P3.0-P3.7 0 PLC DI 

DI DI 1

| 参数 | 名称 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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

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

“ / ” “ ” 运行

AFE 2s

IGBT 300s IGBT

103.31 49-51Hz

停止

运行

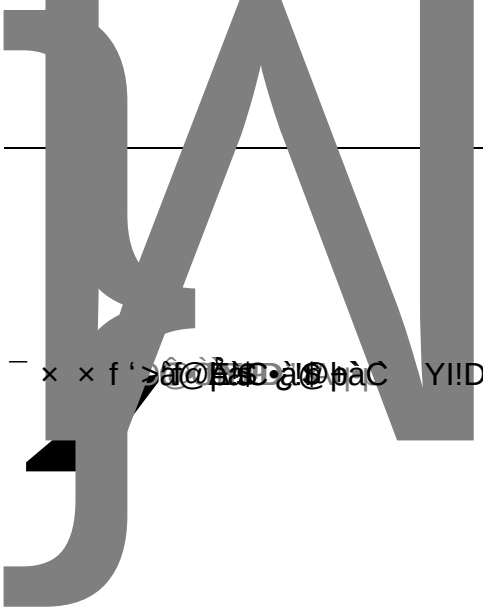
103.23 102.54 102.55

102.56 停止

| | | | | |
|---|---|---|---|---|
| | 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





### 8.3.3

6

### 8.3.4

| | | |
|---|---|---|
| P8.0 | [0]<br>[1]<br>[2]DP<br>[3]MODBUS<br>[4] | 1 |
| P8.3 | [0]<br>[1] | 1 |
| P8.6 | 0 300s | 0 |
| P8.7 | | |

| | | |
|---|---|---|
| | | |
| 6.0 | | 0V |
| 16.2 | | |
| 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<br>[1]<br>[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

“

” “

“ ” “ ”

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]<br>[1]<br>[2] | 0 2 | 0 | 500kW<br>[0]<br>500kW<br>[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<br>300.00<br>[s] | 0.00<br>[s] | IGBT |

## 9.1.6

| | | | | | |
|---|---|---|---|---|---|
| P16.0 | | | 320 550<br>[V] | 500<br>[V] | |
| P16.2 | | | 0.0<br>4000.0<br>[kW] | [kW] | |
| P16.4 | | | 0.0<br>6500.0<br>[A] | [A] | |
| P16.11 | | [0]V/F<br>[1]<br>[2]<br>[3]<br>[4] | 0 4 | 0 | [3] |
| P16.12 | | | 3 8<br>[kHz] | 3<br>[kHz] | 3 8kHz |

## 9.1.7 AFE

| | | | | | |
|---|---|---|---|---|---|
| P24.0 | | [0]<br>[1] 1<br>[2] 2<br>[3]<br>[4]DP<br>[5]MODBUS<br>[6] | 0 6 | 0 | AFE<br>[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 [mF] | 0[mF] | |
| P24.29 | | | 0 6500 [mF] | 0 | AFE |
| P24.30 | | | 0 6.5 [mH] | 0 | AFE |

# 10.

## 10.1 P2

(@ÁPY@U•5„.©$ Bb'î R" ! Ÿ P ,

P2.0 [1] ħ1.

| | | |
|---|---|---|
| 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<br>1 01 2 10 3 11<br>4 |
| 18 | 1 | |
| 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 | o ڑ 3 |

## 10.4 P5

| | | | | | |
|---|---|---|---|---|---|
| P5.0 | AI1 | [0]<br>[1]0 +10V<br>[2]-10 +10V<br>[3]0 20mA | 0 3 | 1 | |
| P5.1 | AI1 | AI1 | 0.0 1000.0<br>[ms] | 25.0<br>[ms] | |
| P5.2 | AI1 | AI1 | -10.00 10.00<br>[V] | 0.000<br>[V] | |
| P5.3 | AI1 | AI1 | -20.00 20.00<br>[mA] | 0.000<br>[mA] | |
| P5.4 | AI1 | AI1 | -10.00 10.00<br>[V] | 0.000<br>[V] | |
| P5.5 | AI1 | AI1 | 0.00 20.00<br>[mA] | 0.000<br>[mA] | |
| P5.6 | AI1 | AI1 | -300.0 300.0<br>[%] | 0.0<br>[%] | |
| P5.7 | AI1 | AI1 | -10.00 10.00<br>[V] | 10.000<br>[V] | |
| P5.8 | AI1 | AI1 | 0.00 20.00<br>[mA] | 20.000<br>[mA] | |
| P5.9 | AI1 | AI1 | -300.0 300.0<br>[%] | 100.0<br>[%] | |
| P5.18 | AI2 | [0]<br>[1]0 +10V<br>[2]-10 +10V<br>[3]0 20mA | 0 3 | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| P5.19 | AI2 | AI2 | 0.0 1000.0 [ms] | 25.0 [ms] | |
| P5.20 | AI2 | AI2 | -10.00 10.00 [V] | 0.000 [V] | |
| P5.21 | AI2 | AI2 | -20.00 20.00 [mA] | 0.000 [mA] | |
| P5.22 | AI2 | AI2 | -10.00 10.00 [V] | 0.000 [V] | |
| P5.23 | AI2 | AI2 | 0.00 20.00 [mA] | 0.000 [mA] | |
| P5.24 | AI2 | AI2 | -300.0 300.0 [%] | 0.0 [%] | |
| P5.25 | AI2 | AI2 | -10.00 10.00 [V] | 10.000 [V] | |
| P5.26 | AI2 | AI2 | 0.00 20.00 [mA] | 20.000 [mA] | |
| P5.27 | AI2 | AI2 | -300.0 300.0 [%] | 100.0 [%] | |

## 10.5 P6

| | | | | | |
|---|---|---|---|---|---|
| P6.0 | AO1 | | 7-1 | 0 14 | 2 |
| P6.1 | | 1 | | 0 1000 | 0 |
| P6.2 | AO1 | | AO1 | -300.0 300.0 [%] | 0.0 [%] |
| P6.3 | AO1 | | AO1 | -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

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## 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 | M1 | 1 | 0.00 [s] | 3.00 [s] | 0.50 [s] |
| P7.24 | 1 | M2 | 2 | 0.00 [s] | 3.00 [s] | 0.50 [s] |
| P7.25 | 1 | M3 | 3 | 0.00 [s] | 3.00 [s] | 0.50 [s] |
| P7.26 | 1 | M4 | 4 | 0.00 [s] | 3.00 [s] | 0.50 [s] |
| P7.27 | 1 | | 1 | 0.00 [s] | 3.00 [s] | 2.00 [s] |
| P7.28 | 2 | | 2 | 0.00 [s] | 3.00 [s] | 2.00 [s] |

| | | | | | | |
|---|---|---|---|---|---|---|
| P8.37 | 2 | P8.34 | P8.36 | 0.0 [s] | 300.0 [s] | 4.00 [s] |
| P8.38 | 3 | | | 0.0 [%] | 300.0 [%] | 240.0 [%] |
| P8.39 | 3 | P8.36 | P8.38 | 0.0 [s] | 300.0 [s] | 7.00 [s] |
| P8.40 | 4 | | | 0.0 [%] | 300.0 [%] | 300.0 [%] |
| P8.41 | 4 | P8.38 | P8.40 | 0.0 [s] | 300.0 [s] | |

## 10.8 2 P9

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

| | | | | | |
|---|---|---|---|---|---|
| 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]<br>[1]PROFIBUS<br>[2]MODBUS<br>[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]<br>[1]PROFIBUS<br>[2]MODBUS<br>[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]<br>[1] | 0 1 | 0 | |
| P10.56 | | | 0.00 300.00 [s] | 3.00 [s] | |
| P10.57 | | [0]<br>[1] | 0 1 | 1 | |
| P10.58 | | | 0.00 300.00 [s] | 1.50 [s] | |

## 10.10 4 P11

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

## 10.11 1 P12

| | | | | | |
|---|---|---|---|---|---|
| P12.0 | | [0]<br>[1] | 0 1 | 1 | |
| P12.1 | | [0][%]<br>[1][Hz]<br>[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] | |
| P12.37 | | | 0.00 2.00 [s] | 0.50 [s] | |

## 10.12 2 P13

| | | | | | |
|---|---|---|---|---|---|
| P13.0 | | [0]<br>[1] | 0 1 | 1 | |
| P13.1 | | [0][%]<br>[1][Hz]<br>[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<br>[%] | 2.0<br>[%] | |
| P13.23 | | | 0.0 20.0<br>[%] | 0.0<br>[%] | |
| P13.24 | | | 0.0 200.0<br>[%] | 30.0<br>[%] | |
| P13.25 | | | 0.0 200.0<br>[%] | 20.0<br>[%] | |
| P13.26 | | | 0.00 2.00<br>[s] | 0.00<br>[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]<br>[1] | 0 1 | 1 | |
| P14.1 | | [0][%]<br>[1][Hz]<br>[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<br>[%] | 2.0<br>[%] | |
| P14.23 | | | 0.0 20.0<br>[%] | 0.0<br>[%] | |
| P14.24 | | | 0.0 200.0<br>[%] | 30.0<br>[%] | |
| P14.25 | | | 0.0 200.0<br>[%] | 20.0<br>[%] | |
| P14.26 | | | 0.00 2.00<br>[s] | 0.00<br>[s] | |

| | | | | |
|---|---|---|---|---|
| P14.27 | | | 0.00 2.00 [s] | 0.00 [s] |
| P14.28 | | | 0.00 2.00 [s] | 0.07 [s] |
| P14.29 | | | 0.00 2.00 [s] | 0.07 [s] |
| P14.32 | | | 0.0 20.0 [%] | 0.0 [%] |
| P14.33 | | | 0.0 20.0 [%] | 0.0 [%] |
| P14.34 | | | 0.00 2.00 [s] | 0.00 [s] |
| P14.35 | | | 0.00 2.00 [s] | 0.00 [s] |
| P14.36 | | | 0.00 .2000 [s] | 0.50 [s] |
| P14.37 | | .00 | 0.00 2.00 [s] | 0.50 [s] |

10.14 4 P15

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P15.27 | | | | 0.00 [s] | 2.00 [s] | 0.00 [s] | |
| P15.28 | | | | 0.00 [s] | 2.00 [s] | 0.07 [s] | |
| P15.29 | | | | 0.00 [s] | 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 [s] | 2.00 [s] | 0.00 [s] | |
| P15.35 | نم | نم | نم | 0.00 [s] | 2.00 [s] | 0.00 [s] | نم v |
| P15.36 | | | | 0.00 [s] | 2.00 [s] | 0.50 [s] | |
| P15.37 | | | | 0.00 [s] | 2.00 [s] | 0.50 [s] | |

## 10.15 1 V/F P16

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

| | | | | |
|---|---|---|---|---|
| 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 12 | |

## 10.16 2 V/F P17

| | | | | | |
|---|---|---|---|---|---|
| P17.0 | | | 320 550<br>[V] | 500<br>[V] | |
| P17.2 | | | 0.0 4000.0<br>[kW] | <br>[kW] | |
| P17.3 | | | 320 520<br>[V] | 500<br>[V] | |
| P17.4 | | | 0.0 6500.0<br>[A] | <br>[A] | |
| P17.5 | | | 0.0 300.0<br>[Hz] | 50.0<br>[Hz] | |
| P17.6 | | | 0 6000<br>[rpm] | 1465<br>[rpm] | |
| P17.7 | | | 2 12<br>[pole] | 4<br>[pole] | |
| P17.9 | | | 0 7200<br>[rpm] | 1500<br>[rpm] | |
| P17.11 | | [0]V/F<br>[1]<br>[2]<br>[3]<br>[4] | 0 4 | 0 | |
| P17.12 | | | 1.00 10.00<br>[kHz] | 3.00<br>[kHz] | |
| P17.14 | V/F | [0] V/F<br>[1] V/F<br>[2] | 0 3 | 0 | |
| P17.15 | | [0]<br>[1] | 0 1 | 0 | |
| P17.16 | | | 2 500<br>[ms] | 500<br>[ms] | |
| P17.17 | V/F | [0]<br>[1] | 0 1 | 0 | |
| P17.18 | | | 10 1000<br>[ms] | 200<br>[ms] | |
| P17.19 | | [0]<br>[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<br>[V] | 500<br>[V] | |
| P18.2 | | | 0.0 4000.0<br>[kW] | <br>[kW] | |
| P18.3 | | | 320 520<br>[V] | 500<br>[V] | |
| P18.4 | | | 0.0 6500.0<br>[A] | <br>[A] | |
| P18.5 | | | 0.0 300.0<br>[Hz] | 50.0<br>[Hz] | |
| P18.6 | | | 0 6000<br>[rpm] | 1465<br>[rpm] | |
| P18.7 | | | 2 12<br>[pole] | 4<br>[pole] | |
| P18.9 | | | 0 7200<br>[rpm] | 1500<br>[rpm] | |
| P18.11 | | [0]V/F<br>[1]<br>[2]<br>[3]<br>[4] | 0 4 | 0 | |
| P18.12 | | | 1.00 10.00<br>[kHz] | 3.00<br>[kHz] | |
| P18.14 | V/F | [0] V/F<br>[1] V/F<br>[2] | 0 3 | 0 | |
| P18.15 | | [0]<br>[1] | 0 1 | 0 | |
| P18.16 | | | 2 500<br>[ms] | 500<br>[ms] | |
| P18.17 | V/F | [0]<br>[1] | 0 1 | 0 | |
| P18.18 | | | 10 1000<br>[ms] | 200<br>[ms] | |
| P18.19 | | [0]<br>[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]<br>[1]PID 1<br>[2]PID 2<br>[3] | 0 3 | 0 | |
| P18.49 | @ | | 0 300 | 0 | |
| P18.50 | | | 0.00 300.00<br>[s] | 0.00<br>[s] | |
| P18.51 | | | 0.0 150.0<br>[%] | 70.0<br>[%] | |
| P18.52 | | | 0.00 5.00<br>[Hz] | 0.00<br>[Hz] | |
| P18.54 | | | 0.00 300.00<br>[s] | 0.00<br>[s] | |
| P18.55 | | | 0.0 150.0<br>[%] | 75.0<br>[%] | |
| P18.56 | | | 0.00 5.00<br>[Hz] | 0.00<br>[Hz] | |
| P18.59 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.60 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.61 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.62 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.64 | V/F | V/F | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.66 | | V/F | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.67 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.68 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.69 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |
| P18.70 | | | 0.0 1000.0<br>[%] | 100.0<br>[%] | |

## 10.18 4 V/F P19

PR

| | | | |
|---|---|---|---|
| P19.22 | | 0.00 100.00 [s] | 0.00 [s] |
| P19.23 | V/F | 0.00 300.00 [Hz] | 0.00 [Hz] |
| P19.24 | V/F | 0.00 300.00 [Hz] | 50.00 [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 [Hz] | 5.0 [Hz] |
| P19.35 V/F 1 | | 0.0 125.0 [%] | 11.5 [%] |
| P19.36 V/F 2 | | 0.0 300.0 [Hz] | 50.0 [Hz] |
| P19.37 V/F 2 | | 0.0 125.0 [%] | 100.0 [%] |
| P19.38 V/F 3 | | 0.0 300.0 [Hz] | 50.0 [Hz] |
| P19.39 V/F 3 | | 0.0 125.0 [%] | 100.0 [%] |
| P19.40 V/F 4 | | 0.0 300.0 [Hz] | 50.0 [Hz] |
| P19.41 V/F 4 | | 0.0 125.0 [%] | 100.0 [%] |
| P19.42 V/F 5 | | 0.0 300.0 [Hz] | 50.0 [Hz] |
| P19.43 V/F 5 | | 0.0 125.0 [%] | 100.0 [%] |
| P19.44 V/F 6 | | 0.0 300.0 [Hz] | 50.0 [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]<br>[1] | | 0 1 | 0 |
| P20.1 | | [0]<br>[1] 1<br>[2] 2<br>[3]<br>[4]<br>[5]DP<br>[6]MODBUS<br>[7] | P20.3 | 0 7 | 0 |
| P20.2 | | | | 0 7 | 0 |
| P20.3 | | | | -300.0 300.0<br>[%] | 0.0<br>[%] |
| P20.4 | @ | | | 0 300 | 0 |
| P20.5 | | | | 0 [ 1000 s<br>0 [ms] | 0<br>[ms] |
| P20.6 | | | | 0.0 200.0<br>[%] | 100.0<br>[%] |
| P20.7 | | [0]<br>[1]<br>P20.9<br>[2] 1<br>[3] 2<br>[4]<br>[5]DP<br>[6]MODBUS<br>[7] | P20.8 | 0 7 | 0 |
| P20.8 | | P20.7 [1] | | 0.0 300.0<br>[%] | 200.0<br>[%] |
| P20.9 | | P20.7 [1] | | 0.0 300.0<br>[%] | 200.0<br>[%] |
| P20.10 | | | | 0 | |

| | | | |
|---|---|---|---|
| P20.31 | 0.0 [%] | 100.0 [%] | 5.0 [%] |
| P20.32 | 0.0 [%] | 100.0 [%] | 5.0 [%] |

| | | | | | | |
|---|---|---|---|---|---|---|
| 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 [%] |
| P20.56 | | | | | 0.0 [%] | 1000.0 [%] 100.0 [%] |
| P20.57 | | [0] [1] | | | 0 | 1 0 |
| 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 [ms] | 2000 [ms] 50 [ms] |
| P20.62 | | | | | 0.0 [%] | 1000.0 [%] 100.0 [%] |
| P20.63 | | | | | 0.0 [%] | 1000.0 [%] 100.0 [%] |
| P20.66 | | 1 | | 1 | 0.0 [%] | 1000.0 [%] 100.0 [%] |
| P20.67 | | | | | | |

| | | | | |
|---|---|---|---|---|
| P20.77 | 2 | | 2 | 90.0 110.0 100.0<br>[%] [%] |
| P20.78 | | | | 0.00 650.00 0.00<br>[mOhm] [mOhm] |
| P20.79 | | | | 0.00 65.50 0.000<br>[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<br>[mH] [mH] |
| P20.85 | 85% | 85% | | 40.0 150.0 108.0<br>[%] [%] |
| P20.86 | 87.5% | 87.5% | | 40.0 150.0 106.5<br>[%] [%] |
| P20.87 | 90% | 90% | | 40.0 150.0 105.0<br>[%] [%] |
| P20.88 | 92.5% | 92.5% | | 40.0 150.0 103.5<br>[%] [%] |
| P20.89 | 95% | 95% | | 40.0 150.0 102.0<br>[%] [%] |
| P20.90 | 102.5% | 102.5% | | 40.0 150.0 99.0<br>[%] [%] |
| P20.91 | 105% | 105% | | 40.0 150.0 96.5<br>[%] [%] |
| P20.92 | 110% | 110% | | 40.0 150.0 93.0<br>[%] [%] |
| P20.93 | 115% | 115% | | 40.0 150.0 88.5<br>[%] [%] |
| P20.94 | 120% | 120% | | 40.0 150.0 83.0<br>[%] [%] |
| P20.95 | 125% | 125% | | 40.0 150.0 77.0<br>[%] [%] |
| P20.96 | 130% | 130% | | 40.0 150.0 70.5<br>[%] [%] |
| P20.97 | 135% | 135% | | 40.0 150.0 63.5<br>[%] [%] |
| P20.98 | | | ( ) | 0.01 300.00 0.75<br>[s] [s] |
| P20.99 | | | | 0.00 10.00 0.00<br>[%] [%] |

| | | | | |
|---|---|---|---|---|
| P21.54 | Ki | 0.0 [%] | 1000.0 [%] | 10000 [%] |
| P21.55 | 21.55 | | | |

| | | | | | |
|---|---|---|---|---|---|
| P21.78 | | | | 0.00 [mOhm] | 650.00 [mOhm] | 0.00 [mOhm] |
| P21.79 | | | | 0.00 [mH] | 65.50 [mH] | 0.000 [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 [mH] | 655.00 [mH] | 0.00 [mH] |
| P21.85 | | 85% | 85% | | | |

## 10.21 3 P22

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

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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]<br>[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]<br>[1] | 0 1 | 0 | |
| P23.72 | | [0]<br>[1] | 0 1 | 1 | |
| P23.73 | | [0] × 1<br>[1] × 10 | 0 1 | 0 | |
| P23.74 | | | 0.00 650.00 [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 | 1 | 1 | 0.800 | 1.350 | 1.140 |
| P23.81 | 2 | 2 | 0.800 | | |

## 10.23 P33

| | | | |
|---|---|---|---|
| P33.0 Profibus | [0]<br>[1] | 0 1 | 0 |
| P33.1 | PLC | 1 255 | 1 |
| P33.2 | [0]PPO 1<br>[1]PPO 2<br>[2]PPO 5<br>[3]GUIDE | 0 3 | 2 |
| P33.3 | | 0 16 | 14 |
| P33.4 | | ON | |

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

| | | | | | |
|---|---|---|---|---|---|
| P33.44 | [W15] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000 | 0 4 | 0 | |
| P33.45 | [W0] | 7-3 | 0 48 | 0 | |
| P33.46 | [W0] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000<br>[5] [%] × 1<br>[6] [%] × 10<br>[7] [%] × 100 | 0 7 | 0 | |
| P33.47 | [W1] | 7-3 | 0 48 | 0 | |
| P33.48 | [W1] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000<br>[5] [%] × 1<br>[6] [%] × 10<br>[7] [%] × 100 | 0 7 | 0 | |
| P33.49 | [W2] | 7-3 | 0 48 | 0 | |
| P33.50 | [W2] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000<br>[5] [%] × 1<br>[6] [%] × 10<br>[7] [%] × 100 | 0 7 | 0 | |
| P33.51 | [W3] | 7-3 | 0 48 | 0 | |
| P33.52 | [W3] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000<br>[5] [%] × 1<br>[6] [%] × 10<br>[7] [%] × 100 | 0 7 | 0 | |
| P33.53 | [W4] | 7-3 | 0 48 | 1 | |

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

| | | | |
|---|---|---|---|
| P33.62 | [W8] | [0] × 1<br>[1] × 10<br>[2] × 100<br>[3] × 1000<br>[4] × 10000<br>[5] [%] × 1<br>[6] [%] × 10<br>[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 @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 48 | AW22 29 |

# 11.

## 11.1

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| | | | | |
|---|---|---|---|---|
| W01 | SYS_NOT_RDY | (Ready) | | |
| W02 | NO_DRV_ENABLE | [ ] | | P3 |
| W03 | LOCAL_EM | [ ] | | P3 |
| W04 | REMOTE_EM | [ ] | | P3 |
| W06 | O.T | P7.14( ) | | |
| W09 | DP P/B ALARM | DP | DP | |
| W10 | MODBUS MODBUS ALARM | Modbus | Modbus | |
| W15 | PARAMETER ERROR | | | |
| W18 | Temp_Sensing Fail | | | |
| W20 | SLV_NOT_RDY | | | |
| W21 | 1 SLV1_CAN_ERR | 1 | | 1 |
| W22 | 2 SLV2_CAN_ERR | 2 | | 2 |
| W23 | 3 SLV3_CAN_ERR | 3 | | |

## 11.2

| | | |
|---|---|---|
| [E050] | U<br>ERR_UT not reset | IGBT<br>IGBT |
| [E051] | U<br>ERR_UT not reset | IGBT<br>IGBT |
| [E052] | V<br>ERR_UT not reset | IGBT<br>IGBT |
| [E053] | V<br>ERR_UT not reset | IGBT<br>IGBT |
| [E054] | W<br>ERR_UT not reset | IGBT<br>IGBT |
| [E055] | W<br>ERR_UT not reset | IGBT<br>IGBT |
| [E056] | ERR_SLAVE_FAULT not reset | |
| [E100] | OV | P8.35( 1)<br>P7.12( ) |
| [E105] | UV | P7.13( ) |
| [E110] | OC | P7.4( [ 1])<br>P7.4( ) |

| | | |
|---|---|---|
| [E113] | MIP | |
| [E114] | MOP | |
| [E115] | OS | P7.19<br>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<br>P7.31 P7.32 |
| [E121] | IGBT1<br>OT1 | |
| [E122] | IGBT2<br>OT2 | |
| [E123] | IGBT3<br>OT3 | |
| [E124] | IGBT4<br>OT4 | |
| [E125] | IGBT5<br>OT5 | |
| [E126] | IGBT6<br>OT6 | |
| [E127] | IGBT7<br>OT7 | |
| [E128] | IGBT8<br>OT8 | |
| [E137] | FAN STALL | |

| | |
|---|---|
| [E138] | TEMP_SENSING FAIL |
| [E139] | Pre_Charging Fail<br>P7.95 |
| [E140] | Line UV |
| [E141] | Line OPEN |
| [E142] | Line Detection Error |
| [E143] | DI<br>Line SW Fail |
| [E144] | Line SW SHORT |
| [E145] | (AFE)<br>Line OV<br>P16.0 |
| [E146] | (AFE)<br>Line Over_Freq |
| [E151] | U IGBT<br>PDP [UT] |
| [E152] | U IGBT<br>PDP [UB] |
| [E153] | V IGBT<br>PDP [VT] |
| [E154] | V IGBT<br>PDP [VB] |
| [E155] | W IGBT<br>PDP [WT] |
| [E156] | W IGBT<br>PDP [WB] |



- 
- ON
- COM

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- ON
- COM (
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## 12.

1.

1

2.

3.

## 12.2

1.
2.

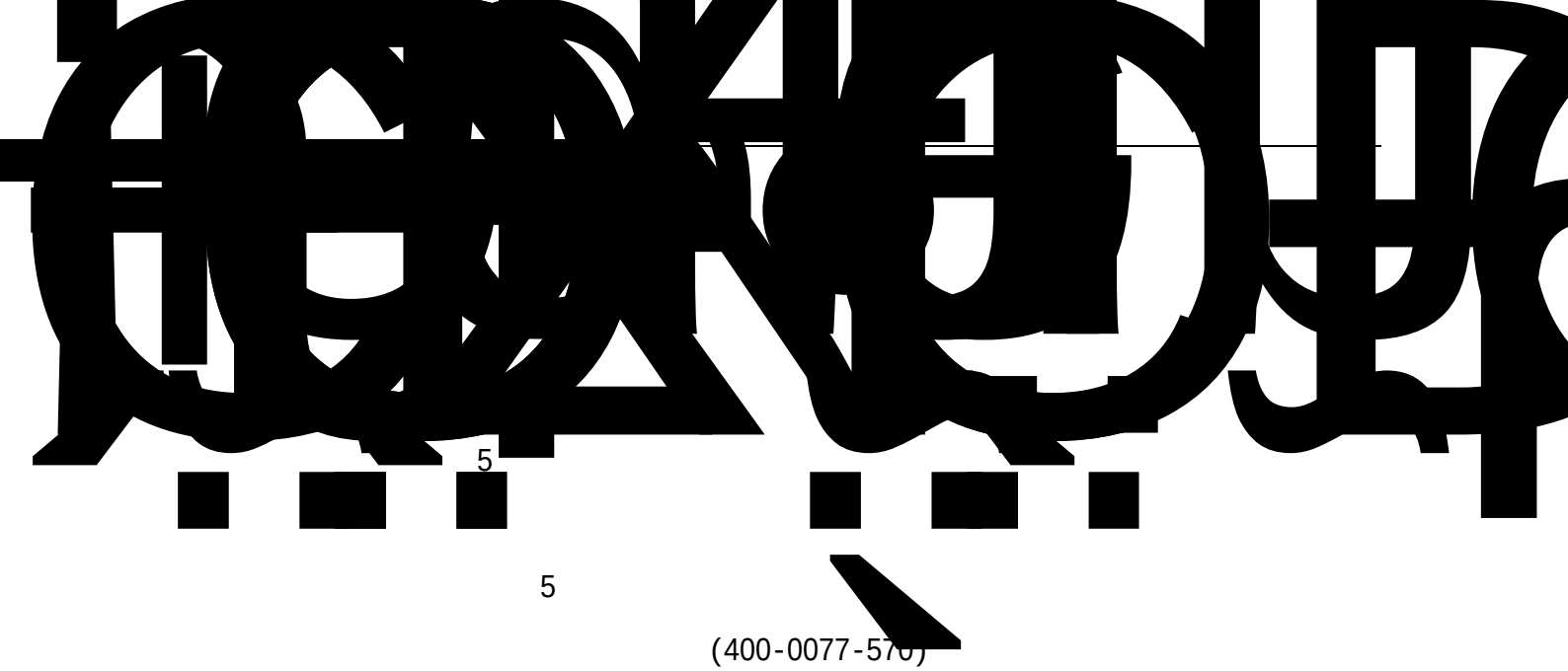
1.
2.

1.
2.
3.

1. > 40
   < 95%
2.

1.
2.

1.
2.
3.



5

5

(400-0077-570)

1 40
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2 80%
3 24 /

**12.5**

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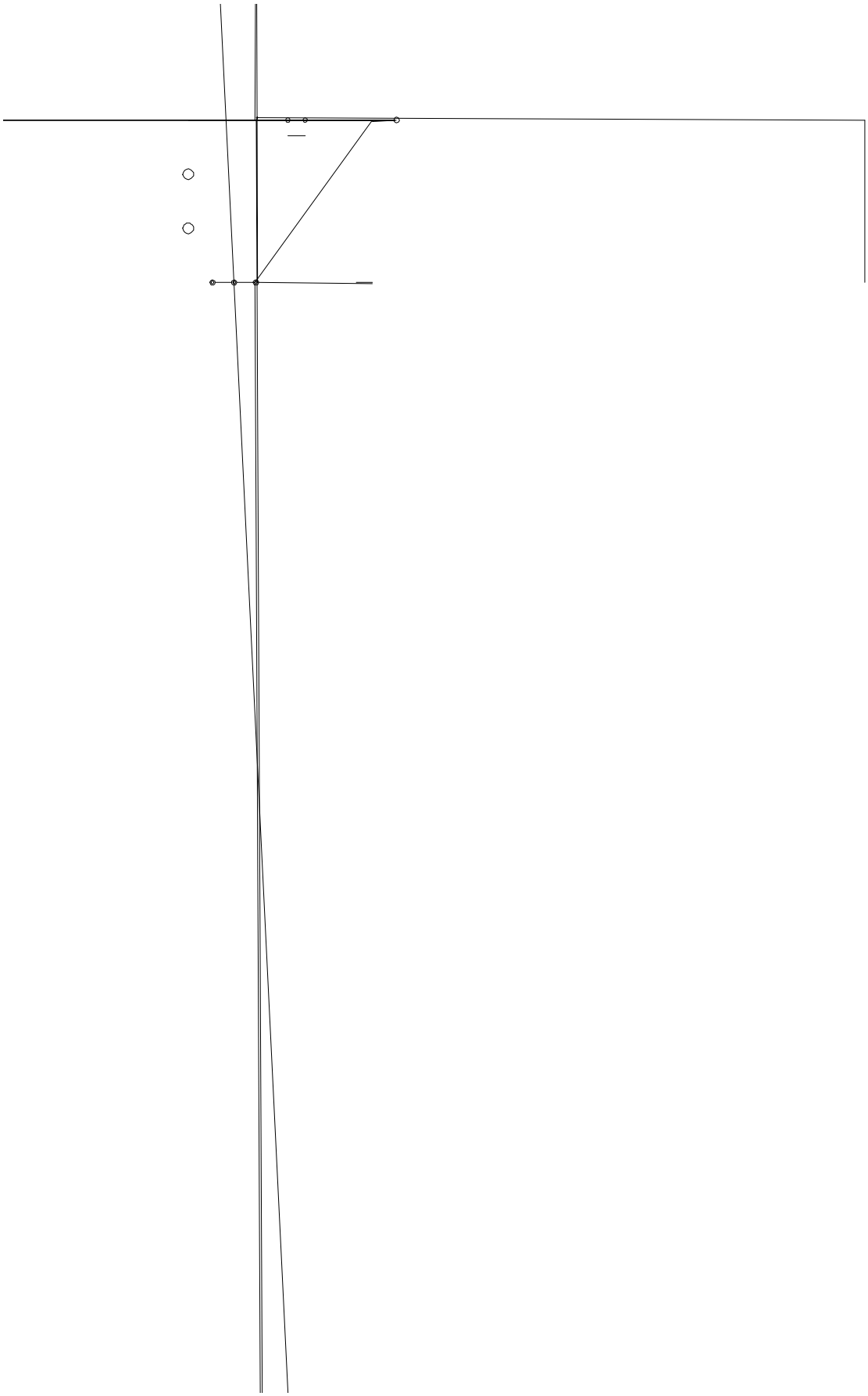
5

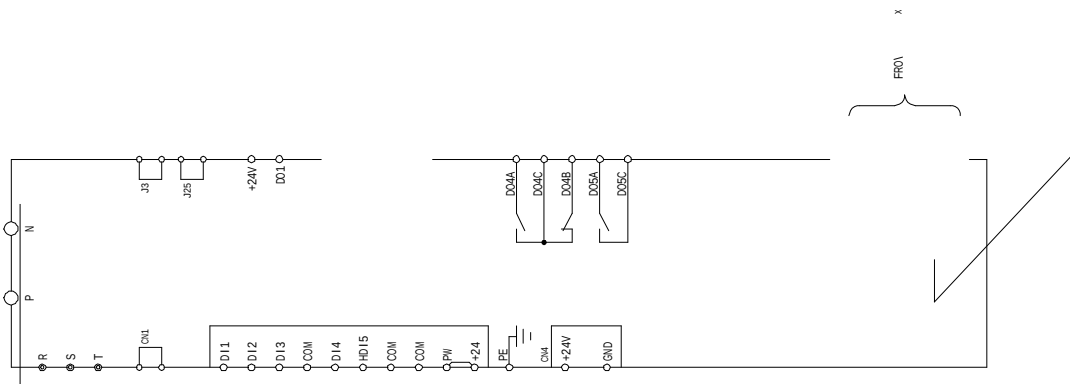
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+24V
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DO4A
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DO4B
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DI1
DI2
DI3
COM
DI4
HDI5
COM
COM
PW
+24
PE
CN4
+24V
GND

# HF680N-5

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