

1.

“ 3.12 ”

2024

1.1

1-1

	1/2	2
	3	1
	4	1



1.2

1-2

	50	200	40	40	

	0	300	-	-	
	3	-	-	-	

1.3

1-3

		2
		1
		1

2.

2.1



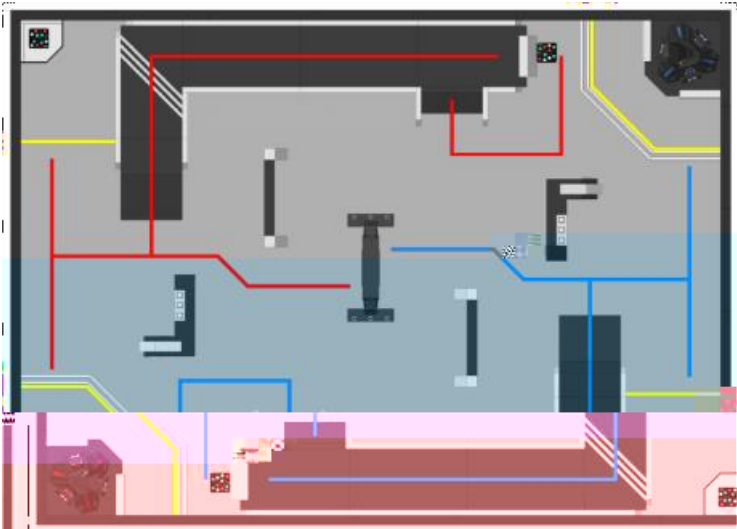
5%

“

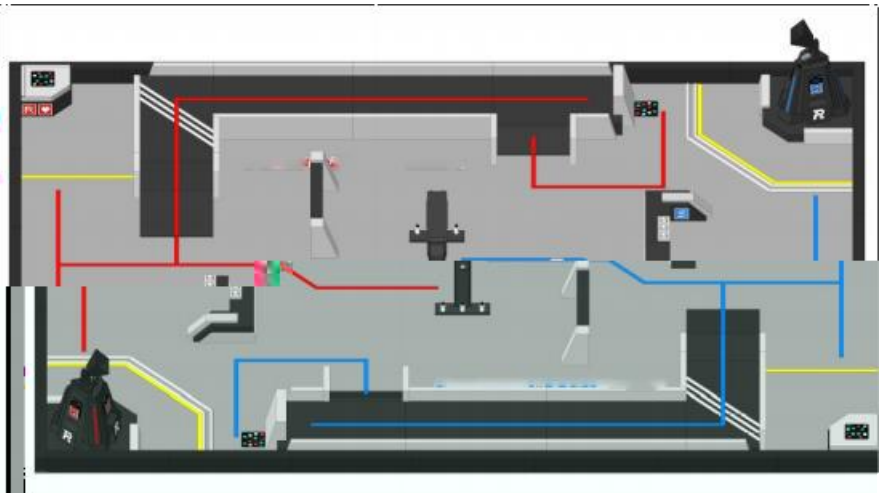
”

7

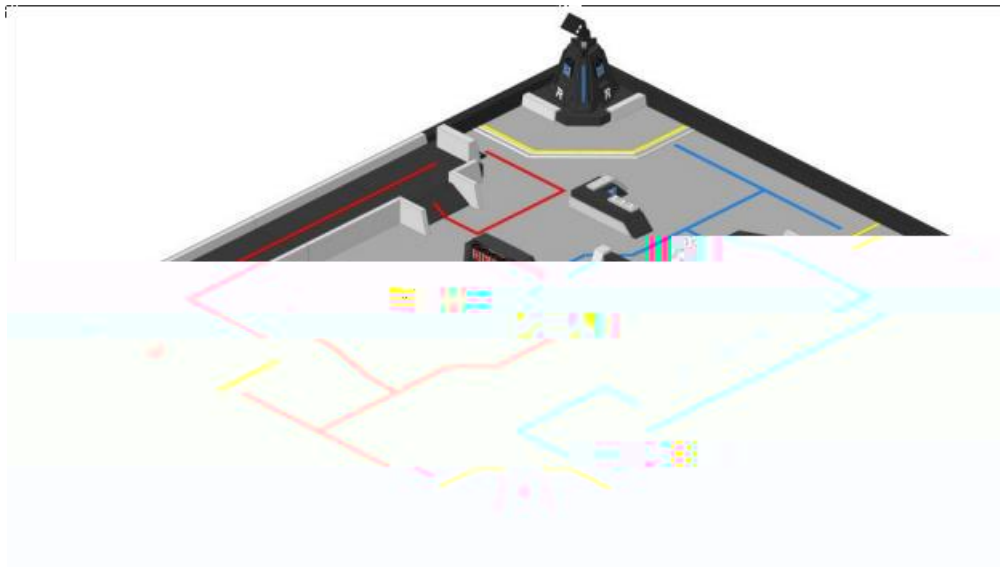
5



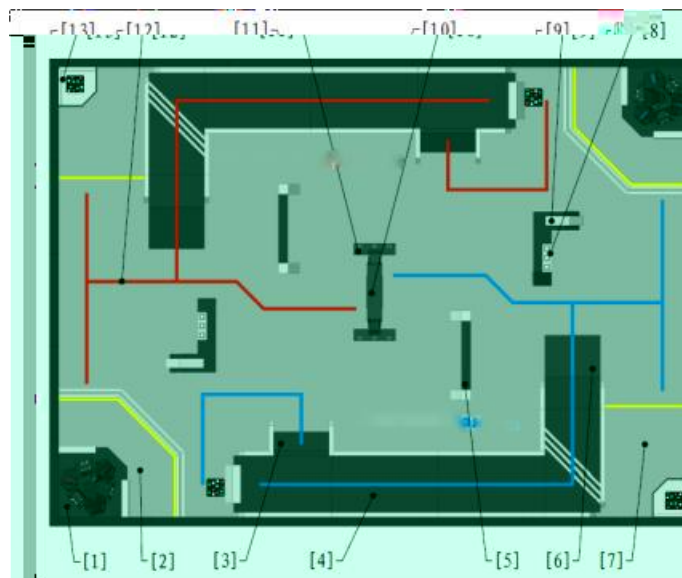
2-1



2-2

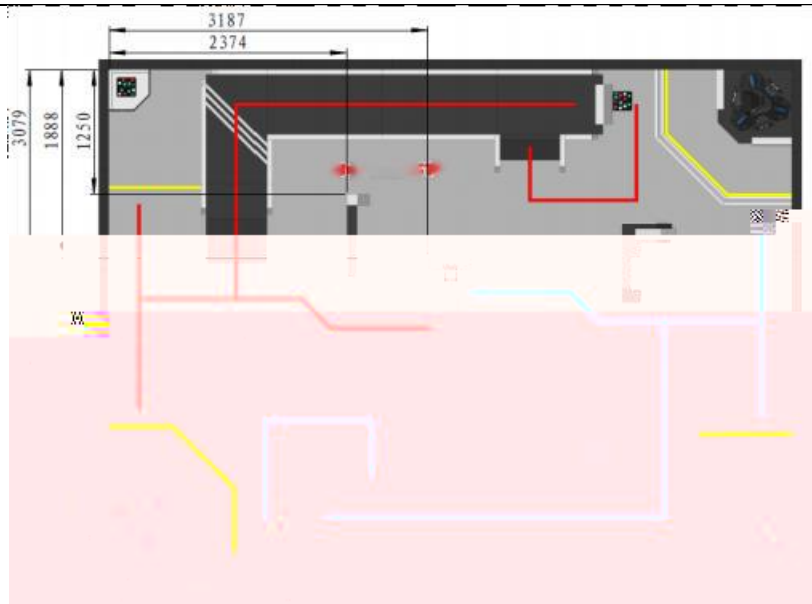


2-3



1	2	3	30	4
5	6	15	7	8
9	10	11		12
13				

2-4



2-5

20

A

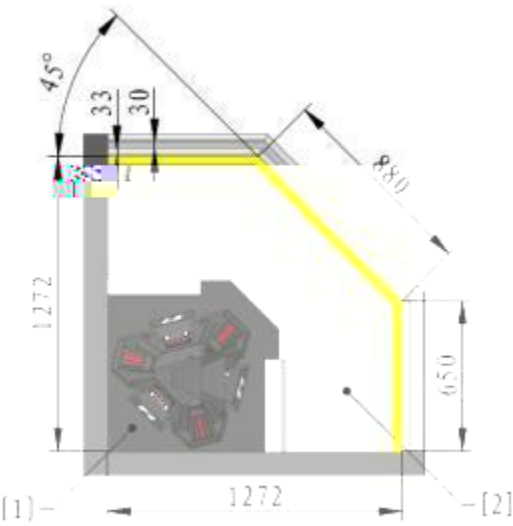
A



2-6

2.2

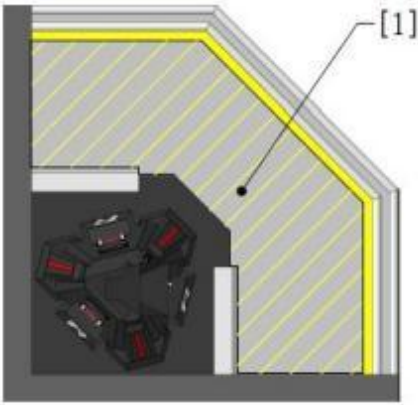
2.2.1



1 2

2-7

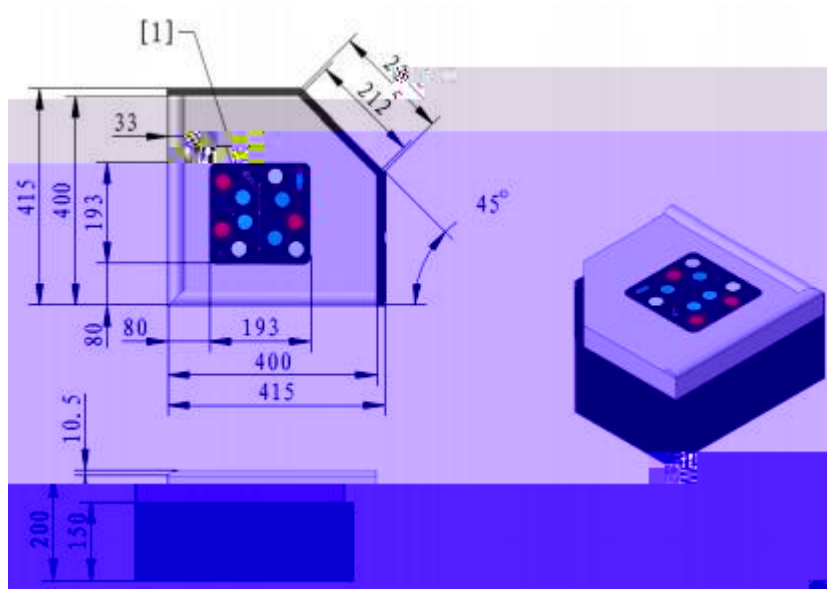
2.2.2



1

2-8

2.2.3



1

2-9

2.3



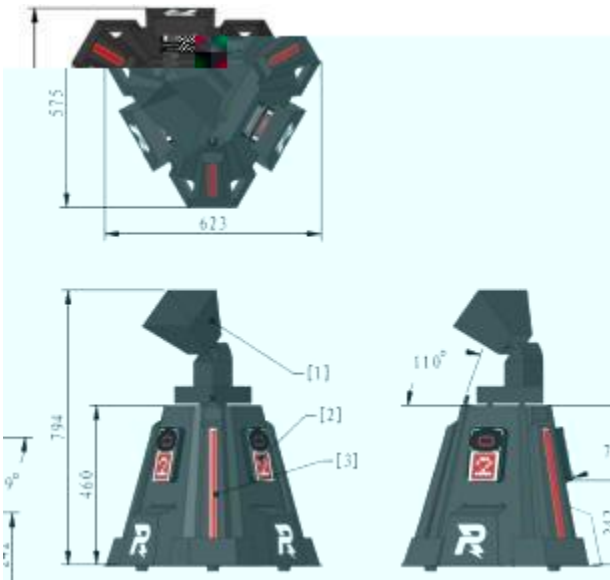
1

2

2-10

2.3.1

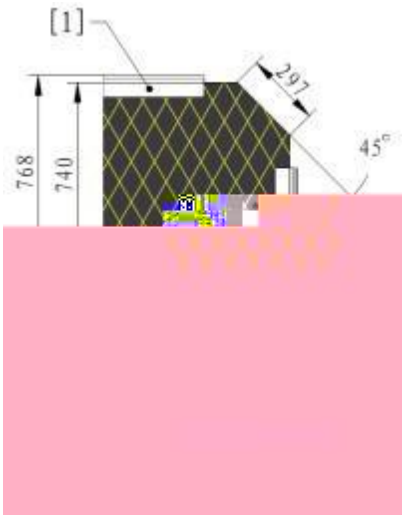
3000



1 2 3

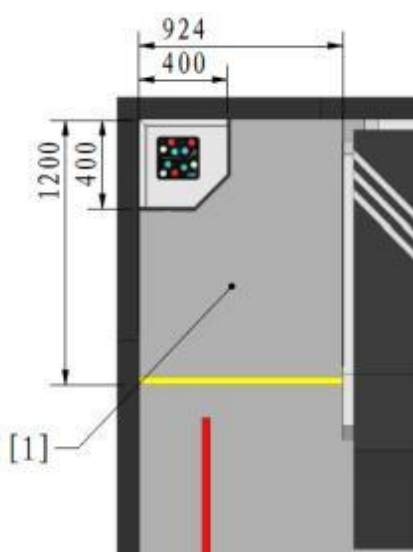
2-11

2.3.2



2-12

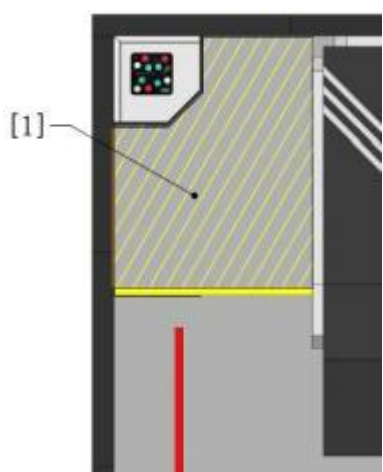
2.4



1

2-13

2.4.1



1

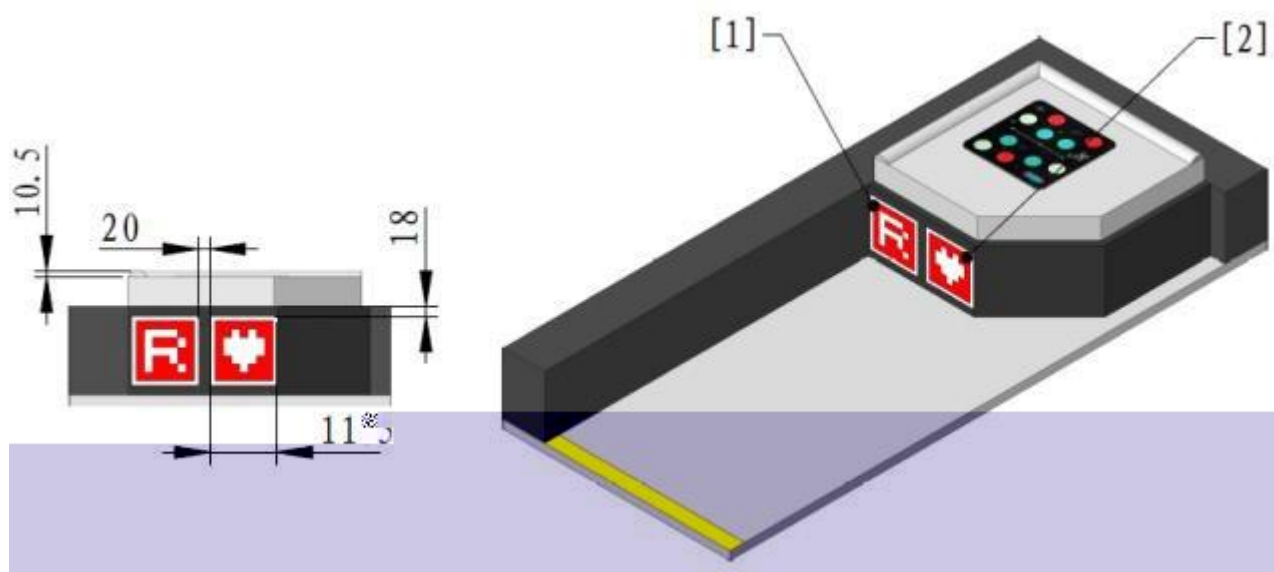
2-14

2.4.2

“ ”

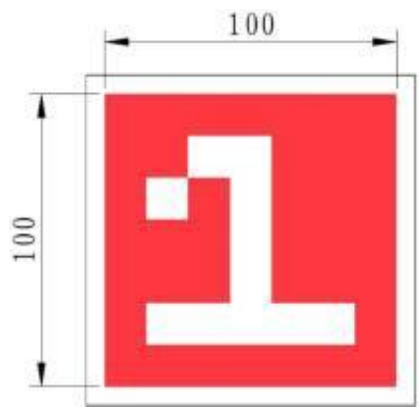
“ ”

100*100



1 2

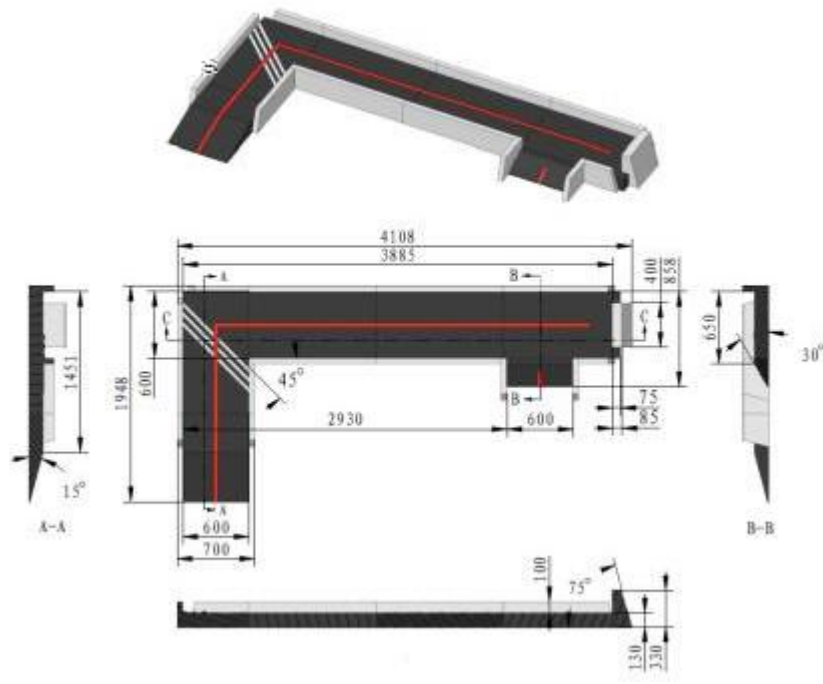
2-15



2-16

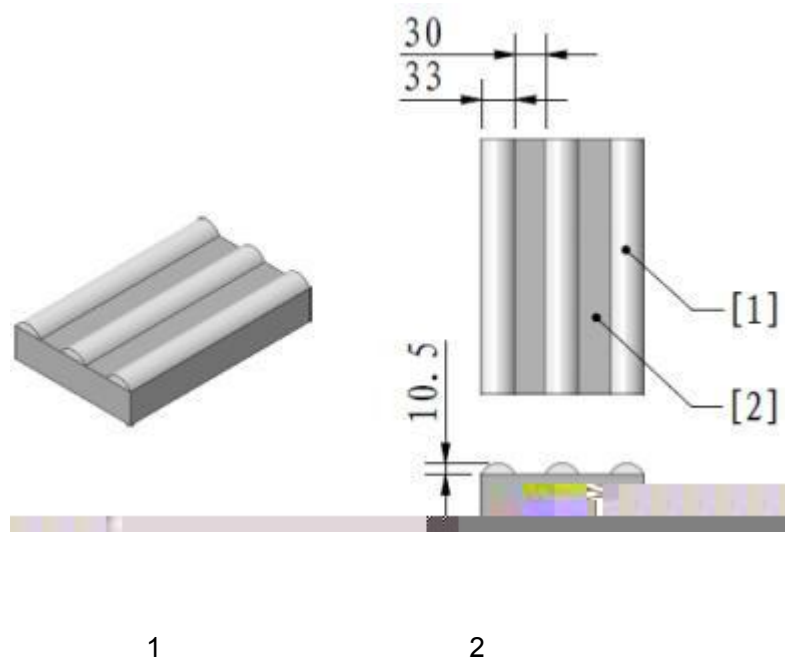
2.5

15 ° 30 °



2-17

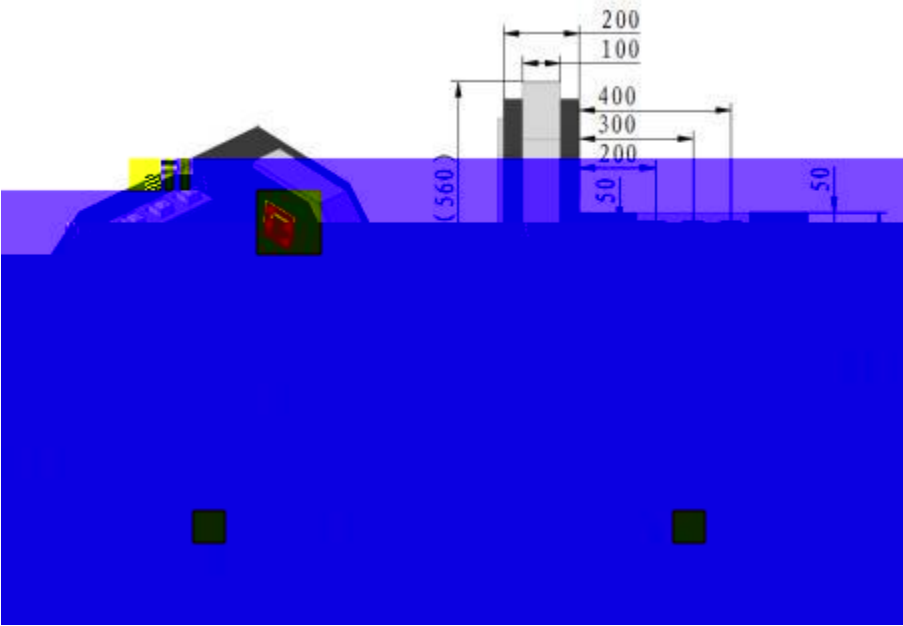
2.6



2-18

2.7

2.7.1 L

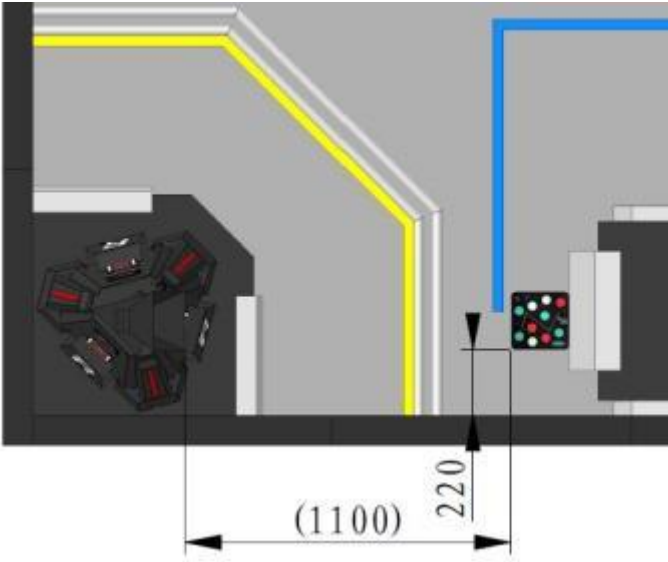


1

2

2-19

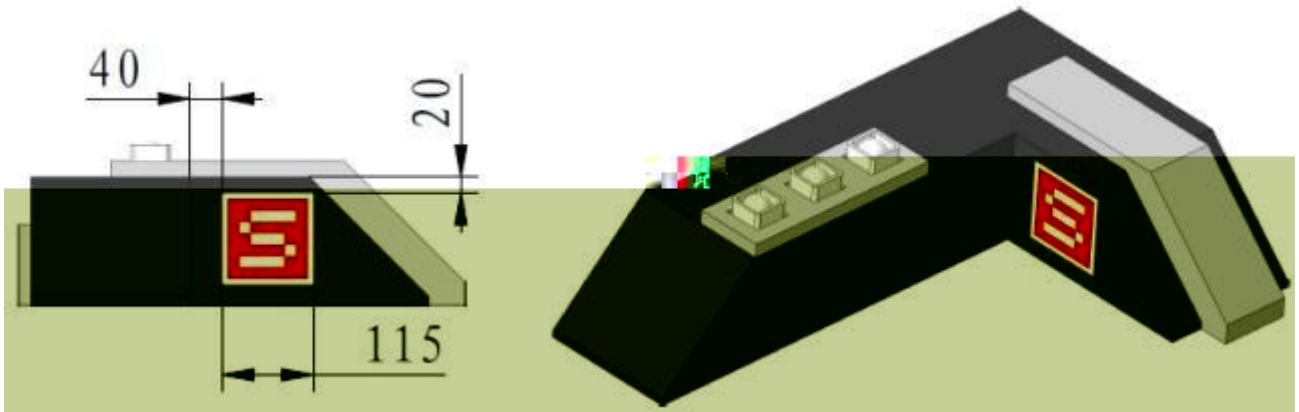
2.7.1.1



2-20

2.7.1.2

“ ”

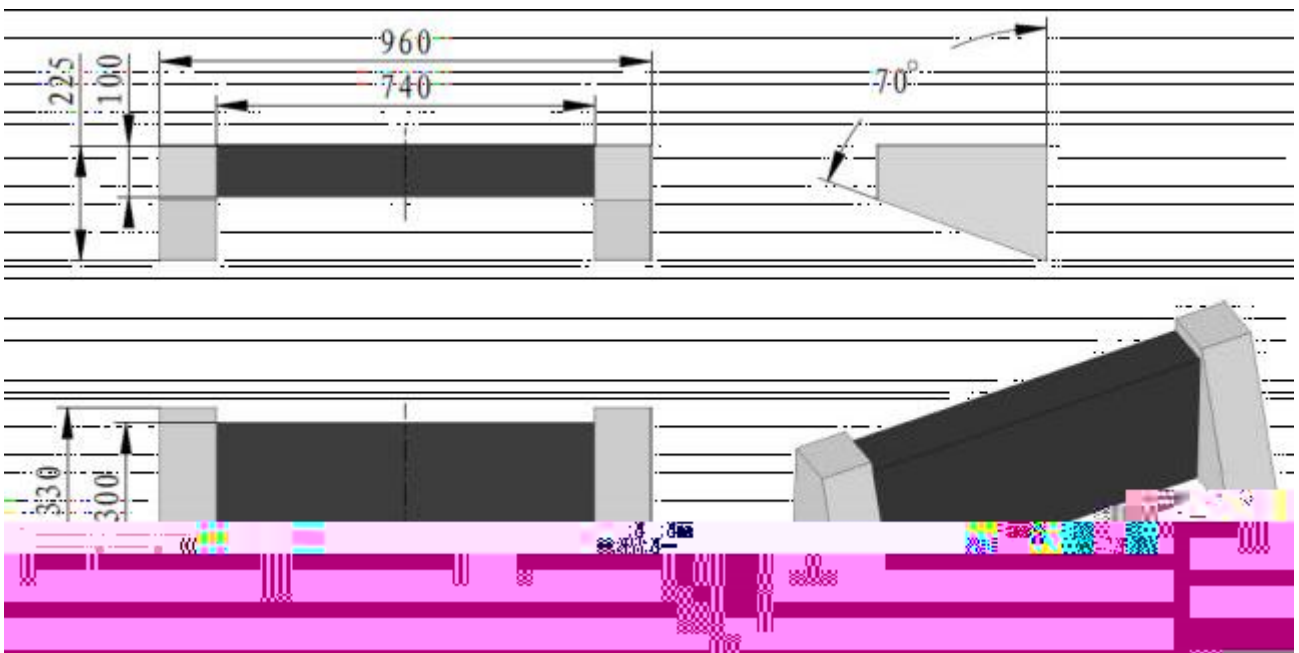


1

2-21

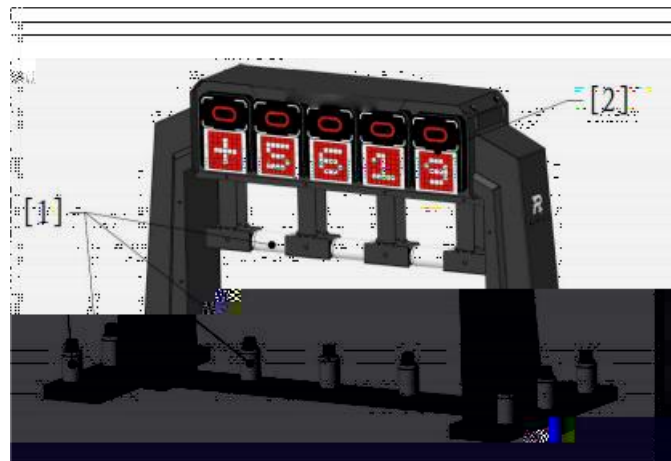
2.7.2

:



2-22

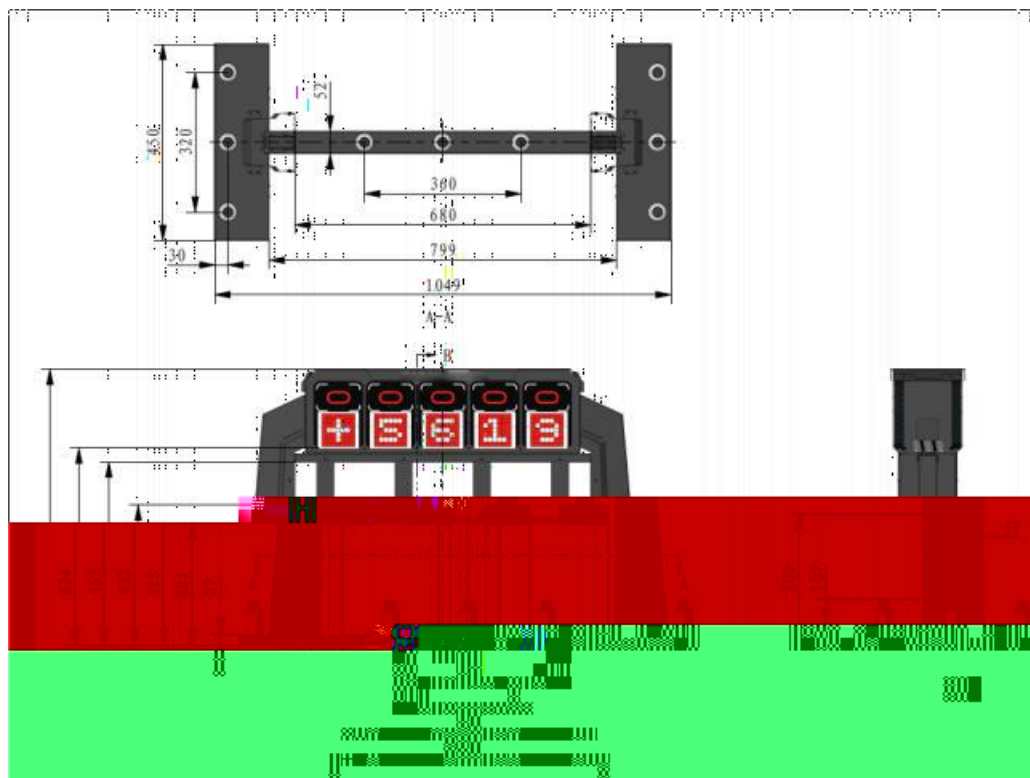
2.7.3



1

2

2-23



2-24

2.7.3.1

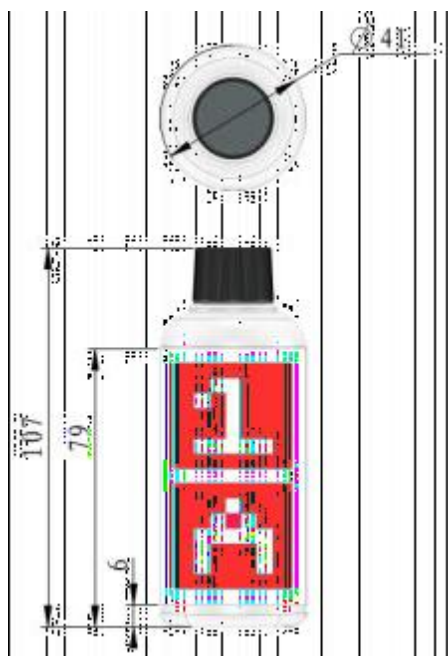
2.7.3.2

180 °

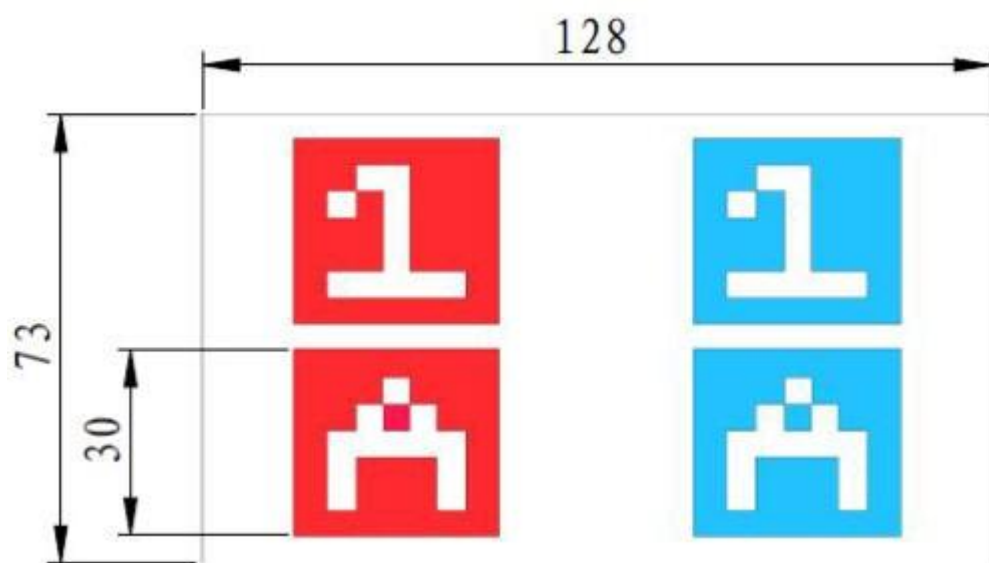
30 *30

“ 3.9.3

"



2-25



2-26

2.7.3.3

5

5

“ 3.6

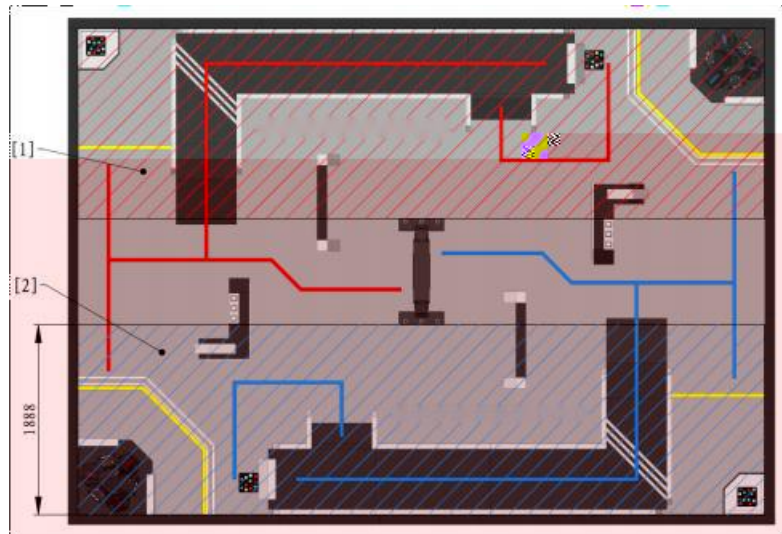
"



2-27

2.8

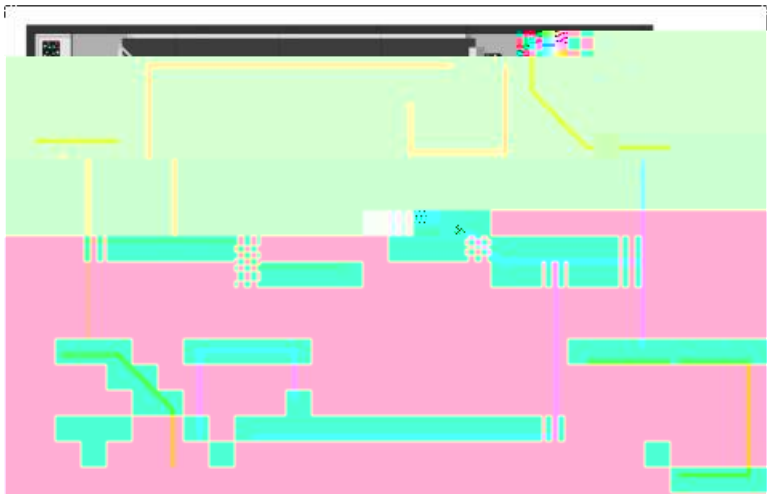
2.8.1



2-28

2.9

2.10



2-29

2.11

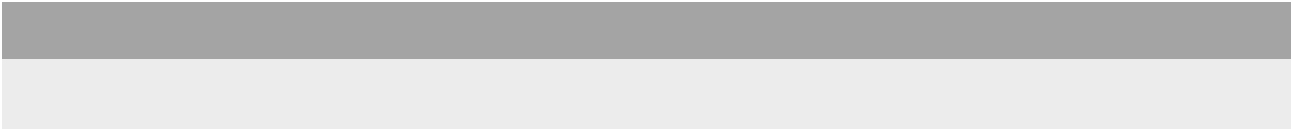
	6.3 ± 0.5	/	
	40	2.6 ± 0.1	



3.

3.1

3-1



3-2

:

3.2

$$\frac{10}{10 +}$$

=

*

$$= \quad * \quad \frac{10 - \text{护甲值}}{10}$$



30) = 2.5	3	30	10 * 10 / (10 +
10 = 20		-10	10 * [10-(-10)] /

3-3

		30	“ 3.2.1 ”
		10	“ 3.2.1 ”
		5	“ 3.5 ”
		20	“ 3.7.2 ”

“ 3.3 ”

3.2.1

0 50
30
10 50

3.2.2

“ 3.5 ”

3.3

3.3.1

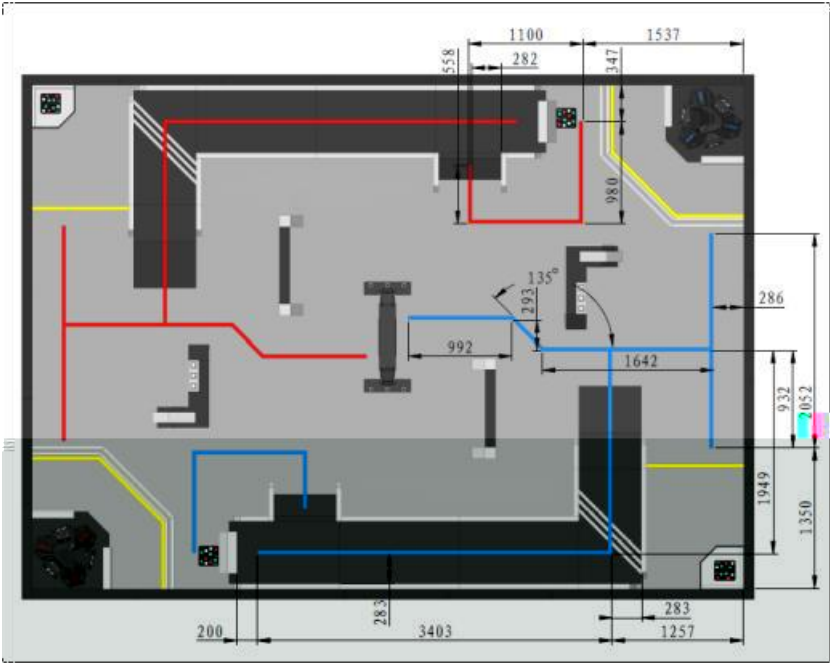
3.4.1



30

2%





3-3

3-5

	5
	1
	“ 3.6 ”
	0
	“ 3.2.1 ”
	50%
	30

3.6

5

5

2	1	1	24157	4	1	1	4	21457
			2		12457			

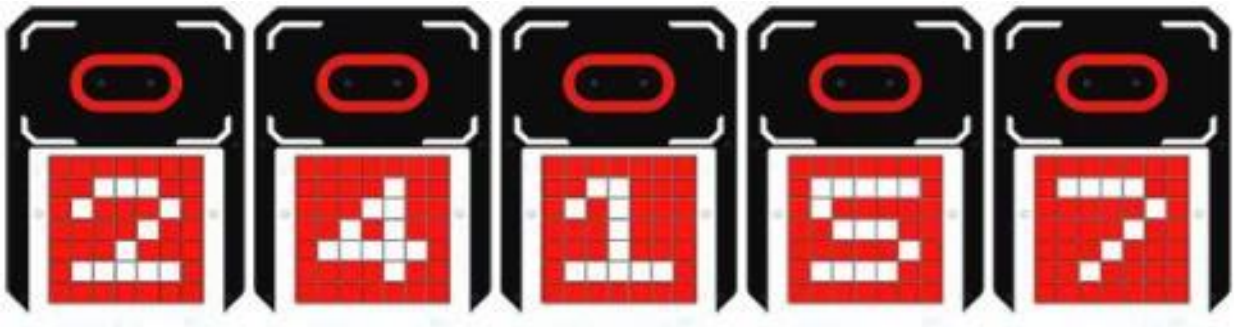
3.6.1

3-6

	5	
	1	
	10	“ A ”
	50	

3.6.1.1

5



3-4

3.6.1.2

“ ↑ ”, 1

“ ↑ ”



3-5

3.6.1.3

2

2:59

10



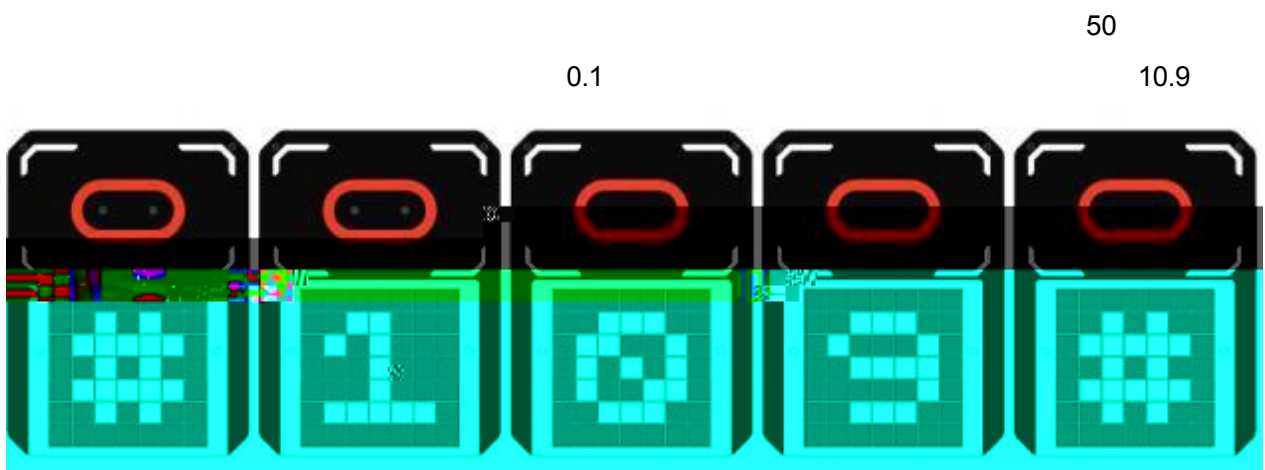
3-6



3.6.1.4

1

3.6.1.5



3-6

3.7

3.7.1

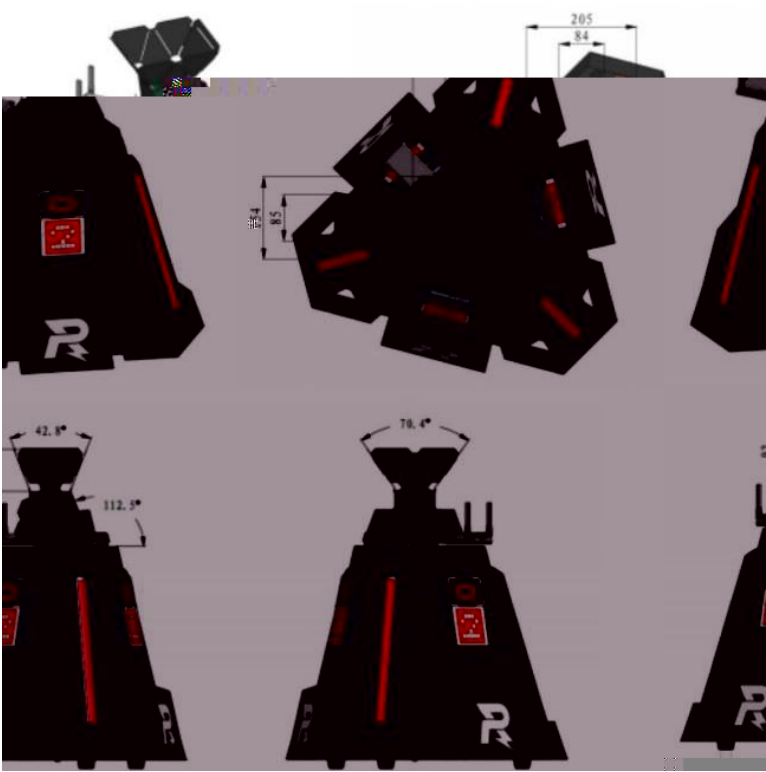
3.7.2

1

3

3.7.3

150 *200



3-8

3.8

0

1

1

10

10

=

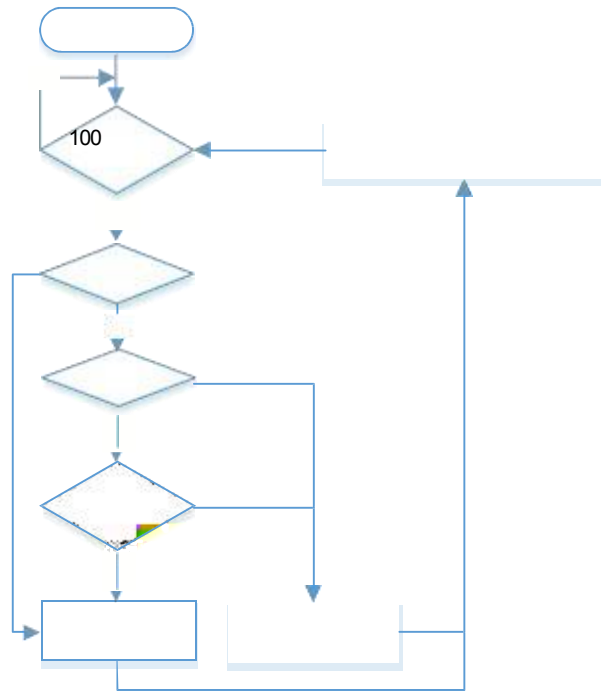
/ 10

1

0

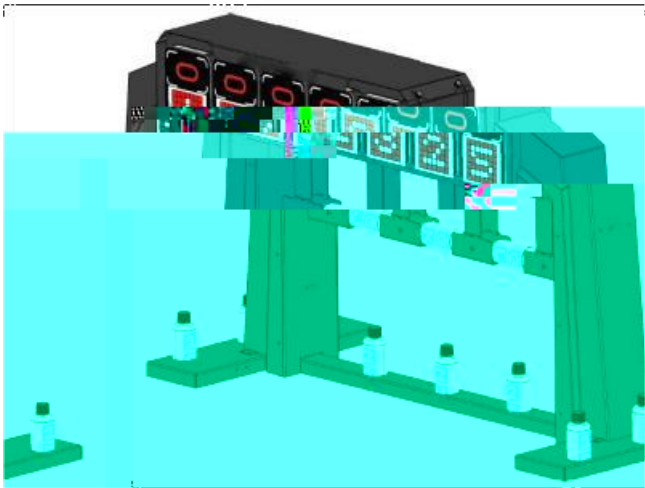
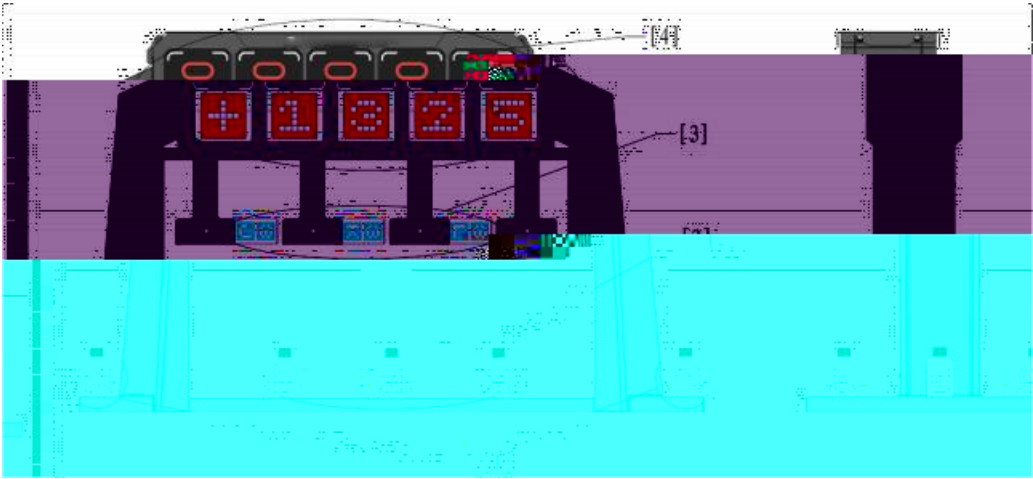
1/2

0



3.9.3

1 2 3



1 1 2 2 3 3 4

3-10

1	6	A B
2	3	
3	3	



3-7

1	50
2	75
3	125

2 2 5.2.2.2



3.10

30	20%	2%
----	-----	----

3.11

	20



3.12

:2 /

:1.5 /

7 /

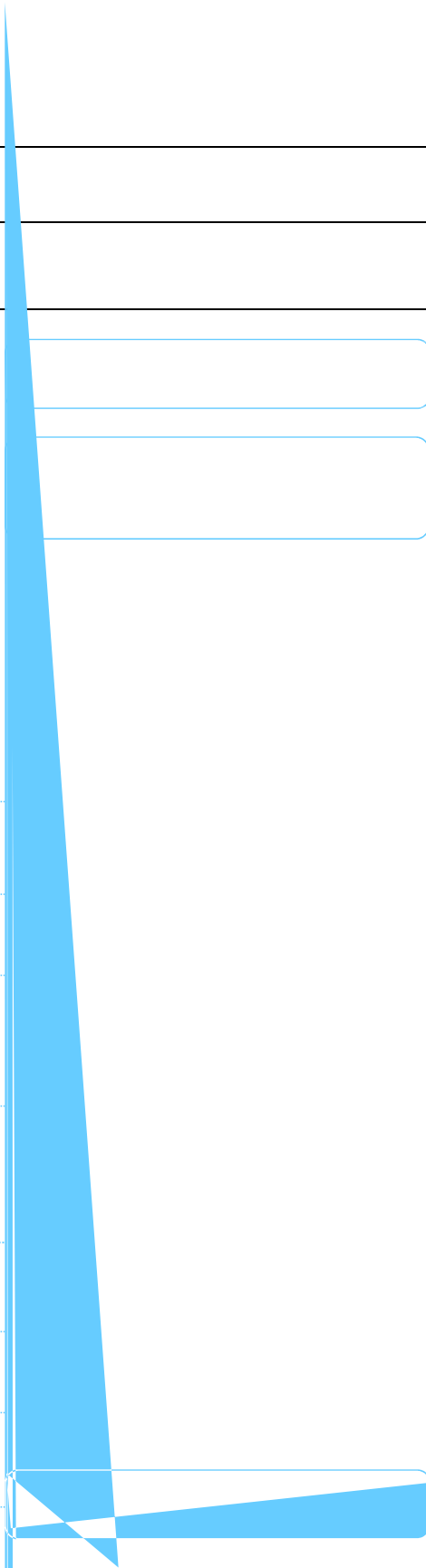
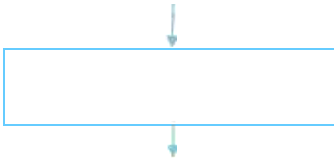
3.13

1.

2.

3.

4.



4.1



30

1

4

A

A

A

4.1.1

40

30

4.2

10

A

4.3

15

30

”

“

4.3.2

15

“

”

4-2

4.4

20

5

4.5

“ 3.5 ”

4.6

“ 3.12 ”

4.7

5.



	3
	5%

1

5.2

#

a.

5.2.1

5.2.1.1 /

R1 /

RMOC
R2

R3

2

3 30

4

5

6

7

8

9

10

11

5.2.1.2

12 6

13

14 “ ”

15

16 30 20

17

5.2.1.3



18 “ 1-3 ”

19

20

21

22

23



5.2.2

5.2.2.1

24



25

26

7.

27

28

29

30

“ 6

”

31

32

33

5-2

T	X
T ≤ 10	
T > 10	

34



5-3

T	X
$T \leq 10$	
$T > 10$	

5.2.2.2

35

36

37

38

5-4

T	X
$T \leq 10$	
$T > 10$	

2

2

3

10

5.2.2.3

39

1500

5-5

5.2.3

5.2.3.1

41

42

5-6

43



5-7

5-8



48

49

50

51

52

53

54



5.3

5-11

1.

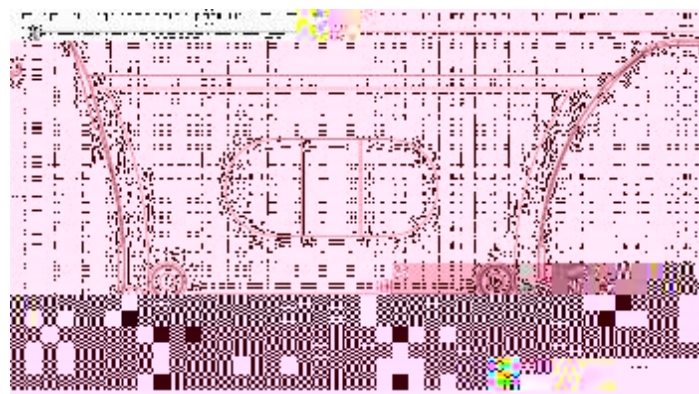
6.



20



7.



7 -1

		—
		—
		—
		—

180*180*100 mm L*W*H

()

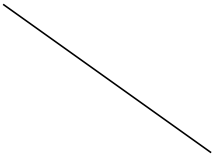
1.

7-4

	UART

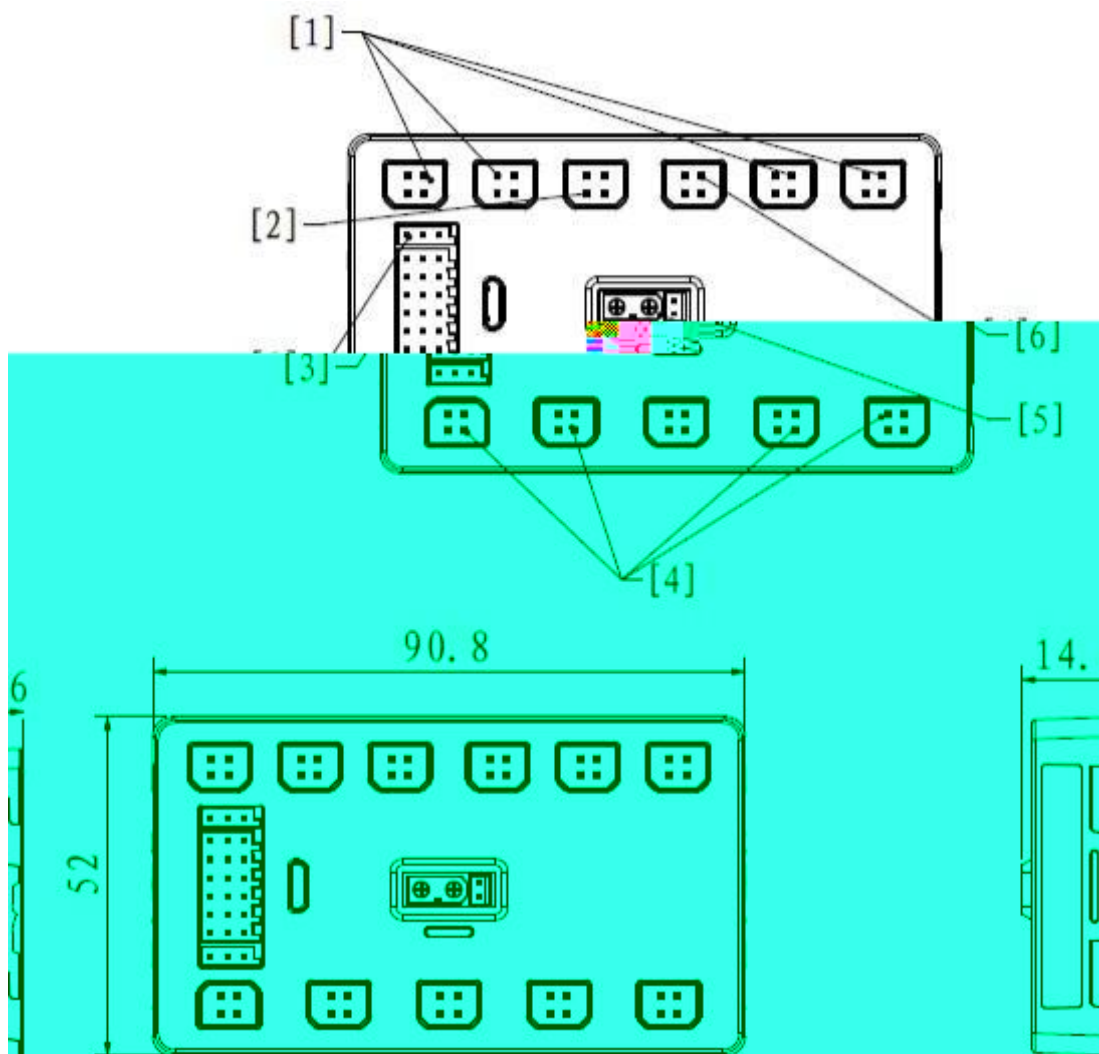
2.

7-5



1	4	1	1
1	4	1	0

3.



[1] M BUS

[2] CAN BUS

[3] UART

[4] CAN BUS

[5] POWER

[6] CAN BUS

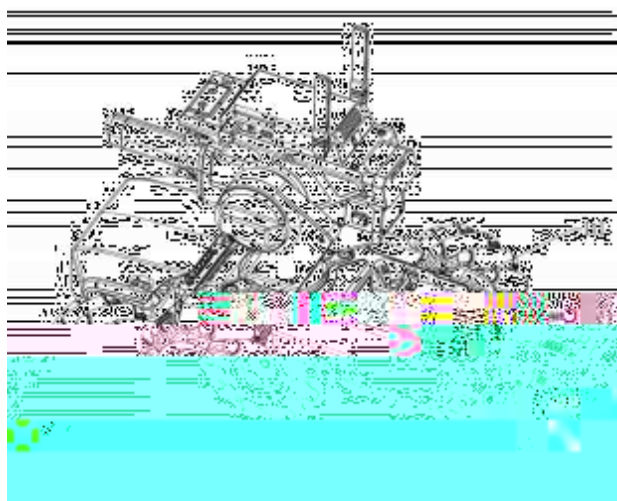
7-2

CAN BUS

CAN BUS

1

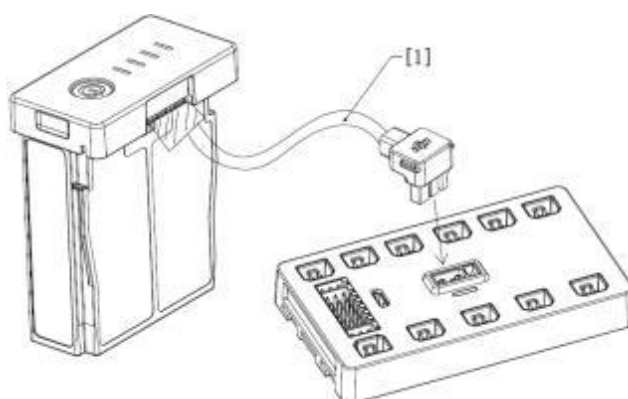
1.



[1]

7-3

2.



[1]

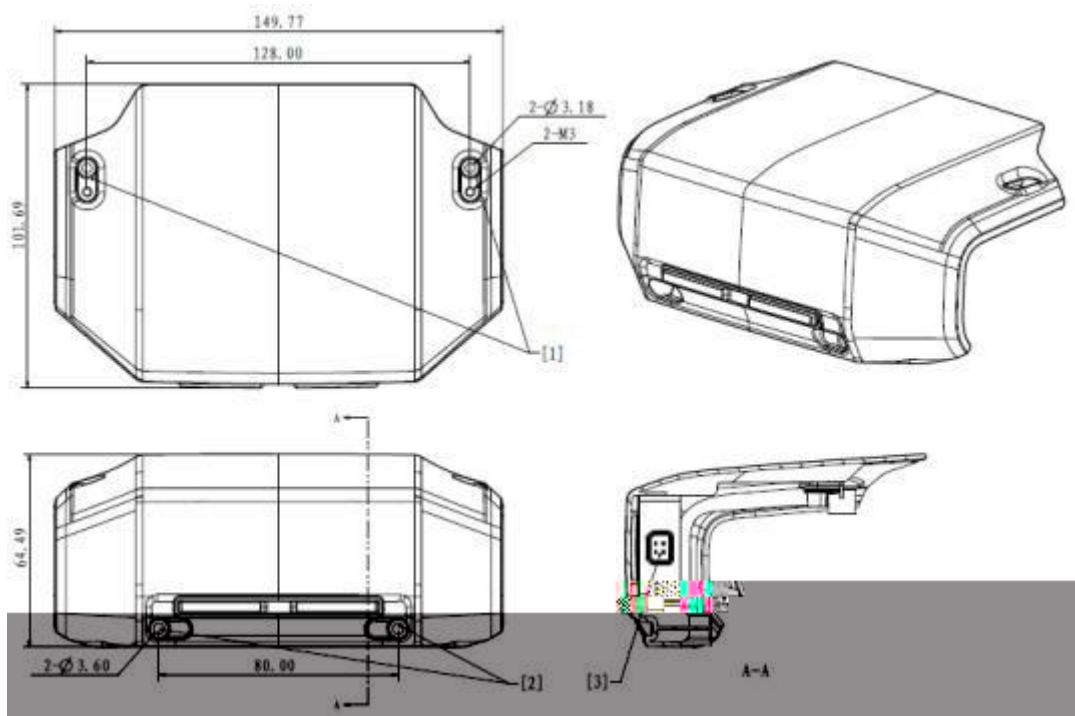
7-4

2

S30

S31

4.

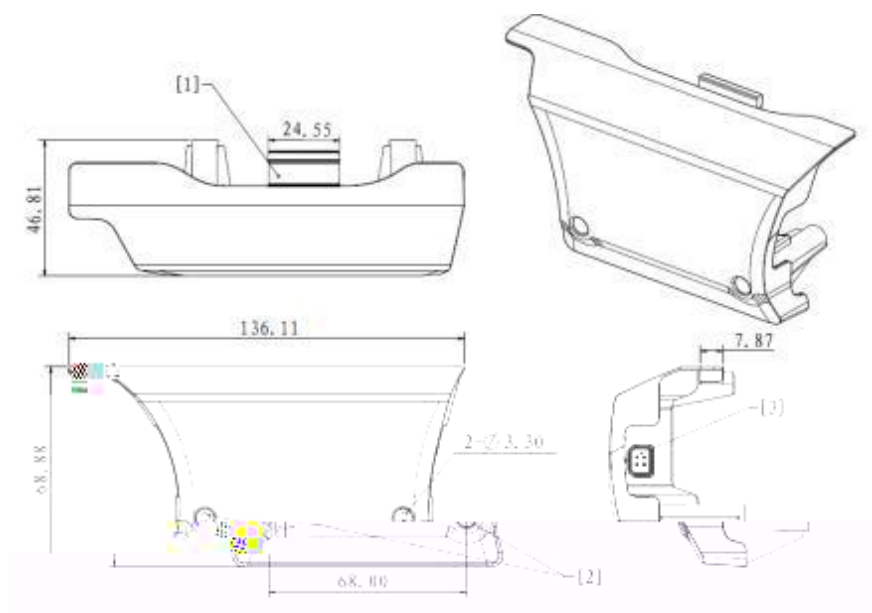


[1]

[2]

[3]

7-5

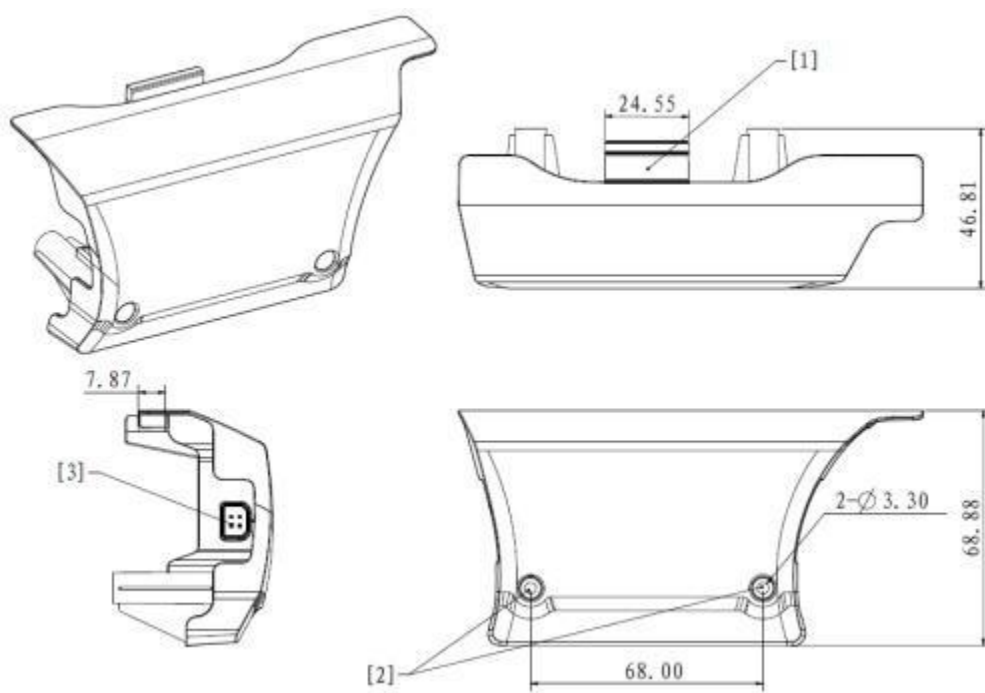


[1]

[2]

[3]

7-6

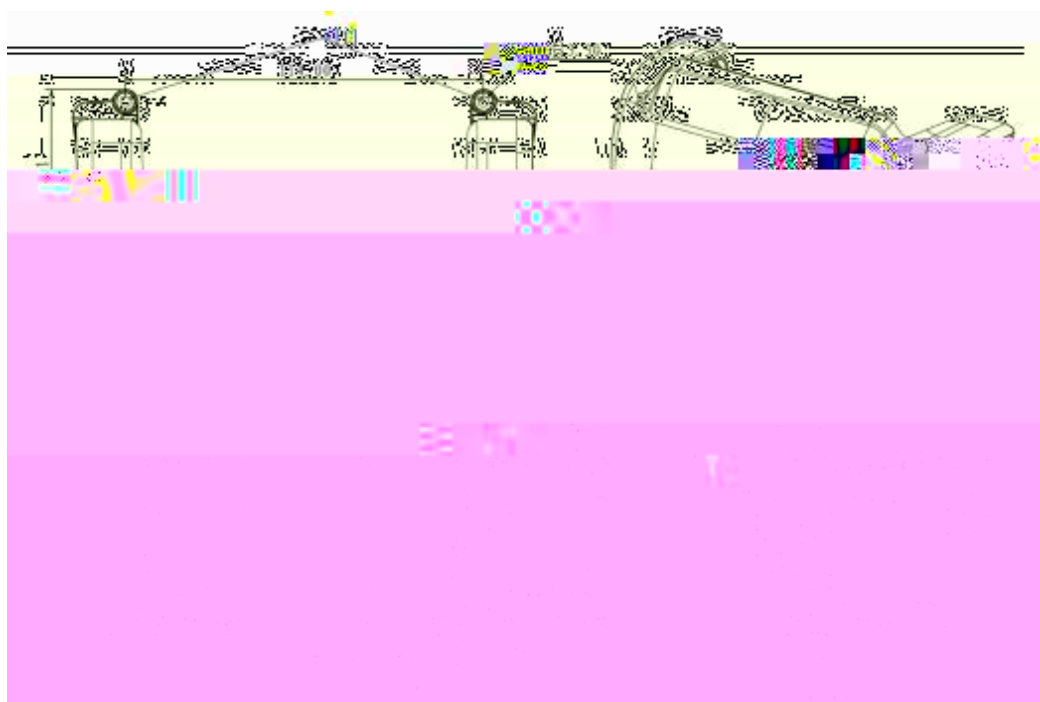


[1]

[2]

[3]

7-7



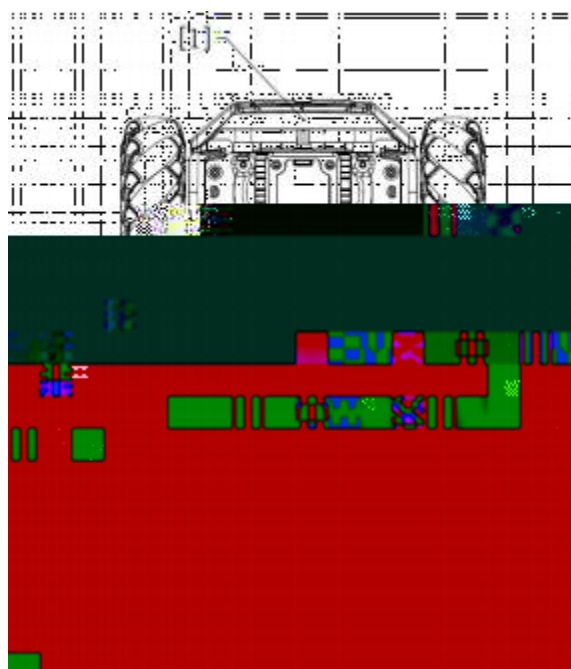
[1]

[2]

[3]

7-8

1



[1]

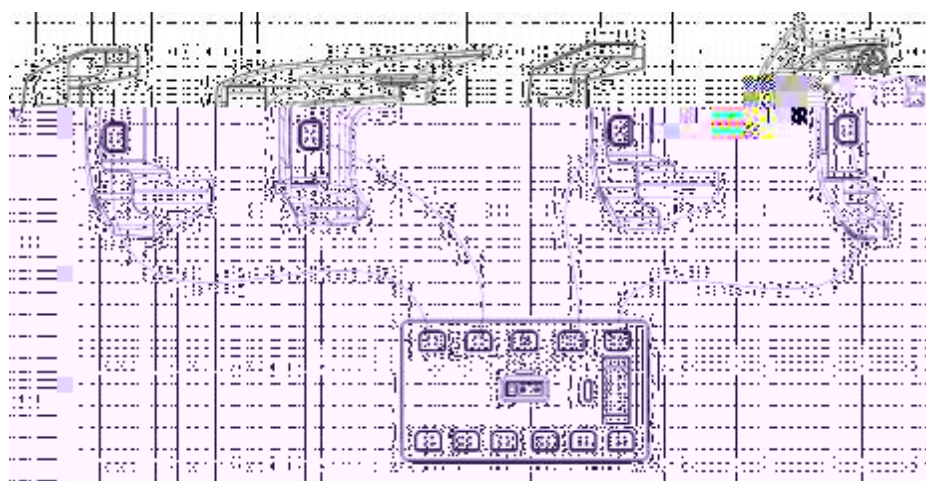
[2]

[3]

[4]

7-9

CAN BUS



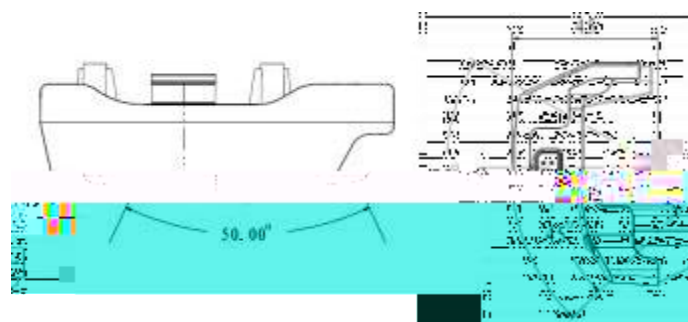
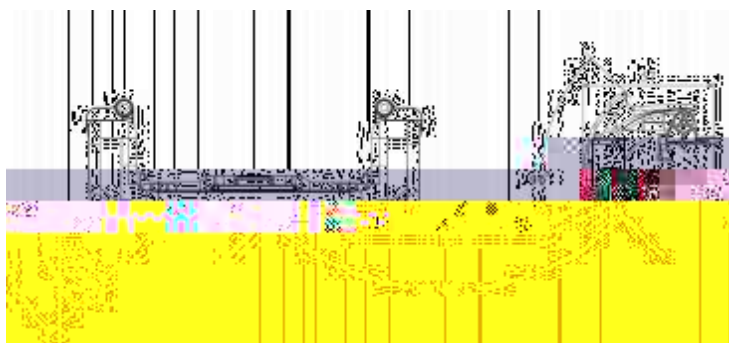
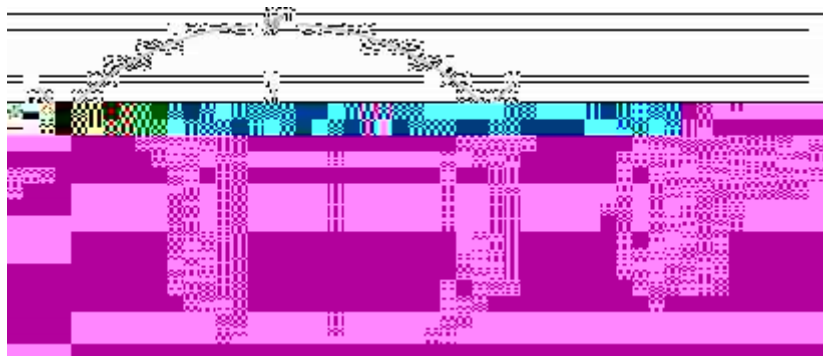
7-10

2

S32

90 °
50 °

90 °
75 °



7-11

3 ID

ID

X

X

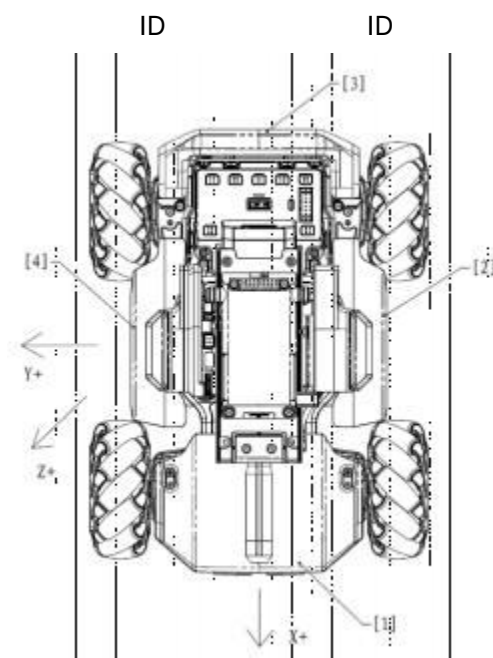
Y

Z

X

Y

ID



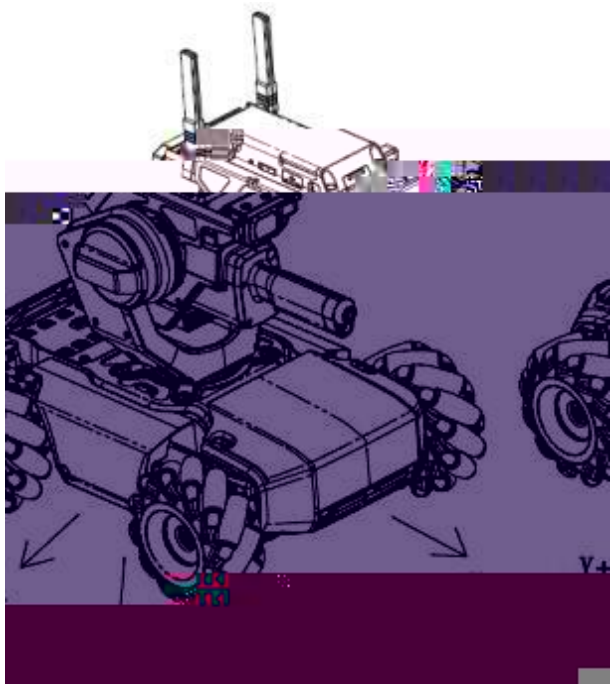
[1] [2] [3] [4]

7 - 6 ID 7 - 12 ID

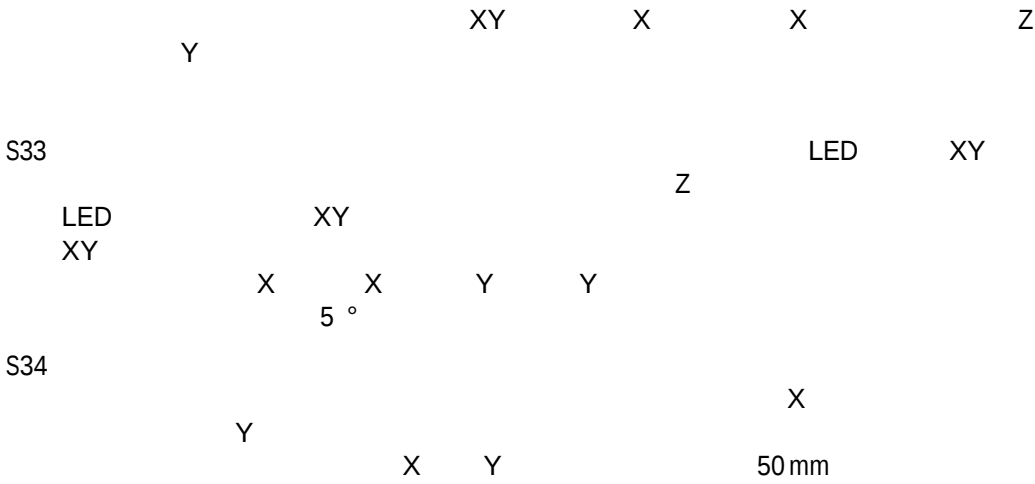
	ID
X	● ●
Y	● ●

4

X Y Z



7-13



S35

S36

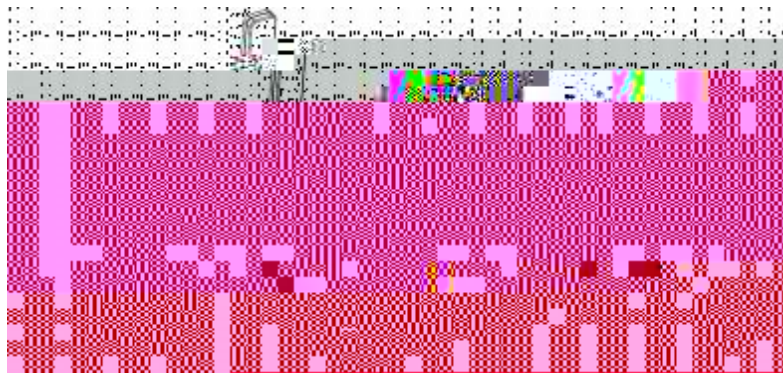
0.5 m/s

S37

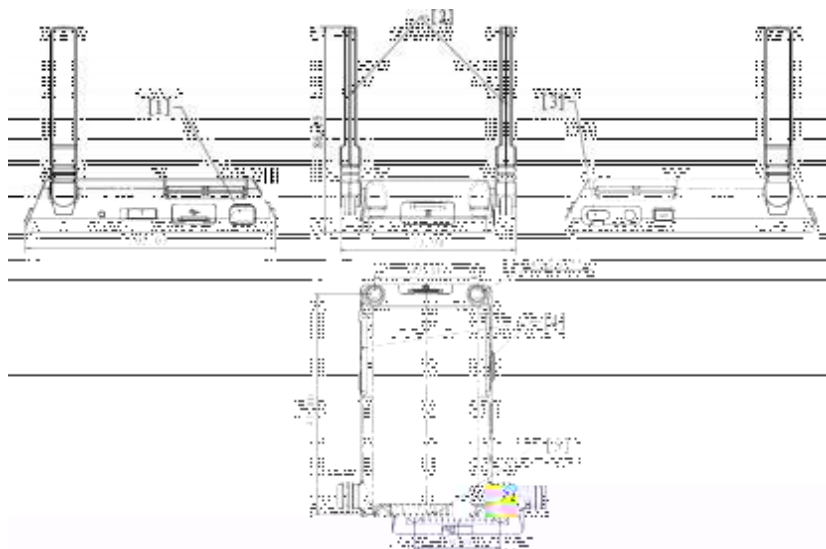
30 mm-

50 mm

5.

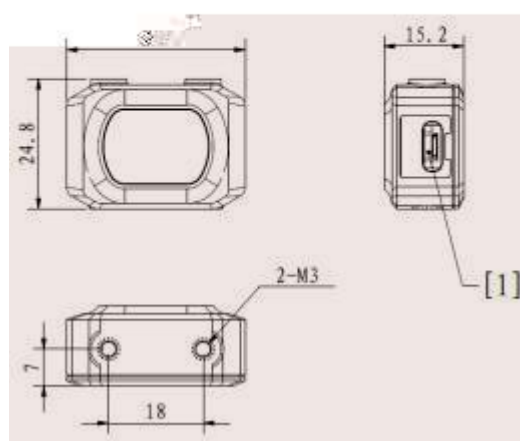
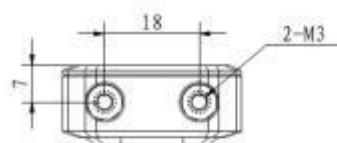


7-14



[1] CAN BUS [2] [3]
[4] [5]

7-15

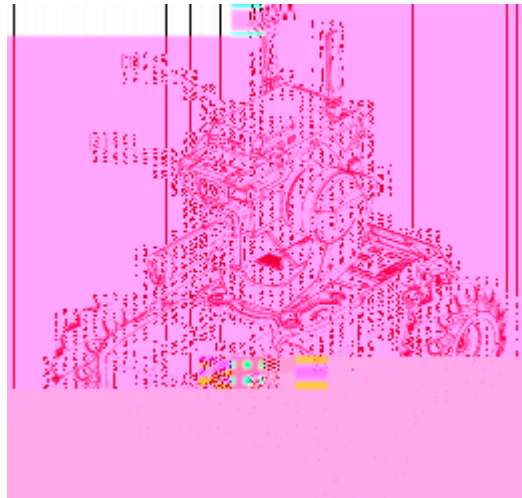


[1] CAN BUS

7-16

1

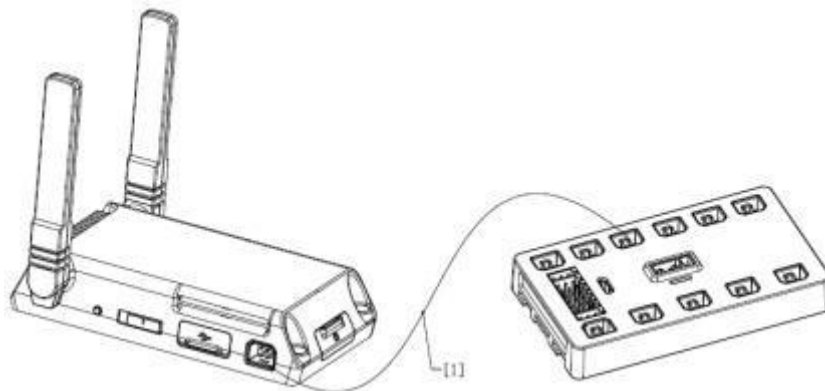
1. M3



[1]

[2]

7-17



[1]

7-18

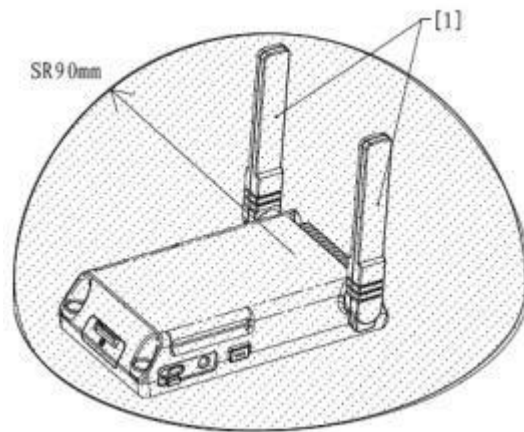
2

S38

S39

S40

90 mm



[1]

7-19

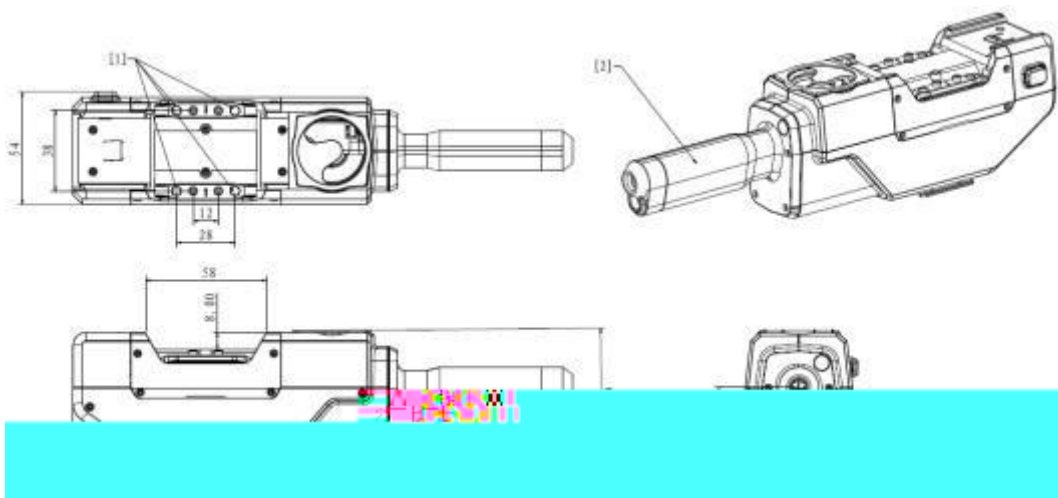
S41

S42

6.

1.

M3

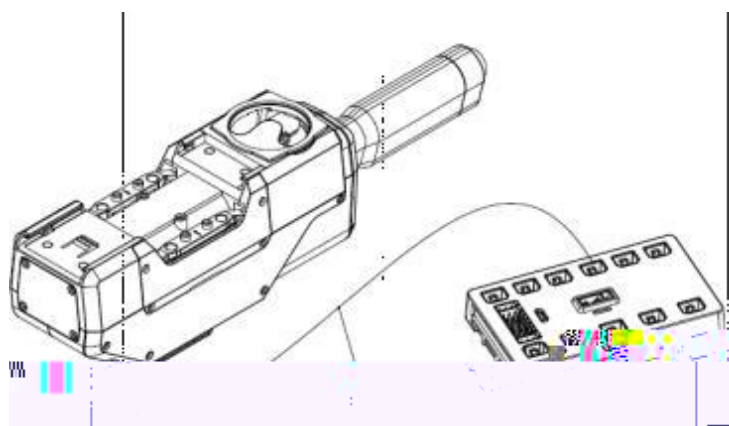


[1] M3 [2]

7-20

CAN BUS

2.



[1]

7-21

1.

“ 3.12 ”

2024

1.1

1-1

	1/2	2
	3	1
	4	1



1.2

1-2

	50	200	40	40	

	0	300	-	-	
	3	-	-	-	

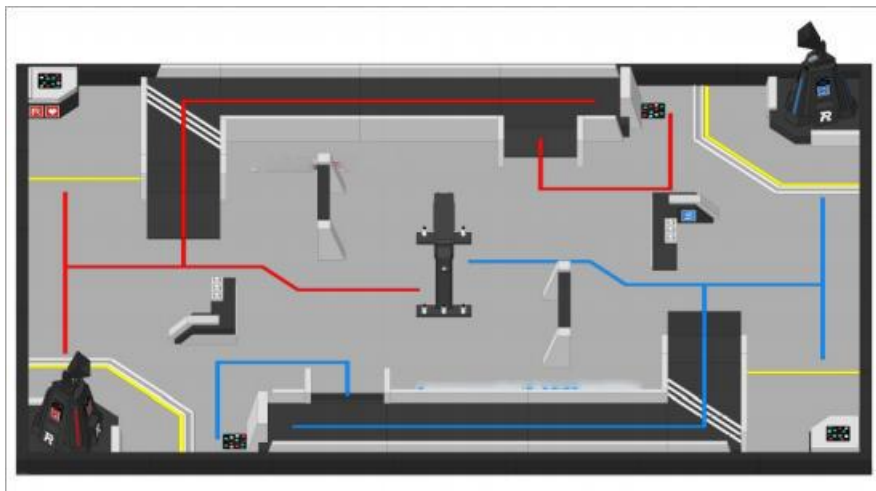
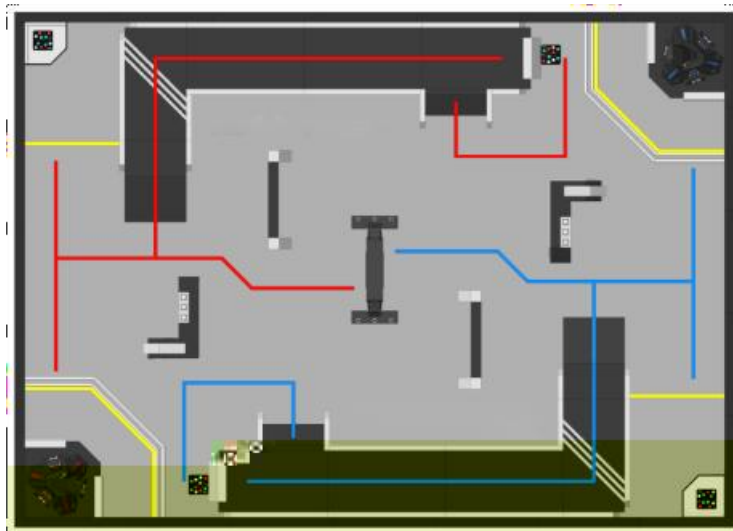
1.3

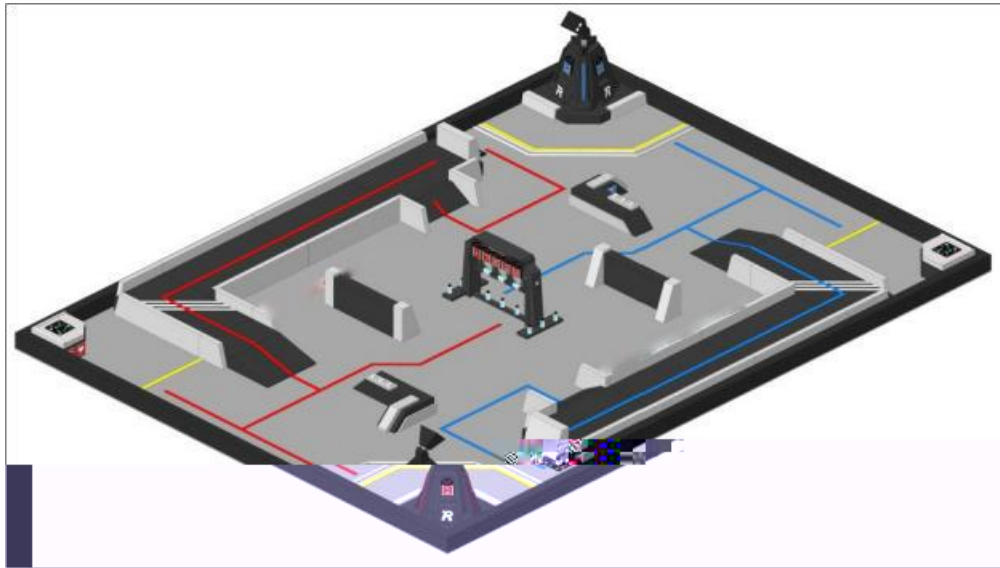
1-3

		2
		1
		1

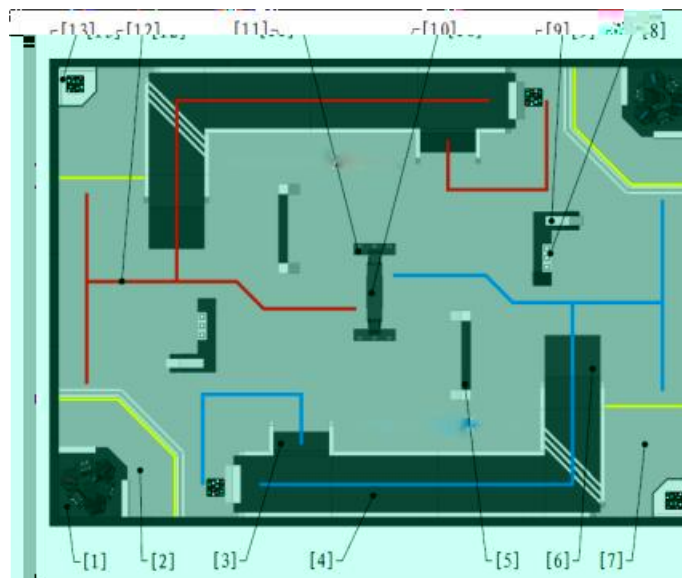
2.

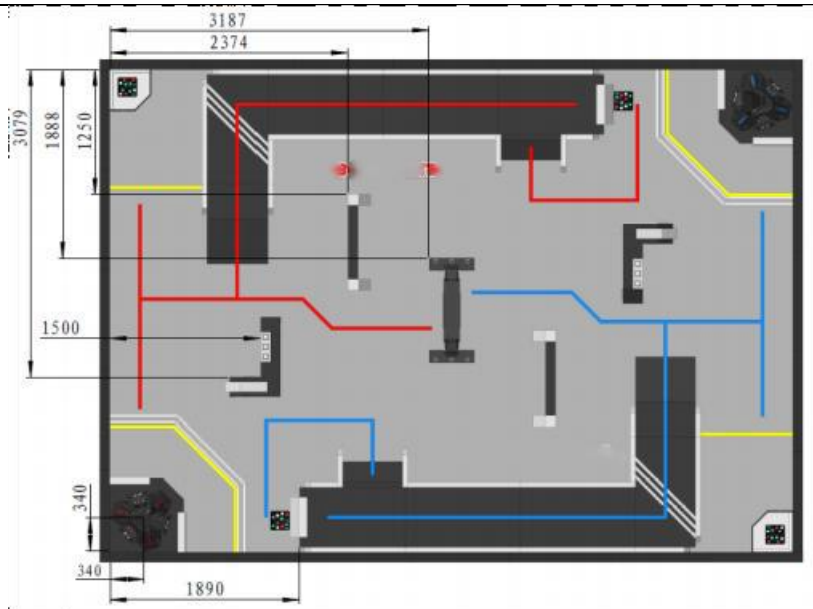
2.1





2-3





2-5

20

A

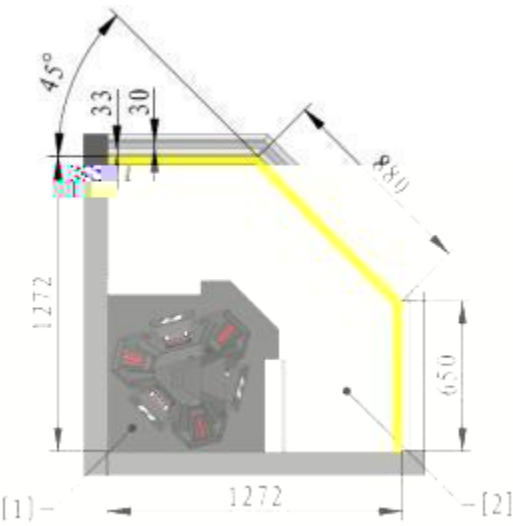
A



2-6

2.2

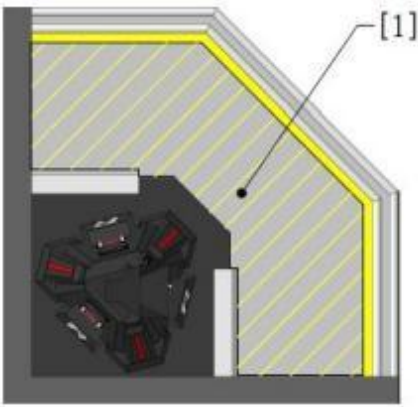
2.2.1



1 2

2-7

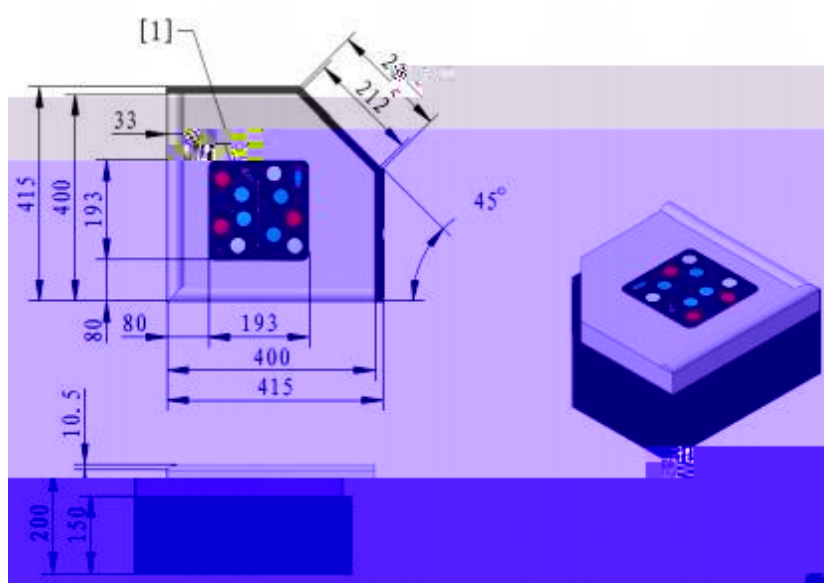
2.2.2



1

2-8

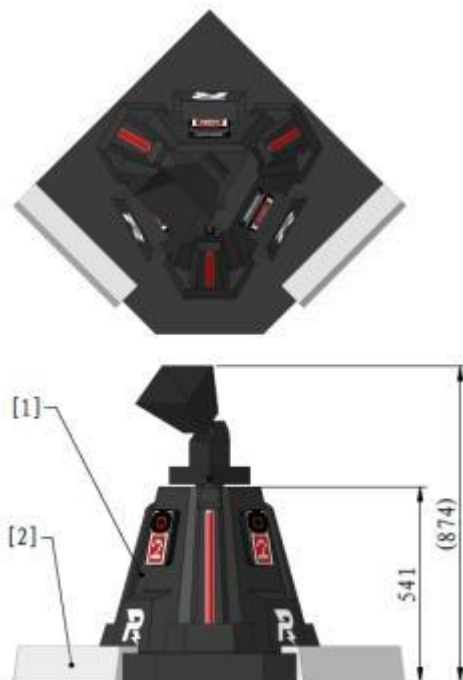
2.2.3



1

2-9

2.3



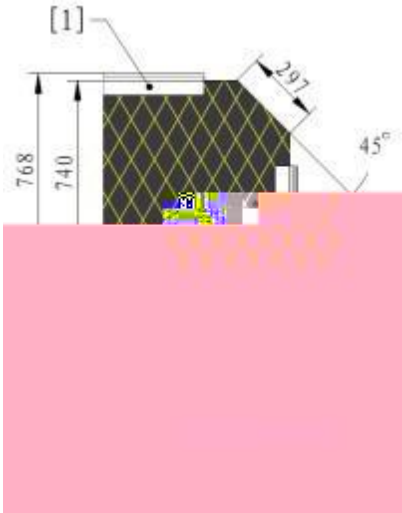
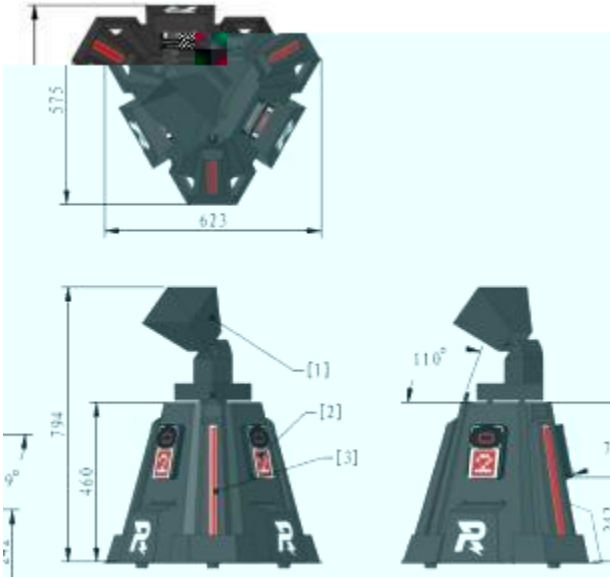
1

2

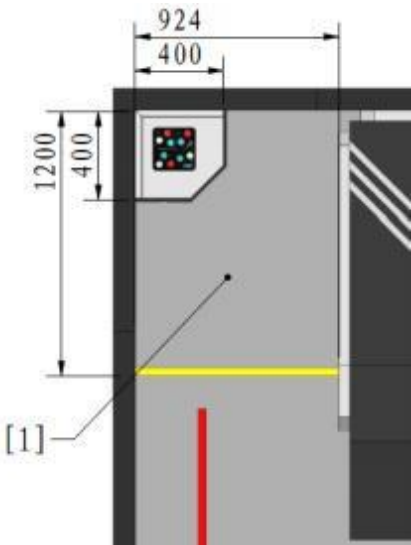
2-10

2.3.1

3000



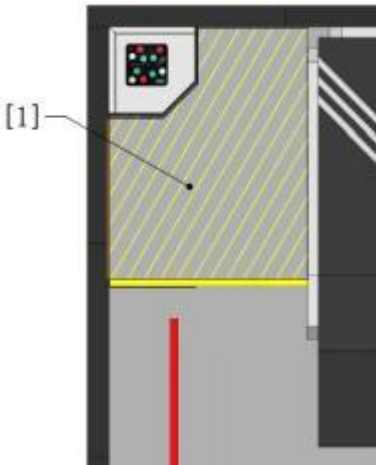
2.4



1

2-13

2.4.1



1

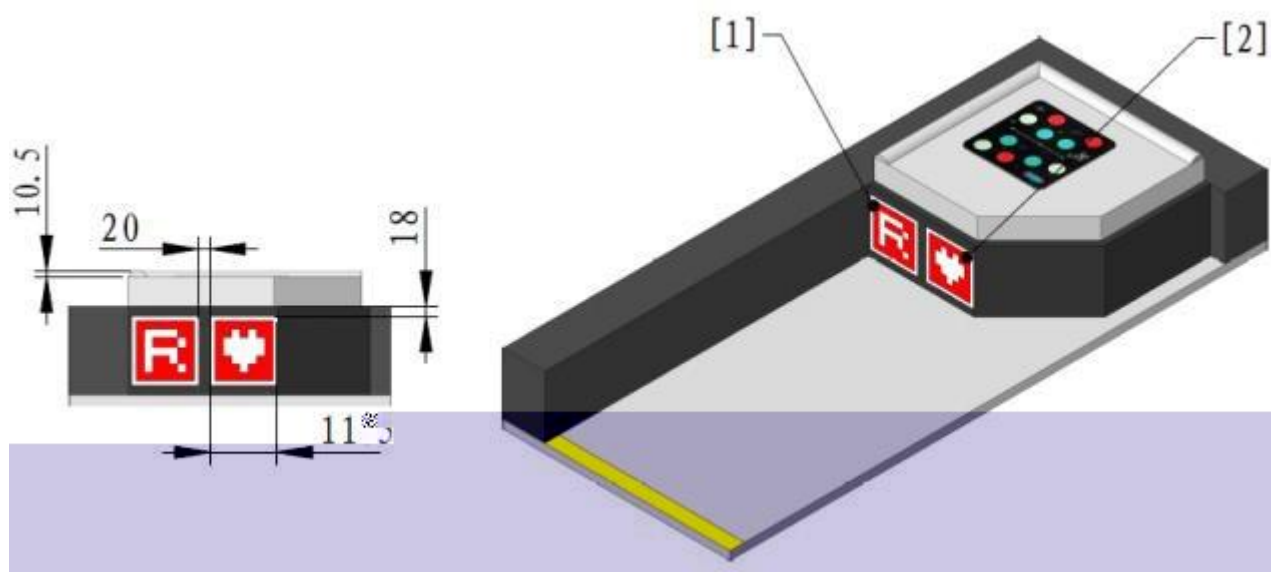
2-14

2.4.2

“ ”

“ ”

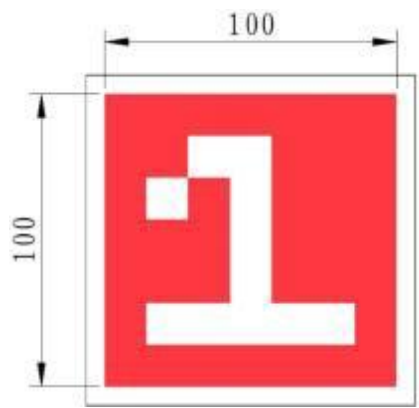
100*100



1

2

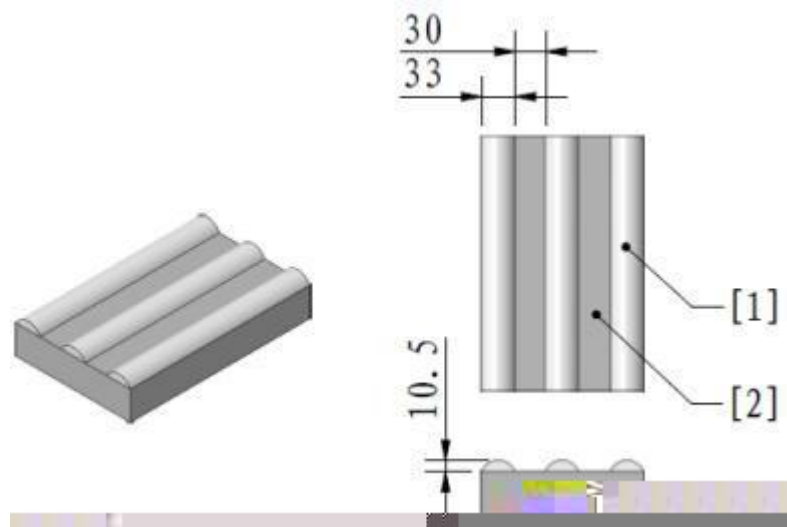
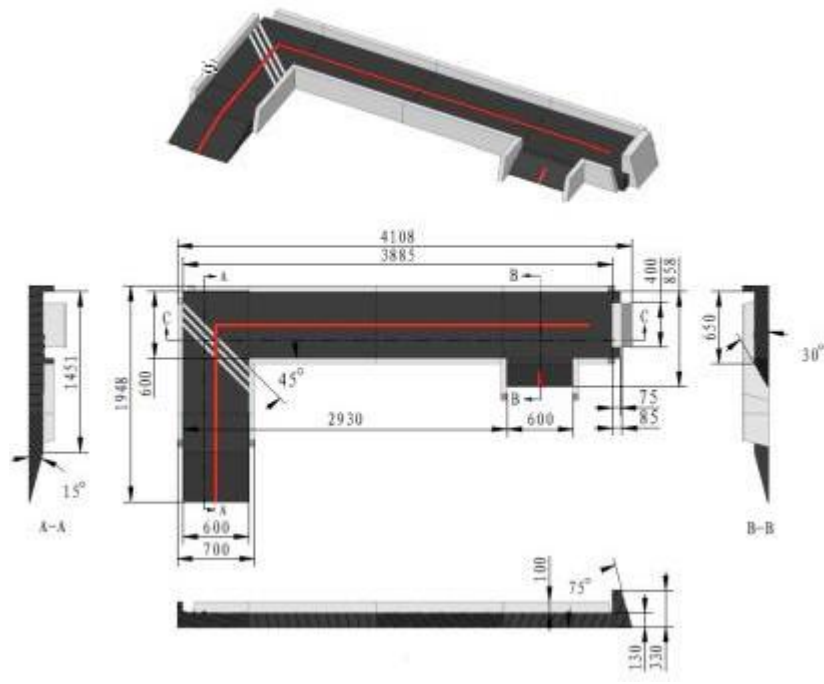
2-15



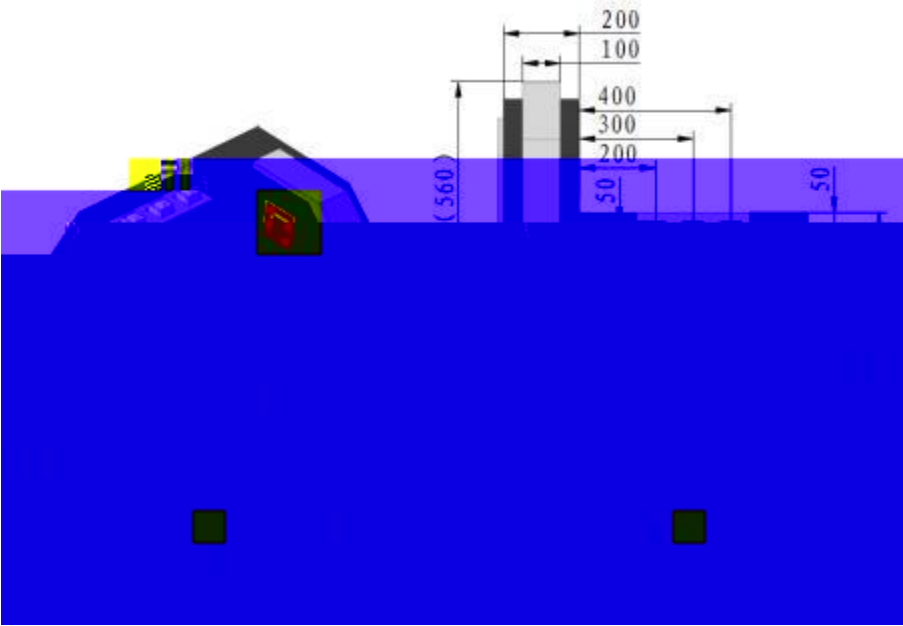
2-16

2.5

15 ° 30 °



2.7.1 L

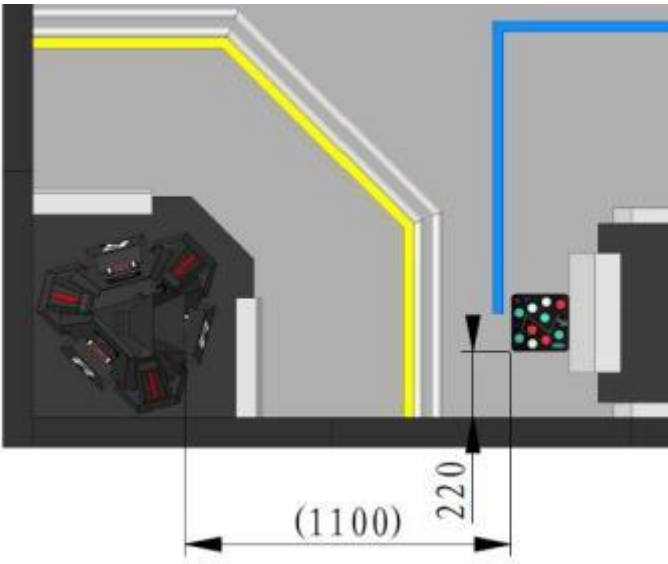


1

2

2-19

2.7.1.1

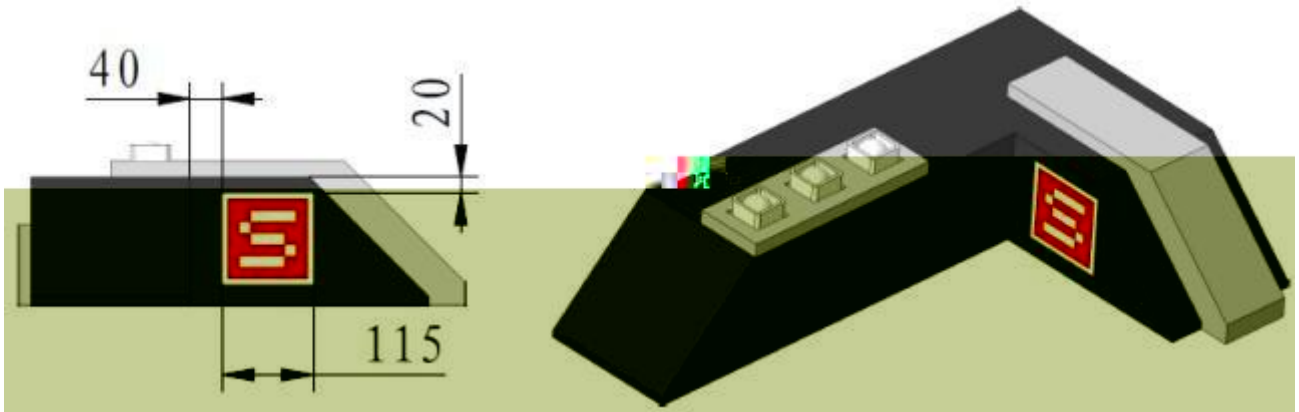


2-20

2.7.1.2

“ ”

100*100

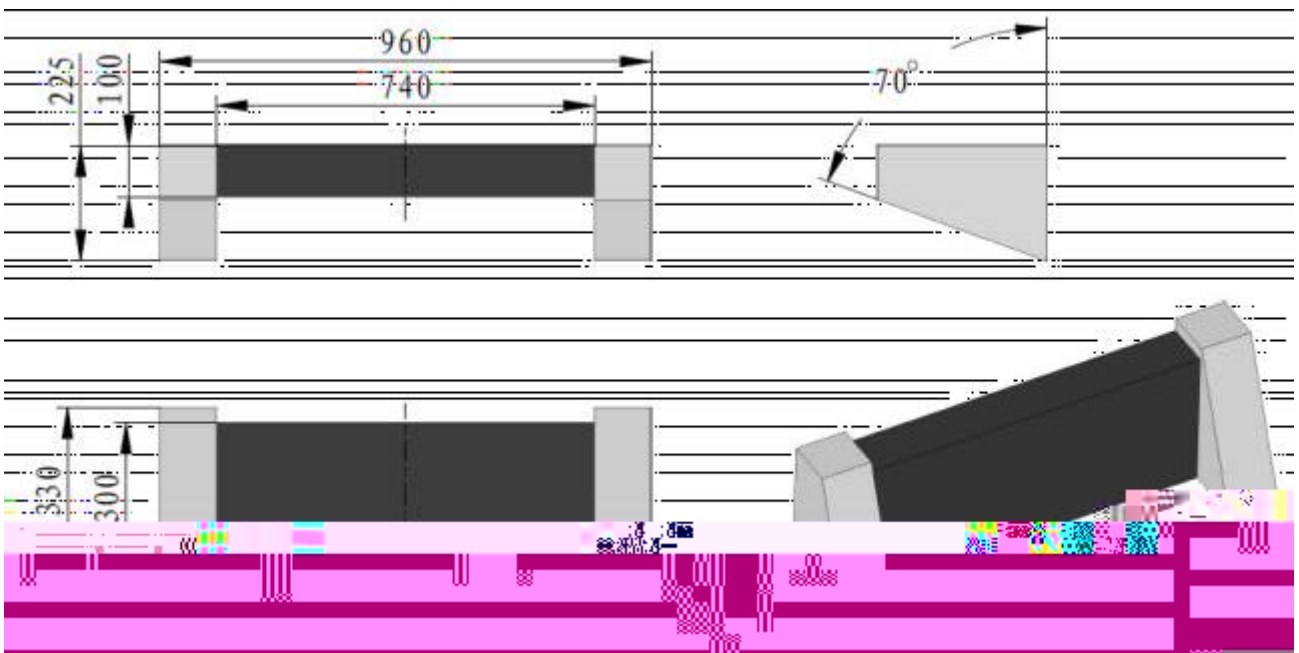


1

2-21

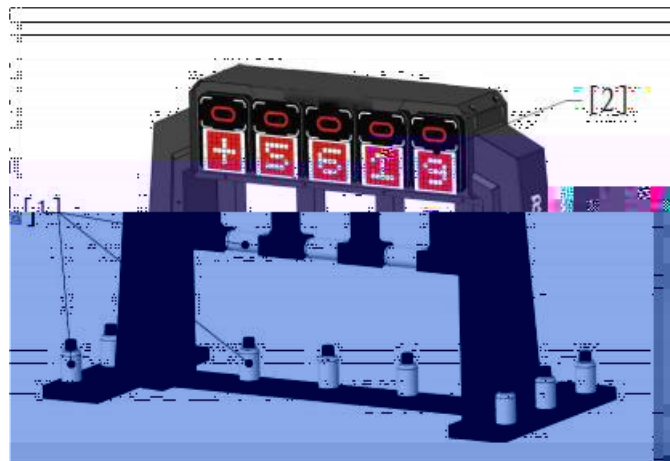
2.7.2

:



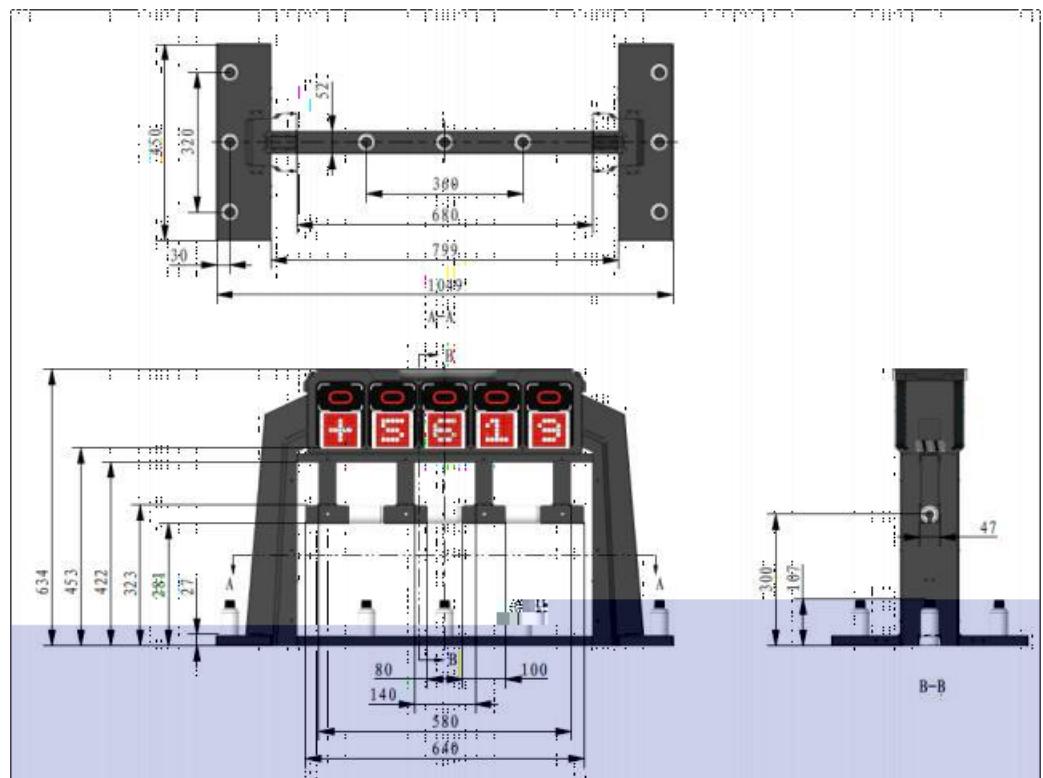
2-22

2.7.3



1 2

2-23



2-24

2.7.3.1

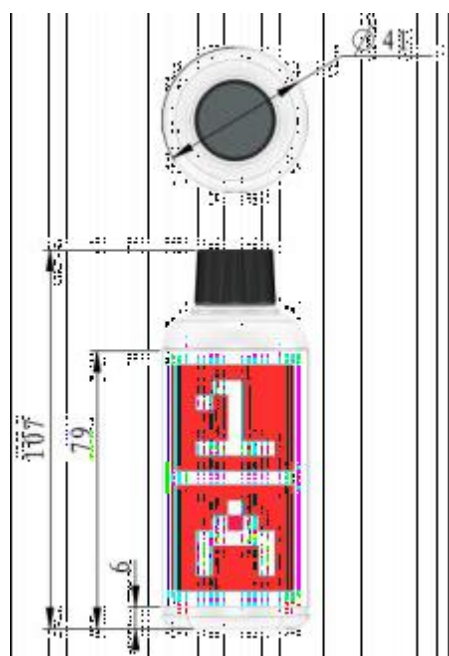
2.7.3.2

180 °

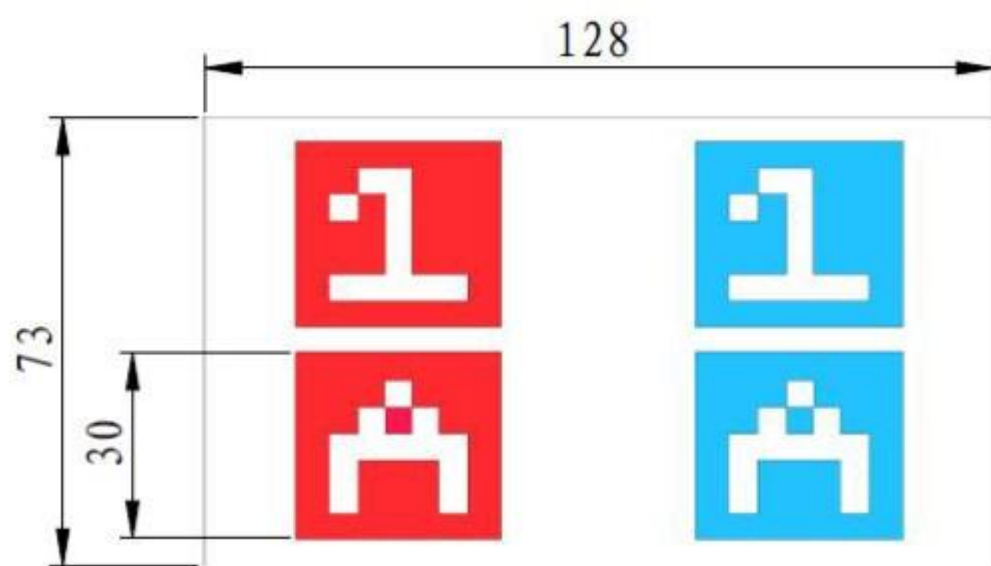
30 *30

“ 3.9.3

"



2-25



2-26

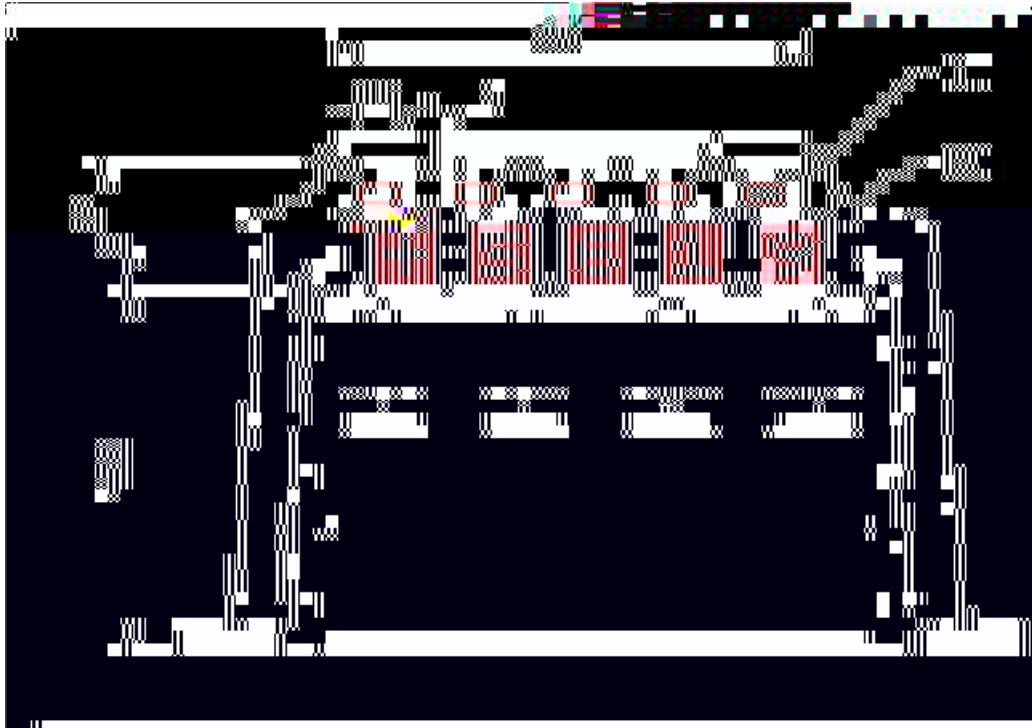
2.7.3.3

5

5

“ 3.6

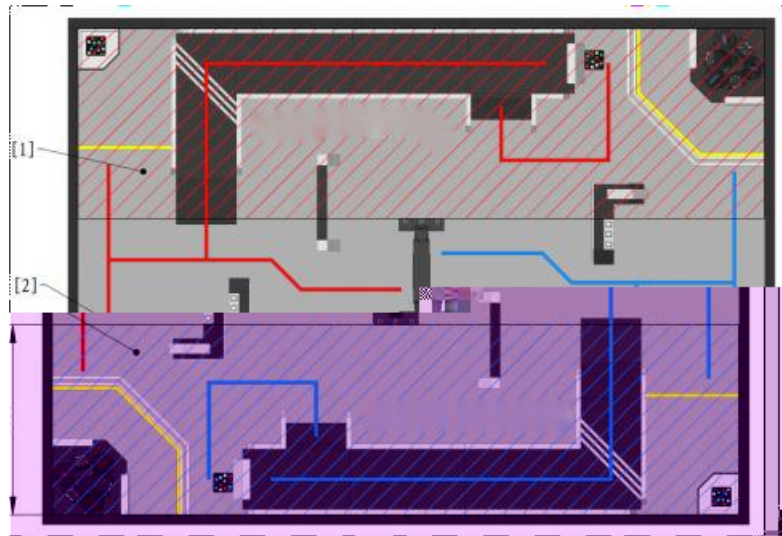
"



2-27

2.8

2.8.1



2-28

2.9

2.10



2-29

2.11

	6.3 ± 0.5	/	
	40	2.6 ± 0.1	



3.1



3.2

$$= \quad * \quad \frac{10 - \text{护甲值}}{10}$$



30) = 2.5	3	30	10 * 10 / (10 +
10 = 20		-10	10 * [10-(-10)] /

3-3

		30	“ 3.2.1 ”
		10	“ 3.2.1 ”
		5	“ 3.5 ”
		20	“ 3.7.2 ”

“ 3.3 ”

3.2.1

0	50
	30
10	50

3.2.2

“ 3.5 ”

3.3

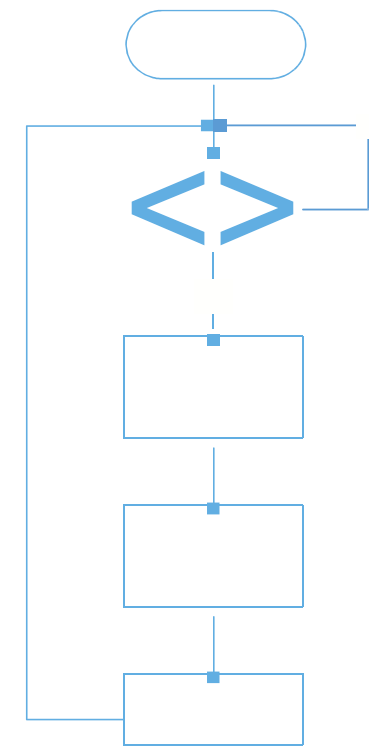
3.3.1

3-4

	10

3.3.2

2



3-1

3.4

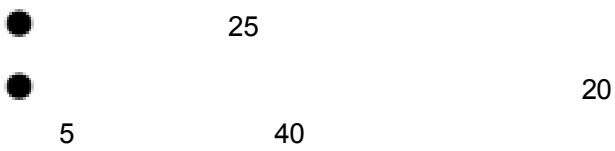
3.4.1



3.4.2



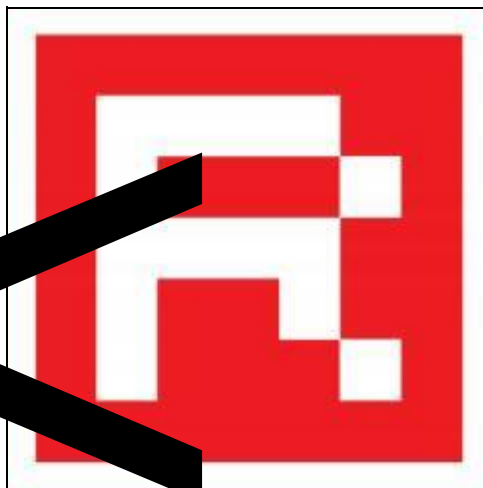
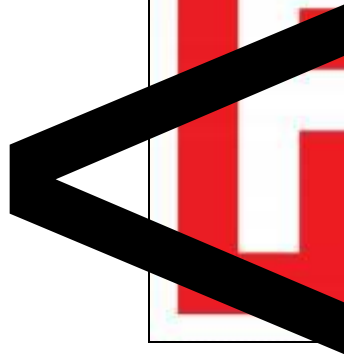
3.4.2.1



3.4.2.2

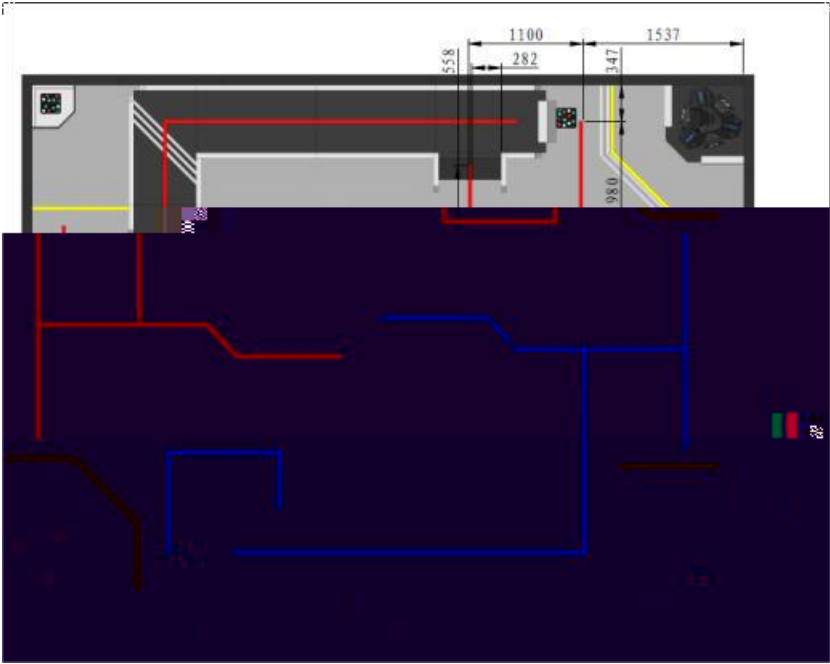
“ ”

e



3-2

3.5



3-3

3-5

	5
	1
	" 3.6 "
	0
	" 3.2.1 "
	50%
	30

3.6

1.5

2

40

4

× ÷; 0 1 2 3 4 5 6 7 8 9

1 4

“ 2-27 ”

24

÷2269	9 6 ÷ 2 ÷ 2
× 2269	2 × 2 × 6



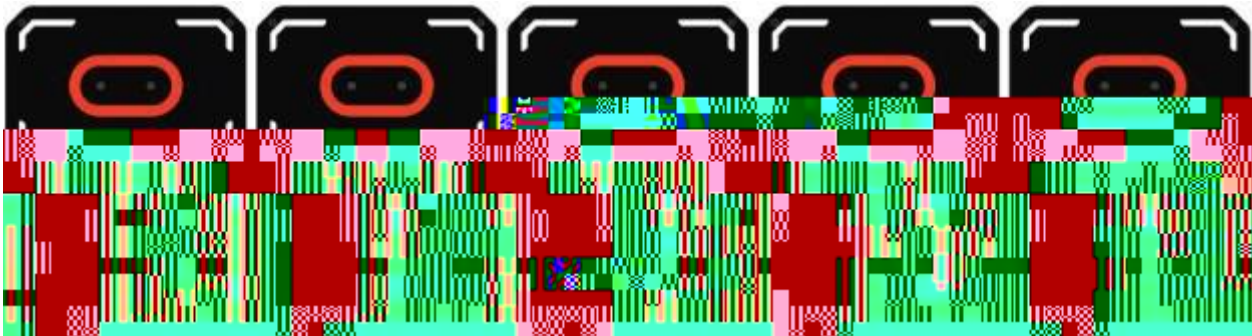
3.6.1

3-6

	5	
	1	
	10	“ A ”
	50	

3.6.1.1

5

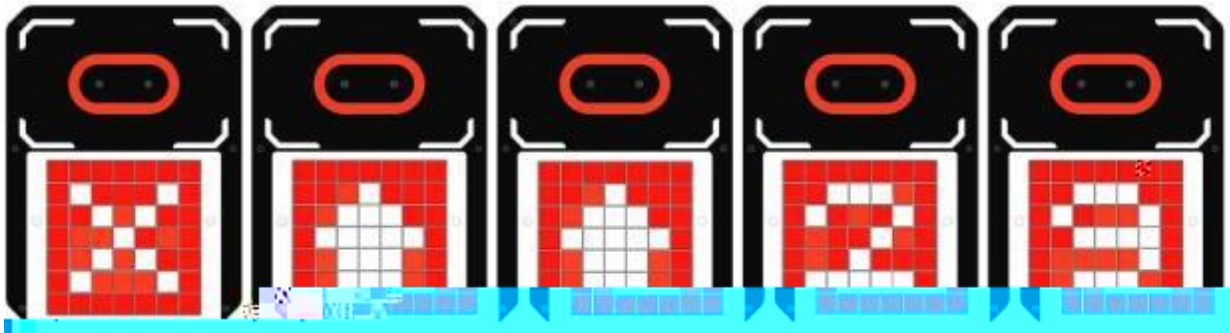


3-4

3.6.1.2

“ ↑ ”, 1

“ ↑ ”



3-5

3.6.1.3

2

2:59

24

10



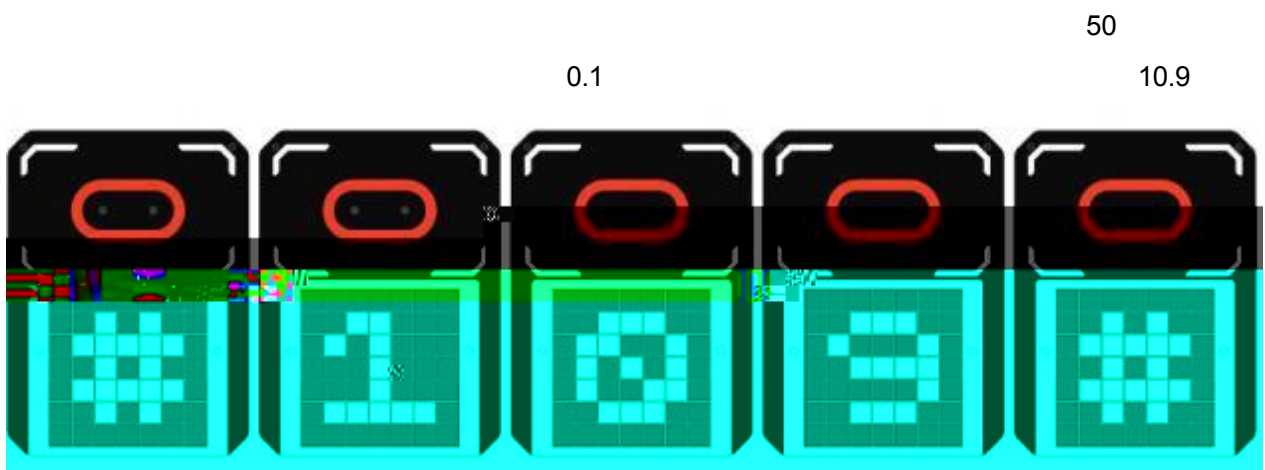
3-6



3.6.1.4

1

3.6.1.5



3-6

3.7

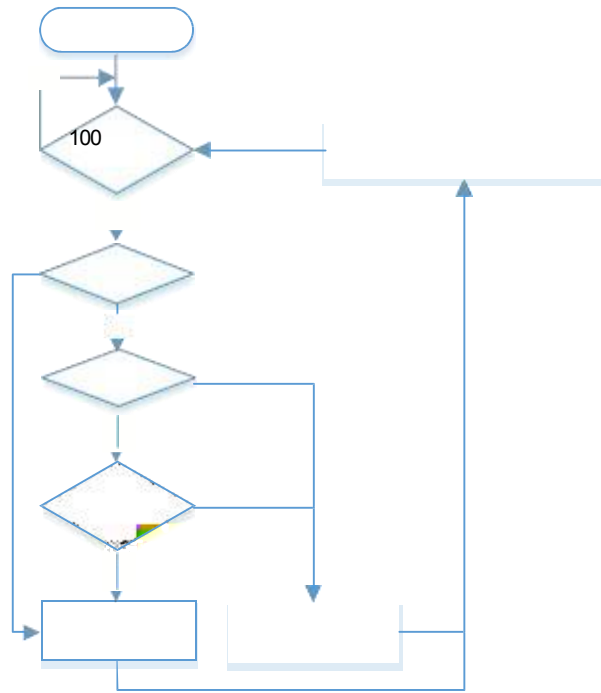
3.7.1

3.7.2

1

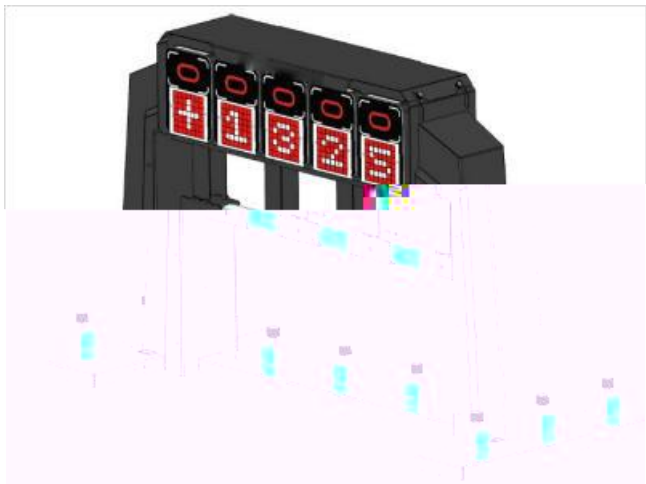
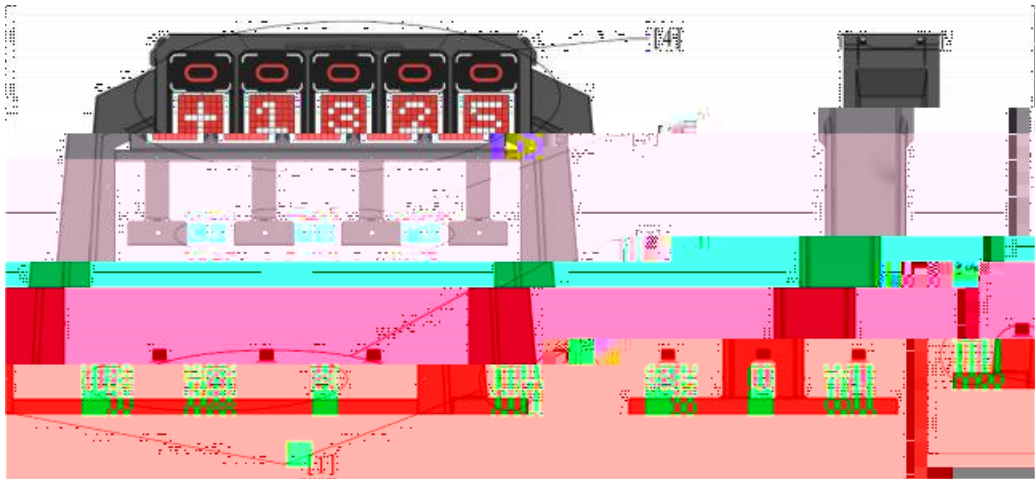
3

3-8



3.9.3

1 2 3



1 1 2 2 3 3 4

3-10

1	6	A B
2	3	
3	3	



3-7

1	50
2	75
3	125

2	2	5.2.2.2
		

3.10

30	20%	2%
----	-----	----

3.11

	20



3.12

:2 /

:1.5 /

7 /

3.13

1.

2.

3.

4.

4.1



30

1

4

A

A

A

4.1.1

40

30

4.2

10

A

4.3

“

”

4.3.2

15

“

”

4-2

4.4

20

4.5

“ 3.1 □

5.



	3
	5%

1

5.2

#

a.

5.2.1

5.2.1.1 /

R1 /

RMOC
R2

R3

2

3

30

4

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6

7

8

19

20

21

22

23

5.2.2

5.2.2.1

24



25

26

7.

27

28

29

30

“ 6

”

31

32 Ö Ö



5-3

T	X
$T \leq 10$	
$T > 10$	

5.2.2.2

35

36

37

38

5-4

T	X
$T \leq 10$	
$T > 10$	

2

2

3

10

5.2.2.3

39

1500

5-5

5.2.3

5.2.3.1

41

42

5-6

43



5-7

5-8

48

49

50

51

52

53

54



5.3



5-11

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	“
11.	”

6.



•

•

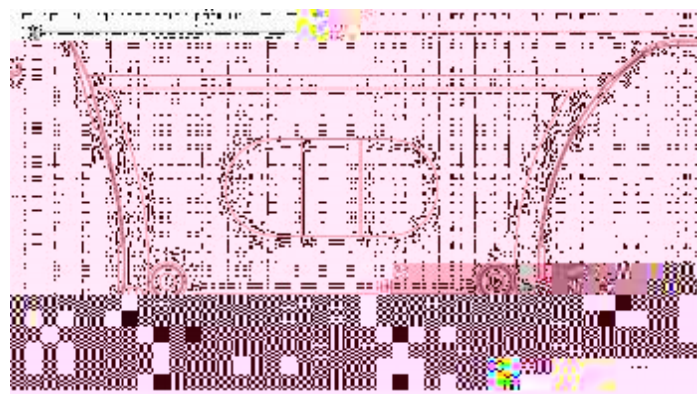
•

20

•

•

7.



7 -1

		-
		-
		-
		-

180*180*100 mm L*W*H

()

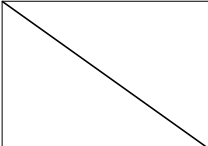
1.

7-4

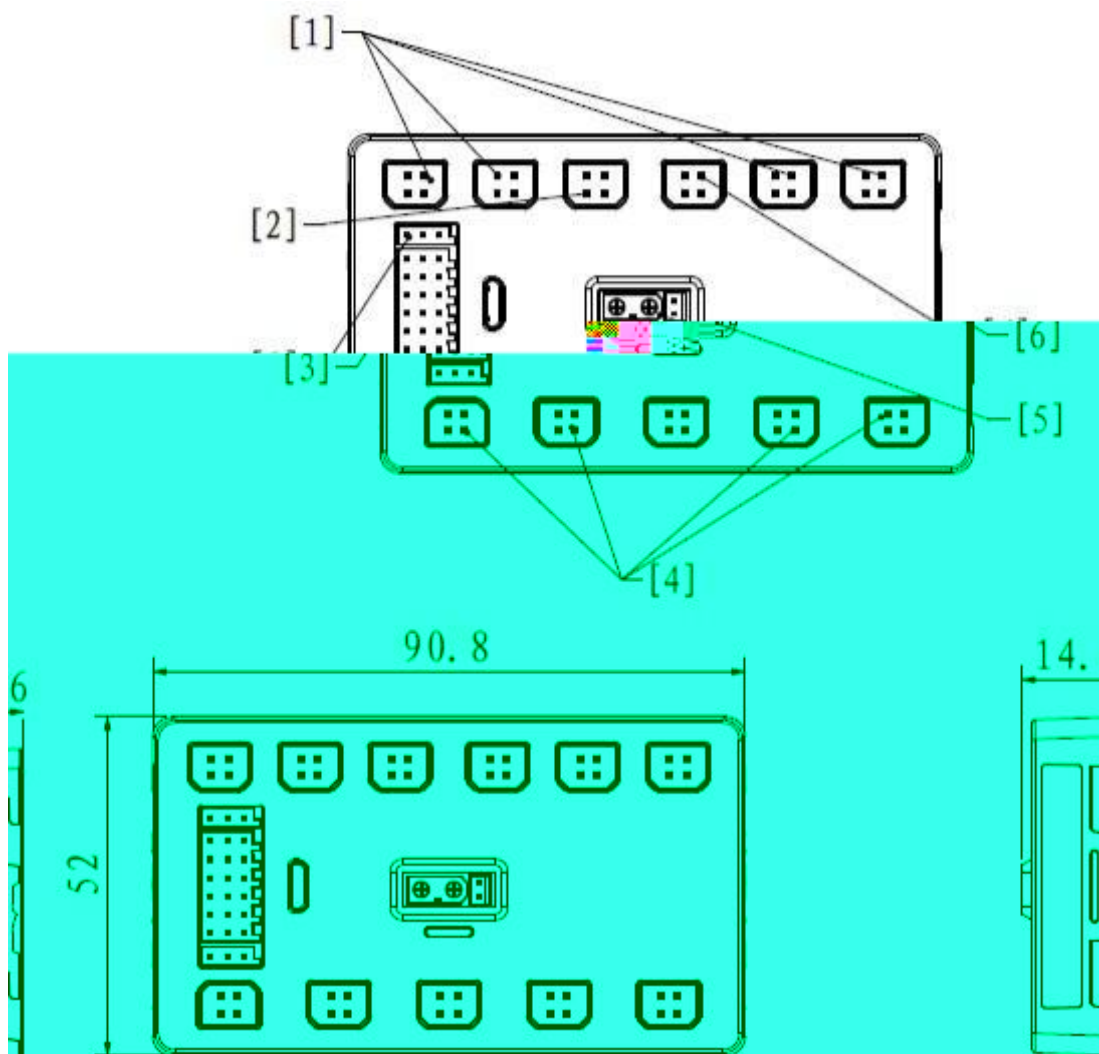
	UART

2.

7-5

				
	1	4	1	1
	1	4	1	0
	0	0	0	0

3.



[1] M BUS

[2] CAN BUS

[3] UART

[4] CAN BUS

[5] POWER

[6] CAN BUS

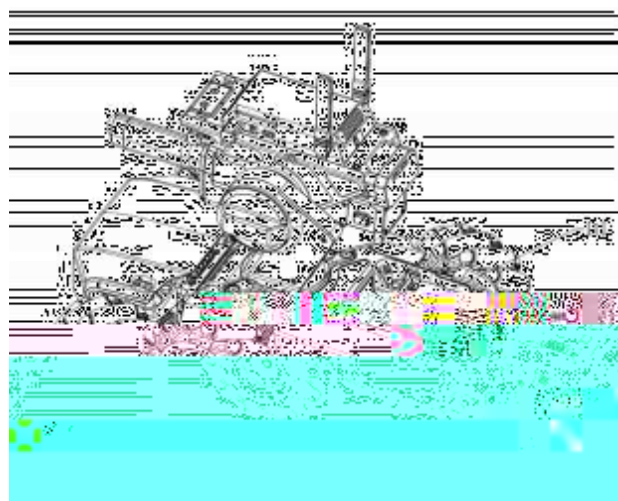
7-2

CAN BUS

CAN BUS

1

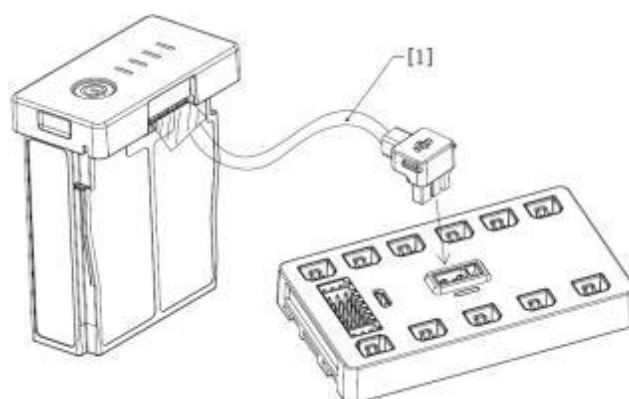
1.



[1]

7-3

2.



[1]

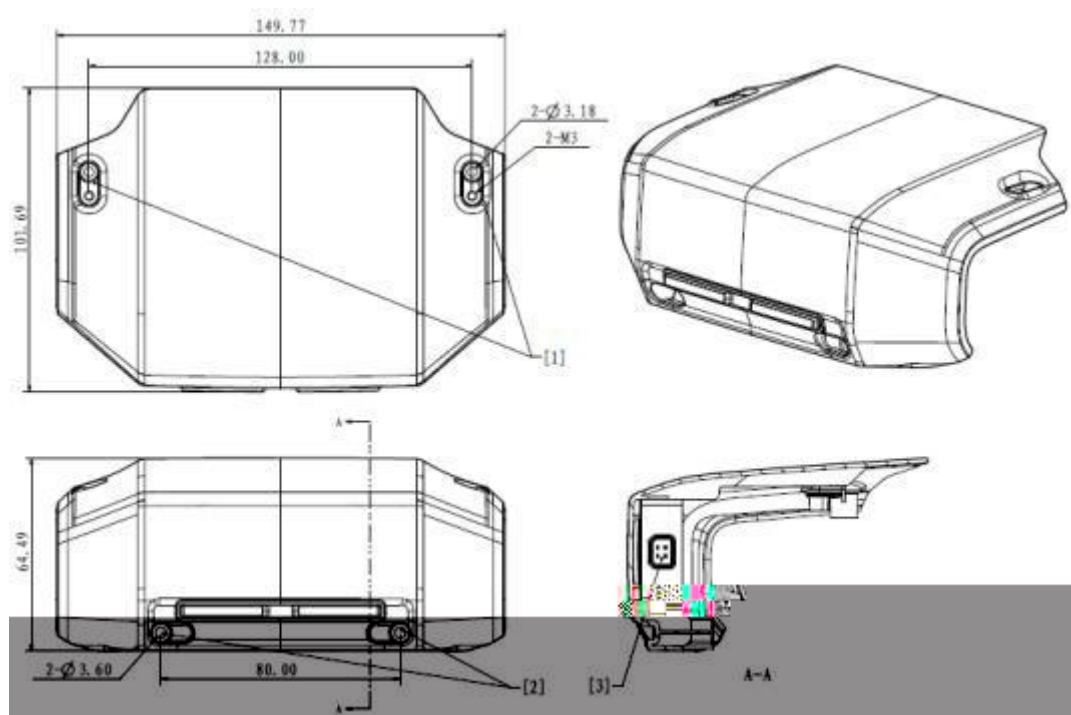
7-4

2

S30

S31

4.

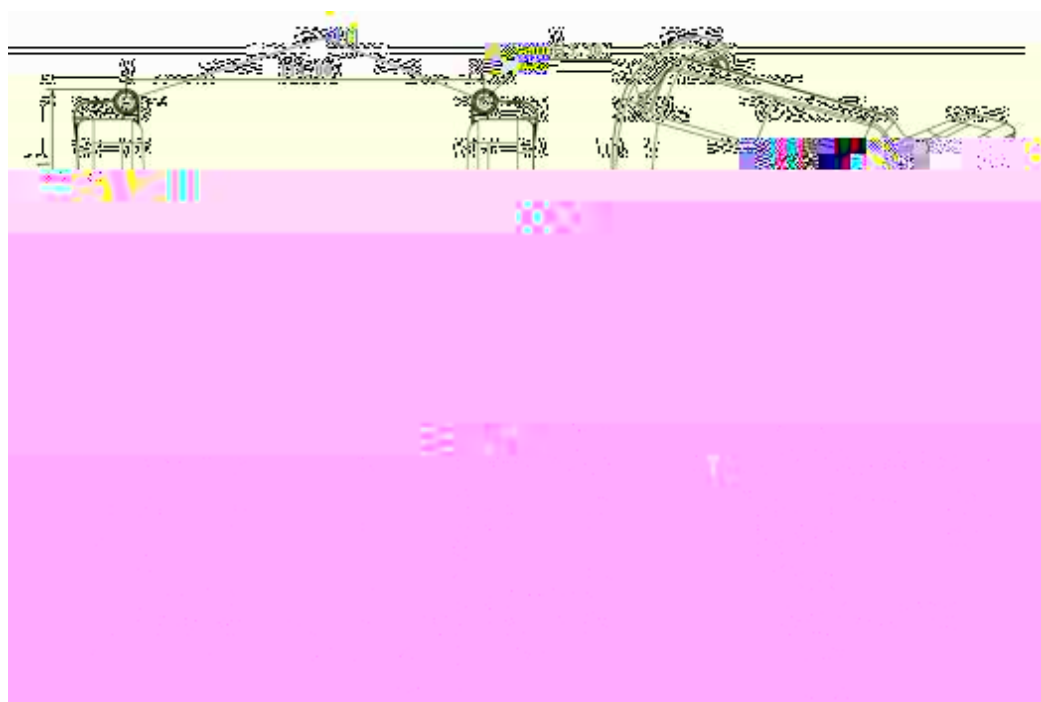


[1]

[2]

[3]

7-5



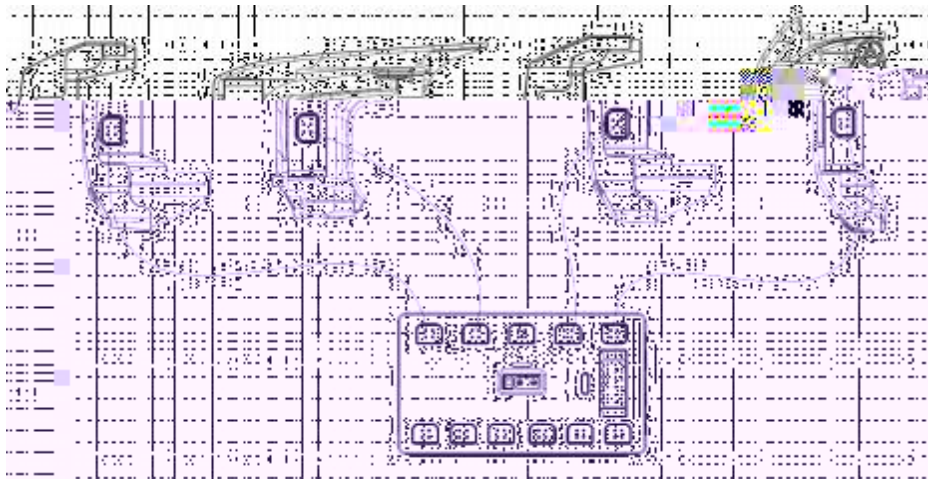
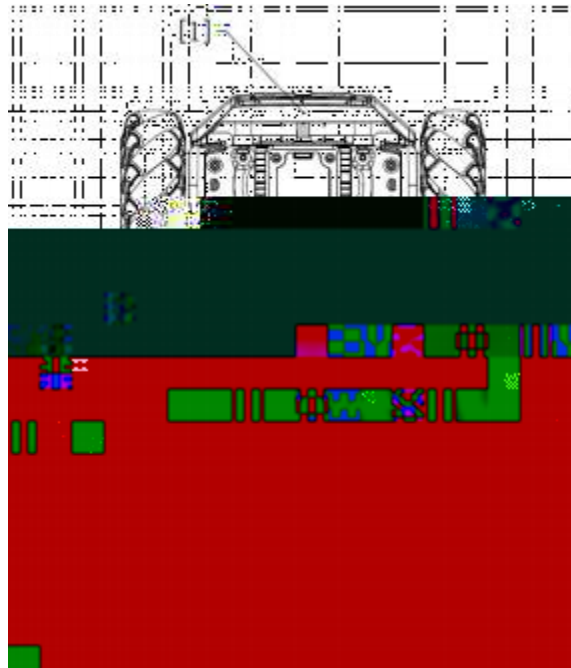
[1]

[2]

[3]

7-8

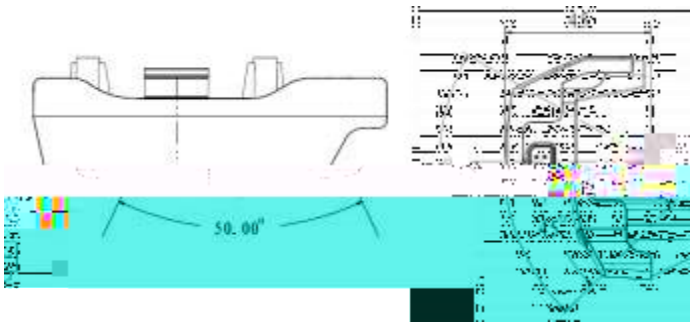
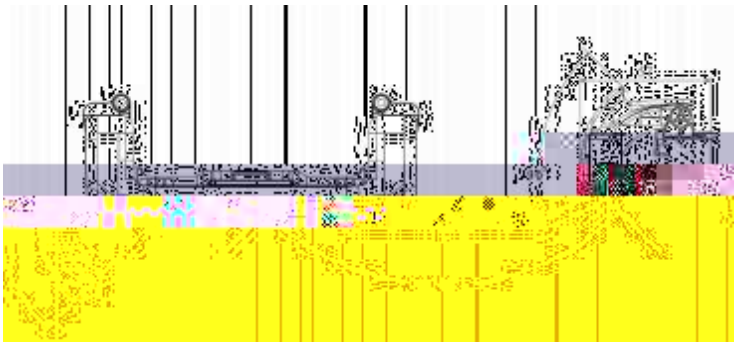
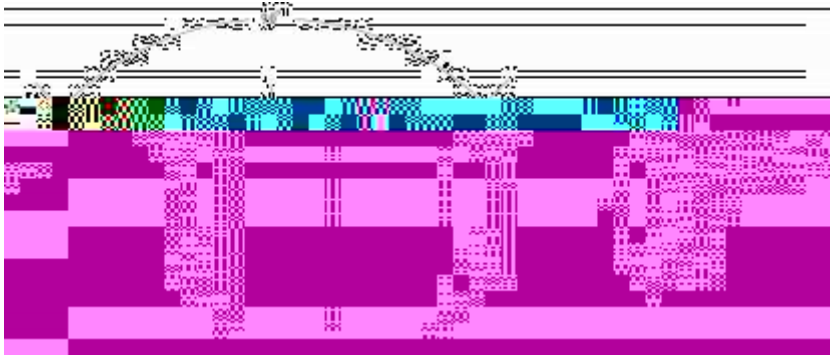
1



S32

90 °
50 °

90 °
75 °



7-11

3 ID

ID

X

X

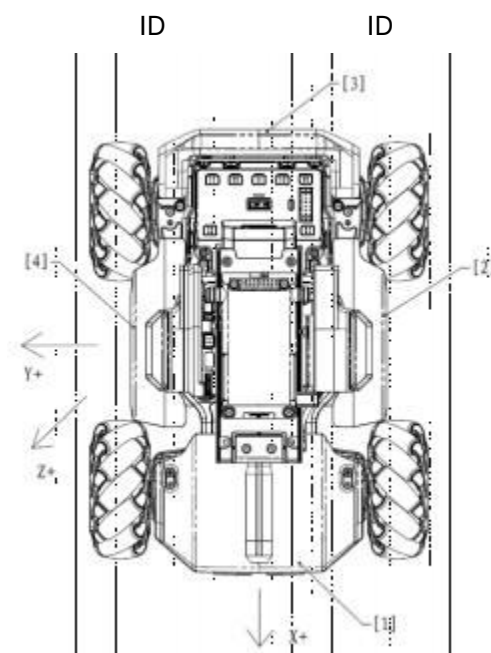
Y

Z

X

Y

ID



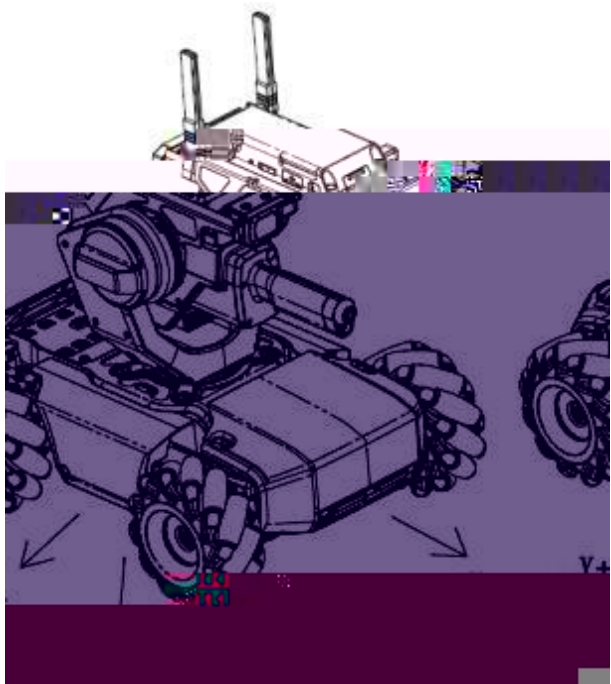
[1] [2] [3] [4]

7 - 6 ID 7 - 12 ID ID

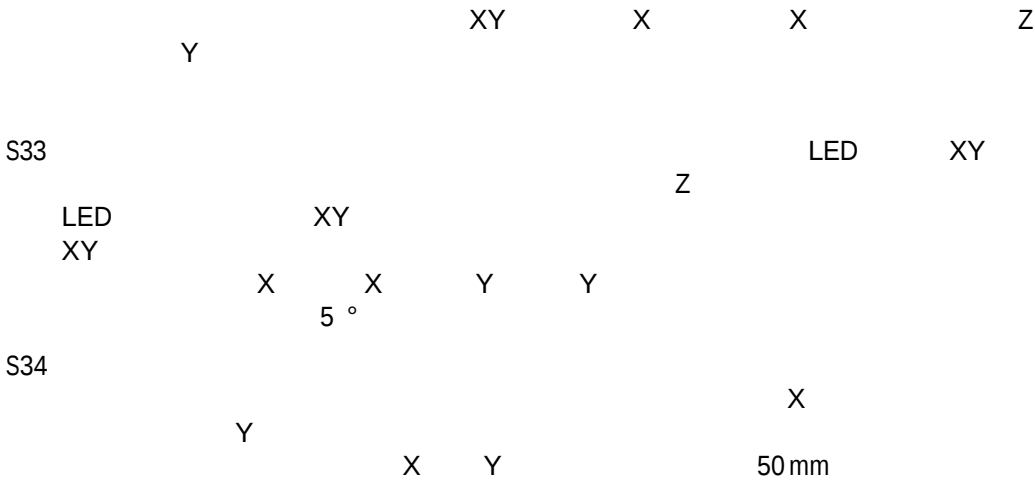
	ID
X	● ●
Y	● ●

4

X Y Z



7-13



S35

S36

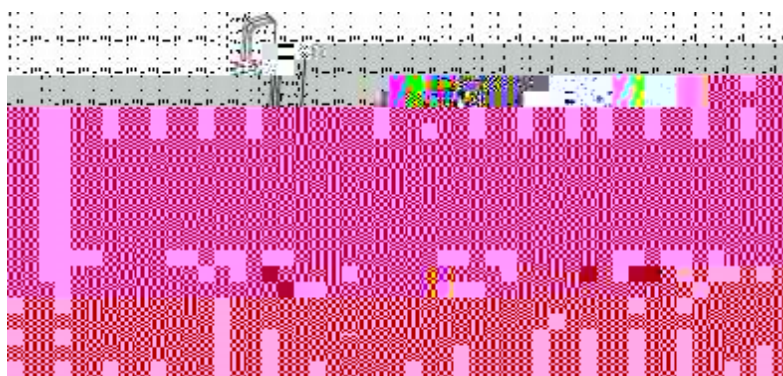
0.5 m/s

S37

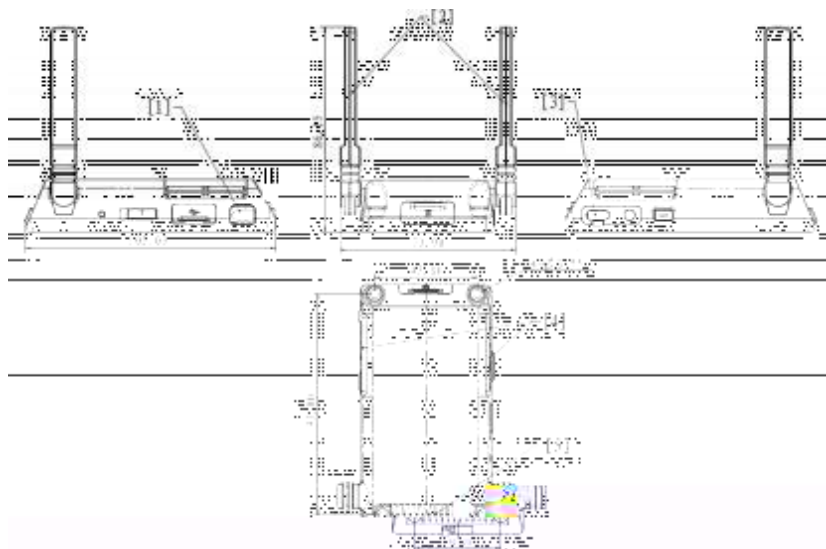
30 mm-

50 mm

5.

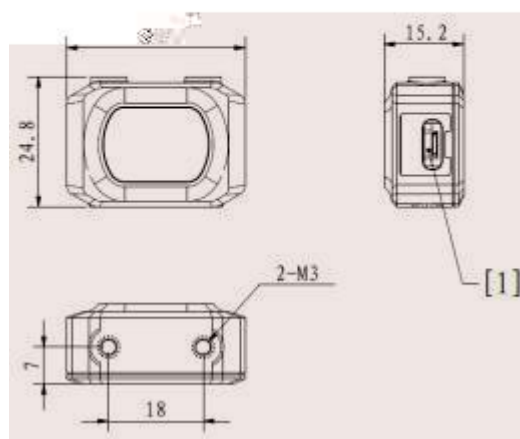
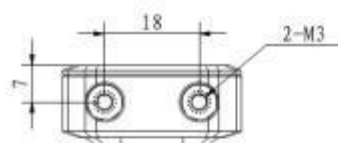


7-14



[1] CAN BUS [2] [3]
[4] [5]

7-15

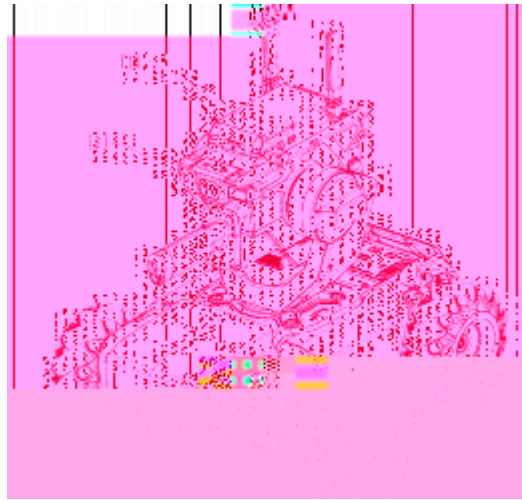


[1] CAN BUS

7-16

1

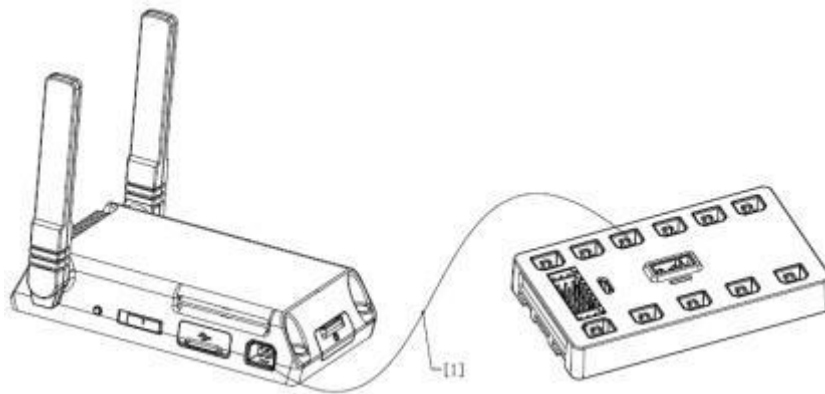
1. M3



[1]

[2]

7-17



[1]

7-18

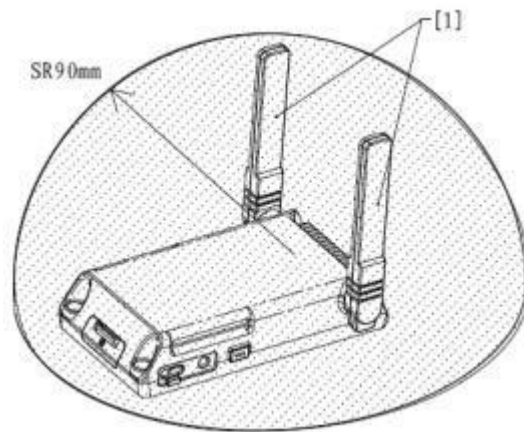
2

S38

S39

S40

90 mm



[1]

7-19

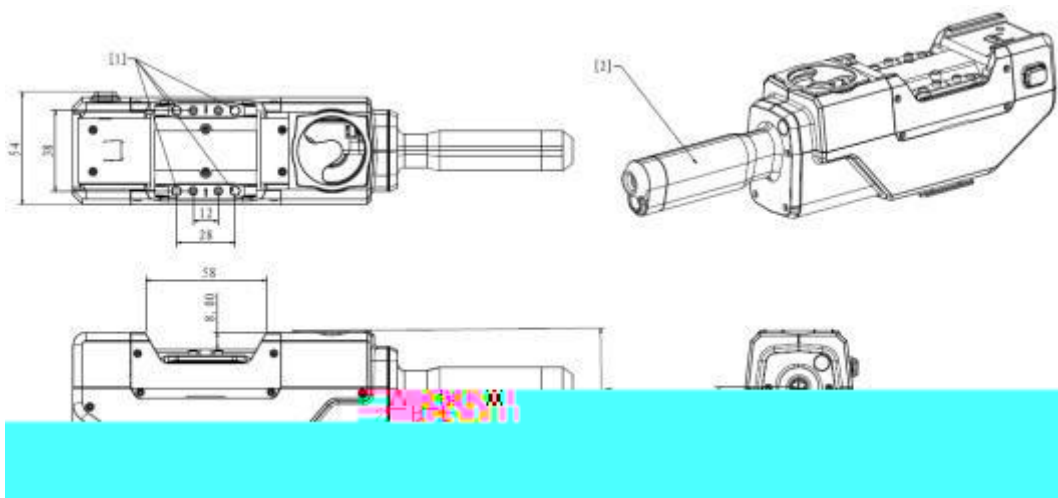
S41

S42

6.

1.

M3

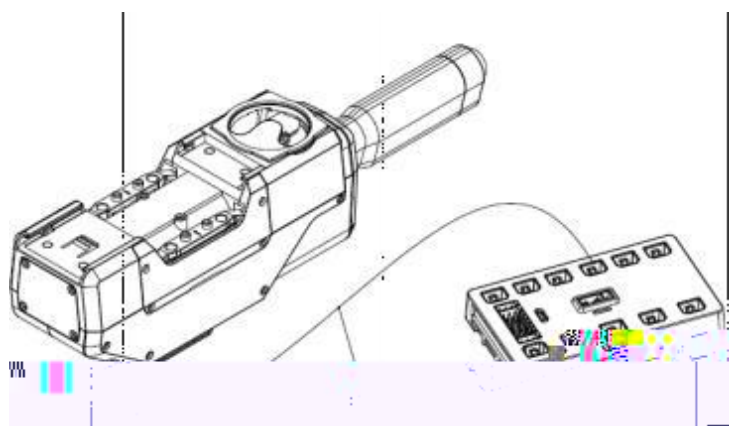


[1] M3 [2]

7-20

CAN BUS

2.



[1]

7-21