

अथवा

1.

2.

3.

4.

1.

1.1

1.1.1

Cx:	$\pm$	$\times 1\%+1\text{pF}$
tg δ :	$\pm$	$\times 1\%+0.00040$
		200%
		3pF~60000pF/10kV 60pF~1 μ F/0.5kV
		3pF~1.5 μ F/10kV 60pF~30 μ F/0.5kV
		0.001pF 4
tg δ		0.001%
		10 μ A~5A
		0.5~10kV
		200mA
		$\pm (1.5\% \times$ +10V)
		1V
		45~65Hz

49/51Hz 45/55Hz 55/65Hz 47.5/52.5Hz
 $\pm 0.01\text{Hz}$

5A / 40~70Hz

10kV / 5A / 40~70Hz

CVT

3~50V

3~30A

30s

1.1.2

180V~270VAC 50Hz/60Hz $\pm 1\%$

RS232

-10 ~50

<90%

pF	mA	x cm	x kg		CVT			
3~60k	200/ 10kV	34x26x27	22		C ₁ /C ₂			RS232 100

1.2

1.2.1

200%

2.2



1.2.5

1

40Hz~70Hz

2

3

CVT

C_1/C_2

4

220kVCVT

C_{11}

10kV

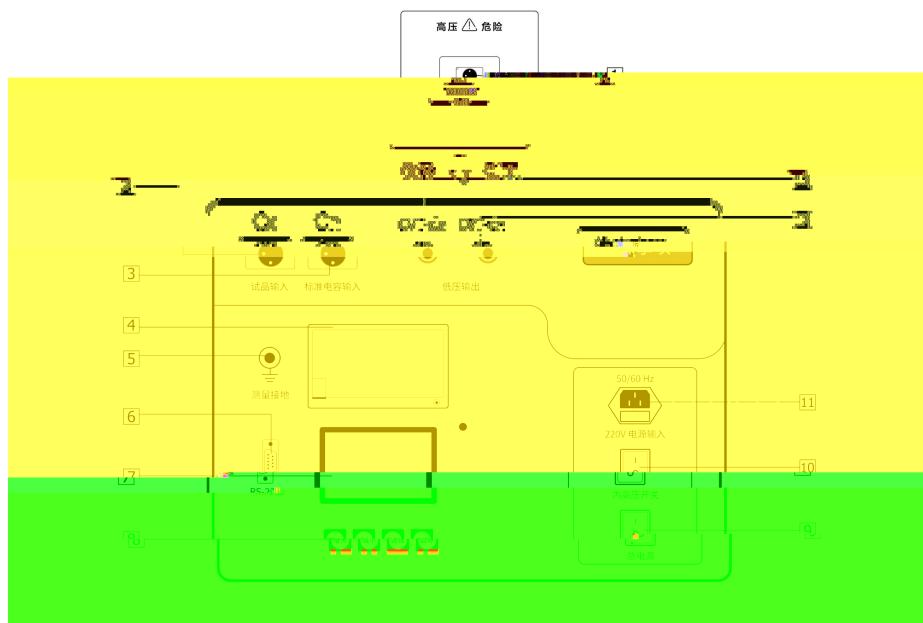
5

LCD

6

7

100



1 2 CX B 3 CN 4

5 6 $\tilde{A}23\tilde{\delta}$ $\tilde{\delta}$

1

2

3

0

4

2.2

Cx

10 μ A~5A

1

2 3

1

2

3

0

4

2.3

Cn

10 μ A~5A

		Cx			
1					
2		“	”		
3			C	tg δ	Cx
4					
2.4	CVT		3~50V	3~30A	
				CVT	
1					CVT
2	CVT				
3	CVT		2~5V		
4	/				
2.5					

1

2 0

2.6 180V~270V 50Hz/60Hz

1

1 /

2

3

2.9

2.10

1 “ ” “ ” “ ” “ ” “ ”
“ ”

2

2.11

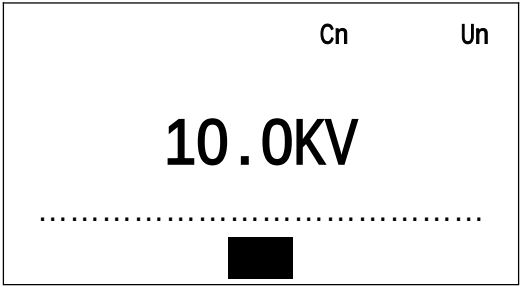
2.12

“ ” “ ”

3.

3.1

3.2



3.3

“ ” “ ” “ ” “ ” “ ”

“ CVT ”

3.4

CN “ ” “ ” “ ” “ ” “ ”

“ Cn ” “ ”

“ ” “ ” “

”

“ * ”

3.5

3.5.1

“ ” 45/55Hz

“ 60 ± 1Hz ”

59/61Hz

60Hz

“ ”

50Hz

“

1

4

Lx Q Rx Cx Lx

	Cx tg δ U I Φ P F t	tg δ > 1 / Q < 1
	Lx Q U I Φ P F t	
	Cx(Lx) Rx U I Φ P F t	
CVT	C1 tg δ C2 tg δ U1 U2 F t	Cx C1 C2 U1 C1 U2 C2
CVT	K Φ F t U I Cx tg δ	Cx tg δ F

Cx [1 μ F=1000nF / 1nF=1000pF] 10.00nF

10000pF

tg δ [1%=0.01]

Lx [1MH =1000kH / 1kH=1000H]

Q []

Rx [1MΩ=1000kΩ / 1kΩ=1000Ω]

U [1kV=1000V / 1V=1000mV]

I [1A=1000mA / 1mA=1000 μ A]

K CVT

Φ [°]

P [1kW=1000W / 1W=1000mW]

F [Hz]

f

t

[

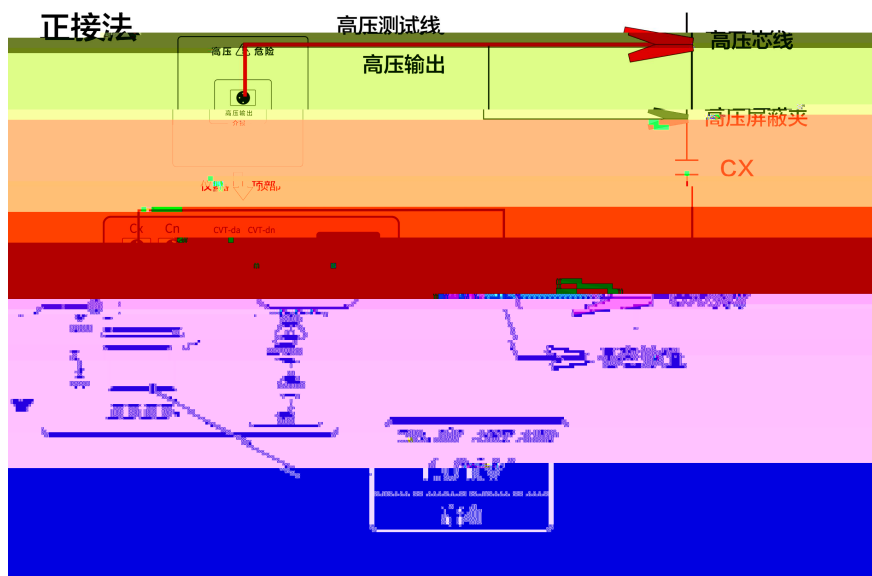
]

over

k

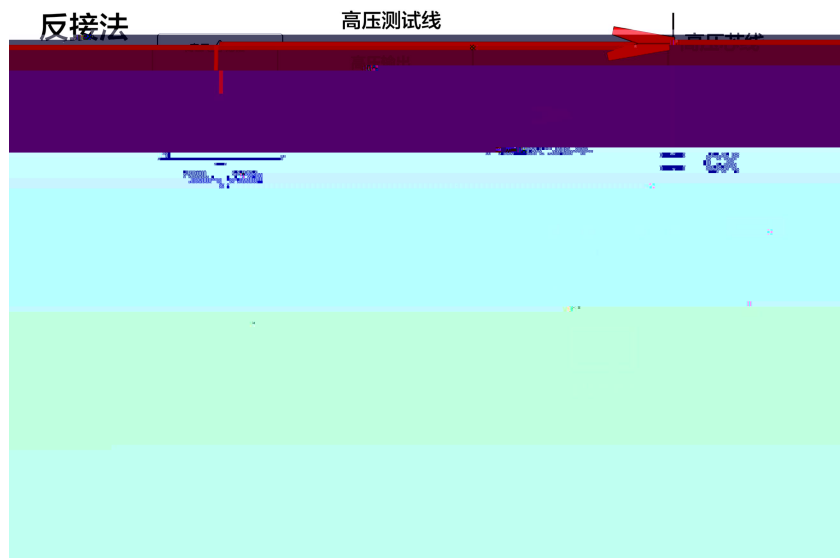
f

d



Cx

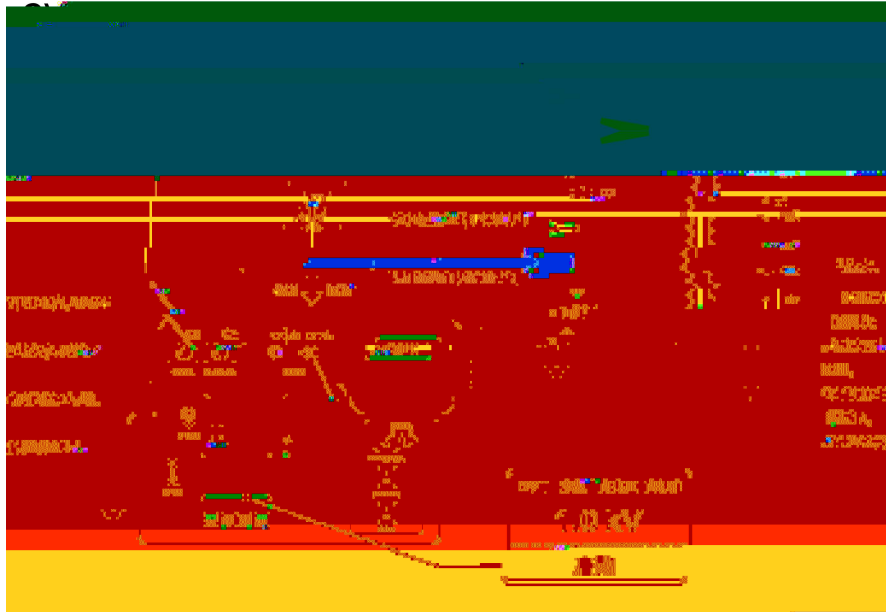
3.14.2



C1/C2

10kV

3.14.3 CVT



C_2 J C_x C_{12} C_x C_2 C_{12}

CVT C_1

C_x

CVT

" 3kV "

" "

3kV/200mA

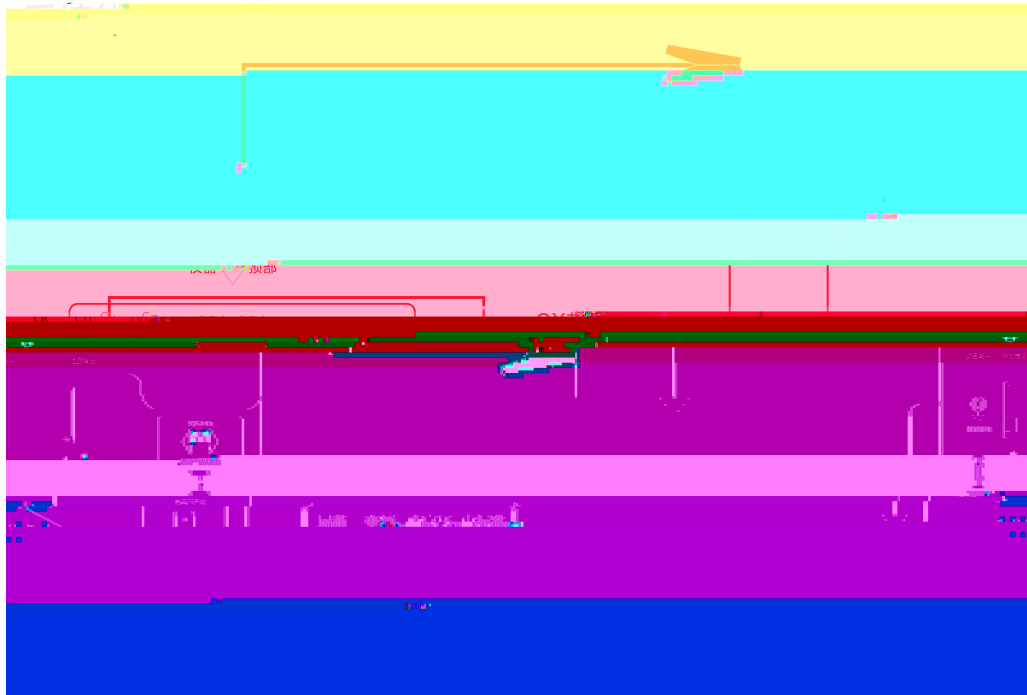
20V/10A

C_1 C_{11} C_2 C_2

CVT

CVT

3.14.4

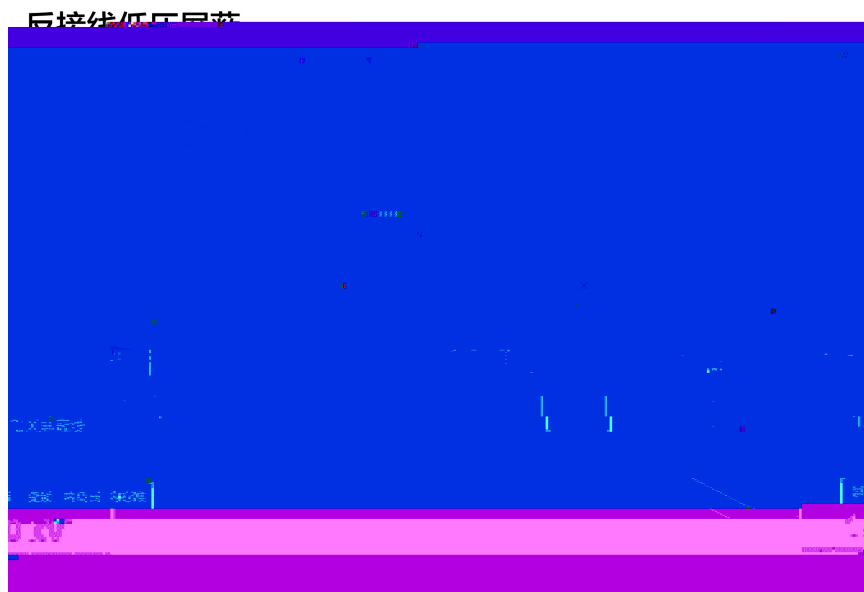


“ ” “ ”

Cg

g

• , ∅



4.

4.4

4.5

CVT

2~5V

1

2

220V

3

6.1

55Hz

55Hz

50Hz

1

10

$$Y=1.234\sin(x+5.678^{\circ})+12.34\sin(2x+87.65^{\circ})$$

$$x=0/90/180/270^{\circ} \quad 4$$

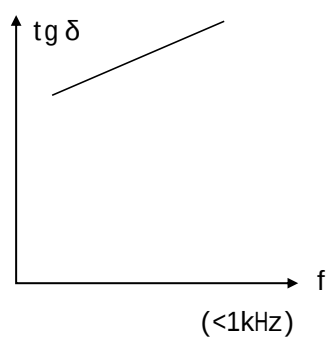
$$Y_0=12.4517 \quad Y_1= -11.1017 \quad Y_2=12.2075 \quad Y_3= -13.5576$$

$$A=Y_1 - Y_3=2.4559 \quad B=Y_0 - Y_2=0.2442$$

$$\varphi = \operatorname{tg}^{-1}(B/A)=5.678^\circ \quad V=\sqrt{^2-^2}/2=1.234$$

6.2

$$\begin{array}{ccccc} & RC & & & \\ \operatorname{tg} \delta = 1 / (2 \pi f RC) & \operatorname{tg} \delta & & f & \operatorname{tg} \delta = 2 \pi f RC \\ & f & & & f \end{array}$$



$\operatorname{tg} \delta$

f

6.3

50Hz

50Hz

45Hz

55Hz

50Hz

1

2

3

4

5

6