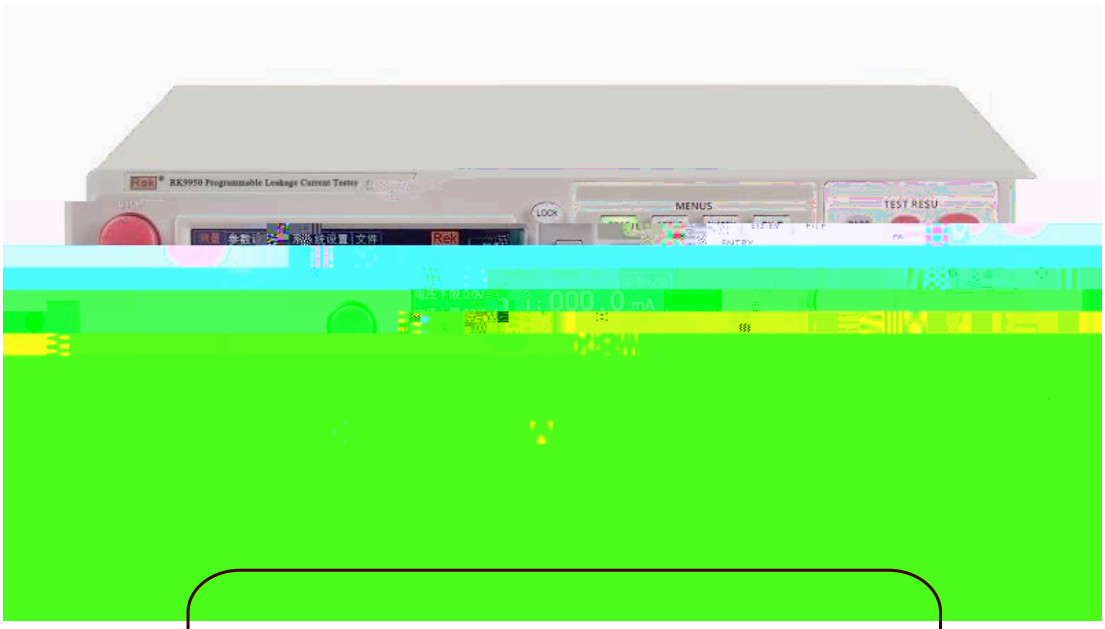
MEIRUIKE INSTRUMENT

Manual



RK9950

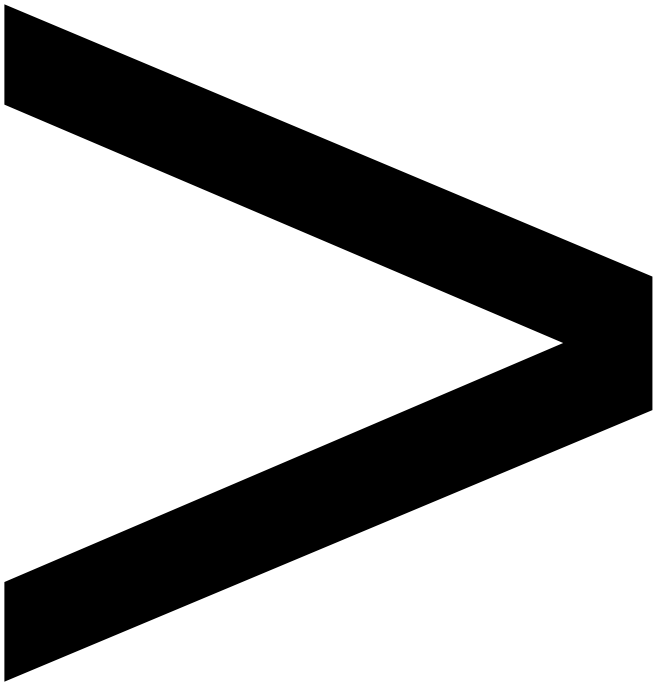
:

I

*

*

.....1
.....1
.....1
.....1
.....1
1.1 1
1.2 1
1.3 1
1.3.1 1
1.3.2 1
1.3.3 2
1.4 2
1.4.1 2
1.4.2 2
1.4.3 2
1.4.4 2



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6.3 19
6.4 23
6.5 25
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..... 40
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9.2 40
9.3 40
..... 41
10.1 41
10.2 41

1.1

■

1.8

1.9

- ■
- ■
- ■
- ■

2.1

“ ”

2.1.1 5 TFT 32 MCU
MD MD-A(GB/T12113-2003 GB4793.1-2007) MD-B(GB/T12113-2003 GB4793.1-2007 GB4706.1-2005 GB4943.1-2011 GB8898-2011 GB7000.1-2015) MD-C(GB/T12113-2003 GB7000.1-2015) MD-D(GB4793.1-2007) MD-E(GB4943.1-2011 GB4793.1-2007) MD-F(GB7000.1-2015) MD
L N PLC RS232C RS485 USB

2.1.2

2.1.3

2.1.4
110/V220V ±10%
50Hz/60Hz ±5%

2.1.5
0 -40 90%RH
20 ±8 80%RH
0 -55 ≤93%RH

2.1.6
≥30

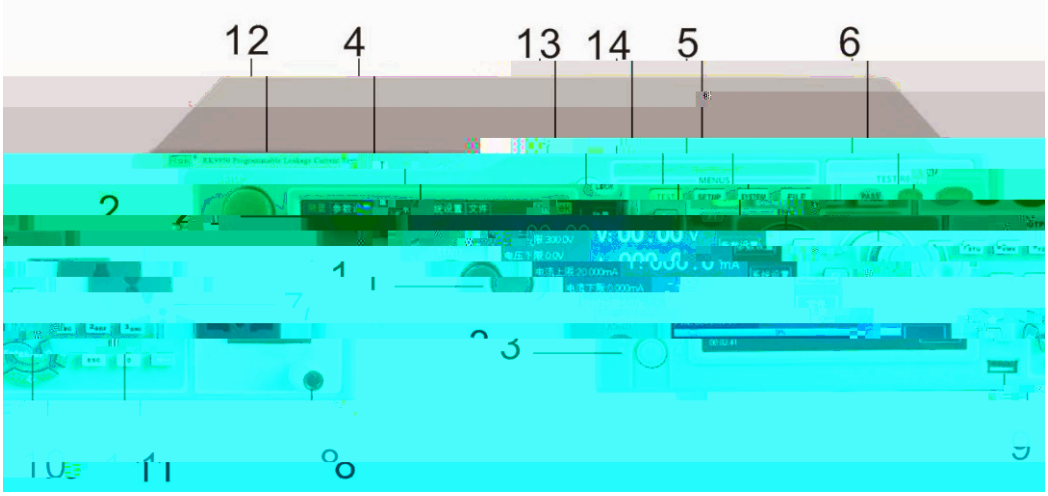
2.1.7
50M Ω
2M Ω

2.1.8
1.5KV 50Hz 1

2.1.9
GB6833.4 GB6833.6 GB6833.10

3.1

3.1.1



3.1.2

1 START

2 **STOP**

3 **POWER**

4

5

6

“ ”

7

8

9 USB

1010

3.15A/250VAC 5A/110VAC

2 115V/230V

3

4 PLC

9 D

5 RS232C

RS232C

6 RS485

RS485

7 USB

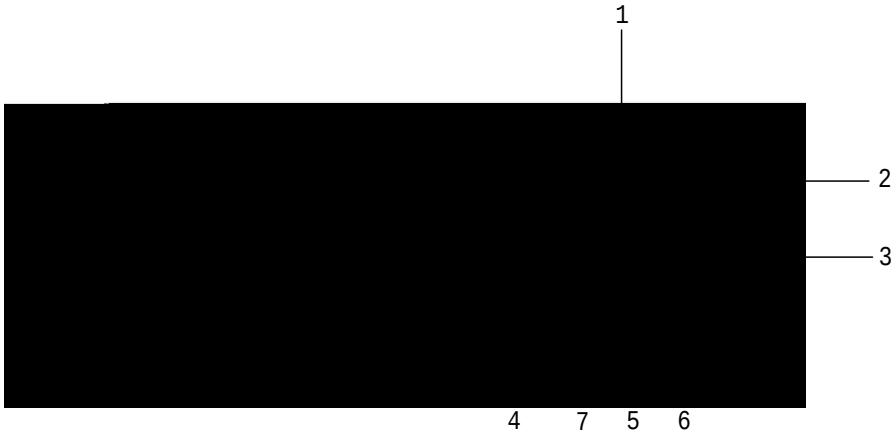
USB U

8 AC

L N AC

9

3.2.3 **RK9950A/B**



3.2.4 **RK9950A/B**

1

RK9950A : 5A ; RK9950B : 8A

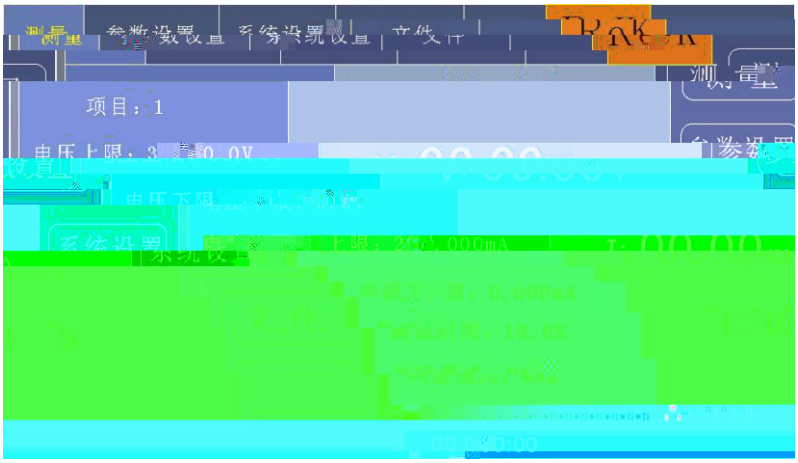
2 115V/230V

4 **PLC272** × × × ×

ñ **Y** **ē**

3.3

RK9950 480 × 272 5



3.3.1

3.3.2

3.3.3

×

3.3.4

3.3.5

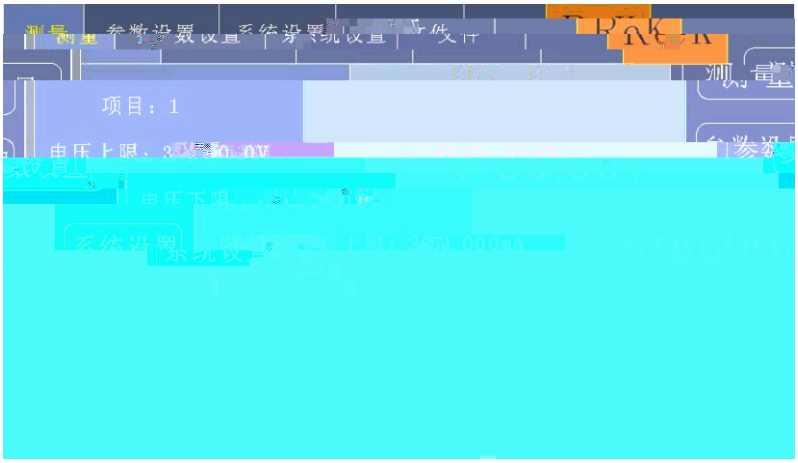
3.3.6

3.3.7

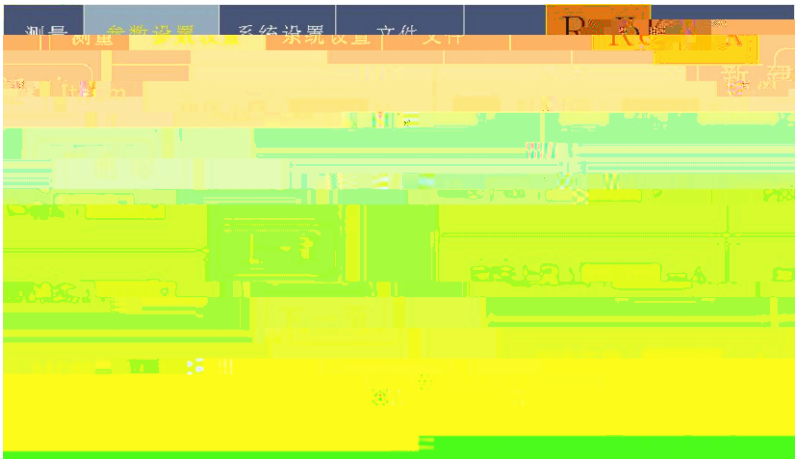
3.4

3.4.1

〃 〃

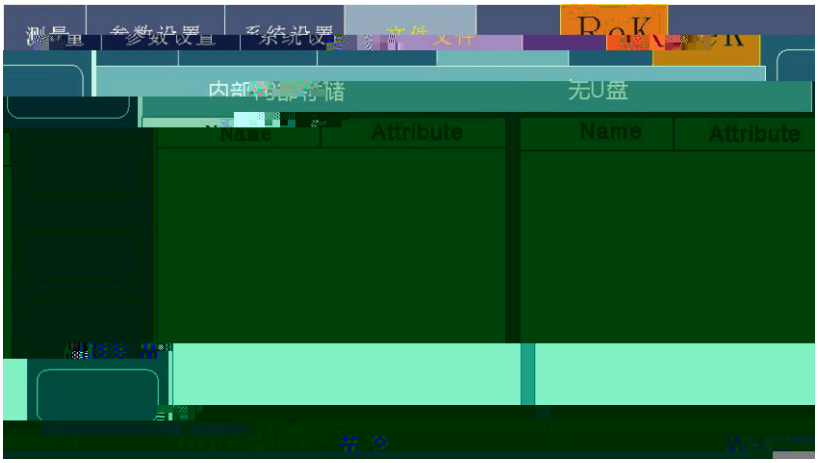


3.4.2



3.4.3

3.4.4



4.1

“ ”

00000704 00000704 00000704 00000704 00000704 00000704

PLC

5.1 PLC

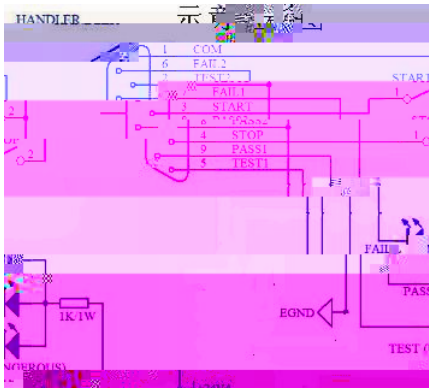
9PIND PROCESSING( ) PSASS

FALL TEST STOP

5.2

“ ” AC 250V 1.0A/DC

250V 0.5A



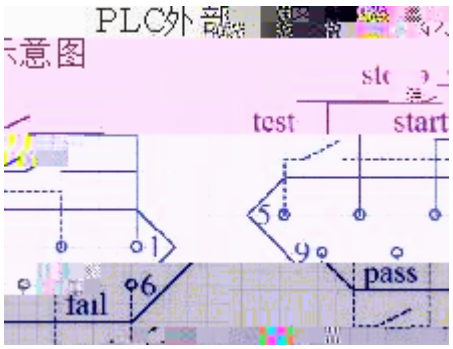
1 PROCESSING PIN5 PIN2

2 PASS PIN8 PIN9

3 FALL PIN6 PIN7

4 START OUT PIN3 PIN1

5 RESET OUT PIN4 PIN1



6.1

6.1.1

4
5

1

OK

OK 6

OK 7

OK

C

OK

OK C C

“0” ↑ ↓

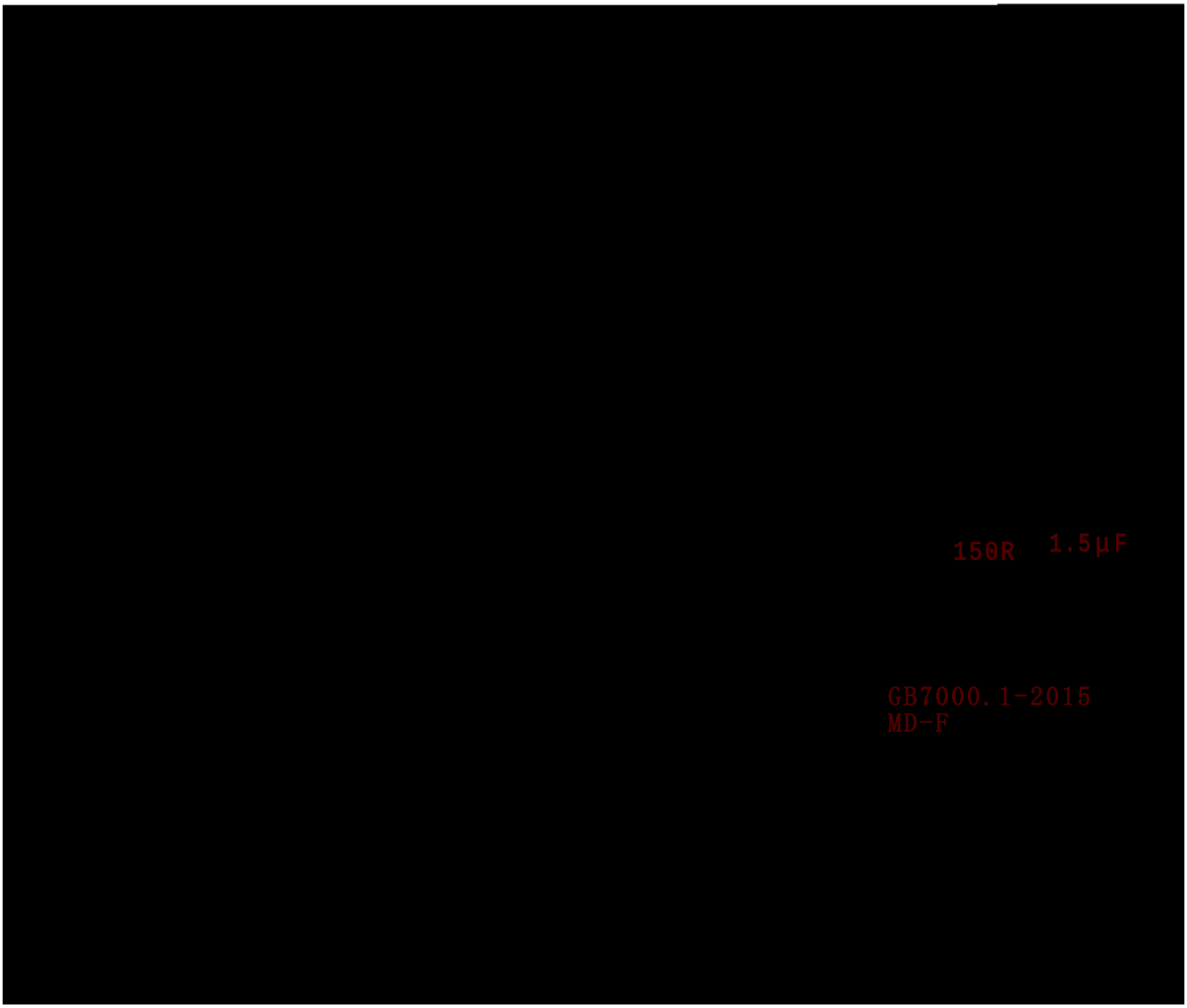
0-20.000mA

6.2.6

MAX( ) END

6.2.7 HOT COLD

6.2.8 MD 8 MD-A MD-B MD-B1 MD-C MD-D MD-E MD-F MD-G



MD-A	GB/T12113-2003(IEC60990:1999)	GB4793.1-2007(IEC61010-1:2001)
MD-B	GB/T12113-2003(IEC60990:1999)	GB4793.1-2007(IEC61010-1:2001)
MD-B1	GB4706.1-2005(IEC60335-1:2004)	GB4943.1-2011(IEC60065:2005)
	GB8898-2011(IEC60598-1:2014)	GB7000.1-2015(IEC60598-1:2014)
MD-C	GB/T12113-2003(IEC60990:1999)	GB7000.1-2015(IEC60598-1:2014)
MD-D	GB4943.1-2011(IEC60950-1:2005)	GB4793.1-2007(IEC61010-1:2001)
MD-E	GB4793.1-2007(IEC61010-1:2001)	
MD-F	GB7000.1-2015(IEC60598-1:2014)	
MD-G	GB4943.1-2011(IEC60065:2005)	GB4793.1-2007(IEC61010-1:2001)

GB4793.1-2007(IEC679- : G - r G.3
GB4793.1-2007(IEC679-
6.3

6.3.3

6.3.5 “ ↓ ”

“ENTER ” 0.1-999.9 S

101.2 “1” “0” “1” “2” “ENTER ”

6.3.6 “ ↓ ”

“ENTER ” MAX END

6.3.7 “ ↓ ”

6.4.1

2 ON OFF ↑ ↓ ← →

6.4.2

2 ON OFF ↑ ↓ ← →

6.4.3

2 ON OFF ↑ ↓ ← →

6.4.4

↑ ↓ ← →

6.4.5

↑ ↓ ← →

6.4.6

2 Chinese English ↑ ↓ ← →

6.4.7

2 RS232 RS485 ↑ ↓ ← →

6.4.8

4 9600 38400 19200 115200 ↑ ↓ ← →

6.4.9

↑ ↓ ← →

6.4.10

↑ ↓ ← →

6.4.11

↑ ↓ ← →

ENTER

6.4.12

6.5

6.5.1 16M

6.5.2 U U

6.5.3 U

7.1 RS232C

RS-232 RS “Recommended Standard”

232 (IEA) 1969

RS-232

RS232

Recommend α K α

7.4 (modbus)

RS 232C RS-485

(9600,19200,38400 115200) 8 1

±12V 15

TXD RXD GND

1 (03H)

(7):

						CRC	CRC

:

		Byte		CRC	CRC

: U16 2byte
float 4byte
double 8byte

01 03 00 01 00 01 D5 CA 01

01 03 02 00 01 79 84

1	0002H	0001H	Sel_Step	U16	2	1	/		RW
2	0003H	0002H	Tol_Step	U16	2	1			R
3	0004H	0003H	New_Step	U16	2	1			W
4	0005H	0004H	Del_Step	U16	2	1			W
5	0006H	0005H	Mode	U16	2	1		7	RW
6	000FH	000EH	Time	float	4	2		0.1-999.90	RW
7	0036H	0035H	VoltUplim	float	4	2		0.1-300	RW
8	0038H	0037H	VoltDnlim	float	4	2		0-299.9	RW
9	003AH	0039H	LCCurrUplim	float	4	2	LC	0.001-30	RW
10	003CH	003BH	LCCurrDnlim	float	4	2	LC	0-29.999	RW
11	003EH	003DH	JudgeMode	U16	2	1		0 1	RW
12	003FH	003EH	TestMode	U16	2	1		0 1	RW
13	0040H	003FH	MDNet	U16	2	1	MD	0-7	RW
14	61H	60H	Start	U16	2	1			W
15	62H	61H	Stop	U16	2	1			W
16	63H	62H	fetch one mode	u8	2	1			R
17	64H	63H	fetch	u8	2	1		/	R
18	65H	64H	fetch Voltage/CURR	float	4one	2			R

```
Judge           0 Judge End 1 Judge Max
TestMode           0 Cold 1 Hot
MDNet MD      0MD A  1MD B  2MD B1  3MD C  4MD D  5MD E  6MD F  7MD G
```

2

2.3 +

.

2.4. (word)

. 0001H

2.5 (Byte)

.

2.6 1-n.

						000FH		
1	0002H	0001H	Sel_Step	U16	2	1	/	RW
2	0003H	0002H	Tol_Step	U16	2	1		R
3	0004H	0003H	New_Step	U16	2	1		W
4	0005H	0004H	Del_Step	U16	2	1		W
5	0006H	0005H	Mode	U16	2	1	7	RW
6	000FH	000EH	Time	float	4	2	Time 0.1-999.9	

01H 10H 10H 06H 00H 01H 04H 00H 00H 00H 40H BFH 86H

01 2KV

01H 10H 10H 06H 00H 01H E5H 08H 01 .

Step0005H 6 2

2.716 CRC

1 2 256

```
const BYTE chCRCHTalbe[]
=                                                                    // CRC

{
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40
};

//CRC

const BYTE chCRCLTalbe[]
=
{
0x00, 0xC0, 0xC1, 0x01, 0xC3, 0x03, 0x02, 0xC2, 0xC6, 0x06, 0x07, 0xC7,
0x05, 0xC5, 0xC4, 0x04, 0xCC, 0x0C, 0x0D, 0xCD, 0x0F, 0xCF, 0xCE, 0x0E,
0x0A, 0xCA, 0xCB, 0x0B, 0xC9, 0x09, 0x08, 0xC8, 0xD8, 0x18, 0x19, 0xD9,
0x1B, 0xDB, 0xDA, 0x1A, 0x1E, 0xDE, 0xDF, 0x1F, 0xDD, 0x1D, 0x1C, 0xDC,
0x14, 0xD4, 0xD5, 0x15, 0xD7, 0x17, 0x16, 0xD6, 0xD2, 0x12, 0x13, 0xD3,
0x11, 0xD1, 0xD0, 0x10, 0xF0, 0x30, 0x31, 0xF1, 0x33, 0xF3, 0xF2, 0x32,
0x36, 0xF6, 0xF7, 0x37, 0xF5, 0x35, 0x34, 0xF4, 0x3C, 0xFC, 0xFD, 0x3D,
0xFF, 0x3F, 0x3E, 0xFE, 0xFA, 0x3A, 0x3B, 0xFB, 0x39, 0xF9, 0xF8, 0x38,
0x28, 0xE8, 0xE9, 0x29, 0xEB, 0x2B, 0x2A, 0xEA, 0xEE, 0x2E, 0x2F, 0xEF,
0x2D, 0xED, 0xEC, 0x2C, 0xE4, 0x24, 0x25, 0xE5, 0x27, 0xE7, 0xE6, 0x26,
0x22, 0xE2, 0xE3, 0x23, 0xE1, 0x21, 0x20, 0xE0, 0xA0, 0x60, 0x61, 0xA1,
0x63, 0xA3, 0xA2, 0x62, 0x66, 0xA6, 0xA7, 0x67, 0xA5, 0x65, 0x64, 0xA4,
0x6C, 0xAC, 0xAD, 0x6D, 0xAF, 0x6F, 0x6E, 0xAE, 0xAA, 0x6A, 0x6B, 0xAB,
0x69, 0xA9, 0xA8, 0x68, 0x78, 0xB8, 0xB9, 0x79, 0xBB, 0x7B, 0x7A, 0xBA,
0xBE, 0x7E, 0x7F, 0xBF, 0x7D, 0xBD, 0xBC, 0x7C, 0xB4, 0x74, 0x75, 0xB5,
```


0x80.

```
0x77, 0xB7, 0xB6, 0x76, 0x72, 0xB2, 0xB3, 0x73, 0xB1, 0x71, 0x70, 0xB0,
0x50, 0x90, 0x91, 0x51, 0x93, 0x53, 0x52, 0x92, 0x96, 0x56, 0x57, 0x97,
0x55, 0x95, 0x94, 0x54, 0x9C, 0x5C, 0x5D, 0x9D, 0x5F, 0x9F, 0x9E, 0x5E,
0x5A, 0x9A, 0x9B, 0x5B, 0x99, 0x59, 0x58, 0x98, 0x88, 0x48, 0x49, 0x89,
0x4B, 0x8B, 0x8A, 0x4A, 0x4E, 0x8E, 0x8F, 0x4F, 0x8D, 0x4D, 0x4C, 0x8C,
0x44, 0x84, 0x85, 0x45, 0x87, 0x47,
```

SCPI

8.1

8.1.1

8.1.2 ASCII

8.1.3 “<???>” ASCII

8.1.4

8.1.5 **NL** \n **10** **0×0A**
IEEE-488 ^**END** **EOI**

8.2 SCPI

RK9950

- DISPlay
- SYSTem
- FUNCtion
- MMEM
- FETC

8.3 DISPLAY

DISPlay

DISPLay:PAGE

DISPlay PAGE <page name>

<page name>

TEST

TESTSET

SYSSet

FLIE

( )

- -

DISP PAGE TEST

DISPlay PAGE?

TEST32

8.4 FUNCtion

8.4.1 FUNCtion

8.4.2 PROG

FUNC:STARt

FUNC:STOP

FUNC:SOUR:ITEM#:CLEAr ITEM

FUNC:SOUR:ITEM#:DEL ITEM

FUNC:SOUR:ITEM#:NEW

FUNC:SOUR:ITEM?

8.4.3 ITEM#

FUNC:SOURce ITEM#:VUPLM /

--

FUNCE SOURce ITEM#:VUPLM< >

FUNCE SOURce ITEM**#:**VUPLM

-- < >

0-300.0

0.1

V

ITEM 300V

FUNCE SOURce ITEM1:VUPLM 300.0

FUNCE SOURce ITEM1:VUPLM

FUNC:SOURce ITEM#:VDNLM /

--

FUNCE SOURce ITEM#:VDNLM< >

FUNCE SOURce ITEM#:VDNLM

-- < >

0-300.0

0.1

V

ITEM 100V

FUNCE SOURce ITEM#:VDNLM 100.0

FUNCE SOURce ITEM#:VDNLM

FUNC:SOURce ITEM#:IUPLM /

--

FUNCE SOURce ITEM#:IUPLM< >

FUNCE SOURce ITEM#:IUPLM

-- < >

0-20.000

0.001

mA

ITEM 10.000mA

FUNCE SOURce ITEM1:IUPLM 10.000

FUNCE SOURce ITEM1:IUPLM

FUNC:SOURce ITEM#:IDNLM /

--

FUNCE SOURce ITEM#:IDNLM< >

FUNCE SOURce ITEM#:IDNLM

-- < >

0-20.000

0.001

mA

ITEM 10.000mA

FUNCE SOURce ITEM1:IDNLM 10.000

FUNCE SOURce ITEM1:IDNLM

FUNC:SOURce ITEM#:TTIMe /

--

FUNCE SOURce:ITEM#:TTIMe< >

FUNCE SOURce:ITEM#:TTIMe

-- < >

0-999.9

0.1

S

ITIM 1S

FUNCE SOURce:ITEM1:TTIMe 1

FUNCE SOURce:ITEM1:TTIMe

1

FUNC:SOURce ITEM#:JUDGe /

--

FUNCE SOURce:ITEM#:JUDGe< >

FUNCE SOURce:ITEM#:JUDGe

-- < >

0 1(0 END 1 MAX)

ITIM 1

FUNCE SOURce:ITEM1:JUDGe 1

FUNCE SOURce:ITEM1:JUDGe

1

FUNC:SOURce ITEM#:TMODe /

--

FUNCE SOURce:ITEM**#:**TMODe< >

FUNCE SOURce:ITEM**#:**TMODe

-- < >

0 1(0 COLD 1 HOT <)

)

)

) ITIM 1

FUNCE SOURce:ITEM1:TMODe 1

FUNCE SOURce:ITEM1:TMODe

1

FUNC:SOURce ITEM#:MDNEt /

--

FUNCE SOURce:ITEM**#:**MDNEt< >

FUNCE SOURce:ITEM**#:**MDNEt

-- < >

SYSTem PBEE/FBEE/KBEE

/ / /

--

SYST PBEE<ON/OFF>OR<1/0>

SYST PBEE

-- <ON/OFF>

0 OFF ,1 ON

BEEP 1

SYST:BEEP 1

--

SYST:BEEP? 1

SYSTem REset

--

SYST RES

8.4.4 MMEM

MMEM SAVE

--

MMEM SAVE< >

-- < >

MMEM LOAD

--

MMEM LOAD< >

-- < >

SCPI

MMEM:SAVE

""

MMEM:SAVE "AC01"

MMEM:LOAD

""

MMEM:LOAD "AC01"

flash

PC USB

8.4.5 FETCH

FETCH

--

FETCh AUTO

FETCh:AUTO?

--

9.1

9.1.1

9.1.2 30

9.1.3 8 10

9.1.4

9.2

9.3

9.3.1 USB U

9.3.2 STOP+START

10.1

1

10.2

1		1
2		1 (RK9950)
3		1
4		1
5	RS232 USB	1
6	USB	1
7	RS232	1