

# MULTITESTER

# YX-360

## INSTRUCTION MANUAL

## Appearance and parts names

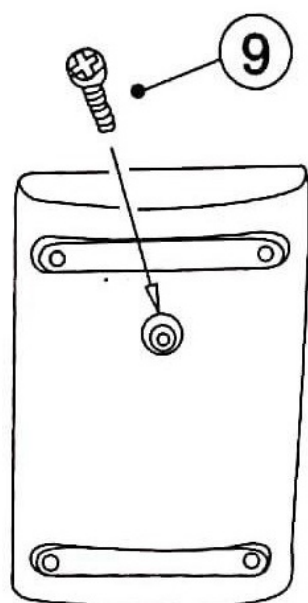
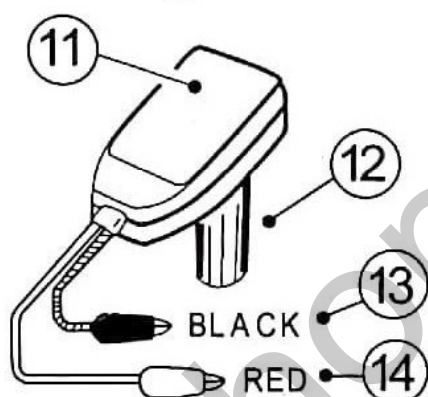
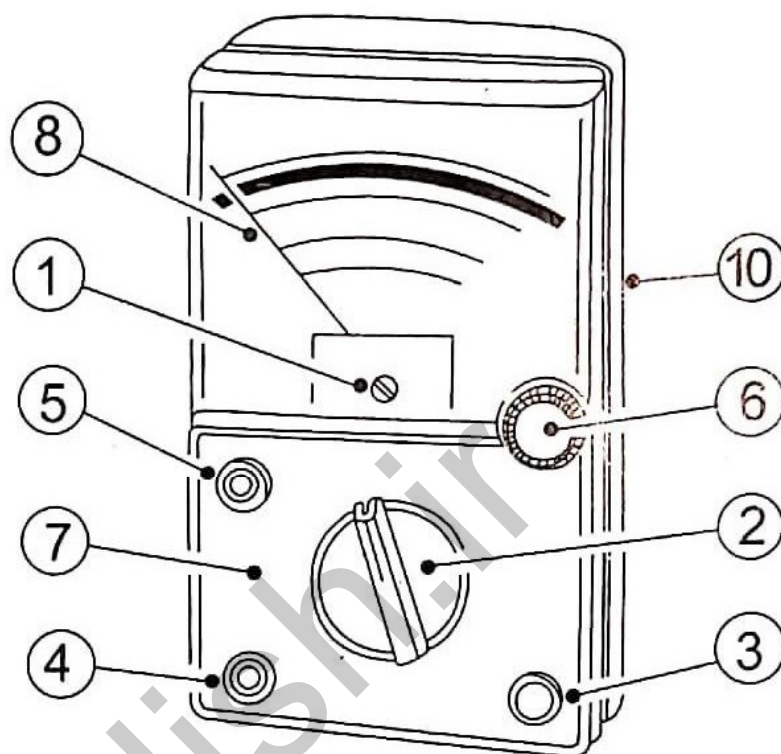


Fig. 1



Optional accessory

- |   |                            |
|---|----------------------------|
| ①Indicator zero corrector               | ⑧Indicator pointer         |
| ②Range selector switch knob             | ⑨Rear case bolt            |
| ③Measuring terminal+                    | ⑩Rear case                 |
| ④Measuring terminal—COM<br>(common)     | ⑪Connector for hFE test    |
| * ⑤Output(series condenser)<br>terminal | ⑫Connection pin to tester  |
| ⑥0Ωadjusting knob                       | ⑬Transister base clip      |
| ⑦Panel                                  | ⑭Transister collector clip |

\* AS DC-10A max 10A terminal for #YX-360TRN-A

## SPECIFICATION

### DC VOLTAGE

Ranges: 0.1-0.5-2.5-10-50-250-1000V

Accuracy at FSD: 3;(1000V;5)

Sensitivity : 20k  $\Omega$  / V

Extension : 25kV (with HV probe extra)

### AC VOLTAGE:

Ranges:

10-50-250-1000V

Accuracy at FSD: 4;(1000V;5)

Sensitivity : 9K  $\Omega$  / V

Decibelmeter : -10 to +22dB

0dB = 1mw / 600  $\Omega$

### DC CURRENT

Ranges:

50  $\mu$ A (at 0.1VDC position), 2.5mA, 25mA, 0.25A, \*10A

Accuracy at FSD: 3(10A;5)

Voltage Drop : 250mV

### RESISTANCE:

Ranges:

$\times 1-0.2\Omega$  up to 2k $\Omega$ , Midscale, at 20 $\Omega$

$\times 10-2\Omega$  up to 20k $\Omega$ , Midscale, at 200 $\Omega$

\*\*  $\times 100-20\Omega$  up to 200k $\Omega$ , Midscale, at 2k $\Omega$

$\times 1K-200\Omega$  up to 2M $\Omega$ , Midscale, at 20K $\Omega$

$\times 10K-2K\Omega$  up to 20M $\Omega$ , Midscale, at 200K $\Omega$

Accuracy at FSD:  $\sqrt{3}$

I<sub>ceo</sub> 150  $\mu$ A - 15mA - 150mA

hFE 0-1000 (with connector extra)

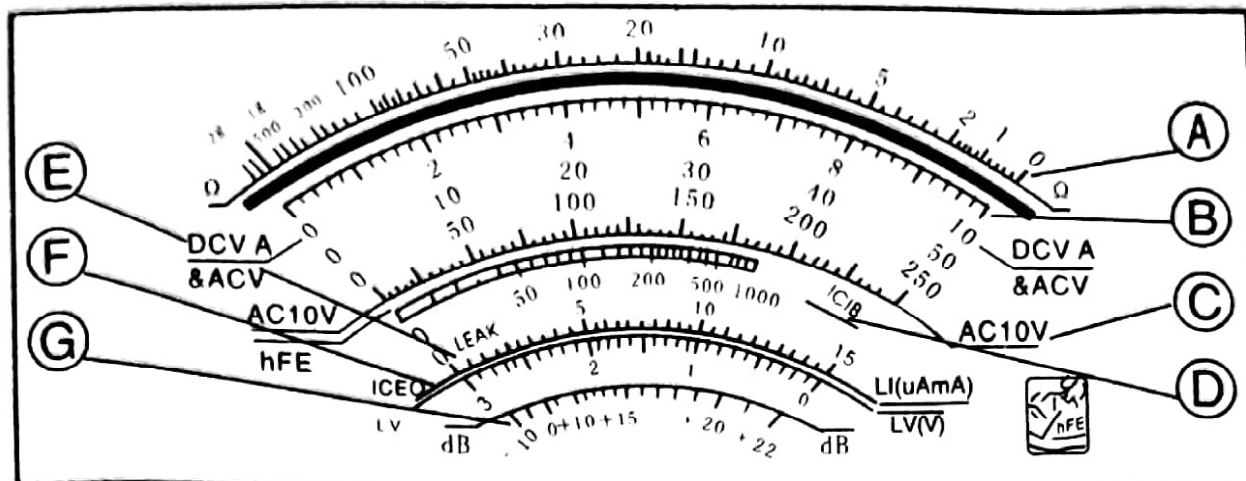
Size 148  $\times$  100  $\times$  35

Weight 280g

\* DCA range for #YX-360TRN-A

\*\*  $\Omega$  range for #YX-360TRE; #YX-360TRE-B;  
#YX-360TRE-B-L.

# REFERENCE TABLE FOR READING



Test	Range Position	Scale to read	Mulpyier
DC Volt	DC 0.1V	B 10	$\times 0.01$
	0.5V	B 50	$\times 0.01$
	2.5V	B 250	$\times 0.01$
	10V	B 10	$\times 1$
	50V	B 50	$\times 1$
	250V	B 250	$\times 1$
	1000V	B 10	$\times 100$
AC Volt	AC 10V	C 10	$\times 1$
	50V	B 50	$\times 1$
	250V	B 250	$\times 1$
	1000V	B 10	$\times 100$
DC Current	DC 50 $\mu$ A	B 50	$\times 1$
	2.5 mA	B 250	$\times 0.01$
	25 mA	B 250	$\times 0.1$
	0.25 A	B 250	$\times 0.001$
	10 A	B 10	$\times 1$
Resistance	$\times 1$	A	$\times 1$
	$\times 10$	A	$\times 10$
	$\times 100$	A	$\times 100$
	$\times 1K$	A	$\times 1000$
	$\times 10K$	A	$\times 10000$
Decibel	AC 10V	G	$\times 1$
	50V	G	$\times 1 + 14dB$
	250V	G	$\times 1 + 28dB$
ICEO	$\times 1$	E	$\times 1$
	$\times 10$	E	(for big TR) $\times 1$ (for small TR)
hFE	$\times 10$	D	$\times 1$
Diode	$\times 1K$	E	$\mu A \times 10$
	$\times 10$	F	$\times 1$
	$\times 1$	F	mA $\times 1$
		F	$\times 1$ mA $\times 10$ $\times 10$

## OPERATION

### $\Omega$ TEST

- (1) Plug the test leads into COM and + sockets.
- (2) Place the range selector to a prescribed range position.
- (3) Short the test leads and turn 0  $\Omega$  ADJ to set the pointer to zero position.
- (4) Make sure that there is no voltage across the circuit to be tested.
- (5) Connect the test leads to the tested resistor and read the scale in accordance with the reference table.

#### (6) \* CONTINUITY TEST (BUZZ)

Set the range selector knob to BUZZ, apply the test lead pins to two points to be tested and test continuity. Then the buzzer will buzz at between 0 and about 10k  $\Omega$ . It is impossible to test a point where voltage is being applied.

#### (7) \*\* CONTINUITY TEST (LED)

Set the range selector to the "CONT'Y" position

Connect the test leads to the tested circuit

If the "LED" in the tester produce light, that mean the tested circuit is continuous.

### DCV TEST

- (1) Plug the red test lead into the + socket and the black one into the-COM.
- (2) Set the range selector to a selected DCV range position.
- (3) Connect the red test lead to the positive polarity of the circuit tested and the black one to the negative.
- (4) Read the DCV A scale refering the reference table.

\*, \*\*, Pls refer to the table-2.



## ACV TEST

- (1) Plug the red test leads into the + socket and the black into the -COM socket.
- (2) Set the range selector to a chosen ACV range position.
- (3) Connect the test leads to the circuit being tested regardless of the polarities.
- (4) Read ACV scale with the reference table.

## DCA TEST

- (1) 50  $\mu$ A-250mA

Place the red test lead into the + socket and the black into the -COM.

- (2) 10A

Place the red test lead into the DC 10A MAX socket and the black into the -COM.

Set the range selector at a selected DCA range position. Connect the red test lead to the positive polarity of the circuit tested and the black into the negative.

Read the DCV A scale converted with the reference table.

## ACV TEST ON OUTPUT TERMINAL

Plug the red test lead into the OUTPUT socket and the black one into the -COM.

Set the range selector at the selected range position.

Connect the test leads to the circuit to be tested and read the scale in the same manner as ACV test. Such a measurement is made to block the DC voltage which presents in the same circuit and must be cut out so that AC voltage can be read alone.

## TRANSISTOR TEST

1. I<sub>ceo</sub> (leakage current) test.

- 1) Plug the test leads into + and -COM sockets.
- 2) Set the range selector to  $\times 10$  (15mA) for small size transistor, or to  $\times 1$  (150mA) for big size transistor.
- 3) Adjust 0  $\Omega$  addition to set the pointer to zero position of the  $\Omega$  scale.

- 4) Connect the transistor with the tester:

For NPN transistor, the 'N' terminal of the tester is connected with the COLLECTOR(C) of the transistor and the 'P' terminal with the EMITTER(E) of the transistor.

For PNP transistor, reverse the NPN transistor connection

- 5) Read  $I_{ceo}$  range, If the pointer is not within the LEAK zone or the pointer moves up near to the full scale, the transistor tested is not good. Otherwise it is a good transistor.

## 2. $h_{FE}$ (DC amplification) test

- (1) Set the range selector to  $\times 10$ .
- (2) Adjust 0  $\Omega$  ADJ to adjust the pointer to zero position.
- (3) Connect the transistor to the tester:

For NPN transistor, A) connect the 'P' terminal of the tester to the emitter of the transistor with the  $h_{FE}$  test lead. B) Plug the  $h_{FE}$  connector into 'N' terminal and connect its red clip to the collector and the black one to the base of the transistor.

For PNP transistor. A) connect the 'N' terminal of the tester to the emitter of the transistor. B) plug the  $h_{FE}$  connector into the 'P' terminal and connect the clips in the same way as for NPN transistor connection.

- (4) Read the  $h_{FE}$  scale. The value of the reading is  $I_c/I_b$ .

which is the DC amplification degree of the transistor tested.

### 3. DIODE TEST

- (1) Set the range selector at selected range position -  $\times 1K$  for  $0-150\mu A$ ,  $\times 10$  for  $0-15mA$ ,  $\times 1$  for  $0-150mA$  test.
- (2) Connect the diode to the tester  
For  $I_F$  (forward current) test connect the "N" terminal of the tester to the positive polarity of the diode and the "P" terminal to the negative polarity of the diode.  
For  $I_R$  (reverse current) test, reverse the connection.
- (3) Read  $I_F$  or  $I_R$  on the LI scale provided.
- (4) Read the linear (forward) voltage of the diode on the LV scale while testing  $I_F$  or  $I_R$ .

Brief summary of the function (table-2):

Model	Led indicator	Buzzer	DC 10A	$\Omega \times 100$ range
YX-360TRN	—	—	—	—
YX-360TRN-L	●	—	—	—
YX-360TRN-A	—	—	●	—
YX-360TRE	—	—	—	●
YX-360TRE-B	—	●	—	●
YX-360TRE-B-L	●	●	—	●