Introduction

Equipped with large digital displays, Shiva Amvaj Multimeter Model 144 has been designed to provide the following functions: measurement and display of the 6 voltage parameters as well as the 6 maximum/minimum voltage parameters; simultaneous measurement and display of the 3 current/maximum current parameters; and measurement and display of the grid frequency. This instrument can also be used for measuring and displaying RMS and True RMS values of the current.

Features

- Three indicators for displaying the R, S, and T voltages
- Displaying:
  - Phase voltages (R, S, and T) measured relative to the neutral and line voltages
  - (RS, RT, and RS)
  - RMS and True RMS values of phase currents (R, S, and T) simultaneously
  - Grid frequency (the R phase)
- Displaying and Logging/Recording
  - Maximum and minimum voltages
  - Maximum current
- Capability to
  - Fixed and sequential display of voltages
  - Locking on each voltage separately
  - Setting and displaying current transformer (CT) parameters
- Display of parameters via indicator lights (LEDs)
- saving all data after power cut-off
- Socket terminals

Technical Specification

- Supply Voltage and Frequency: 50-60 Hz / R-N / 160-250 VAC
- Input Voltage: 50-60 Hz/3 Phase / 300-500 VAC
- Measuring Accuracy: Voltage: 1 V
- Current: 0.5% ± 1 digit
- Frequency: 0.1 Hz

- Standard Adjustable CTs: 5/5 - 6000/5 A
- CT Setting Time: 5 min after connection to the mains
- Optimum Operation Range: Temperature: -20°C to +65°C
  - Humidity: 70%

Device Operation

During normal operation, the voltage display shows the 6 voltage parameters (R, S, T, RS, RT, and ST); the three current displays show simultaneously the R, S, and T currents; and the right-hand side display shows the grid frequency.

Key Functions

1- The Key

Depress this key to lock the voltage parameter currently displayed on the screen. Upon depressing this key once more, the sequential display mode shall be resumed

By successively depressing this key, you can select the desired voltage display mode: voltage (V), maximum voltage (MAX-V), or minimum voltage (MIN-V). Upon selection of each mode, its respective indicator light is automatically turned on.

Once the max/min voltage mode has been set, the six associated voltages (R, S, T, RS, RT, and ST) can be selected by successively depressing the key, with the relevant indicator light being turned on after each selection. To reset the max/min voltage values, depress and hold down the key and observe the countdown on the display (from 5 to 0).

Note: To be logged as the max/min voltage, the measured voltage must last at least 5 seconds.

The Key

The functions of this key are shown in Table 1.

Note: If no key is depressed for 10 seconds during the max/min voltage display, the instrument shall resume its normal mode of operation.

Setting CTs

Setting the CTs must be performed in accordance with Table 2 within 5 minutes after connecting the device to the mains. If the setting is not performed within 5 minutes, then the device must be disconnected and

table ②

key	Display A R	Blinking Display A S	Description
Depress 3 times	CT	CT Curent (5-6000)	Setting CTs by successively depressing MAX CT
	CTE	CTE Value according to table ③	Fine Adjustment of CTs by successively depressing MAX CT
	Saving the set values		

	Indicator Light	Displayed Current(s)
	A	Conventional RMS Currents
	TRUE RMS	True RMS Currents
	MAX-A	Maximum Logged/Recorded Currents
	———	The A R display: CT The A S display: CT Value in two modes — Steady / blinking (adjustedvia MAX CT key)
	———	The A R display: CTE The A S display: CTE Value in two modes — Steady / blinking (adjustedvia MAX CT key)

Note 3 :The maximum current values are not logged unless they last for at least 15 seconds.

4- the key MAX CT

1) Upon depressing and holding down MAX CT key in the Maximum Current mode, all the current values on the display start their countdown from 5 to 0, with the maximum currents being reset to zero upon completion of the countdown.

2) Table 2 shows how MAX CT key can be used to adjust the CTs.

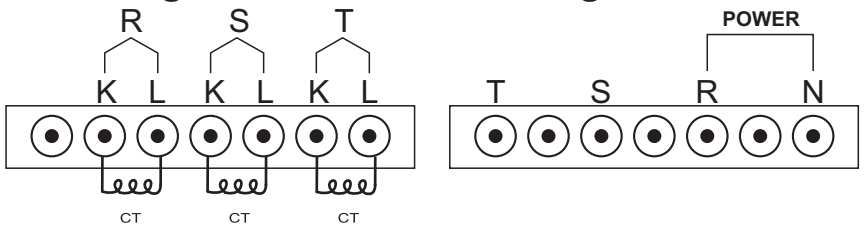
CTE variations is considered for CT error compensation. Table 3 gives the CTE variations observed for different CT currents.

CT	CTE Variation
5A	± 0.25A
10-100A	± 2.5A
over 100A	± 25A

Table ③

Note: In case the current through the CT exceeds 120% of its set limit, the over-current display on the lower right-hand side of the device starts blinking.

CT Wiring and Terminals Drawing



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Respecting the customer is our duty

3 year no question asked guarantee under these conditions;

1-at most it should be within 3 years from the date printed on the label of the product

2-the label on the product should be safe and sound

Shiva Amvaj products in accordance with international standards and with a 3 year no question asked guarantee are presented

ISO 9001-2015 CE

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