



INSTRUCTION MANUAL  
FOR  
LCR COMPARATOR MODEL LCO-1 ( WITH GO-NO-GO)

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## 1. GENERAL

Some twenty years ago we committed ourselves to fill up the void in indigenous, production oriented test equipments for our fast growing electronic and electrical component industry , which was then dependent on costly imported equipments. Even the simplest of the equipments were being imported with the omnipresent menace of servicing problem.

True to our commitment , over the years , dedicated and hard-core professionals a Sivananda Electronics have come out with a wide range of test equipments to cater to the needs of Indian electronics and Electrical components Industry. The types of equipment ranges from simple , but vital equipments to the most sophisticated equipments, semi-automatic and automatic test system using the latest state of art technology.

Prime design criteria are production orientation , speed accuracy , ease of operation and suitability for diverse climatic conditions and technical level of manpower.

An evergrowing list of satisfied Customers , including leaders and giants of the electronics , electrical and other industries , shows that we have been successful in fulfilling our commitment.

Our constant endeavor is to update the present equipments and bring out new equipments using best and latest in technology as per international trends and practices.

A constant feedback from our customers is a source of encouragement in our endeavor.

As our equipments are production oriented , every precaution is taken at each stage of production to ensure a long life and trouble free operation. We also have a well knit team of service engineers to support our after sales service programme. We reach every corner of the country within a short time as our equipments are part of production.

Read the manual carefully and proceed to use the equipment with confidence. You have already selected a Winner .



## 2. INTRODUCTION.

The Component Comparator Model LCO-1 is specially designed for high speed sorting of resistors , capacitors & indicators.

The equipment is equally suitable for both component manufacturers & bulk consumers for their production , inward inspection & quality assurance testing requirements.

The equipments uses a low level , 1 KHz test signal & bridge principle for measuring percentage deviation. Four ranges of 1% , 2.5% , 10 % & 20 % F.S.D. are provided.

In model LCO-1 , percentage deviation on Panel Meter is indicated . The salient feature is a fast electronic GO-N0-G0 system with visual indication , this helps to increase the sorting speed . A speed of 1500 components per hour even by unskilled operator is normal. The equipment is fully solid state using latest integrated circuits. The equipment is immune to short circuits , wrong selection of ranges , voltage fluctuations & other type of mishandling which is likely to occur during use by unskilled operators.



3. TECHNICAL SPECIFICATIONS.

Tolerance range & Resolution	F.S.D.	Resolution
	± 1%	0.02%
	± 2.5%	0.05%
	± 10 %	0.2 %
	± 20%	1,0 %
Component Range	--	R - 5 ohm to 20 Meg. C - 20 pf to 10 uf. L - 2 mH to 100 H
Test Frequency	--	1 KHz
Indication	--	160 mm Taut Band Panel Meter 3 LEDs for electronic GO-NO-GO system.
Power supply	--	230 VAC ± 15% , 50 Hz , 30 VA.
Dimensions	--	L      B      H 350 x 210 x 165
Weight	--	less than 5 kgs.



#### 4 OPERATIONS.

The following controls , terminals , & indicators are provided on the Front Panel for LCO-1 with GO-NO-GO facility.

- Self Emulating mains ON/OFF switch.
- MODE selection switch for '-LIMIT ' , '+LIMIT ' , 'ZERO ' . Operate & M. OFF position.
- Selector switch for % tolerance ( 1% , 2.5% , 10 % & 20% F.S.D.)
- Two controls for '- LIMIT ' & ' + LIMIT' setting.
- 'ZERO' set control.
- Switch for LR/C.
- Terminals for known (standard ) component and unknown component under test captioned 'ZS' AND 'ZX' respectively.
- Panel meter for % deviation indication.
- Three indicating lamps (LEDs ) in conjunction with GO-NO-GO system for indicating whether component value is lesser than '- LIMIT' or higher than '+LIMIT' or within the  $\pm$  tolerance limits as under :
  - LIMIT : Red Lamp (L.H.S.)
  - +LIMIT : Red Lamp (R.H.S.)
  - Within  $\pm$  LIMITS : Green lamp.



## 5. OPERATING INSTRUCTIONS :

- Connect the instrument to Mains 230V AC  $\pm$  10 % , 50 Hz single phase supply with the help of 3 Pin Mains cord.
- Switch 'ON' the instrument. Allow 5 minutes warm-up time.
- Select the % F.S.D. range as desired.
- Put mode selection switch in 'ZERO' position.
- With the help of 'ZERO' control, set the panel meter to read zero (centre).
- Put mode selection switch in '-LIMIT' position and bring the needle to desired negative tolerance limit by '-LIMIT' set control.
- Put mode selection switch in '+LIMIT' position and set the desired positive tolerance limit by '+LIMIT' set control.
- Once again put the mode selection switch in 'ZERO' position and check-up zero adjustment with the help of 'ZERO' control.
- Now connect the standard & unknown components across 'ZS' & 'ZX' terminals.
- Put the switch in 'LR' or 'C' position depending on the type of component under test.
- Put the mode selection Bandswitch in operate position.
- Meter will read the % deviation in value tolerance.
- One of the lamps in conjunction with GO-NO-GO system will indicate the group.  
Viz. '-LIMIT', LAMP (Red) will glow if the deviation is more than -ve limit , '+LIMIT' lamp (Red) will glow if the deviation is more than +ve limit and green lamp will glow if the component is within the  $\pm$ limits.

Now keep on testing the components & sorting in three groups can be made by just observing lamps.

- If desired , the panel meter can be put off and testing can be carried out merely by observing visual indication of three lamps of GO-NO-GO system.
- With suitable jig the components can be sorted out at faster speed.