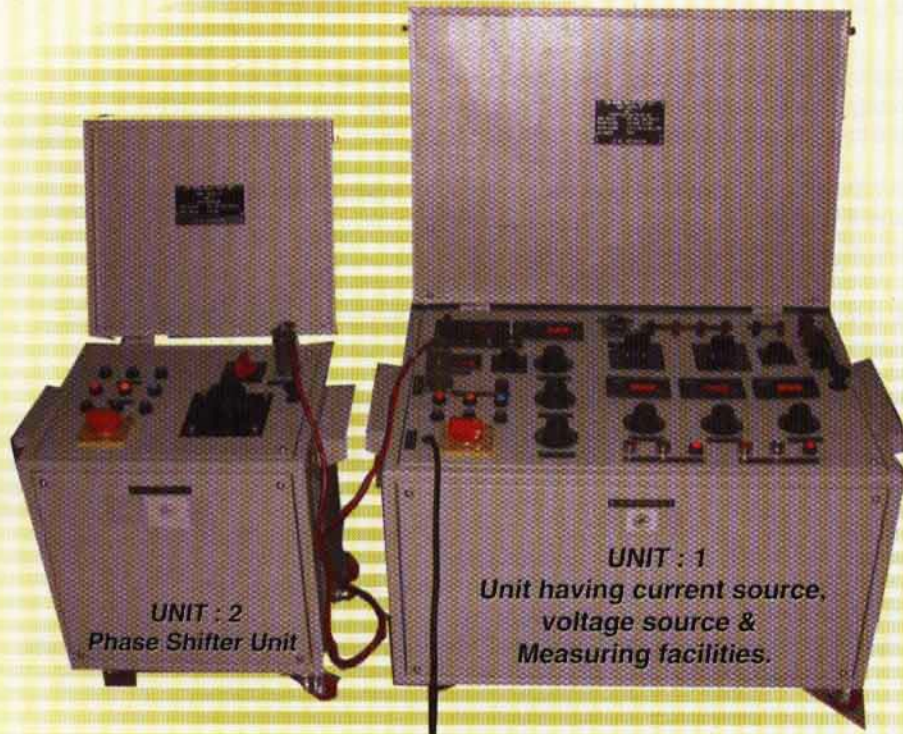




RELAY TEST SET

MODEL : CIE / RTS33



Suitable for testing distance relays, over current, over voltage, under voltage, earthfault relays and relays having directional element.

The Set is in two units.

- i) Current source, voltage source & measuring facilities.
- ii) Phase shifter unit.

SPECIAL FEATURES

- Fault phase voltage adjustable between 0 to 110%
- Fault current adjustable between 0 to 100%
- Phase angle adjustment & measurement 0° to 360°
- Digital time interval meter
- Voltage & Current indications by digital meters.
- While testing is in phase to phase fault mode selectable phase currents will be in opposition. The neutral & third phase current will be absent.
- Facility to check phase sequence before operation.



INSTRUMENTS FOR ACCURACY & RELIABILITY



RELAY TEST SET

MODEL :
CIE / RTS33

TECHNICAL FEATURES :

INPUT VOLTAGE : 415V \pm 10%, 3 phase, 4 wire, 50Hz., AC.

OUTPUT (S) :

- [a] **Test Current :** 0 to 1, 5, 10, 25 & 50A having 0 to 100% regulation in each tap. • Rated maximum burden : 250VA
Duty Cycle : (i) Continuous upto 10A ii) 25A & 50A outputs are rated for intermittent duty cycle ie. 5 mins "ON", 10 mins "OFF"
- [b] **Test Voltages :** AC voltage source : 110 volts, phase to phase, 63.5 volts phase to neutral, 3 phase 50Hz, AC continuously variable from 0 to 110% • Rated maximum burden : 250VA.
Fixed DC Voltage source : Isolated fixed 30V/110V/220V DC of 100VA, without metering will be available for 30 mins.
- [c] **Phase Angle Variation :** 0 to 360° between voltage & current.
- [d] **Time Measurement :** 0-9.999 secs. & 0-99.99secs. in two selectable ranges.

CURRENT CIRCUIT :

Loading Transformer : Double winding loading transformer of suitable burden to provide corresponding current output specified before.

Measuring C.T. : Multi-ratio wound primary current transformer :

Ratio : 1-5-10-25-50/1A with current range selectable rotary switch.

Variable Auto-transformer : [1 no. for each phase] For smooth variation of current output at various ranges selected.

Tripping circuit : The current output will be cutoff in case of any overload or even if the relay under test actuates.

Metering : C. T. operated ammeter [1 no. for each phase] Range : 0 to 1A AC. Scaled : 0 to 100% for all the selected current ranges.

Accuracy : \pm 1%, **Resolution :** 0.1%

VOLTAGE CIRCUIT :

AC Voltage circuit : 3 phase autotransformer for rated output voltage. Fault mode selector switch

Variable Auto-transformer : [1 no. for each phase] For smooth variation of voltage output from zero to rated voltage

Metering : Voltmeter with phase selector switch. Range : 0 to 200V, Accuracy : \pm 1% Resolution : 0.1V.

DC Voltage circuit : Double wound multitap isolated transformer is provided for fixed DC voltages sources. 30V/110V/220V are selected one at a time by selector switch.

PHASE SHIFTER CIRCUIT :

Static Type Phase Shifting Transformer

Primary Voltage : 415V, 3 ph., 50Hz. AC. Secondary Voltage : 110V, 3 ph 50Hz. AC.

0 to 360° phase angle variation by coarse and fine control. Coarse control will be in steps of 60° while fine control will be of \pm 30°

Capacity : 250VA

Metering : Phase Angle Meter : 360° Resolution : 1°

There will be provision for phase selection by selector switch.

BUILT-IN-TYPE DIGITAL TIMER

Measuring Ranges : (i) 9.99 Secs (Resolution 0.001 sec.) (ii) 99.99 secs. (Resolution : 0.01 sec.)

Display : Seven Segment LED. Accuracy : \pm 1%

Terminals to relay contacts. Reset push button. Selector for NO & NC contact. Potential free start timer for opening or closing of auxiliary contact of the contactor. When the relay under test actuates, there will be automatic tripping of the set. With the actuation of the relay under test, the timer will stop counting and the elapsed time will be latched in the display.

GENERAL ARRANGEMENT :

The Set is in two units. i) Current source, voltage source & measuring facilities. ii) Phase shifter unit.

Unit - I : Unit having current source, voltage source & measuring facilities.

Current circuit, AC & DC voltage circuits, protective circuit, contactors, measuring circuits etc. are all housed within sturdy M.S. cabinet. Also meters, terminals, indicators, regulator knobs, timer display etc. are fitted on the horizontal panel of the same cabinet which can be approached by opening the top hinged lid. Wheels will be provided for easy movement.

Phase Shifter unit

Unit - II : Static type phase shifting transformer is housed within this M.S. unit. Input output interconnection socket, Phase Shifting "Coarse" & "Fine" control knobs are fitted on the horizontal plane of the sturdy M.S. cabinet which can be approached by opening the top hinged lid.

INTERCONNECTION CABLE :

Necessary cables of 1 metre length along with plug will be provided for interconnection between two units.

MAINS INPUT CABLE :

Four core cable of 5 metres length will be provided. All the meters will be of digital type.

ACCESSORIES :

Operation Manual, Schematic Circuit Diagram, Works Test Report, Guarantee Certificate will be supplied along with the Set.

'CIE' in a continuing effort to offer excellent products at a fair value, reserves the right to change models, specifications

Manufactured & Designed by :

CAMBRIDGE INSTRUMENTS & ENGINEERING CO.