

Primary Relay and Current Injector Test Set


## LET-4000-RD

## MAIN FEATURES

- Permanent current up to 4000A, 8 kVA in 4 ranges.
- Made up of two units.
- Built in digital ammeter $0.5 \%$ accuracy.
- Built in digital timer resolution 1 ms .
- Thermal and shortcircuit protection.


## APPLICATIONS

- Direct and motor overload relay test.
- In general, primary tests including the complete loop, i.e., current transformer, leads, protective relay and circuit breaker.



## DESCRIPTION

The LET-4000-RD is designed to perform most of the primary tests that are necessary in substations commissioning. It allows to perform with sufficient power, all the primary current injections to test the proper function and wiring of all the elements that compose the protection and measuring section in a substation.

The regulation system is based on a continuously variable autotransformer (Variac) that supplies to a power transformer that delivers the high current outputs and isolate the main supply from the load. A built-in ammeter and a timer gives the information about the current value and the operation time of the relay or breaker under test.

## FEATURES

## Power outputs

There are four different current outputs:

- 0 - 4000A
O-2V
- 0 -2000A
O-4V
- 0 - 1000A
$0-8 \mathrm{~V}$
- 0-500A
0.16 V


## Timer

In the control and regulation unit there is a timer installed that can work with dry signals or with voltage signals the timer can measure in CYCLES as well it is an autorange, 5 -digit digital timer with the following measuring ranges:

- 00.001-99.999 s
- $99.999-999.99 \mathrm{~s}$
- 999.99-9999.9 s
- 9999.9-99999 s


## Ammeter

Installed in the control and regulation unit it is a digital instrument of 4 digits. The accuracy is $\pm 0.5 \%$ of the reading $\pm 1$ digit.

## Protections

The equipment is protected by thermal and shortcircuit magnetic relays. The outputs are also thermal protected to avoid excess in the duty cycle. Once this protection trips the connection of the output is not possible until the thermal element detects that the temperature drops to an acceptable and safe level.

## STANDARD ACCESORIES

- 1 voltage supply cable 3 meters length
- 2 connection leads for testings 3 meters length.
- Interconnection cable
- 2 timer connection leads, 2 meters length with 2 crocodrile clips.
- Spare fuses.
- Instruction manual.
- 2 nylon protection covers.


## TECHNICAL SPECIFICATION

DUTY CYCLE

| Max. <br> Continous <br> Current | Max. <br> Current <br> 60 min | Max. <br> Current <br> 15 min | Max. <br> Current <br> 3 min | Max. <br> Current <br> 1 min | Max. <br> Current <br> 1 s | Open <br> Circuit <br> Voltage |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 4000 A | 4800 A | 7200 A | 9600 A | 12000 A | 21.6 kA | 2.65 V |
| 2000 A | 2400 A | 3600 A | 4800 A | 6000 A | 10.8 kA | 5.30 V |
| 1000 A | 1250 A | 1800 A | 2500 A | 3100 A | 5.6 kA | 10.45 V |
| 500 A | 630 A | 900 A | 1250 A | 1550 A | 2.8 kA | 21.55 V |
| Cooling time $^{\star}$ | 15 min. | 20 min. | 20 min. | 30 min |  |  |

${ }^{*}$ Guaranteed values at ambient temperature $<25^{\circ} \mathrm{C}$
TIMER

| Range: | 00.001 to 99999 seconds (Autorange) |
| ---: | :--- |
| Accuracy: | $\pm 0.003 \% \pm 1$ digit of the reading value |
| Start and Stop: | By operation of the Start and Stop monitors and output status. |

SIGNAL MONITOR

|  | Dry Contact Input: |
| :---: | :--- | • Open circuit voltage: \(10.2 \mathrm{~V} \mathrm{DC}, ~\left(\begin{array}{ll} <br>

\hline \& - Short-circuit current: 25 \mathrm{~mA} . <br>
\hline \& Fuse protected. <br>
\hline Voltage Input: \& • Level Limits: from 5 to 250 \mathrm{~V} \mathrm{AC/DC} <br>
\hline \& • Input Impedance: 19 \mathrm{k} \Omega <br>
\hline \& • Fuse protected. <br>
\hline\end{array}\right.\)

## GENERAL

| Control: | Manual |
| ---: | :--- |
| Voltage supply: | $230 \mathrm{~V} \pm 10 \%, 50-60 \mathrm{~Hz}$ |
| Operation Temperature: | $0-55^{\circ} \mathrm{C}$ |
| Case: | The containers are made with extremelly robust enamelled steel and <br> are provided with caster wheels and proper handles. <br> Both units have a transport cover. |
| Weight: | $1 \times 45 \mathrm{~kg} / 99 \mathrm{lb}$ and $1 \times 120 \mathrm{~kg} / 264 \mathrm{lb}$ |

