



# VOLTAGE DETECTOR



**MODEL: LT 220**

# OPERATION MANUAL

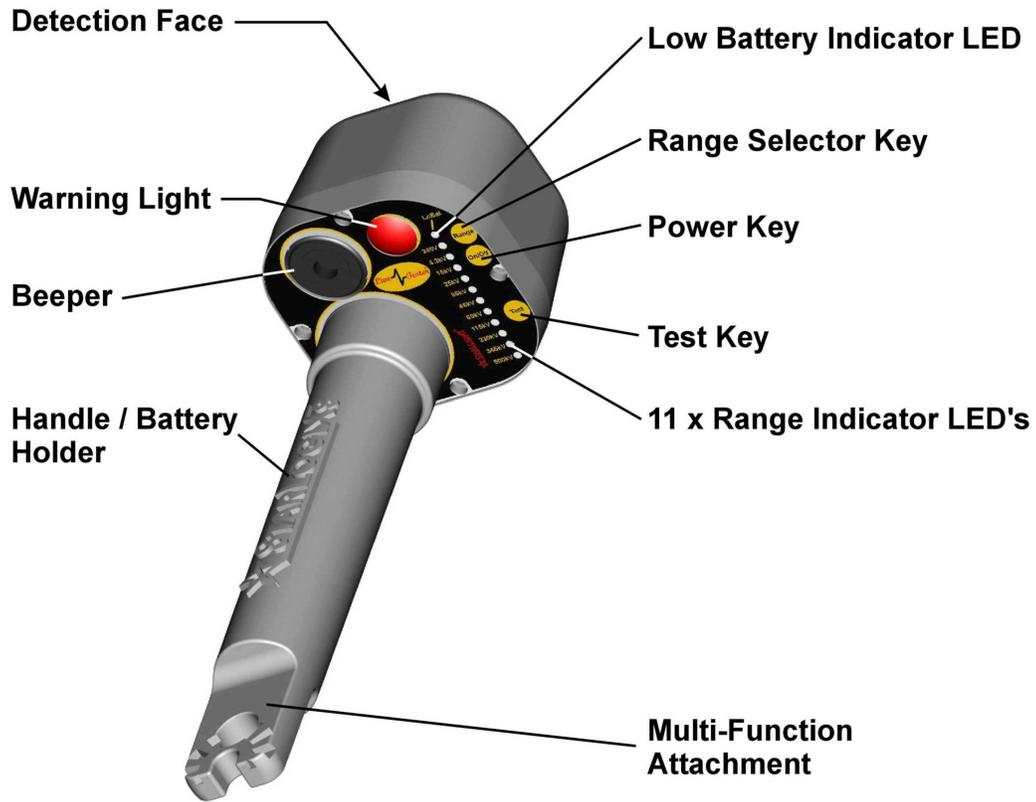


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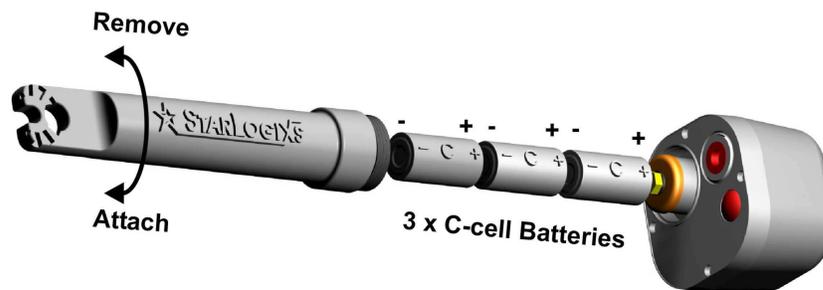
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## 1. Location of Controls



## 2. Battery Fitting



- Ensure battery spring is fitted in battery holder.
- Ensure batteries are fitted correct way around as shown above.
- Push and rotate as shown to attach.

### 3 Switching the Live Tester On

Pressing the ON/OFF Power Key once will switch the unit on. The Live Tester will always switch on in the 240V range and illumination of this LED will indicate the power is on.

Pressing the ON/OFF Power Key again will switch the unit off. This is indicated by a brief audible beep and a flash of the warning light.

### 4 Auto Power Off

To provide maximum battery life the LiveTester will automatically switch its self off after a period of 30 minutes. During this 30-minute period a press of the keypad or alarm condition will reset the auto—power off timer, and the 30-minute period will recommence.

### 5. Low Battery

When the LiveTester is switched on and a low battery condition is detected the Low Battery Indicator LED will illuminate. Before replacing the batteries ensure that the problem is not being caused by a poor battery connection. To do this remove and replace the battery holder.

### 6. Range Selection

The LT220 LiveTester has a wide voltage range across which it can operate. After the unit is switched on select the correct range by pressing the Range Selector Key. Each time the Range Selector Key is pressed the voltage range increases as indicated by the 11 Range Indicator LED's. Pressing the Range Selector Key when the range is 220kV causes the range to roll back around to 240V.

### 7. Test key Function

Pressing and holding the Test Key will cause the Beeper to sound continuously and the Warning Light to be solidly on in any selected range, if the unit is operating correctly.

### 8. Static Discrimination

The LiveTester has unique circuitry that allows it to ignore electric fields that are not generated by a mains source (powerlines). This greatly reduces false alarms and makes the device suitable for patrolmen and rescue applications when set on the 240V range.

### 9. Multi Function Attachment

The unique multi-function attachment on the handle allows connection to either a universal fitting or a shotgun fitting with no loose parts.

## 10. Training & Safety

- Ensure you have carefully read this manual and understood all aspects of the Live Tester function.
- Always follow safety procedures and directives as published by your employer or local authority.
- Always wear rubber gloves approved to Australian Standards and/or use approved hot sticks.
- Always test the LiveTester by pressing and holding the Test Key before AND after the measurement on the powerline is performed.
- Never assume a powerline will remain de-energized.
- Always fit earth jumpers to the appropriate Australian Standards.

## 11. Operation

Switch on the LiveTester and select the correct range. Press the Test Key to check for correct function of the unit.

Approach the conductor to be tested with Detection Face. If the unit alarms then the conductor is still live and no further testing is required. If the unit does not alarm reduce the range voltage setting and repeat the test.

Finally, recheck the function of the LiveTester by pressing the Test Key.

### NOTES

1. If the LiveTester alarms indicating a conductor is live do not move the Detection Face closer to the conductor.
2. DO NOT touch high voltage transmission lines with the LiveTester, because an arc maybe drawn from the line to the Tester. This may cause internal damage of the LiveTester circuits.
3. If Live/Dead indication of a low voltage line is being attempted in close proximity to high voltage conductors, the detector may respond to the high voltage line even though the low voltage line is dead. Fixing the LiveTester at right angle to the hot stick and approaching the low voltage line from the side will help. The LiveTester is more sensitive to electric field entering through the Detection Face, and in this configuration the electric fields from the high voltage conductors will enter through the sides of the unit to which it is less sensitive.

### CAUTION!

LiveTester is designed to ONLY detect energised conductors in front of the detection face. DO NOT use side contact to determine if a conductor is energised.

## 12. LiveTester Applications and Limitations

### Applications :

LiveTester incorporates unique technology that allows it to make repeatable, reliable measurements in situations where pre-existing non-contact detectors failed. This makes the unit suitable for detecting:

- Voltage leakage down the pole due to damaged insulators.

- Voltage leakage down earth wires from transformer casings, due to failing transformer insulation.
- Patrolman work where energised high voltage conductors maybe hazardous to personnel.
- Ground step potentials.

**Limitations:**

LiveTester is a non-contact detector and as such depends on sensing an electric field generated by an energized conductor. Electric fields are easily modified, and in some cases completely eliminated, in certain situations by the presence of conductors other than the energised conductor under test. These other conductors can be either earthed or energised by another phase in the system . Operators should be aware of these effects, and take steps to ensure the conductor to be tested is approached in a part of the line where no other conductors are close by. A good rule of thumb is to ensure all other metal objects are at least twice the distance from the LiveTester, as the distance from the LiveTester to the conductor to be tested. Also it should be noted that an energised conductor laying on wet or dew covered or submerged ground may still be energised, but possibly will not be detected by a non-contact detector. The moisture dissipates the electric field. LiveTester is not suitable for detecting armoured or shielded conductors, because the shielding prevents any electric field from escaping.

LiveTester is not suitable for detecting conductors energised with D.C. voltage or at frequencies other than 50 or 60 Hz. That is it would not be suitable for 400Hz aircraft systems, or D.C. railway systems.

LiveTester is not recommended for detecting buried conductors.

### 13. Intellectual Property

The contents of this document, LiveTester front panel artwork, printed circuit board artwork, and firmware (programs contained in integrated circuits) are subject to copyright and can not be reproduced, transmitted in any language or computer language, in any form or any means, electronic, mechanical, optical, chemical, manual, or otherwise, without prior written consent from StarLogixs Pty. Ltd.

The Electric Field Detection System in the LiveTester is protected by international patents. The Static Discriminator System is also protected by patent applications.

The symbols:



and



are subject to international trademark registrations and their use is expressly prohibited without written consent from StarLogixs Pty. Ltd.

## 14. Specifications

Weight (no batteries)	8.5oz (240g)
Dimensions	11.3"L x 3.35"W x 3.35" H (287mmL x 85mmW x 85mmH)
Environmental sealing	IP65
Warning Light Intensity	10,000 mCd
Warning Beeper Intensity	80dB @ 3 Feet ( 1 Meter)
Power Supply	3 x C Cell Batteries
Battery Life	
Standby (unit off)	10 years <sup>(1)</sup>
On ( no alarm)	69 days <sup>(1)</sup>
On (alarm condition)	18 days <sup>(1)</sup>

Note:

(1) Battery life calculated using Eveready C Cell Energiser batteries with a 7,000mAh capacity down to 1.0V cell output.

### WARRANTY

Your StarLogixs LiveTester is guaranteed against faulty workmanship or components for a period of twelve months after the purchase date. For warranty contact your local sales agent with proof of purchase date.

This warranty does not cover damage or failure caused by or attributable to Acts of God, abuse, misuse, improper maintenance and storage, flashover from high voltage conductors to the LiveTester or any repairs other than those provided by an authorised StarLogixs service facility, or transportation costs.

StarLogixs is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with the use or performance of the LiveTester or other damages with respect to any economic loss, loss of property, loss of revenues or profit.

- This warranty gives you specific legal rights and you may have other legal rights which vary from state to state.