

Megaton Systems (Pty) Ltd T/A

MTEEx Laboratories

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Ontploffing Beskermingsdienste
Explosion Prevention Services

ACCREDITED TEST LABORATORY

IN TERMS OF THE ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

INSPECTION AUTHORITY CERTIFICATE

MAJOR TECH (PTY) LTD.
P.O. BOX 888
ISANDO
1600

Issued: 2019/06/06
Expire: 2026/03/14
Reference: Wayne
Revision: 0

Equipment: Insulation and Continuity Tester.
Manufacturer: Kyoritsu Electrical Instruments Works. Ltd.
Model/Type: K3131A.
Serial No.: Serial numbers covered by a Batch Verification Report (ATL) or an Accredited Product Certification Mark.
Ex Rating: Ex ib I/IIC T4 Mb/Gb

Applicant:

MAJOR TECH (PTY) LTD.

Inspection Authority Number: **MTEEx-MS/19.0013 X**

MTEEx Record No.: **MTEEx 0563/19.0013**

Standards used:

SANS 60079-0: 2012 Ed.5 IEC 60079-0: 2011 Ed.6	Explosive atmospheres – Part 0: General requirements.
SANS 60079-11: 2012 Ed.4 IEC 60079-11: 2011 Ed.6	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

Hazardous Area: Zone 1 or 2.
Occurrence: Intermittent and abnormal conditions
Hazardous Gas Group: I / IIC
Permitted Temperature: T4 (135°C)

Equipment Protection level (EPL):

EPL		Definition
Gas	Dust	
Gb	N/A	Equipment for explosive gas atmospheres, having a "high" level of protection, which is not a source of ignition in normal operation or during expected malfunctions.
Gc	N/A	Equipment for explosive gas atmospheres, having an "enhanced" level of protection, which is not a source of ignition in normal operation and which may have some additional protection

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	to ensure that it remains inactive as an ignition source in the case of regular expected occurrences (for example failure of a lamp).
Mb	Equipment for installation in a mine susceptible to firedamp, having a "high" level of protection, which has sufficient security that it is unlikely to become a source of ignition in normal operation or during expected malfunctions in the time span between there being an outbreak of gas and the equipment being de-energized.

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 8(1) of the Occupational Health and Safety Act, provided that the apparatus is used as prescribed in accordance with:

- 1) Any conditions set out in this Certificate;
- 2) This certificate only covers equipment imported between the "Issued" and "Expiry" dates;
- 3) The test results presented in this Ex Test Report relate only to the item or product tested.

1. OVERVIEW

The model K3131A Insulation/Continuity Tester consisted of a dark grey plastic enclosure that split into two halves when opened. The back half contained a battery compartment and a small fuse holder PC board. The unit was powered by six AA 1.5V dry cell batteries that were connected in series. The 0.5A/600V fuse was connected directly to the measuring terminals via 0.5mm² stranded conductors. The front half of the enclosure contained a 1mA/52mm moving coil analogue display, a rotary selector switch, a press-to-test switch, a press to activate backlight switch and a zero adjustment knob for the continuity (Ω scale) function. The electronics were mounted on a double-sided PC board that filled the width of the enclosure, the control PC board was connected to the display with 0.5mm² stranded wires and was directly soldered to the measuring terminals.

2. REASON FOR REVIEW

Client requested Inspection Authority (IA) transfer

3. DOCUMENTATION PROVIDED

- Explolabs Test Report (17280/16.0246)

4. ELECTRICAL / SAFETY PARAMETERS

Refer to Clause 7 (Condition of Certificate) below.

5. INSTALLATION/OPERATION INSTRUCTIONS

The user manual of the device must be followed in detail to ensure safe operation.

6. CONDITIONS OF MANUFACTURE

- Components U1 and C1 must be fully covered (at least 1mm thick) on both sides of the PC board with Siltech 300 to prevent high temperatures that could be generated under fault conditions.
- An additional spray-on conformal coating must be present on the entire PC board (both sides) covering all bare conductive parts.

7. CONDITIONS OF CERTIFICATE (X)

- Only Toshiba model R6 size AA 1.5V Carbon Zinc Batteries may be used.
- The battery compartment may not be opened nor may the batteries be replaced in a hazardous area.
- The unit may not be used on active networks.
- The unit may only be used on circuits that comply with the following:
For Group I: $X_L < 1000\text{mH}$ & $X_C < 20\text{nF}$
For Group IIC: $X_L < 1\text{mH}$ & $X_C < 1\text{nF}$
(If the above mentioned conditions cannot be met, the entire external circuit including die device shall be in a safe area.)

8. MARKING

For validity purposes, the following marking must be added to all equipment covered by this certificate:

Manufacturer: Kyoritsu Electrical Instruments Works. Ltd.
Supplier: Major Tech (Pty) Ltd.
Equipment: Insulation and Continuity Tester
Model/Type: K3131A
IA Number: MTEEx MS/19.0013 X
Ex Rating: Ex ib I/IIC T4 Mb/Gb
Serial No.: ----

WARNING: ELECTROSTATIC DISCHARGE POSSIBLE, WIPE WITH DAMP CLOTH ONLY.

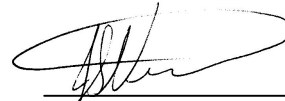
Note: It is the responsibility of the supplier to ensure that the marking label complies with the ARP 0108: 2018, clause 8.3.

Responsible Testing Officer:



D Young, Testing Officer.

Reviewed by:



JS Venter, Editor.

MTEEx Laboratories

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MTEEx Laboratories takes no responsibility for any non-conforming tests / assessments / results which is not in compliance with the relative Standards. By marking the equipment as mentioned in the documentation, the manufacturer takes full responsibility that the equipment has indeed complied with the original type assessment and has been subjected to any routine verification(s) / test(s) respectively.

End of Certificate