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GOVERNMENT APPROVED TEST LABORATORY

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

IA CERTIFICATE

Date Issued: 16 Nov 2015 *Expiry date: 16 Nov 2018

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Ex - Type Examination Certificate

Certificate Number: S-XPL/15.1596 X
Equipment: Multigas Detector
Model / Type: Altair 5X PID/IR
Applicant: MSA Africa (Pty) Ltd

PO Box 83669 South Hills

2136

Manufacturer: Mines safety Appliance Co.LLC

Serial No: All serial numbers imported between issued- and expire date and all serial

numbers covered by a valid report or acceptable product certification mark.

Supplied by MSA Africa (Pty) Ltd

Identified by Inspection Authority number

S-XPL/15.1596 X

And as described in the Explolabs file number XPL/16923/15.1596 is hereby certified "Explosion Protected Exial Ma, Ex db ia I Ma, Ex db ia mb IIC T4 Gb, Ex ia IIC T4 Ga", having been examined and inspected in

accordance with the relevant requirements of South African Standards.

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SANS 60079-0: 2012 Ed 5 IEC 60079-0: 2011 Ed 6	Explosive atmospheres Part 0: Equipment — General requirements			
SANS 60079-1: 2009 Ed 4 IEC 60079-1: 2007 Ed 6	Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"			
SANS 60079-11: 2007 Ed 3 IEC 60079-11: 2006 Ed 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"			
SANS 60079-18:2009 Ed 3 IEC 60079-18:2009 Ed 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"			

ANNEX TO CERTIFICATE NO S-XPL/15.1596 X

Risk of ignition provided:

GILIOIAIS GIRIOI	Protection afforded	Equipment Protection Level (EPL) Group	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
S CITIOIANS	Very high	Ma Group I	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains functioning when explosive atmosphere present	150°C
DIS CONTOLAR	Very high	Ga Group II	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains functioning in zones 0, 1 and 2	135°C
PIOLAIS GEPLOLA	High	Gb Group II	Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account	Equipment remains functioning in zones 1 and 2	135°C

GENERAL

The equipment is the hand held multigas detector type Altair 5X PID/IR. The equipment is designed to monitor gases in an ambient air and in a workplace. It is available with a maximum of five sensors which can display readings for six gases. The sensors have their own Ex component certificates. The equipment consists of four PCBs with display, three buttons and two charging pins. All PCBs with display are mounted inside a static dissipative moulded plastic enclosure. If the gas concentration reaches the alarm set points, a visual alarm, an audible alarm and a tactile alarm is given. The equipment is supplied by an encapsulated secondary Li-ion cell and includes one passive RFID tag.

This certificate does not include the performance test according to EN 60079-29-1 and other relevant standards.

SAFETY PARAMETERS

Degree of protection: IP 65, Ambient temperature: -20 to +50°C, Charging: Um = 6.7 V;

List of used Ex components:

Catalytic sensor MSA XCell Ex El.chem. sensor MSA XCell eChem PID sensor Baseline-MoconTech PiD-TECH eVx PID sensor Tech sensor plus ZPP60180 IR sensor Dynament MSH2ia

certified FTZÚ 09 ATEX 0123U certified FTZÚ 09 ATEX 0223U certified DEMKO 13 ATEX 1304446U certified DEMKO 06 ATEX 0547796U certified FTZÚ 14 ATEX 0213U

INSTALLATION INSTRUCTIONS

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

SPECIAL CONDITIONS FOR SAFE USE

- The equipment shall be charged by manufacturer's chargers only in an ambient temperature from 0°C to +45°C and opened when the hazardous area is not present.
- When using the equipment in a hazardous area, the equipment should be worn or carried on the body. It shall not be stored in a hazardous area. This prevents the possibility of the equipment building up an electrostatic charge. The measured capacitance of accessible metal parts: D-Ring 24pF and charge contact pins 17pF.
- The antenna used for activation of the internal RFID tag with the RF radiation power shall not exceed 6W for Group I and 2W for Group IIC.

Based on the following documentation: FTZU 15 ATEX 0038X.

DOCUMENT No: XPL0213

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CONDITIONS OF CERTIFICATION All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

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MARKING

The following (or similar) information have to be clearly and permanently marked on all units:

Supplier : MSA Africa (Pty) Ltd

Manufacturer : Mines safety Appliance Co.LLC

Equipment : Multigas Detector Model/Type : Altair 5X PID/IR

Serial No.

Ex Rating : Ex ia I Ma, Ex db ia I Ma, Ex db ia mb IIC T4 Gb, Ex ia IIC T4 Ga

IA Certificate No : S-XPL/15.1596 X

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

SANS 10086 and IEC/SANS 61241-14 requirements as applicable;

Any conditions mentioned in the above report;

Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act;

Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.

A revision certificate replaces all previous version of the certificate.

- Only covers equipment Imported between the "Issued" and "Expire" dates.

If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd.

Responsible Testing Officer:

Reviewed by:

D Young H de Wet

Senior IS Testing Officer **Testing Officer**

EXPLOLABS EXPLOSION PREVENTION SERVICES

This report/certificate shall not be reproduced except in full without the written approval of the company Explolabs (Pty) Ltd shall not be liable for any losses or damages sustained on account of any failure or omission to properly perform our duties in terms of any contract undertaken by us. This disclaimer is immutable and automatically incorporated in any contract undertaken by us; notwithstanding anything to the contrary, save for the express written waiver of our managing director. By marking the equipment in accordance with the documentation/standard, the manufacturer attests on his own responsibility that the equipment has been constructed in accordance with the applicable requirements of the relevant standards and that the routine verifications and tests have been successfully completed and that the product complies with the documentation and standard(s). The contents of electronic reports/certificates cannot be guaranteed. Original certification documents will be kept on file at Explolabs (Pty) Ltd