EXPLOLABS
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GOVERNMENT APPROVED TEST LABORATORY

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

IA CERTIFICATE

Date Issued: **10 Mar 2016**
*Expiry date: **05 Aug 2025**
Issue: 0 **Page 1 of 2**
Revision 1

Ex – Type Examination Certificate

Certificate Number:	**MS-XPL/15.0844 X**
Equipment:	**Handheld Electronic Water Sensing Device for Hydrocarbon Fuel**
Model / Type:	**CC168**
Applicant:	**Fuel Decontaminant (Pty) Ltd** **PO Box 1167** **Allens Nek** **1737, South Africa**
Manufacturer:	**Fuel Decontaminant (Pty) Ltd**
Serial No:	All serial numbers of equipment covered by a valid report or acceptable product certification mark.

The unit(s) as described in Explolabs File Number **XPL/16476/15.0844** is hereby certified "Explosion Protected" **Ex ib [ia] I/IIB T4 Mb/Gb (PCB enclosure) and Ex ia I/IIB T6 Ma/Ga (probe),** having been tested, examined and inspected in accordance with the relevant requirements of South African Standards:

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

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL) / Group	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
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	T6 (85°C)
Very high	Ga Group II		Equipment remains functioning in zones 0, 1 and 2	T6 (85°C)
High	Mb Group I	Suitable for normal operation and severe operating conditions	Equipment de-energized when explosive atmosphere present	T4 (135°C)
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	T4 (135°C)

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The South African National Accreditation System (SANAS) is a member of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). This Arrangement allows for the mutual recognition of technical test and calibration data by the member accreditation bodies worldwide. For more information on the Arrangement please consult www.ilac.org

1. DESCRIPTION OF EQUIPMENT

The Electronic dip stick consisted of two parts; PCB enclosure and probe.

The PCB enclosure was fabricated of ABS RAL-7035 white plastic with the following approximate dimensions: 160mm (L) x 90mm (W) x 60mm (D). Two connectors (male/female) were fitted on one side of the PCB enclosure; one for charging purposes and the other for probe connection. The other side of the PCB enclosure made provision for one on/off switch and two indicating LED's (red and green).

The probe consisted of a maximum 30m red Belden single pair cable, female connector and brass sensor probe.

Safety Parameters

Probe

Li	= 14.76µH	Ci	= 9.548nF

PCB for Group IIB

Uo	= 8.91V	Io	= 12.6mA	Po	= 158.76mW
Co	= 7.4µF	Lo	= 10mH		

PCB for Group I

Uo	= 8.91V	Io	= 12.6mA	Po	= 158.76mW
Co	= 32µF	Lo	= 30mH		

2. SPECIAL CONDITIONS FOR SAFE USE (denoted by X after certificate number)

- The PCB enclosure must be fitted within a leather pouch supplied by the manufacture and strapped to the operator at all times. The PCB enclosure may not be removed from the leather pouch in the hazardous area.
- A maximum cable length of 30m on the probe is permitted.
- Regular inspections need to be carried out on the probe cable and probe. If any damage is observed the probe must be removed from service and replaced.
- The entire PCB enclosure must be fully potted with Eli-Cast FR/859/LV resin.
- The unit may only be charged in a safe area with the original equipment manufacturers charger.

3. INSTALLATION INSTRUCTIONS

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

4. CONDITIONS OF CERTIFICATION

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

5. MARKING

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

Fuel Decontaminant (Pty) Ltd

Equipment : Handheld Electronic Water Sensing Device for Hydrocarbon Fuel

Type : CC168

IA Number : MS-XPL/15.0844X

Rating : Ex ib [ia] I/IIB T4 Mb/Gb (PCB enclosure) and
Ex ia I/IIB T6 Ma/Ga (probe)

Parameters : Probe

Li	= 14.76µH	Ci	= 9.548nF

PCB for Group IIB

Uo	= 8.91V	Io	= 12.6mA	Po	= 158.76mW
Co	= 7.4µF	Lo	= 10mH		

PCB for Group I

Uo	= 8.91V	Io	= 12.6mA	Po	= 158.76mW
Co	= 32µF	Lo	= 30mH		

Serial No : ---

If the above marking does not appear on the unit, this certificate does not cover it.

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:

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

iii) Any conditions mentioned in the above report;

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

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

vi) A revision certificate replaces all previous version of the certificate.

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

viii) 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:

D Young
Senior IS Testing Officer

Reviewed by:

D Maree
Senior Testing Officer

EXPLOLABS EXPLOSION PREVENTION SERVICES

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