



Mining And Surface Certification CC

CC 2008/202081/23



Certificate Number: MASC MS/12-060X

Issue: 24 February 2012

Expire: 24 February 2022

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IA – CERTIFICATE

IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT (INCORPORATION THE MINE HEALTH AND SAFETY ACT) AND REGULATION 8 (2) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT

Ex – Type Examination

Certificate number:

Equipment:

Serial No:

Requested By:

Address:

MASC MS/12-060X

Flasher Enclosure HFRLBB

(See "Conditions of Certification")

HYTRONIC

P.O.Box 2667,

Primrose,

1416

Certificate Holder:

Address:

HYTRONIC

P.O.Box 2667,

Primrose,

1416

DESCRIPTION:

The flasher unit consists of two parts:

- A cylindrical flameproof steel base with a round power supply PCB at the bottom of the enclosure, powered from voltages up to 220V ($U_m = 250V_{rms}$) and a round barrier board supplying intrinsically safe power to the flasher PCB via flameproof cemented bushing. Up to three equally spaced M20 x 1.5 or M25 x 1.5 gland entries may exist on the side of the enclosure to allow cable entry for connection of power to the internal terminal block.
- A separate compartment, made up of a cylindrical polycarbonate section with a round steel top, is located on the top of the flameproof enclosure. The flasher PCB and LED's, powered from the intrinsically safe output of the barrier board, are located in the top compartment. The LED's are visible via the polycarbonate cylindrical section.

The sensor enclosure consists of three parts:

- A cylindrical flameproof steel base with up to three equally spaced M20 x 1.5 or M25 x 1.5 gland entries on the side of the enclosure for cable entry.
- The round lid with conical flamepath on the main enclosure, fastened with three M6 x 16 x 1.0 pitch screws.
- The mounting brackets are fastened with screws to the bottom of the main body. A mounting hole and slot is provided in the bracket.
- A 12VDC / 40mA sensors is incorporated inside the unit.

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Members: Roelof Viljoen & Francoius du Toit

Unit #5, Lelyta Park, 45 Jurg Avenue, Hennospark Ext 87, Centurion, 0157 ♦ P.O. Box 14344, Clubview, 0014

Tel: 012 653 2959 ♦ Fax: 086 605 8568

e-mail: info@masc-ex.co.za

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Assembly(s): (As described in the description above.)

In addition for the flasher unit, the bottom lens retainer cap is fixed to the top lens retainer cap with the lens in position. The lens is cemented with silicon in the bottom and the IP rating is maintained with an O-ring in the top. This assembly is screwed on the enclosure body, forming the lid of the enclosure, with the relevant wiring going through the bush in the bottom retainer cap.

MARKING

The equipment shall contain the following marking:

Manufacturer: HYTRONIC (Pty) Ltd
Type: HFRLBB
Rating: (Relevant input voltage)
Ex rating: Ex d ib I/IIB T4
Certificate No.: MASC MS/12-060X
Serial No.: (See „conditions of certifications“)

COMPLIANCE:

The unit / system as described above and in MASC letter 12-060 is hereby certified “Explosion Protected” Ex d ib I/IIB T4 and is suitable for use in hazardous locations as stated below and as tested, assessed and inspected in accordance with the relevant requirements of SANS/IEC Standards:

The evaluation was conducted according to the requirements of:

- i. IEC 60079-0: 2004 “General requirements”
- ii. IEC 60079-1: 2003 “Equipment protection by flameproof enclosures “d”
- iii. IEC 60079-11:1999 “Equipment protection by intrinsic safety “i”.

Location	Zone 1 & 2	Mining (Gas and coal dust) / Gas (Surface)
Hazard Frequency	---	Intermittent as could occur under normal conditions in hazardous area
Environment	Group I/IIB	Methane to Ethylene
Limiting Temperature	150°C/T4	
Ambient Temperature	-20°C to 40°C	

The use of apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:

- i) SANS 10086 requirements;
- ii) Any conditions mentioned in the above report;
- iii) Codes of Practice enforced in terms of Regulations 21.17.2 of Minerals Act, by Chief Inspector of Mines;
- iv) Any restrictions and conditions enforced by Chief Inspectors of Mines, Principal Inspector (Group I equipment) of Chief Inspector of Factories (Group II equipment);
- v) Any relevant requirements of the MHS Act or the OHS Act.

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CONDITIONS OF MANUFACTURE

- The copy of the type certificate and the instructions must be provided with each enclosure. (The entry threads for cable entries are specified on this certificate).
- It is a special condition of safe use that the equipment must be Zinc plated with a maximum of 0,08mm Zinc plating.
- The external earth or bonding facility shall be provided by the mounting arrangements of the enclosure. A washer securing the connection shall be incorporated (e.g. a spring washer).

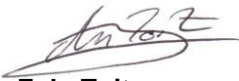
SPECIAL CONDITIONS OF SAFE USE (X)

- Only suitably certified glands may be used for cable entries. All unused entries must be sealed using suitably certified blanking elements.
- The IP54 rating of the flasher compartment must be maintained. Replacement of the incorrect O-ring may have a bearing on the flameproof as well as on the intrinsic safety.

CONDITIONS OF CERTIFICATION:

According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory.)

Approved on behalf of MASC



F du Toit
TECHNICAL SPECIALIST

Mining And Surface Certification

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MASC takes no responsibility for any non-conformances, exclusions or any results / assessments not in compliance with the standards. 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 routine tests have been successfully completed and the product complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practises

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