



Issue Date: 01 July 2018
Expiry Date: 01 July 2021



IA Certificate Number: **MASC M/11-222X**
Our ref: 11-222

IA – CERTIFICATE

(Supplement Five: Supplemented for ARP Review)


(IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT (INCORPORATION THE MINE HEALTH AND SAFETY ACT) AND REGULATION 9 (1) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT)

TX6831 Audio/Visual Alarm

This document is based on and must be read in conjunction with Sira 99ATEX2152X certificate.

Further to your request, we have evaluated the supplied documentation.

The following is applicable:

Description	Detail
Requested By :	Trolex Ltd. Hazel Grove, Stockport, Cheshire, SK7 5DY, United Kingdom
Equipment :	Audio/Visual Alarm
Manufacturer :	Trolex Ltd. Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DY, United Kingdom
Model(s) / Type(s) :	TX6831
Rating :	 I M1 Ex ia I Ma T _a = -20°C to +60°C
Certification body :	Sira Certification Service (Sira)
Type Certificate No :	Sira 99ATEX2152X
Variations/Issue/Amendment :	Issue 3
Assessment Report No :	R52X6355A, R52A9400A and R70028015A
Quality Assurance report (QAR) / Notification (QAN) :	It is a requirement under ATEX that all equipment for category 1 and 2 areas must have 3rd party quality assurance from a notified body. This is accepted to cover the equipment's quality requirements.

Standards:	- EN 60079-0 (2012 /A11:2013) "General requirements"
	- EN 60079-11 (2012) "Equipment protection by intrinsic safety 'i'"

/ The evaluation...

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The evaluation was conducted according to the requirements of:

- **SANS (IEC) 60079-0 : 2012 “Explosive atmospheres – Part 0: Equipment — General requirements”**
- **SANS (IEC) 60079-11 : 2012 “Explosive atmospheres – Part 11: Equipment protection by intrinsic safety ‘i’”**

COMPLIANCE:

The equipment as described below is hereby certified “Explosion Protected” “Ex ia I Ma (Ta = -20°C to +60°C)” 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:

Location	Zone 0, 1, 2	Mining / Underground
Hazard Frequency	---	Continuous as could occur under normal operating conditions in hazardous area
Environment	Group I	Methane / Coal dust
Surface Temperature	150°C	
Service/Ambient Temperature	(-20°C ≤ Ta ≤ +60°C)	

DESCRIPTION OF EQUIPMENT (According to Sira Certificate):

The TX6831 Audio/Visual Alarm provides a visual and audible indication of a malfunction in an associated sensor to which it is connected. When the sensor output signal is at a normal level, the equipment emits a light pulse every 15 seconds, verifying that the unit is working. If the output exceeds a pre-set limit, the flash rate increases to once per second, indicating that an alarm condition has occurred. There is an optional integral sounder to provide an audible warning.

The equipment is housed in an enclosure comprising a base moulding and a lens moulding. The base is manufactured from stainless steel-filled polycarbonate or stainless steel filled Nylon 6 and the lens from anti-static polycarbonate or polycarbonate impregnated with an anti-static coating.

The equipment mounts directly on top of the sensor, with a gasket seal to ensure an ingress protection of at least IP54. A labyrinth seal around the sounder maintains the ingress rating.

Four wires exit the equipment: two for connection to a suitable power supply and two for connection to the output signal terminals of the sensor.

The nominal voltage range is 7.5V to 16.5V dc. The safety description is as follows:

Power input (Red and Black Wire)

$$U_i = 16.5 \text{ V} \quad C_i = 1.2 \text{ nF} \quad L_i = 0$$

Input signal (Yellow and Green Wire)

$$U_i = 16.5 \text{ V} \quad C_i = 0 \quad L_i = 0$$

Monitor trip voltage (Test point)

$$U_i = 16.5 \text{ V} \quad C_i = 0 \quad L_i = 0$$

/ . MARKING...

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MARKING:

Sira marking remains applicable and the marking for the relevant models will be as above. The following MASC Certificate number (IA number) must be additionally applied to the equipment.

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CONDITIONS OF MANUFACTURE:

- None

SPECIAL CONDITIONS OF USE (X):

- Under normal or fault conditions, the internal temperature of this equipment may rise above 150°C; therefore, care shall be taken when the enclosure is opened to ensure that no dust enters the equipment.
- The antistatic coating can be adversely affected by contact with acid or damage to the lens. Suitable precautions shall be taken to avoid such instances and the lens shall be inspected periodically for any damage.

CONDITIONS OF CERTIFICATION:

1. This IA Certificate covers all units sold from the date of this document to 01 July 2021.
2. As per ARP 0108 a three yearly review is required on this IA Certificate.
3. The apparatus must be additionally marked with the MASC marking details above.
4. This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date.
5. The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by Sira and in this approval.
6. The Sira certification must remain valid.
7. The extent of the requirements in the ARP 0108 (or regulations) and SANS 10108 on the certification of the equipment must remain unchanged.
8. The Ex quality assurance notification/report for the equipment must remain valid.

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 document;
- 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.

/ . CONCLUSION...

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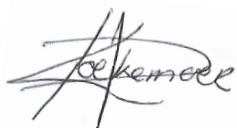
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CONCLUSION:

From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done by Sira.

The routine tests for production units according to the Sira Certificate must be complied with (if applicable).

Yours faithfully



A. Koekemoer
TECHNICAL SPECIALIST

Mining And Surface Certification

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment is representative and accurately performed, and that a report is accurate in the quoted results and conclusions drawn from the test / assessment, MASC or its members/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report issued pursuant to a test / assessment.

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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