



Mining And Surface Certification (Pty) Ltd

2015/021934/07



Certificate Number: MASC MS/11-422X
Issued: 31 October 2015
Expired: 31 October 2018
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IA – CERTIFICATE

(Revision 4: Reviewed as per ARP 0108)

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

Ex – Type Examination

Certificate number:

Equipment:

Serial No:

Applicant:

Address:

MASC MS/11-422X

M6420-Series (TX6114.01.YY.ZZ.PD320, TX6114.01.YY.ZZ, TX6114.02.YY.ZZ and TX5814.01) P6420-Series, P9420-Series, S6420-Series (TX5812.02) A-Series and B-Series Transducers

(See “Conditions of Certification”)

Troxel Limited

Hazel Grove

Stockport

Cheshire SK7 5DY

United Kingdom

Manufacturer:

Address:

Troxel Limited

Hazel Grove

Stockport

Cheshire SK7 5DY

United Kingdom

DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM

The M6420-Series, P6420-Series, P9420-Series, S6420-Series, A-Series and B-Series are family of transducers designed to measure pressure that range from a few millibars to one thousand bar. The housing is manufactured in several shapes, sizes and materials for a variety of industrial applications. The interface to the pressure port is configured to the customers requirement but is typically a threaded boss fitting. Electrical connections to the transducers are made via one of a range of connectors or cable entries. The transducers have the following safety description and alternative product references:

| Model | M6420-Series | | | |
|------------------|----------------|---|---|-----------------------|
| | i (Group I) | iF (Group I Fused) | ii (Group II Standard) | G (Group II Surge) |
| U _i | 28V | 16.5V | 28V | 28V |
| I _i | 120mA | - | 120mA | 120mA |
| P _i | 0.84W | - | 0.84W | 0.84W |
| C _i | 60nF | 60nF | 60nF | 53nF |
| L _i | 0 | 0 | 0 | 0 |
| Alternative Ref. | - | TX6114.01.YY.ZZ.PD320 TX6114.01.YY.ZZ TX5814.01 | TTX6114.02.YYZZ Series 510 Series 503FR | - |

/ . Model...

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P6420-Series, P9420-Series, S6420-Series (TX5812.02) A-Series and B-Series Transducers
(INTRINSIC SAFETY)
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| Model | P6420-Series | | | |
|----------------|----------------|-----------------------|---------------------------|-----------------------|
| | i (Group I) | iF (Group I Fused) | ii (Group II Standard) | G (Group II Surge) |
| U _i | 28V | 16.5V | 28V | 28V |
| I _i | 120mA | - | 120mA | 120mA |
| P _i | 0.84W | - | 0.84W | 0.84W |
| C _i | 60nF | 60nF | 60nF | 53nF |
| L _i | 0 | 0 | 0 | 0 |

| Model | P9420-Series | | S6420-Series |
|------------------|---------------------|------------------|------------------------|
| | (Group II Standard) | (Group II Surge) | ii (Group II Surge) |
| U _i | 28V | 28V | 28V |
| I _i | 120mA | 120mA | 120mA |
| P _i | 0.84W | 0.84W | 0.84W |
| C _i | 60nF | 53nF | 53nF |
| L _i | 0 | 0 | 0 |
| Alternative Ref. | - | - | TX5812.02 |

| Model | A-Series and B-Series | |
|----------------|----------------------------|-------------------------|
| | A-K (Group II Standard) | B-K (Group II Surge) |
| U _i | 28V | 28V |
| I _i | 120mA | 120mA |
| P _i | 0.84W | 0.84W |
| C _i | 60nF | 53nF |
| L _i | 0 | 0 |

MARKING:

Sira marking remains applicable. The following MASC Certificate number (IA number) must be additionally applied to the equipment.

IA No: MASC MS/11-422X

COMPLIANCE:

The unit as described above and in MASC Letter **11-422 R4** is hereby certified "Explosion Protected" Ex ia I / IIC T4 (-200C to +90°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 Standards:

/ The evaluation...

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The evaluation was conducted according to the requirements of:

- i) SANS (IEC) 60079-0 : 2000 “Explosive atmospheres – Part 0: Equipment — General requirements”
- ii) SANS (IEC) 60079-11 : 2003 “Explosive atmospheres – Part 11: Equipment protection by intrinsic safety ‘i’”
- iii) SANS (IEC) 60079-26 : 2006 “Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga”
- iv) EN 50303 : 2000 “Category M1”

| | | |
|----------------------|---------------|---|
| Location | Zone 0, 1 | Underground (incl. coal dust) / Surface |
| Hazard Frequency | --- | Continuous as could occur under normal operating conditions in hazardous area |
| Environment | Group I/IIC | Methane and coal dust / Hydrogen and Acetylene |
| Limiting Temperature | 150°C / T4 | Mining / Surface |
| Ambient Temperature | -20°C to 90°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.

SPECIAL CONDITIONS OF USE (X):

1. Some transducers have an enclosure manufactured from aluminium alloy. In rare cases, ignition source due to impact and friction sparks could occur. This shall be considered when the equipment is installed in locations that specifically require group II, category 1G equipment.
2. In the case of the B-Series pressure transducer and the S6420-Series level transducer, the circuit is not isolated from its enclosure and does not meet the 500V insulation test, this shall be taken into account when installed.

/I. CONDITIONS...

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CONDITIONS OF CERTIFICATION:

1. This Certificate remains valid based on a three yearly review covered by an official MASC letter.
2. The apparatus must be additionally marked with the MASC marking details above.
3. 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.
4. 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.
5. The Sira certification must remain valid.
6. The extent of the requirements in the ARP 0108 (or regulations) and SANS 10108 on the certification of the equipment must remain unchanged.
7. The Ex quality assurance notification for the equipment must remain valid.

Approved on behalf of MASC



F du Toit
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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