

**GOVERNMENT APPROVED TEST LABORATORY**  
 IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

**IA CERTIFICATE**

Date Issued: **26 Feb 2016**  
 \*Expiry date: **26 Feb 2019**  
**Page 1 of 3**  
**Issue: 2**

**Ex – Type Examination Certificate**

Certificate Number: **M-XPL/08316 X**  
 Equipment: **Pilot Relay**  
 Model / Type: **CPM1-M**  
 Applicant: **Bramco Electronics (Pty) Ltd**  
**PO Box 616**  
**Delmas**  
**2210**

Manufacturer: **Bramco Electronics (Pty) Ltd**  
 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  
**Bramco Electronics (Pty) Ltd**  
 Identified by Inspection Authority number  
**M-XPL/08316 X**

And as described in the Explolabs file number **XPL/9565/08316 Issue 2** is hereby certified "Explosion Protected [Ex ib] I", having been examined and inspected in accordance with the relevant requirements of South African Standards.

**IEC/SANS 60079-0: 1994** "Electrical apparatus for explosive gas atmospheres, Part 0: General requirements"

**IEC/SANS 60079-11: 1994** "Electrical apparatus for explosive gas atmospheres, Part 11: Equipment protection by Increased safety 'i'"

Locations	(Zone 1)	Gas and Dust: Underground
Frequency		Intermittent as could occur under normal operation
Environment	Group I	Methane and Coal Dust
Limiting Temp.		150°C

*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:*

- i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
- ii) Any conditions mentioned in the above report;
- iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
- iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
- v) A revision certificate replaces all previous version of the certificate.
- vi) \* - Only covers equipment Imported between the "Issued" and "Expire" dates.
- vii) 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

## 1. GENERAL

**Product Description**

The control and protection module was housed in a sheet steel enclosure with a plastic cover and had on RS232 serial port on one side and one multi pin terminal connection on the opposite side. It was similar to a unit previously approved under certificate No SABS M/N943 and certificate No MDA Ex ib R11242 (NSW)

**Safety Parameters**Earth Leakage Lockout Relay

Model I-G

Supply Voltage Options:

110VAC 50/60Hz

220VAC 50/60Hz

24-48VAC/DC

Frozen Contactor Relay

Relay I-F

Supply Voltage Options:

110VAC 50/60Hz

220VAC 50/60Hz

24-48VAC/DC

The following parameters must be taken into account during installation:

On the CPM module connecting wires (P5, P6, P7 Red/Yellow/Black):  $U_m = 28V$

On the 3 $\phi$  wires (when they are not energized):

$U_o = 17.3V$

$I_o = 0.5mA$

$C_o = 5.3\mu F$

$L_o = 10mH$

In the non-intrinsically safe situation when the 3 $\phi$  wires may be energized, the following are the maximum voltage on the 3 $\phi$  that will prevent damage to the safety components:

3300V option:  $U_m = 3300V$  phase-to-phase

1100V option:  $U_m = 1100V$  phase-to-phase

The Green/Yellow 2.5mm<sup>2</sup> earth wire must be connected to the protective earth in an adequately infallible manner.

Based on the following documentation:

Certificate number SABS M/N943, XPL/4536/01447A, AUZ Ex 3310X and QAN MEL0403070.

## 2. 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.

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

The Pilot Control Relay may only be installed in a safe area or in a flameproof enclosure, as part of a certified assembly.

1100V Isolation Barrier

Both the I-F (Frozen Contactor) and the I-G (Earth Leakage Lockout) relays are to be used in conjunction with the 1100V Isolation barrier.

## 4. CONDITIONS OF CERTIFICATION

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

