



N.S.W.

# Department of Industrial Relations

## COAL MINES REGULATION ACT, 1912

### - NOTICE OF APPROVAL

APPROVAL NO.: MDA Ex.i 1183

File No.: M83/6146

Date: 15th August, 1983

It is hereby notified that the Chief Inspector of Coal Mines, for the purposes of Regulation 12B of the Seventh Schedule to the Coal Mines Regulation Act, 1912, approved as being intrinsically safe for the purposes of the said Regulation 12B of any: Switch Operated Relay System known as: Type MTL 2215

(herein referred to in this approval as the said apparatus), manufactured by Measurement Technology Limited, Luton, United Kingdom and supplied in New South Wales by Control Devices Pty Ltd, Mascot.

The said apparatus shall be designed, constructed and tested in accordance with the schedule attached hereto.

Accordingly, the said apparatus may be used as a fixed apparatus in any part of a coal or shale mine subject to compliance with the requirements of the Coal Mines Regulation Act, 1912.

Chief Inspector of Coal Mines

SCHEDULEApparatus

An intrinsically safe single channel switch operated relay, designated Type MTL2215, designed to accept an input signal from an essentially unspecified circuit located in a safe area and to provide switching of a separately approved intrinsically safe circuit located in a hazardous area.

Drawings

SCI-69 sheet 1 issue 1 dated December 1982  
CI2215-01 sheet 1 issue 1 dated September 1982  
CI2215-01 sheet 2 issue 1 dated September 1982  
CI2215-01 sheet 3 issue 1 dated September 1982  
CI2215-01 sheet 4 issue 1 dated September 1982  
CI2215-01 sheet 5 issue 1 dated September 1982  
CI2215-01 sheet 6 issue 1 dated September 1982  
CI2215-01 sheet 7 issue 1 dated September 1982  
CI2215-02 sheet 1 issue 1 dated November 1982  
CI2215-02 sheet 2 issue 1 dated November 1982  
CI2215-03 sheet 1 issue 1 dated November 1982  
CI2215-03 sheet 2 issue 1 dated November 1982

Approval Conditions

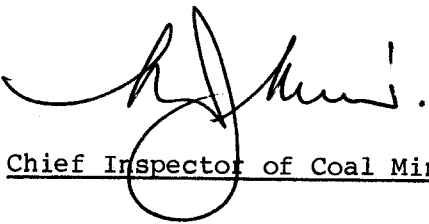
- (1) A copy of the approval documents shall be provided with each such said apparatus supplied to a coal or shale mine in New South Wales.
- (2) Any repair to the said apparatus that may affect its explosion proof properties shall be carried out only at a workshop registered for the purpose.
- (3) Adequate precautions shall be taken to guard against danger arising from the interconnection of intrinsically safe sources of current and the charging of intrinsically safe circuits by leakage or induction from other circuits.
- (4) The said apparatus shall, with the exception of the intrinsically safe circuits be fully enclosed in order to satisfy the requirements of the Seventh Schedule to the Coal Mines Regulation Act.
- (5) The said apparatus shall be installed and maintained strictly in accordance with drawing SCI69 sheet 1.
- (6) No apparatus connected to the safe area terminals of the said apparatus shall be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250 volts rms or 250 volts dc.
- (7) The said apparatus may be used only for the purpose of switching circuits approved by the Chief Inspector of Coal Mines as being intrinsically safe and having a potential not exceeding 75 volts.

-2-

- (8) The manufacturer shall on his own responsibility carry out such tests and examinations as are necessary to ensure that the said apparatus provides satisfactory operation in service.
- (9) The input winding of the power transformer fitted to the control module shall be provided with the protection required by clause 2.3.2 of Australian Standard 1829-1981.

Marking on Apparatus

The Approval No. MDA Ex.i 1183 and the manufacturer's name or mark are to be inscribed on a durable plate fixed in a prominent position.



Chief Inspector of Coal Mines



# Coalfields Division



The Manager  
Control Devices Pty. Ltd.,  
2/25 Chard Road,  
BROOKVALE NSW 2100

29th Floor  
Legal and General House  
8-18 Bent Street, Sydney

Postal Address:  
GPO Box 5288, Sydney NSW 2001

Telex: AA 74875

• Our reference: M83/6146

Your reference:

For further information ring: R A PETERSEN

Telephone: 231 0922  
Extension: 4376

ATTENTION: Mr. J. Owens

7th March, 1986

Dear Sir,

RE: APPLICATION FOR APPROVAL OF MODIFICATIONS TOM.T.L SWITCH OPERATED RELAY SYSTEM TYPE MTL 2215. APPROVAL NO. MDA Exi 1183.

I refer to your letter dated 29th August 1984 in which you request approval of modifications to the above apparatus.

I have to advise that pursuant to the provisions of Clause 6, Coal Mines Regulation (Approval of Items) Regulation 1984 and for the purposes of Clause 27, Coal Mines Regulation (Electrical - Underground Mines) Regulation 1984, approval is hereby granted for the following modifications:-

Variation One

- (1) Changes to the circuit and printed circuit board.
- (2) Alternative materials for the encapsulation box.

Variation Two

- (1) An alternative printed circuit board layout.
- (2) Change of encapsulant material used in the manufacture of the encapsulation box.
  - (a) Maranyl A192 or A 190.
  - (b) Kelanex 3000 or Crastine 5600 or Valox 420.

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The above modifications are as shown in the followings drawings:-

Variation One

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
C1 2906-302			
Sheet 1	1	8.84	Circuit Diagram
Sheet 2	1	8.84	Parts List
Sheet 3	1	8.84	PCB Assembly
Sheet 4	1	8.84	Components Side Track Layout

Variation Two

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
C1 2906-302			
Sheet 3	2	8.84	PCB Assembly
Sheet 4	2	8.84	Component Side Track Layout

Apart from the above modifications, this apparatus must comply with the original approval.

Yours faithfully,



A A RECZEK  
Senior Inspector of Electrical Engineering  
FOR CHIEF INSPECTOR OF COAL MINES



# Department of Minerals and Energy

NEW SOUTH WALES GOVERNMENT

MINERALS AND ENERGY HOUSE  
29-57 CHRISTIE STREET  
CORRESPONDENCE PO BOX 536  
ST LEONARDS NSW 2065  
DX 3324 ST LEONARDS  
TELEPHONE (02) 901 8888  
FACSIMILE (02) 901 8777

The Manager  
MTL Instruments Pty Ltd  
Suite 16, 890 Canning Highway  
APPLECROSS, PERTH WA 6153

For further information  
contact: **R.A.Petersen**

phone direct: 901-8554

ATTENTION: Mr R A Bone

Our reference: M83/6146

date: 20th February 1991

## TRANSFER OF APPROVAL

Dear Sir,

I refer to your application for the transfer of approvals from,

Name: CONTROL DEVICES PTY LTD

You are hereby advised that the transfer is approved and all responsibility for the Approvals and subsequent Supplementary Approvals issued by the Chief Inspector of Coal Mines, as listed in the schedule below now rests with,

Name: MTL INSTRUMENTS PTY LTD

Address: PERTH WA 6153

As the official supplier of this approved apparatus it is your responsibility to ensure that any such said apparatus that is supplied to a coal mine in New South Wales is offered in a condition that complies with the terms and conditions of the approval.

Yours faithfully,

A A RECKER  
Senior Inspector of Electrical Engineering  
FOR CHIEF INSPECTOR OF COAL MINES

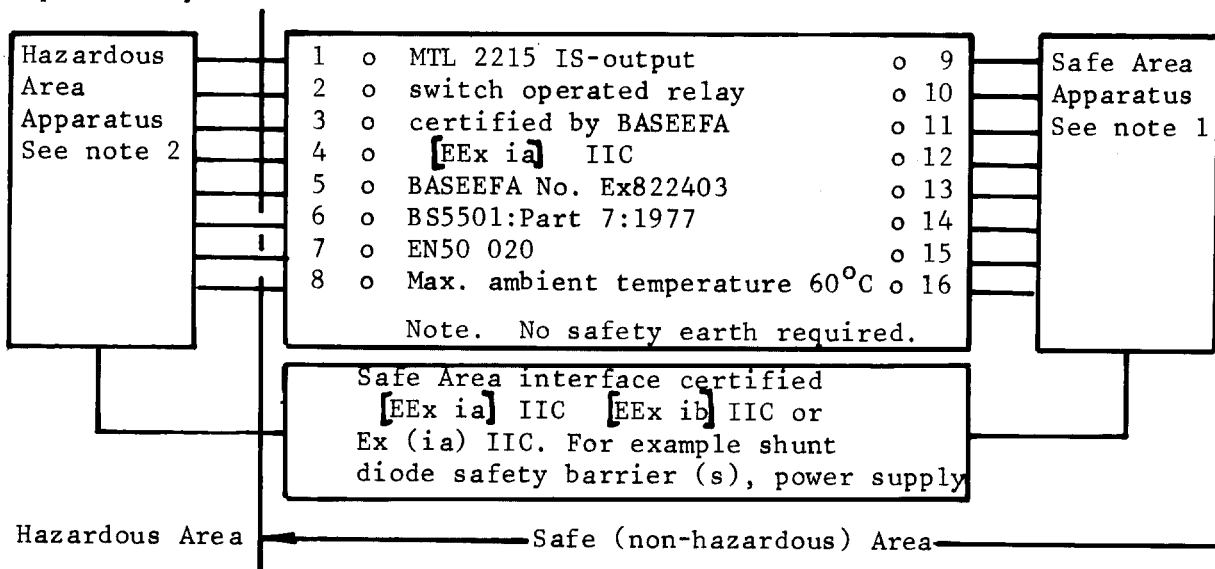
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## SCHEDULE

MDA Ex i 1183

MTL 2215 SWITCH OPERATED RELAY SYSTEM

This drawing enables a safe system to be designed but is not covered by a specific system certificate.



**Note 1** Safe area apparatus - unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V r.m.s. or 250V d.c.

**Note 2** The hazardous area terminals (terminals 1 to 8) have been certified as complying with paragraph 1.3 in BS5501:Part 1:1977 - EN50 014 i.e. they do not generate, store or exceed the following values:- 1.2V 0.1A, 20  $\mu$ J or 25mW. Systems covered by BS5501:Part 9:1982 - EN50 039 allow devices meeting these requirements to be connected into the system see paragraphs 2.1 and 2.3. Where systems are covered by SFA 3012:1972 and reference to BS5345:Part 4:1977 is made, then the MTL 2215 can be connected into the system without the need for further certification ( see paragraph 6.3.3 in BS5345:Part 4:1977)

**Note 3** The switch contacts of the MTL 2215 can be connected into any EEExiaIIC, EEExibIIC, or ExiaIIC system provided the maximum voltage of the system is less than 75 volts.

**Note 4** The maximum permitted cable parameters are determined by those of the system into which the MTL 2215 is connected. The MTL 2215 can be connected into any I.S. system without affecting the Group classification or any insulation or cable requirements e.g. multicore cable restrictions.

EN50 039 paragraph 2.1 "intrinsically safe electrical system". An assembly of interconnected items of electrical apparatus, described in a descriptive system document, in which the circuits or parts of circuits, intended to be used in a potentially explosive atmosphere are intrinsically safe circuits.

EN50 039 paragraph 2.3 "uncertified intrinsically safe electrical system. An electrical system conforming to 2.1 for which the knowledge of the electrical parameters of the items of certified intrinsically safe electrical apparatus, certified associated electrical apparatus, non-certified devices conforming to 1.3 of European Standard EN50 014 'General requirements' and the knowledge of the electrical and physical parameters of the interconnecting wiring permit the unambiguous deduction that intrinsic safety is preserved".

BS5345:Part 4:1977 paragraph 6.3.3 "Simple electrical apparatus and components Simple electrical apparatus and components (e.g. thermocouples, photo cells, junction boxes) may be used in intrinsically safe systems without certification provided they do not generate or store more than 1.2V, 0.1A, 20  $\mu$ J and 25mW in the intrinsically safe system in the normal or fault conditions of the system prescribed in the standards referred to in clause 5 & also if no components located in the hazardous area can dissipate more than 1.3W in such conditions.

**Title** Installation diagram for the MTL2215 IS-output switch operated relay

**Drg. No.** SCI-69  
Sheet 1 of 1

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Luton, England  
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Iss.	Date / Drawn	Modification
1	12.82/DRG	
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3		