



NEW SOUTH WALES  
DEPARTMENT OF MINERAL RESOURCES

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THE Chief Inspector of Coal Mines for the purposes of Regulation 12B of the Seventh Schedule to the Coal Mines Regulation Act 1912 hereby approves as being intrinsically safe for the purpose of the said Regulation 12B of any Single or Dual Channel Switch Operated Relay known as Type MTL2210 or Type MTL2211 manufactured by Measurement Technology Ltd., England supplied in New South Wales by Control Devices Pty Ltd, Mascot and designed, constructed and tested in accordance with the schedule attached hereto. Accordingly the said switch operated relay may be used as fixed apparatus in any part of a coal or shale mine subject to compliance with the requirements of the Coal Mines Regulation Act 1912.

A handwritten signature in cursive script, appearing to read "M J Muir".

M J MUIR  
Chief Inspector of Coal Mines

Approval No: MDA Ex.ia 0547

File Ref: M80/44

Date: 23rd December, 1980

Apparatus

A range of intrinsically safe switch operated relays designed to enable high power safe area loads to be controlled by switch contacts located in a gassy area and intended for single channel operation (Type MT2210) or alternatively dual channel operation (Type MTL2211).

Drawings

CI2210-01	Sheets 1 to 9 Issue 1 dated May, 1979
CI2210-02	Sheets 1 to 10 Issue 1 dated May, 1979
CI2211-01	Sheets 1 to 9 Issue 1 dated May, 1979
CI2211-02	Sheets 1 to 10 Issue 1 dated May, 1979

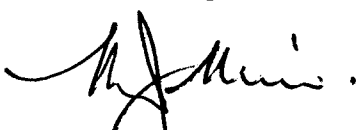
Approval Conditions

- (1) Any repair to the switch operated relays that may affect their explosion proof properties shall be carried out only at a workshop registered for this purpose.
- (2) The currents and voltages switched by the relay contacts shall not exceed 5 Amps r.m.s. and 250 Volts r.m.s. respectively with the total rating not exceeding 100 VA.
- (3) The switch operated relays shall not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250 Volts r.m.s. or 250 Volts d.c.
- (4) The capacitance and inductance or the inductance to resistance ratio of the cables connecting remote switch contacts to the hazardous area terminals of the switch operated relay shall not exceed the following values:  

Capacitance:	7.2 microfarads
Inductance:	124 millihenries
or	
Inductance/ Resistance Ratio:	1.2 millihenries/ohm
- (5) Any system utilising the switch operated relays shall be installed strictly in accordance with drawings CI2210-01 Sheet 9, CI2210-02 Sheet 10, CI2211-01 Sheet 9 and CI2211-02 Sheet 10, as appropriate.
- (6) At all times while below ground the switch operated relays shall be completely enclosed in order to satisfy the requirements of the Seventh Schedule to the Coal Mines Regulation Act 1912.

Marking on Apparatus

- (1) Approval No. MDA Ex.ia 0547 and the manufacturers name or mark shall be clearly inscribed on a durable plate fixed in a prominent position to each switch operated relay.
- (2) A notice warning that approval conditions must be complied with shall be attached in a prominent position to each enclosure housing a switch operated relay.

  
M J MUIR  
Chief Inspector of Coal Mines

Approval No: MDA Ex.ia 0547

File Ref: M80/44

Date: 23rd December, 1980



N.S.W.

# Department of Industrial Relations

## COAL MINES REGULATION ACT, 1912

### - NOTICE OF SUPPLEMENTARY APPROVAL

APPROVAL NO.: MDA Ex.ia 0547A

File No.: M80/44

Date: 18th August 1982

It is hereby notified that the CHIEF INSPECTOR OF COAL MINES, for the purposes of Regulation 12B of the Coal Mines Regulation Act, 1912,

EXTENDED APPROVAL NO. MDA Ex.ia 0547 granted in respect of the:

SINGLE OR DUAL CHANNEL SWITCH OPERATED RELAY

known as: TYPE MTL 2210 OR TYPE MTL 2211

(herein referred to in this apparatus as the said apparatus), manufactured

by: MEASUREMENT TECHNOLOGY LIMITED,

ENGLAND,

supplied in New South Wales by:

CONTROL DEVICES PTY. LIMITED,

MASCOT.

The said apparatus shall be designed, constructed and tested in accordance with the schedule annexed to Approval No. MDA Ex.ia 0547 to cover the following variations to the single channel switch operated relay to form

Relay Type MTL 2210B:-

1. Minor changes to the printed circuit board arrangements as shown in drawings:-

CI2210-01 Sheet 5 Issue 3 dated February, 1981

CI2210-02 Sheet 6 Issue 3 dated February, 1981

2. Use of a 25 Volt d.c. primary crowbar circuit as shown in drawing CI2210-02 Sheet 5 Issue 3 dated January, 1983.

3. Use of an alternative 24 Volt transformer designated Type MTL 2903B.

4. Alterations to the secondary circuit as shown in the following drawings:-

CI2210-01 Sheet 2 Issue 3 dated January, 1981

CI2210-01 Sheet 3 Issue 2 dated October, 1980

CI2210-01 Sheet 4 Issue 2 dated July, 1980

CI2210-01 Sheet 6 Issue 3 dated January, 1981

CI2210-01 Sheet 8 Issue 3 dated January, 1981

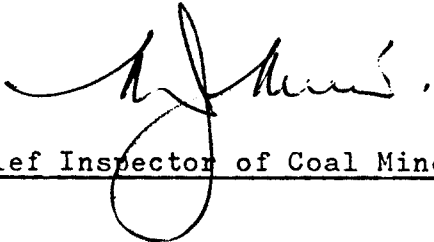
CI2210-01 Sheet 9 Issue 2 dated October, 1980

CI2210-02 Sheet 2 Issue 2 dated January, 1981

CI2210-02 Sheet 3 Issue 3 dated January, 1981  
CI2210-02 Sheet 4 Issue 2 dated October, 1980  
CI2210-02 Sheet 7 Issue 3 dated January, 1981  
CI2210-02 Sheet 9 Issue 3 dated January, 1981  
CI2210-02 Sheet 10 Issue 2 dated October, 1980.

Additional Approval Conditions

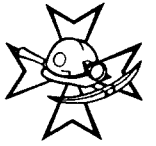
1. Any single channel switch operated relay supplied in accordance with this supplementary approval shall be designated Type MTL 2210B and marked Approval No. MDA Ex.ia 0547A.
2. A copy of the Supplementary Approval Documents shall be attached to Approval No. MDA Ex.ia 0547.



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: M80/44

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 TO M.T.L SWITCH OPERATED  
RELAYS TYPE MTL 2210B. APPROVAL NO., MDA Exia 0547A.

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



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: M80/0044

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

SCHEDULE

- MDA Ex ia 0547 MTL 2210 & 2211 SWITCH OPERATED RELAYS
- MDA Ex ia 0548 MTL 2220 EARTH LEAKAGE DETECTOR
- MDA Ex ia 0760 MTL 2212 SWITCH OPERATED RELAY
- MDA Ex ia 0761 MTL 2242 SOLENOID DRIVER
- MDA Ex i 1060 MTL 2441 4-20mA REPEATER POWER SUPPLY SYSTEM
- MDA Ex i 1061 MTL 2442 4-20mA ISOLATING DRIVER SYSTEM
- MDA Ex i 1144 MTL 2241 SOLENOID/ALARM DRIVER SYSTEM