



Health &
Safety
Executive

COPY 

BASEEFA

British Approvals Service for Electrical Equipment in Flammable Atmospheres

1. **CERTIFICATE OF CONFORMITY**

2. BAS No Ex 802333

3. This certificate is issued for the electrical apparatus:

TWO CHANNEL SWITCH OPERATED RELAY MTL2211

4. manufactured and submitted for certification by:

MEASUREMENT TECHNOLOGY LIMITED
of Power Court, Luton, Bedfordshire, LU1 3JJ

5 This electrical apparatus and any acceptable variation thereto is specified in the Schedule to this Certificate and the documents therein referred to.

6 BASEEFA being an Approved Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18 December 1975 (76/117/EEC) confirms that the apparatus has been found to comply with harmonised European Standards

BS 5501:Part 1:1977 EN50 014
BS 5501:Part 7:1977 EN50 020

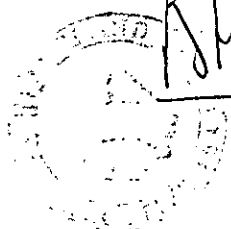
and has successfully met the examination and test requirements which are recorded in confidential Test Report

No 79(i)103

7 The apparatus marking shall include the code

[EEx ia] IIC (Ta = 60°C)

File No : SFA/16/2/030


B Hill

B HILL
DIRECTOR Sheet 1/4
28 November 1980

8. The supplier, of the electrical apparatus referred to in this certificate has the responsibility to ensure that the apparatus conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.

9. This apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Council Directive of 6 February 1979 (Doc 79/196/EEC). A facsimile of this mark is printed on sheet 1 of this certificate.



NUMBER Ex 802333

DATED 28 November 1980

APPARATUS

A TWO CHANNEL SWITCH OPERATED RELAY MTL2211 is designed to enable high power safe area loads to be controlled by switch contacts in a hazardous area.

The apparatus is powered from unspecified 24 volt d.c. or 120/240 volt a.c. supplies and two independent sets of changeover contacts are available for connection to safe area apparatus.

The circuitry is mounted on three printed circuit boards and the moulded plastic housing and terminal blocks provide a degree of protection of not less than IP20.

Intrinsic safety is ensured by the use of

(i) BASEEFA Approved components (mains transformer MTL2902 - BASEEFA No Ex 802239U or 24 volt transformer MTL2903 - BASEEFA No Ex 802240U IS Relay MTL2901 - BASEEFA No Ex 802238U.

(ii) printed circuit boards and insulating materials with a comparative tracking index of at least 300.

(iii) adequately rated resistors, silicon controlled rectifiers and triplicated zener diodes, and

(iv) good segregation

For intrinsic safety purposes, the input circuit is considered to be an independent segregated source with a maximum open circuit voltage of 6.88 volts d.c. and a minimum output resistance of 300 ohms.

The currents and voltages switched by the relay contacts must not exceed 5A r.m.s. and 250 volts r.m.s. respectively and the rating must not exceed 500VA.

The capacitance and inductance or the inductance to resistance ratio of the load connected to the Hazardous Area terminals of the switch operated relay must not exceed the following values:

CERTIFICATE OF CONFORMITY



SCHEDULE

NUMBER Ex 802333

DATED 28 November 1980

Factor of Safety 1.5:

GROUP	CAPACITANCE in uF	INDUCTANCE in mH	OR	L/R RATIO in uH/ohm
IIC	13	69		600

Factor of Safety 3:

GROUP	CAPACITANCE in uF	INDUCTANCE in mH	OR	L/R RATIO in uH/ohm
IIC	0.9	18		150

The values for Groups IIB and IIA are 3 and 8 times the values for Group IIC respectively.

The above cable parameters will only apply when the two intrinsically safe input circuits are completely segregated from one another.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI2211-01			MTL2211 Switch module two channel 120/240V a.c.
Sheet 2	2	10.80	
*Sheet 3	1	5.79	
*Sheets 4-6 inclusive	2	7.80	
*Sheet 7	1	5.79	
Sheet 8	2	10.80	
CI2211-02			MTL2210 Switch module two channel 24V d.c.
Sheet 2 and 3	2	10.80	
*Sheet 4	1	5.79	
*Sheets 5-7 inclusive	2	7.80	
*Sheet 8	1	5.79	
Sheet 9	2	10.80	

*These drawings are held with Certificate No Ex 79221X.



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BASEEFA

British Approvals Service for Electrical Equipment in Flammable Atmospheres

CERTIFICATE OF CONFORMITY VARIATION

THIS IS TO CERTIFY THAT CERTIFICATE OF CONFORMITY BAS NO Ex 802333

Issued to **MEASUREMENT TECHNOLOGY LTD**
of Luton, Bedfordshire

for the **TWO CHANNEL SWITCH OPERATED RELAY MTL2211**

is hereby extended to apply to apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having the variation specified in the following Schedule.

VARIATION ONE To permit minor changes to the printed circuit boards.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
*CI2211-01 Sheet 5	3	2.81	Top board PCB layout MTL2211 120/240V a.c.
*CI2211-02 Sheet 6	3	2.81	Top board PCB layout MTL2211 24V d.c.

*These drawings are held with Certificate No Ex 79221X

Code: [EEx ia] IIC

File: SFA 16/2/030

CERTIFICATE OF CONFORMITY BAS NO Ex 802333/1

37/25



B HILL
DIRECTOR
Dated 12 May 1981



Health &
Safety
Executive



BASEEFA

British Approvals Service for Electrical Equipment in Flammable Atmospheres

CERTIFICATE OF CONFORMITY VARIATION

THIS IS TO CERTIFY THAT CERTIFICATE OF CONFORMITY BAS NO Ex 802333

Issued to

MEASUREMENT TECHNOLOGY LTD
of Luton, Bedfordshire

for the

TWO CHANNEL SWITCH OPERATED RELAY MTL 2211

is hereby extended to apply to apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having the variations specified in the attached Schedule.

Code: [EEx ia] IIC ($T_a = 60^{\circ}\text{C}$)

File: SFA 16/2/030

CERTIFICATE OF CONFORMITY BAS NO Ex 802333/2
Sheet 1/2
44/03

B Hill
B HILL
DIRECTOR
Dated 13 May 1982

CERTIFICATE OF CONFORMITY



SCHEDULE

NUMBER Ex 802333/2

DATED 13 May 1982

VARIATION TWO To permit a reduction in rating for resistors R110 and R210, diodes D104 to D109 inclusive and diodes D204 to D209 inclusive.

VARIATION THREE To permit:

i) the 24 volt primary printed circuit board assembly to be replaced by a 24 volt P.C.B. Assembly AD2000-25 (Component Certificate No Ex 822260U).

ii) the mains primary printed circuit board assembly to be replaced by a Mains P.C.B. Assembly AD2000-1 (Component Certificate No Ex 822261U).

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
C1 2211-01			
Sheet 1	3	2/82	Contents sheet
Sheet 2	3	2/82	Parts list
Sheet 3	2	2/82	Circuit
Sheet 7	2	2/82	General assembly
Sheet 8	3	2/82	Label

VARIATION FOUR To permit changes to the top and secondary printed circuit boards.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
C1 2211-01			
Sheet 5	4	2/82	Top board for MTL 2211
Sheet 6	3	2/82	Secondary board for MTL 2211



British Approvals Service for Electrical
Equipment in Flammable Atmospheres

Certificate of Conformity Variation

THIS IS TO CERTIFY THAT CERTIFICATE BAS NO Ex 802333

Held by MEASUREMENT TECHNOLOGY LTD
of Luton, Bedfordshire, LU1 3JJ

for the TWO CHANNEL SWITCH OPERATED RELAY MTL 2211

is hereby extended to apply to apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having the variations specified in the attached Schedule.

File No: EECS 0703/02/129
(formerly SFA 16/2/030)

CERTIFICATE BAS NO Ex 802333/3
Sheet 1/2
TD



I M CLEARE
DIRECTOR EECS
11 February 1993



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: 0298 26211 Fax: 0298 79514 Telex 668113 RLSD G



Ex



Ex

Schedule

Ex

Ex

Certificate of Conformity BAS No Ex 802333/3 dated 11 February 1993

VARIATION FIVE

To permit the following:-

1. Minor changes to the top and secondary printed circuit boards.
2. Drawing information changes.

The above changes do not affect intrinsic safety.

DRAWINGS

Number	Issue	Date	Description
CI 2211-01 Sheet 1	4	11.92	Contents sheet
CI 2211-01 Sheet 5	5	11.92	Top board for MTL 2211
CI 2211-01 Sheet 6	4	11.92	Secondary board for MTL 2211

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 802333/4

This is to certify that Apparatus Certificate number:

Ex 802333

held by:

MEASUREMENT TECHNOLOGY LIMITED

of:

Luton, Bedfordshire, LU1 3JJ

for the:

TWO CHANNEL SWITCH OPERATED RELAY MTL 2211

is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 0703/02/129

Sheet 1 of 2

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances. Representation of equipment as "Certified" is valid only when the number of the prime certificate to which this certificate is a supplement is given on the relevant EECS Manufacturing Licence or Verification Certificate.

**I M CLEARE
DIRECTOR**

5 August 1999



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: 01298 28000 Fax: 01298 28244



Registration Number
020
The use of the Accreditation
Mark involves accreditation in
respect of those activities
covered by the accreditation
certificate number 020

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 802333/4

VARIATION SIX

To permit an increase in rating of R110 and R210.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI2211-01 Sheet 1 of 9	5	6.99	Contents Sheet
CI2211-01 Sheet 2 of 9	4	6.99	Parts List