



BASEEFA

British Approvals Service
for
Electrical Equipment
in
Flammable Atmospheres

SYSTEM CERTIFICATE No Ex 79249

Issued to

MEASUREMENT TECHNOLOGY LIMITED
of Luton, Beds

THIS IS TO CERTIFY THAT A TWO CHANNEL SWITCH OPERATED
RELAY MTL2211 SYSTEM

comprising the items of apparatus specified in and arranged in accordance with the Schedule and the documents therein referred to, complies with the requirements of an Intrinsically Safe System as defined in BASEEFA Standard SFA 3012 : 1972 for Category ia and Group IIC

This Certificate is granted subject to the general conditions of the British Approvals Service for Electrical Equipment in Flammable Atmospheres and any additional conditions as may be prescribed.

This Certificate does not imply that the apparatus meets all statutory requirements in any particular industry or circumstance.

Code :Ex ia IIC

File : SFA 12/372/037
Test Report 79 (i)103

Dated 7 March 1980
18/14/15



B HILL
Director

Certificate of Assurance

Schedule

NUMBER Ex 79249

DATED 7 March 1980

Sheet 1 of 2

SYSTEM AN MTL2211 TWO CHANNEL SWITCH OPERATED RELAY SYSTEM comprises:

1. Apparatus located in a Safe Area.
 - 1.1 An MTL2211 two channel switch operated relay (BASEEFA Certificate No Ex 79221X).
 - 1.2 Apparatus which is 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 250 volts r.m.s. or 250 volts d.c.
2. Apparatus which may be located in a Hazardous Area.
 - 2.1 Switch contacts which meet the requirements for simple apparatus as defined in paragraph 6.3.3 in BS 5345 : Part 4 : 1977.
3. Permissible interconnecting cables.

DRAWING NUMBER	ISSUE	DATE	DESCRIPTION
CI2211-01 Sheet 9	1	5-79	Installation Drawing for MTL2211 switch module single channel 120/240V a.c.
CI2211-02 Sheet 10	1	5-79	Installation Drawing for MTL2211 switch module single channel 24V d.c.

ADDITIONAL CERTIFICATION CONDITIONS

1. The Installation must conform to the approved drawings CI2211-01 sheet 9 and CI2211-02 sheet 10.

2. The Capacitance and Inductance or the Inductance to Resistance ratio (L/R) of the cables connecting remote switch contacts to the Hazardous Area terminals of the switch operated relay must not exceed the following values:

Protected switches in Zone 0 (i.e. hermetically sealed or flameproof) and switches in Zone 1 and 2.

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R Ratio in $\mu\text{H}/\text{ohm}$
IIC	13	69	600

Certificate of Assurance

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Sheet 2 of 2

Unprotected switches in Zone 0 (supplementary protection measures apply).

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R Ratio in $\mu\text{H}/\text{ohm}$
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.

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



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THIS IS TO CERTIFY THAT CERTIFICATE NO Ex 79249

Issued to MEASUREMENT TECHNOLOGY LTD
of Luton, Bedfordshire

is hereby extended to apply to apparatus conforming to the specification set out in the Schedule of the said Certificate but having the variation specified in the following Schedule.

Schedule

VARIATION ONE To permit a minor drawing change to incorporate the certificate of conformity number for the MTL 2211 switch module (Ex 802333).

DRAWINGS

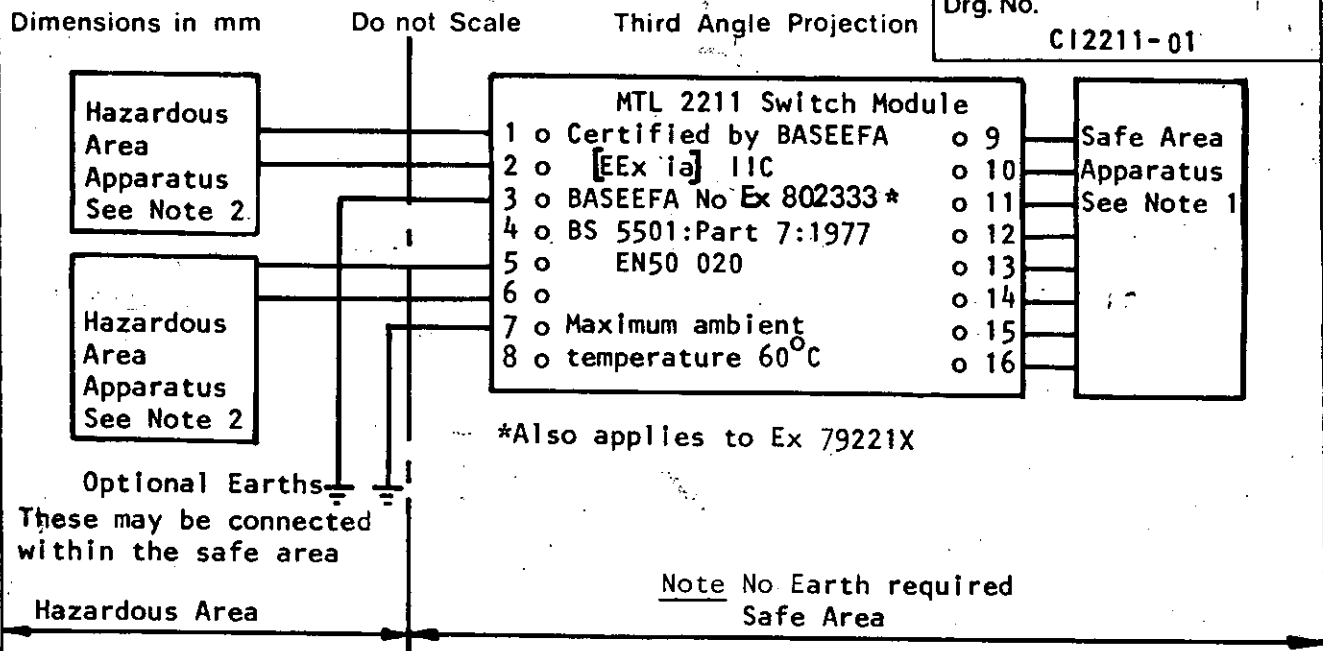
<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI2211-01 Sheet 9	2	10.80	Installation Drawing
CI2211-02 Sheet 10	2	10.80	Installation Drawing

File: SFA 12/372/037



CERTIFICATE NO: Ex 79249/1 dated 6 July 1981
6/03

B HILL
DIRECTOR



Note 1 Safe Area Apparatus - unspecified except that it must not be supplied from, nor contain, a source of potential under normal or fault conditions exceeding 250v rms or 250v dc.

Note 2 Hazardous Area Apparatus - must be as specified in paragraph 6.3.3. in BS 5345: Part 4: 1977. Normally the apparatus must be capable of withstanding an a.c. test voltage of 500V r.m.s. to earth or frame. However when the input circuit is fully floating i.e. there is no connection to earth or to an MTL 2220, there is no need to meet this insulation requirement.

Note 3 The maximum relay contact ratings are:- AC-250v, 5A, 500VA; DC-250v, 5A, 250 watts.

Note 4 The following cable parameters must not be exceeded:- (Applies to protected switches in Zone 0 and unprotected switches in Zone 1 and 2). These parameters apply to one channel.

GAS GROUP	CAPACITANCE	INDUCTANCE OR L/R RATIO
IIC (Hydrogen)	13µF	69mH / 600µH/Ω

Note 5 The following cable parameters must not be exceeded:- (Applies to unprotected switches in Zone 0). These parameters apply to one channel.

GAS GROUP	CAPACITANCE	INDUCTANCE OR L/R RATIO
IIC (Hydrogen)	0.9µF	18mH / 150µH/Ω

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

Note 6 In order to maintain the segregation between channels and comply with the above cable parameters, the two channels should be treated as two separate intrinsically safe circuits.

BASEEFA System Certificate No Ex79249
Code Ex ia IIC

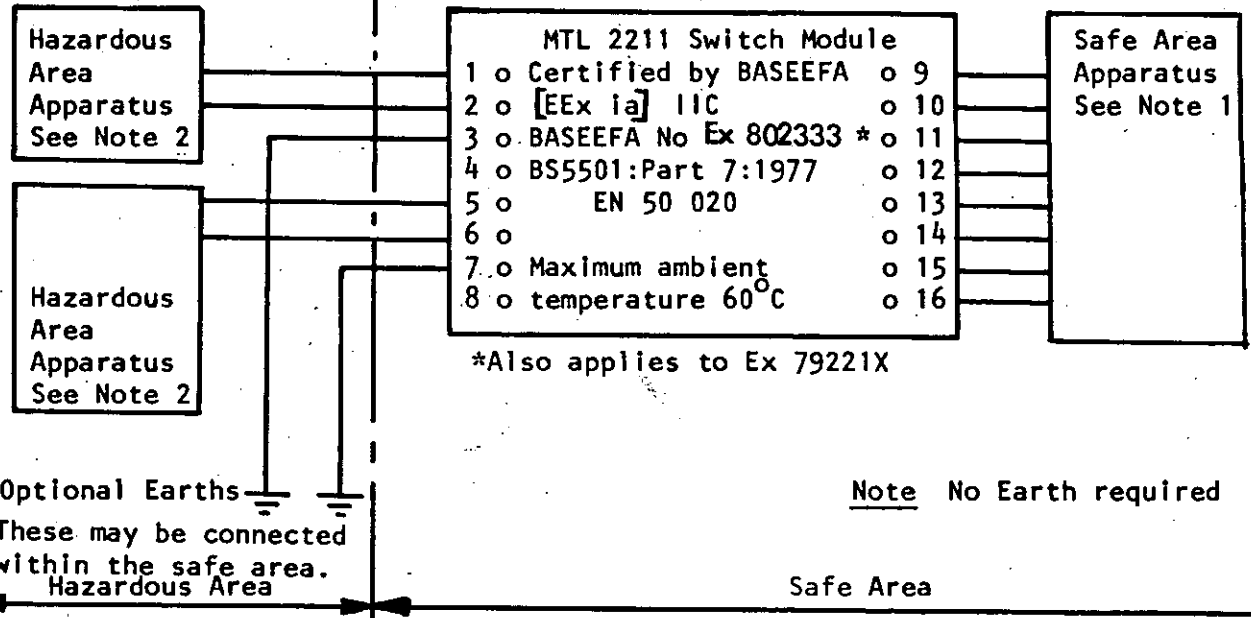
Certifying Authority: BASEEFA

Used on	Scale
Tolerance unless otherwise stated ±	Sheet 9 of 9
Title Installation Drawing for MTL 2211 Switch Module Two Channel 120/240v a.c.	Drg. No. C1 2211-01

MEASUREMENT TECHNOLOGY LTD.
Luton, Beds
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Modification
Iss. Date / Drawn
1 5/79/DRG
2 10/80/DRG
3

NOTE 2 CHANGED, Ex 802333 ADDED



Note 1 Safe Area Apparatus - unspecified except that it must not be supplied from, nor contain, a source of potential under normal or fault conditions exceeding 250v rms or 250v dc.

Note 2 Hazardous Area Apparatus - must be as specified in paragraph 6.3.3. in BS 5345:Part 4:-1977. Normally, the apparatus must be capable of withstanding an a.c. test voltage of 500V r.m.s. to earth or frame. However, when the input circuit is fully floating i.e. there is no connection to earth or to an MTL 2220, there is no need to meet this insulation requirement.

Note 3 The maximum relay contact ratings are:- AC-250v, 5A, 500VA; DC-250v, 5A, 250 watts.

Note 4 The following cable parameters must not be exceeded:- (Applies to protected switches in Zone 0 and unprotected switches in Zone 1 and 2). These parameters apply to one channel.

GAS GROUP	CAPACITANCE	INDUCTANCE	OR L/R RATIO
IIC (Hydrogen)	13 μ F	69mH	600 μ H/ Ω

Note 5 The following cable parameters must not be exceeded:- (Applies to unprotected switches in Zone 0.). These parameters apply to one channel.

GAS GROUP	CAPACITANCE	INDUCTANCE	OR L/R RATIO
IIC (Hydrogen)	0.9 μ F	18mH	150 μ H/ Ω

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

Note 6 In order to maintain the segregation between channels and comply with the above cable parameters, the two channels should be treated as two separate intrinsically safe circuits.

Certifying Authority: BASEEFA

BASEEFA System Certificate No Ex79249
Code Ex ia IIC

Iss.	Date / Drawn	Modification
1	5.79/DRG	
2	10.80/DRG	NOTE 2 ADDED, EX 802333 ADDED
3		

Used on	Scale
Tolerance unless otherwise stated \pm	Sheet 10 of 10
Title Installation Drawing for MTL 2211 Switch Module Two Channel 24v d.c.	Drg. No. C1 2211-02