



Health &
Safety
Executive



BASEEFA

British Approvals Service for Electrical Equipment in Flammable Atmospheres

1. **CERTIFICATE OF CONFORMITY**

2. BAS No Ex 87B2372X

3. This certificate is issued for the electrical apparatus:

A MODEL 1181 LCD RTO INDICATOR

4. manufactured and submitted for certification by:

ROSEMOUNT ANALYTICAL UNILOC DIVISION
CALIFORNIA 92714
U.S.A.

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

EN50 014 (1977) + A1 to 4
EN50 020 (1977) + A1

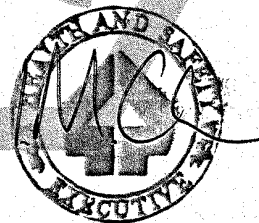
and has successfully met the examination and test requirements which are recorded in confidential Test Report

No 87(i)205

7. The apparatus marking shall include the code

EEx ia IIC T4

File No : EECS 0911/02/004



I M CLEARE
DIRECTOR Sheet 1/3
31 December 1987

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 Commission Directive of 16 January 1984 (Doc 84/47/EEC). A facsimile of this mark is printed on sheet 1 of this certificate.

CERTIFICATE OF CONFORMITY



SCHEDULE

NUMBER Ex 87B2372X

DATED 31 December 1987

APPARATUS

A MODEL 1181 LCD RTO INDICATOR is a digital indicating meter designed to display loop currents in the range of 4-20 mA.

The indicator comprises two printed circuit boards interconnected by a flexible ribbon cable. A three and a half digit Liquid Crystal Display and the driver circuit is mounted on the upper board. The remaining circuit including the input terminals is mounted on the lower board. These are assembled into a plastic enclosure which is primarily designed for mounting within other unspecified equipment, but which provides a degree of protection of at least IP20 for the electrical circuit with the exception of the input terminals.

For Intrinsic Safety purposes the maximum input parameters are:-

$I_{\max:\text{in}} = 200 \text{ mA}$

$W_{\max:\text{in}} = 1\text{W}$

$C_{\text{eq}} = 0$

$L_{\text{eq}} = 0$

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
2400228	1	B	9.8.87	Circuit Diagram
2312300	1	B	9.22.87	General Assembly
2311900	1	A	3.17.87	Upper Board S. Assy
3300500	1 of 5	A	3.13.87	Gang Board Layout Upper
3300500	2 of 5	A	3.13.87	Upper Bd. Component Side
3300500	3 of 5	A	3.13.87	Upper Bd. Track Side
2312000	1	A	3.18.87	Lower Board S. Assy
3300600	1 of 4	B	9.21.87	Gang Board Layout Lower
3300600	2 of 4	B	9.21.87	Lower Board Component Side
3300600	3 of 4	B	9.21.87	Lower Board Track Side
3281900	1	C	12.23.84	Cover Lower Bd.
3300700	1	B	9.22.87	Marked Cover
3300700	2	B	3.20.87	Silk Screening
2312100	1	A	3.19.87	Sub Assy Boards
2312200	1	A	3.19.87	Sub Assy with Cover

SPECIAL CONDITIONS FOR SAFE USE

The MODEL 1181 LCD RTO INDICATOR must be located within an outer enclosure which provides a degree of protection of at least IP20.

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 87B2372X/1

This is to certify that Apparatus Certificate number:

Ex 87B2372X

held by:

ROSEMOUNT ANALYTICAL INC. (formerly Rosemount Analytical Uniloc Division)

of:

Irvine, California 92714, USA

for the:

MODEL 1181 LCD RTO INDICATOR

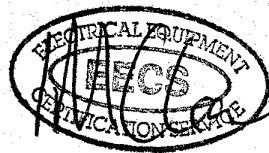
is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 0911/02/004

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**

1 November 1995



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



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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 87B2372X/1

VARIATION ONE

To permit minor drawing changes.

The Special Conditions for Safe Use described on the original certificate apply to this variation also.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
23122-00/01	B	11.7.94	Sub assembly with cover

British Approvals Service for Electrical
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Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 87B2372X/2

This is to certify that Apparatus Certificate number:

Ex 87B2372X

held by:

ROSEMOUNT ANALYTICAL INC

of:

Irvine, California 92714-5018, USA

for the:

MODEL 1181 LCD RTO INDICATOR

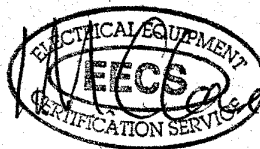
is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 0911/02/004

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**

17 April 1997



Registration Number
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Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
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British Approvals Service for Electrical
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Schedule

Supplementary Certificate BAS No. Ex 87B2372X/2

VARIATION TWO

To permit minor changes to the drawings which do not affect the original assessment. The Special Conditions for Safe Use continue to apply.

DRAWINGS

<u>Number</u>	<u>Rev</u>	<u>Date</u>	<u>Description</u>
23122-00/01 Sht 1	C	06/24/96	Sub Assy. with cover
23123-00/01 Sht 1	D	03/28/97	Sub Assy. General Assembly
33007-00 Sht 1	D	03/28/97	Certification Label

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 87B2372X/3

This is to certify that Apparatus Certificate number:

Ex 87B2372X

held by:

ROSEMOUNT ANALYTICAL INC

of:

Irvine, California 92714-5018, USA

for the:

MODEL 1181 LCD RTO INDICATOR

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 0911/02/004

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**

12 February 1998



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


HSE
Health & Safety
Executive

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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 87B2372X/3

VARIATION THREE

To permit minor changes to the drawings which do not affect the original assessment. The Special Conditions for Safe Use continue to apply.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
23122-00/01 Sht 1	D	03.28.97	Sub Assy. with cover
33005-00 Sheet 1 of 5	B	06.04.97	Gang Board Layout Upper
33005-00 Sheet 2 of 5	B	06.04.97	Upper Bd. Component Side
33005-00 Sheet 3 of 5	B	06.04.97	Upper Bd. Track Side
33006-00 Sheet 1 of 4	C	06.04.97	Gang Board Layout Lower
33006-00 Sheet 2 of 4	C	06.04.97	Lower Board Component Side
33006-00 Sheet 3 of 4	C	06.04.97	Lower Board Track Side