



EC-TYPE EXAMINATION CERTIFICATE

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**Equipment or Protective System Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

3

EC-Type Examination Certificate Number : **BAS01ATEX2319**

4

Equipment or Protective System: **A TYPE 7826*** LIQUID DENSITY TRANSDUCER**

5

Manufacturer: **SOLARTRON MOBREY LTD**

6

Address: **Slough, Berkshire, SL1 4UE**

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This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8

The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

01(C)0025 dated 29 January 2002

9

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + Amds 1 & 2

EN 50018: 2000

except in respect of those requirements listed at item 18 of the Schedule.

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If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

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This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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The marking of the equipment or protective system shall include the following:-

 **II 2 G** **EEx d IIC T4** **T_{amb} -20°C to 110°C**

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File No: EECS 0131/01/018

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.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: +44(0)1298 28000 Fax: +44(0)1298 28244
internet: www.baseefa.com e-mail: baseefa.info.eecs@hsl.gov.uk



I M CLEARE
DIRECTOR
19 March 2002



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX2319

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Description of Equipment or Protective System

A Type 7826* Liquid Density Transducer** rated at 30V maximum, 2W maximum comprising a cast aluminium alloy body with two threaded covers, each locked against loosening by a socket head set screw. Attached to the enclosure by a spigot joint is a potted fork tube assembly which comprises a stainless steel fork end welded to a stainless steel fork tube. The fork end contains two piezoelectric transducers and a platinum resistance thermometer. Vibration of the fork, which is controlled by electronics in the cast housing, is monitored and can be related to the density of the liquid in which the fork end is immersed. A 2" stainless steel mounting flange is welded to the fork tube.

Both internal and external earthing facilities are provided.

Cable entry holes are provided as specified on the certified drawings for the accommodation of suitable BASEEFA certified flameproof cable entry devices, with or without the interposition of a BASEEFA certified flameproof thread adaptor. The cabling methods used in service must be suitable for the condition of use. Any unused cable entry hole must be closed by a BASEEFA certified flameproof stopping plug.

VARIATION ONE

Alternative materials for the fork tube assembly and the mounting flange and alternative flange as indicated in the following tables. The fifth and seventh characters of the type reference indicate the appropriate characteristic.

Fork tube assembly and flange material	Fifth Character
Stainless steel	A or F or V
Hastelloy	E or G or U
Monel	H
Titanium	T

Flange type	Seventh character	Maximum Working Pressure
2" 150lb	A	20 bar
2" 600lb	B	100 bar

The sixth character indicates output options

- ie. C = frequency output
- D = 4-20mA output

Additionally the characters F and G indicate the extent of a PTFE coating on the vibrating element flange (or coupling) and fork tube assembly.



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VARIATION TWO

Provision of alternative circuit boards to enable the equipment to sense liquid viscosity.

In this form the 4-20mA output option is not available and the apparatus designation is

A VISCOMETER TYPE 7827***

VARIATION THREE

Alternative name designations for the Type 7826*** Liquid Density Transducer which may be identified on the certification label as:

A TYPE 7828**A*A* LIQUID DENSITY TRANSDUCER
or A TYPE 7828**A*A* ADVANCED DENSITY TRANSMITTER
or A TYPE 7828**A*A* DENSITY TRANSMITTER

Where the ten character build code indicates the following:-

Characters 1-4 the type designation number
Character 5 the material of construction for the vibrating element, the flange or coupling and the fork tube assembly
Character 6 the amplifier system used
Character 7 the housing material
Character 8 the material of construction for the flange or coupling
Character 9 for future reference
Character 10 unit versions related to calibration.

VARIATION FOUR

Alternative name designations for the Type 7827*** Viscometer which may be identified on the certification label as:-

A TYPE 7829**A*A* VISCOSITY ANALYZER
or A TYPE 7829**A*A* VISCOMASTER
or A TYPE 7829**A*A* DIGITAL VISCOSITY ANALYZER
or A TYPE 7829**A*A* VISCOSITY TRANSMITTER
or A TYPE 7829**A*A* VISCONIC



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Where the ten character build code indicates the following:-

- Characters 1-4 the type designation number
- Character 5 the material of construction for the vibrating element, the flange or coupling and the fork tube assembly
- Character 6 the amplifier system used
- Character 7 the housing material
- Character 8 the material of construction for the flange or coupling
- Character 9 for future reference
- Character 10 unit versions related to calibration.

16 Report No.

01(C)0025

17 Special Conditions For Safe Use

None.

18 Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by Standards listed at 9 - None.

19 DRAWINGS

Number	Sheet	Issue	Date	Description
78265019	1	D	19.11.01	Housing Detail
78265019	2	C	19.11.01	Body
78265019	3	C	19.11.01	Plug Arrangement
78265019	4	C	19.11.01	Cover Details
78265020	1	K	9-01	General Arrangement - Type 7826
78265020	2	D	5-99	Fork Assembly
78265020	3	E	9-01	Fork Assembly
78265020	4	D	18.5.99	Internal Arrangement
78275002	1	J	9-01	General Arrangement - Type 7827
78275002	2	D	5-99	Fork Assembly
78275002	3	D	9-01	Fork Assembly
78275002	4	C	18.5.99	Internal Arrangement
78285001	1	D	9-01	General Arrangement - Type 7828
78285001	2	A	19.5.99	Fork Assembly



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Number	Sheet	Issue	Date	Description
78285001	3	B	3.9.01	Fork Assembly
78285001	4	A	19.5.99	Internal Arrangement
78295004	1	D	9-01	General Arrangement - Type 7829
78295004	2	A	19.5.99	Fork Assembly
78295004	3	B	3.9.01	Fork Assembly
78295004	4	A	19.5.99	Internal Arrangement
78263764	-	1	28.2.02	PCB Detail
78273136	-	1	28.2.02	PCB Detail
78283027	-	1	28.2.02	PCB Detail

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BASEEFA List Keywords
2DENSMEA



EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER BAS01ATEX2319 Dated 19 March 2002

SIRA VARIATION NUMBER 1 (ONE) Dated 8 April 2003

VARIATION TO EQUIPMENT

To permit:

- 1 The -20°C lower ambient temperature limit to become -40°C and to introduce a new condition of certification that relates to this change.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Rev	Date	Description
78265060	1 of 1	1	25 Feb 03	Certification drawing (-40°C) Label for 7826/7/8/9

ADDITIONAL CONDITION OF CERTIFICATION

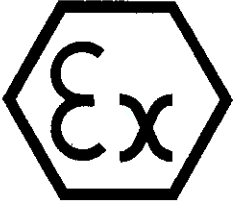
- 1 The enclosures that are to be marked with a -40°C ambient temperature shall be subjected to a routine overpressure test at a pressure of 19.8 bar for at least 10 s as required by clause 16.1 of EN 50018:2000. There shall be no permanent deformation or damage to the enclosure.

File No. 51A9847

Report No. R51A9847A


C Ellaby
Certification Officer

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER BAS01ATEX2319 Dated 19 March 2002

SIRA VARIATION NUMBER 2 (TWO) Dated 6 August 2003

VARIATION TO EQUIPMENT

To permit:

- 1 The introduction of a new drawing that lists the applicable model codes.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Rev	Date	Description
78265062	1 of 1	1	28 May 03	Model Codes for Fork Density & Viscosity Transducers & Transmitters

CONDITIONS OF CERTIFICATION

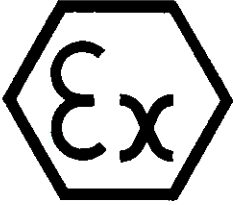
None

File No 51V10417

Report No. NA

C Ellaby
Certification Officer

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER BAS01ATEX2319 Dated 19 March 2002

SIRA VARIATION NUMBER 3 (THREE) Dated 26 February 2004

VARIATION TO EQUIPMENT

To permit:

- 1 The introduction of a new drawing that amends the applicable model codes.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Rev	Date	Description
78265062	1 of 1	2	19 Feb 04	Model Codes for Fork Density & Viscosity Transducers & Transmitters

CONDITIONS OF CERTIFICATION

None

File No 51V11528

Report No. R51V11528A

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Certification Officer

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER BAS01ATEX2319 **Dated** 19 March 2002

SIRA VARIATION NUMBER 4 (FOUR) **Dated** 24 February 2005
Re-issued 6 April 2005

VARIATION TO EQUIPMENT

To permit:

- 1 The use of an alternative, cast aluminium head in place of the existing cast and machined heads.
- 2 The introduction of a new printed circuit board.
- 3 The inclusion of a new model that has a longer probe and is designated the Type 7825*** Density Transmitter.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Rev	Date	Description
78265066	1 of 1	2	Dec 04	Explosion Proof Sensor Housing
78285023	1 of 1	1	02 Feb 05	Alternative Terminal PCB Layout
78265062	1 of 1	3	04 Aug 04	Model Codes for Fork Density & Viscosity transducers and transmitters

CONDITIONS OF CERTIFICATION

None

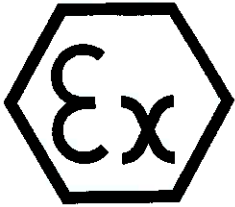
Re-issued 6 April 2005 to correct a typographical error.

File No. 51A12261

Report No. R51A12261A

C Ellaby
Certification Officer

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER BAS01ATEX2319 Dated 19 March 2002

SIRA VARIATION NUMBER 5 (FIVE) Dated 4 December 2006

VARIATION TO EQUIPMENT

To permit:

- 1 The use of alternative grades of aluminium alloy.
- 2 The removal of the requirement to conduct routine overpressure tests.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Issue	Date	Description
78265066	1	4	21 Sep 06	Explosion Proof Sensor Housing

ADDITIONAL CONDITIONS OF CERTIFICATION

None

File No. 51A15722

Report No. R51A15722A

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C Ellaby
Certification Officer

Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

