



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 03ATEX2285X

4 Equipment: 78\*\* Series Liquid Density Transducer

5 Applicant: Solartron Mobrey Ltd

6 Address: 158 Edinburgh Avenue  
Slough  
Berkshire  
SL1 4EU  
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A9957A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 (A1 and A2)  
EN 50020:2002  
EN 50284:1999

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

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1 G  
EEx ia IIC T6 (Ta = -40°C to +40°C)  
EEx ia IIC T4 (Ta = -40°C to +70°C)

Project Number 52A9957  
Date 18 August 2003  
C. Index 13

G Tortoishell IEng MIEE MInstMC  
Principal Consultant

This certificate and its schedules may only be reproduced in its entirety and without change

**Sira Certification Service**

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

Sira 03ATEX2285X

#### 13 DESCRIPTION OF EQUIPMENT

The 7835 Series Liquid Density Transducer is designed to provide electrical signals proportional to density and temperature of a liquid flowing in a pipeline. The apparatus comprises a platinum resistance thermometer, a drive coil, a pick-up coil, a vibrating tube and bellows housed in a metallic tube fitted with metallic flanges. Welded to the metallic tube is a metallic box containing an encapsulated signal amplifier circuit and two terminal blocks. External electrical connections are made via terminals 1 to 6 on one of the terminal blocks. Access for the cabling is provided by cable glands fitted into the side of the metallic box adjacent to terminals 1 to 6.

The 78\*\* Series Liquid Density Transducer comprises the following models:

7835 Liquid Density Transducer  
7836 Liquid Density Transducer  
7845 Liquid Density Transducer  
7846 Liquid Density Transducer  
7847 Liquid Density Transducer

The Models are identical in appearance and differ only in the metal of the vibrating tube, the sensitivity of the coils and the software installed in each transducer to provide differing ranges and accuracy of measurement.

#### Input Parameters

Terminal 1 wrt 2

$U_i = 28V$   
 $I_i = 93mA$   
 $P_i = 0.65W$   
 $C_i = 0$   
 $L_i = 0$

Terminals 3 wrt 6

$U_i = 10V$   
 $I_i = 200mA$   
 $P_i = 0.50W$   
 $C_i = 0$   
 $L_i = 0$

Terminal 4 wrt 6

$U_i = 15V$   
 $I_i = 15mA$   
 $P_i = 56mW$   
 $C_i = 0$   
 $L_i = 0$

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

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Terminal 5 wrt 6

$$U_i = 15V$$

$$I_i = 15mA$$

$$P_i = 56mW$$

$$C_i = 0$$

$$L_i = 0$$

Note: Terminals 3 to 6 are intended for connection to the platinum resistance thermometer (PRT).

Terminals 3 and 6 are the supply Terminals to the PRT.

Terminals 4 and 5 are the signal Terminals from the PRT.

Terminal 3 is connected internally to Terminal 4.

Terminal 5 is connected internally to Terminal 6.

#### 14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Title
	78355006	1 of 1	8	08 Jul 03	General Assembly with Alternative PRT
	78355069	1 of 1	2	08 Jul 03	Circuit details, amplifier board
	78355070	1 of 1	2	08 Jul 03	PCB details, amplifier board
	78355005	1 of 1	7	08 Jul 03	Composite drawing of PCB and coils
	78355071	1 of 1	2	08 Jul 03	Label

14.2 Report No. R52A9957A

#### 15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 The supplies to the Platinum Resistance Thermometer (PRT) and to the Signal Amplifier must be installed as separate circuits.

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R52A9957A.

#### 17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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