



## EC-TYPE EXAMINATION CERTIFICATE

- [1] **EC-TYPE EXAMINATION CERTIFICATE**
- [2] **Equipment or Protective System intended for use  
 in potentially explosive atmospheres  
 Directive 94/9/EC**
- [3] EC-Type Examination Certificate number:  
**CESI 03ATEX 320 X**
- [4] Equipment: **Digital refractometer analyzer  
 Model UR-X1**
- [5] Manufacturer: **Maselli Misure S.p.A.**
- [6] Address: **Via Baganza, 4/3 – 43100 Parma - Italy**
- [7] 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] CESI, notified body n. 0722 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. EX-A3/041681.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 50014: 1997 + A1..A2      EN 50020: 2002      EN 50284: 1999**
- [10] 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.
- [11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- [12] The marking of the equipment or protective system shall include the following:



**II 1 G**

**EEx ia IIB T4**

This certificate may only be reproduced in its entirety and without any change, schedule included.

**Date** December 5, 2003 - Translation issued the December 5, 2003

**Prepared**  
 Francesco Esposito

**Verified**  
 Damiano Cavanna

**Approved**  
 Ulisse Colombo

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## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 320 X**

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[15] **Description of equipment**

The Digital Refractometer Analyzer UR-X1 is an instrument for the on-line measurement of the refractive index of liquids, visualising the relative value on the display and transferring the data (digital or analogue) in safe area. Is realised by a stainless steel case containing the intrinsically safe circuits with the display, a flange to isolate thermally the sensor at contact with the liquid from the electronic unit, the prism holder and the PT1000 sensor with relative cable/connector.

The unit is provided for the connection to external circuits to galvanically isolated associated apparatus by a polarised connector.

### Electrical characteristics

#### Section CPU

Ui	=	24,2 V
Ii	=	400 mA
Pi	=	2,329 W
Ci	=	0,825 uF
Li	=	339 uH

#### Section mA

Ui	=	27V
Ii	=	200 mA
Pi	=	1,255W
Ci	=	0,591 uF
Li	=	11 uH

#### Section RS 485 Supply

Ui	=	24,2 V
Ii	=	150 mA
Pi	=	0,850 W
Ci	=	0,782 uF
Li	=	15 uH

#### Section RS 485 Data

Ui	=	5,9 V
Ii	=	250 mA
Pi	=	0,350 W
Ci	=	0,765 uF
Li	=	10 uH

Ambient temperature : -20 ÷ +45°C

Admitted characteristics of the connection cable : Cc < 200 nF/Km  
Lc < 1mH/Km

### Warning label

“Read with caution the instructions before to install the refractometer”.

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[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 320 X**

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[16] **Report n.**

CESI EX-A3/041684.

### **Routine tests**

The manufacturer must carry out the routine tests prescribed at clause 24 of the EN 50014 standard.

### **Descriptive documents (prot. EX-)**

- n. Technical Note n. 01516A0020 of 8 pages	dated	25.11.2003
- n. Safety Manual n. 01516°0010 of 7 pages	dated	25.11.2003
- n. EC Declaration of Conformity	dated	24.11.2003
- n. Certification Technical File n. 1/2003 of 100 pages	dated	25.11.2003

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use “X”**

- a) Use associated apparatus galvanically isolated with linear output only, having the electrical characteristics reported on page 2 and indicated on the safety instructions provided with the product;
- b) Connect to the equipotential protection circuit from the suitable terminal provided on the metallic chassis.

[18] **Essential Health and Safety Requirements**

Assured by the conformity to the standards.