TECHNICAL INFORMATION
# TABLE OF CONTENTS

## 1. INTRODUCTION

1.1 Application ................................................. 3  
1.2 Description and features .................................. 3  
1.3 ID code structure ......................................... 3  
1.4 Ordering information ...................................... 3  
1.5 External views ............................................. 4  
1.6 Internal view .............................................. 5  
1.7 « SACI » Millimeter specification ....................... 6  

## 2. CONNECTION / WIRING

Note ........................................................................... 7  
2.1 General instructions for Connection to a Current Transmitter 8  

## 3. ANNEXES

- LiYCY-OB 0.75mm² cable data sheet ....................... 9  
- Conformity declaration ........................................ 10  
- Certificate for Enclosures series CCA... and GUB... for electrical equipment 11  
- Certificate for Adaptors and plugs series RE, REB, REM, REN and PLG 13  
- Certificate for Cable glands series FGA and FGAD for armoured cables 13  
  and series FR, FGF and FGN for non-armoured cables  

Subject to change without notification.
CHAPTER 1
INTRODUCTION

1.1 Application

This Analog Remote Volume Indicator consists of a 4-20mA receiver, graduated 0-100%, enclosed in an explosion proof housing. When used in conjunction with a Rochester current transmitter and a loop power supply of 24Vdc, this indicator will remotely indicate the liquid level in percent of the total tank volume (for horizontal cylindrical tank). This receiver can also be used in conjunction with a Rochester Survey Unit equipped with a 4-20mA output, a Rochester Compact Survey Unit or with Rochester Voltage to 4-20mA Converter.

In those applications the loop power supply is provided by the equipment.

1.2 Description and features

- Housing dimension
  - W=155mm, H=211mm, D=120mm
  - EExd IIC T6 IP65
  - Aluminium

- Protection
  - Material

- (1) or (2) cable glands EExd IIC T6
  - Size
    - Material

- Input

- Internal resistance

- Indicator type

- Accuracy
  - ±1.5% of full scale value

- Connections on screw terminals

1.3 ID code structure

6 3 7 3 S * 1 3 3 0 E

Entry specification
7  With 1 Cable Gland
8  With 2 Cable Gland

1.4 Ordering information

- Receiver model number
- Used with or without external 24Vdc power supply
1.5 External views

1. HOUSING Exd IIC T6 IP65
MATERIAL: Aluminium

2. CABLE GLAND Exd IIC T6 for cable Ø 6 to 9 mm ext.
(2x0.75 mm² Li-YCY SHIELDED)
MATERIAL: Brass

3. “O”RING Ø 130 X 3

4. LOCKSCREW M5 Ø 11

5. WINDOW Ø 90

6. WINDOW Ø 90

7. 4-20mA

8. 125

9. 155

10. 185

11. 211

12. 40

13. 120
1.6 Internal view
1.7 « SACI » Millimeter specification

- **Type**: Moving coil millameters
- **Scale**: 0-100% with 5 divisions
- **Input**: 4-20mA (24Vdc)
- **Accuracy**: ± 1.5% of full scale value
- **Internal resistance**: 130Ω
- **Aprox. voltage drop**: 60mV
- **Weight**: ± 0.195 Kg
2.1 General Instructions for connection to a Current Transmitter

- **Power supply**: 24Vdc

ATEX Junction box

- **LiYCY-OB 2x0.75² (DIN47100)**
- **Shielded**

Total line length between transmitter and receiver **MAXIMUM 300m**

- **Connected to earth with 4mm² VOBst**
- **ALWAYS break the shielded line!**

Local Earth

4-20mA

ARVI INSIDE DETAILS

- **Power supply 24Vdc**
LiYCY-OB 0.75 mm²
CABLE DATA SHEET

Multi-core cables shielded by a synthetic material with extra-flexible multi-strand conductors twisted in layers, with electromagnetic protection (CY shielding: tinned copper braid). These cables are manufactured in accordance with DIN 47100. The cores are counted starting from the outer layer, towards the centre.

**Temperature range:**
- Installation and service: -20°C à +80°C
- Transport and storage: -30°C à +80°C

**Use:**
Shielded connecting cables used for the transmission of signals, measuring, controls, telephony, interphone systems and for applications in the electrical industry.

**LiYCY-OB standards:**
Manufactured in accordance with standards VDE 0295, 0250, 0271, 0812, 0814, 0817.
In accordance with CEI 20-35/IEC 332.1 and CEI 20-22/IEC 332.3 Cat. C, lead-free CEI 20-52
Nominal section: 0.75mm²
Conductor diameter: 2.2mm
No. strands: 24 x 0.22 mm in diameter

**Cable Description:**
- Core: multi-strand, red copper
- Insulation: coloured PVC in accordance with DIN 47100, 105°C PVC
- Twisted: by layer
- Assembly: by mylar sheet
- Screening: tinned copper braid (90% density)
- Outer sheath: RAL 7001 grey PVC, flame-retardant NPI CEI 20-22

**Cable specifications:**
- Bending radius: 10 x cable diameter
- Insulation resistance: minimum 20MΩ/Km
- Operating voltage: 500V
- Test voltage: minimum de 1.200V (1.2KV)

**Electrical properties at 25°C:**
- Conductor resistance: maximum 26Ω/Km
- Capacitance between 2 conductors: 130pF/Km at 800Hz frequency
- capacitance entre cond. & shield: 230pF/Km
- Load: maximum 13 A

**Mechanical properties:**

<table>
<thead>
<tr>
<th>Number of conductors</th>
<th>Diameter exterior [mm]</th>
<th>Weight [Kg/Km]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 0.75</td>
<td>6.0</td>
<td>57.0</td>
</tr>
<tr>
<td>3 x 0.75</td>
<td>6.2</td>
<td>66.0</td>
</tr>
<tr>
<td>4 x 0.75</td>
<td>8.0</td>
<td>87.0</td>
</tr>
<tr>
<td>6 x 0.75</td>
<td>8.6</td>
<td>125.0</td>
</tr>
</tbody>
</table>

**Colour standard DIN 47100:**

<table>
<thead>
<tr>
<th>Conductor number</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>white</td>
</tr>
<tr>
<td>2</td>
<td>brown</td>
</tr>
<tr>
<td>3</td>
<td>green</td>
</tr>
<tr>
<td>4</td>
<td>yellow</td>
</tr>
<tr>
<td>5</td>
<td>grey</td>
</tr>
<tr>
<td>6</td>
<td>pink</td>
</tr>
</tbody>
</table>

Source: Valentin catalogue (0.75mm² part specification)
Legrand electrical catalogue (part standard DIN 47100)
CONFORMITY DECLARATION

Wavre, 8 October 2007

I, DUFAYS Michel, Executive Director

ROCHESTER Gauges International S.A.
Zone Industriel Nord
Avenue Lavoisier, 6
B-1300 Wavre BELGIUM

hereby certify that the receiver

ANALOG REMOTE VOLUME INDICATOR

bearing the following details:

6 3 7 3 S * 1330 E
Entry specification
7  With 1 Cable Gland
8  With 2 Cable Gland

Is in conformity with the European Directives and Standards applicable today:

European Directive « ATEX » 94/9/CE

And the European Standards regarding the electrical material for hazardous area like
EN 50014 “general rules” and the EN 50018” Explosion proof enclosure « d ».

The Enclosure and the accessories have been certified II 2 G EEx d II C
by CESI (see attached certificats).

Michel DUFAYS
Executive Director
EC-TYPE EXAMINATION CERTIFICATE

Component intended for use on equipment or protective system intended for use in potentially explosive atmospheres

Directive 94/9/EC

EC-Type Examination Certificate number:

CESI 02 ATEX 020 U

Component: Enclosures series CCA... and GUB... for electrical equipment

Manufacturer: FONDISONZO ITALIA S.r.l.

Address: Via Aquilaia Z.1, Romano d’Isone (Gorizia – Italy)

This component and any acceptable variation thereto is specified in the schedule and the documents therein referred to.

CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 22 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of components 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-A2/009048.

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


The sign "U" placed after the certificate number indicates that this certificate must not be misused for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and testing of the specified component in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

The marking of the component shall include the following:

II 2 GD EX d IIC IP 66

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

Date: 26th March, 2002 - Translation issued on 26th March 2002

Prepared

Approved

Miklos Balaz

Ulisse Colombi

WARNING LABEL

"Use screws of quality A2-70 according to UNI 7323 with ultimate tensile strength of at least 700 N/mm²"
Schedule

14 EC-TYPE EXAMINATION CERTIFICATE n. CESI 02ATEX 020 U

16 Report n. EX-A2/009948

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard.
The routine overpressure test shall be carried out with the static method (clause 15.1.3.1 of EN 50018 standard) at
the pressure of 13.5 bar.

Descriptive documents (prot. EX-A2/009936)

- n° A4.4113 Rev. 0 (2 p.) dated 26.02.2002
- n° GG34.1 Rev. 0 dated 18.07.2000
- n° GG35.1 Rev. 0 dated 18.07.2000
- n° GG37.1 Rev. 0 dated 18.07.2000
- n° CC.1.1 Rev. 0 dated 18.07.2000
- n° CC.13.1 Rev. 0 dated 18.07.2000
- n° CC.10.1 Rev. 0 dated 15.09.2000
- n° CC.14.1 Rev. 0 dated 21.06.2001
- n° A4.4129 Rev. 0 dated 25.01.2001
- n° A3.4216 Rev. 0 dated 26.02.2002
- Safety instructions SAF001-02 Rev. 0 (5 p.) dated 26.02.2002
- Attestation of conformity for components n° STA001-02 dated 26.02.2002

One copy of all documents is kept in CESI files.

17 Schedule of limitations

None.

18 Essential Health and Safety Requirements

None.

This certificate may only be reproduced in its entirety and without any change, schedule included.
EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in potentially explosive atmospheres

Directive 94/9/EC

EC-Type Examination Certificate number:

CESI 02 ATEX 049

Equipment:
Adaptors and plugs series RE, REB, REM, REN and PLG.

Manufacturer:
ELFIT S.p.A.

Address:
Via Aquileia 12, Villesse (Gorizia – Italy)

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

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-A2/016285.

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

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.

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.

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

II 2 G Ex d IIC Ex e II

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

Date May 28th, 2002  Translation issued on May 28th, 2002

Prepared Mirko Balaz

Approved Ulisse Colombi

CESI CENTRO ELETTRONICO Sperimentale Italiano Business Unit Certification

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

Date September 20th, 2002  translation issued on September 20th, 2002

Prepared Mirko Balaz

Approved Ulisse Colombi

CESI CENTRO ELETTRONICO Sperimentale Italiano Business Unit Certification