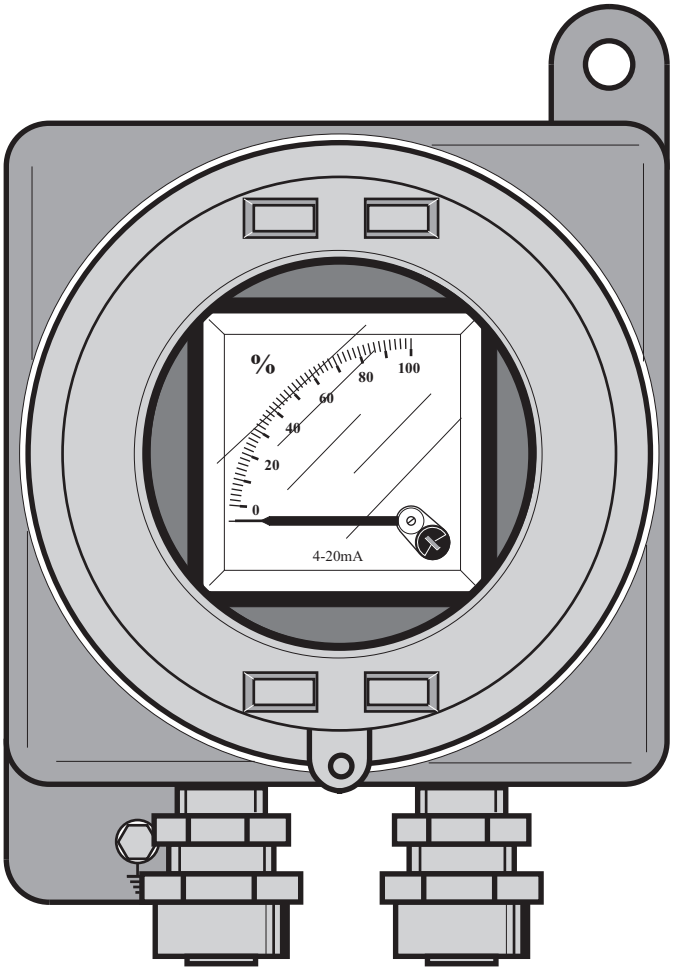
ROCHESTER GAUGES,INT.

6373Sx1330E

TECHNICAL INFORMATION



Receiver ARVI

ROCHESTER GAUGES INTERNATIONAL S.A.
Z.I. WAVRE NORD - AVENUE LAVOISIER, 6 - 1300 WAVRE - BELGIUM
Phone: +32(0)10241010 Fax: +32(0)10228139 Web site: http://www.rochester-gauges.be E-mail: info@rochester-gauges.be

MADE IN EUROPE

Rev 3.0 (12/2013)

6373Sx1330E

TABLE OF CONTENTS

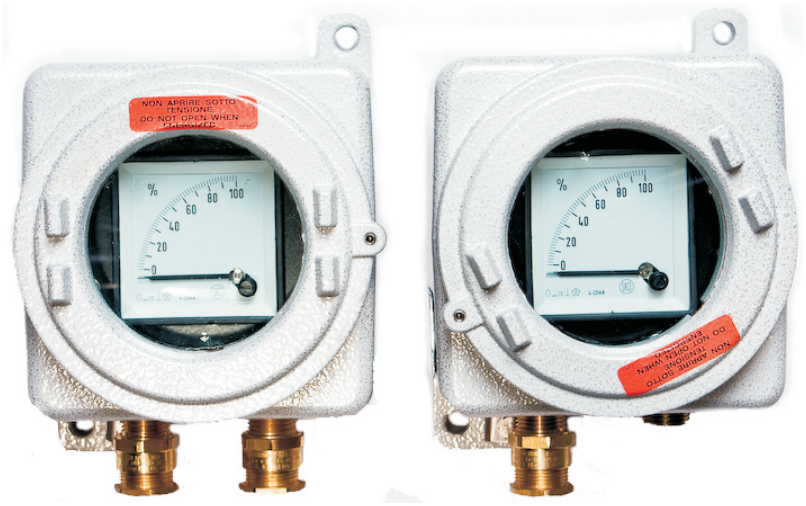
Receiver ARVI

MADE IN EUROPE

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
Protection	: Eexd IIC T6 IP65
Material	: Aluminium
- (1) or (2) cable glands EExd IIC T6	
Size	: for cable with 6 to 9mm exterior diameter
Material	: Brass
- Input	: 4-20mA / 24Vdc
- Internal resistance	: 130Ω
- Indicator type	: Moving coil Ammeter with a scale of 0-100% (see page 6)
- Accuracy	: ±1.5% of full scale value
- Zero adjustment	
- Connections on screw terminals	

1.3 ID code structure

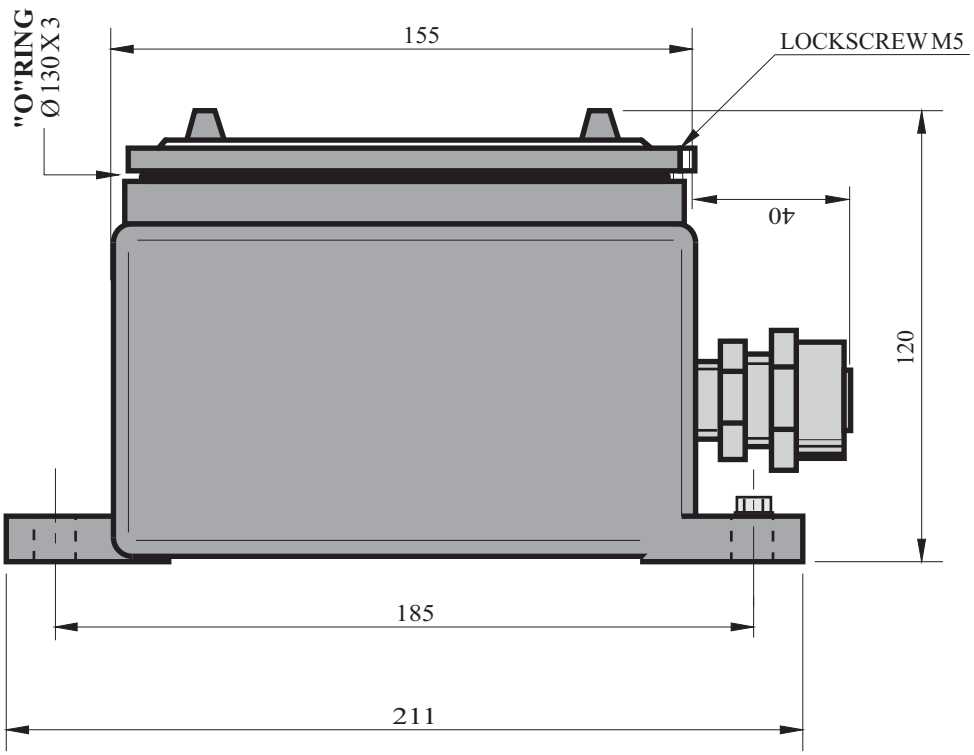
6 3 7 3 S * 1 3 3 0 E

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

1.4 Ordering information

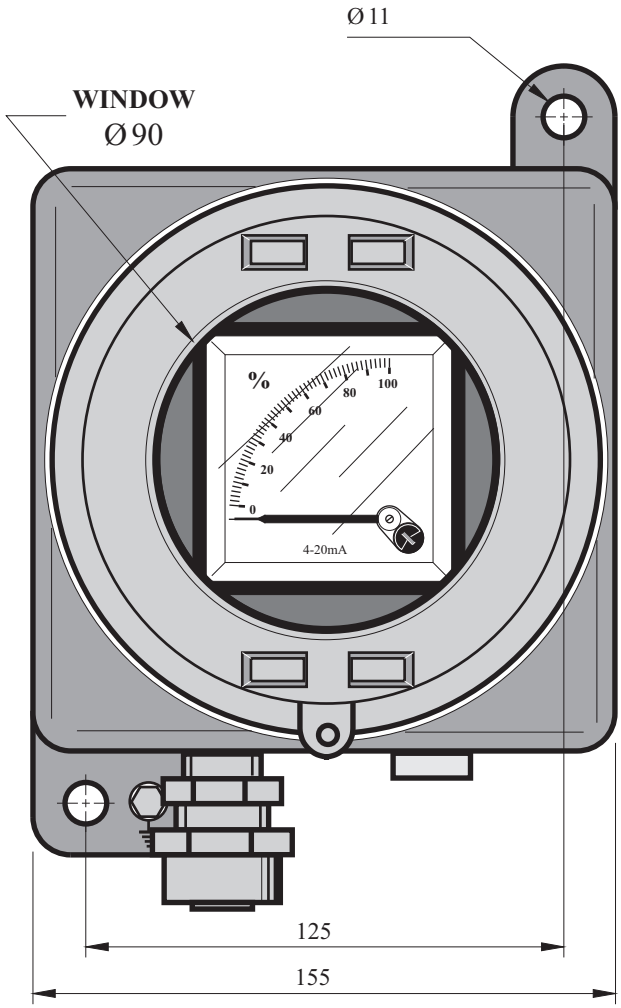
- Receiver model number
- Used with or without external 24Vdc power supply

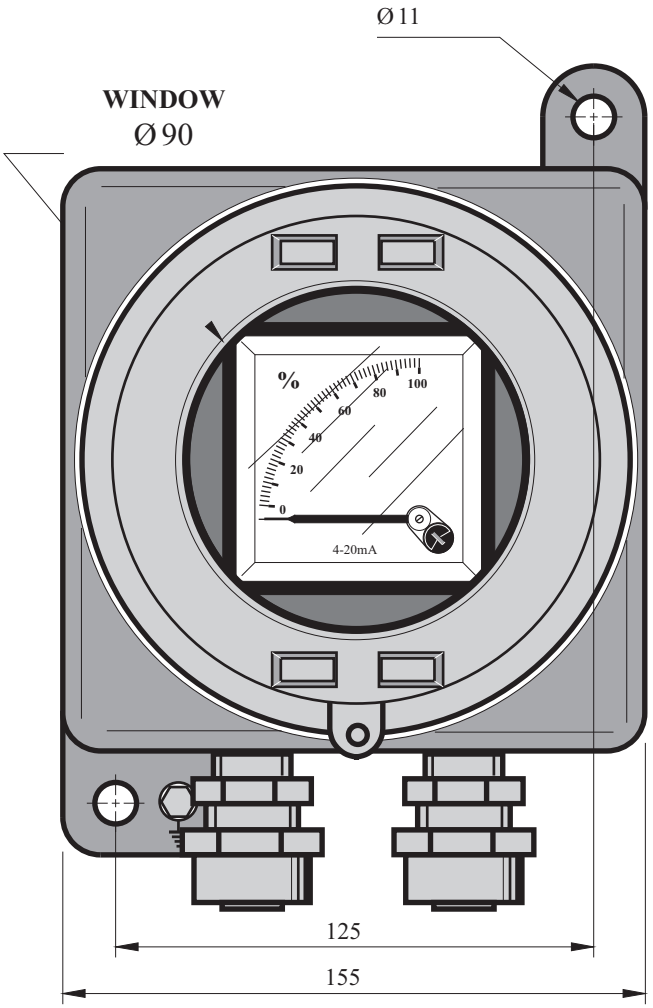
1.5 External views



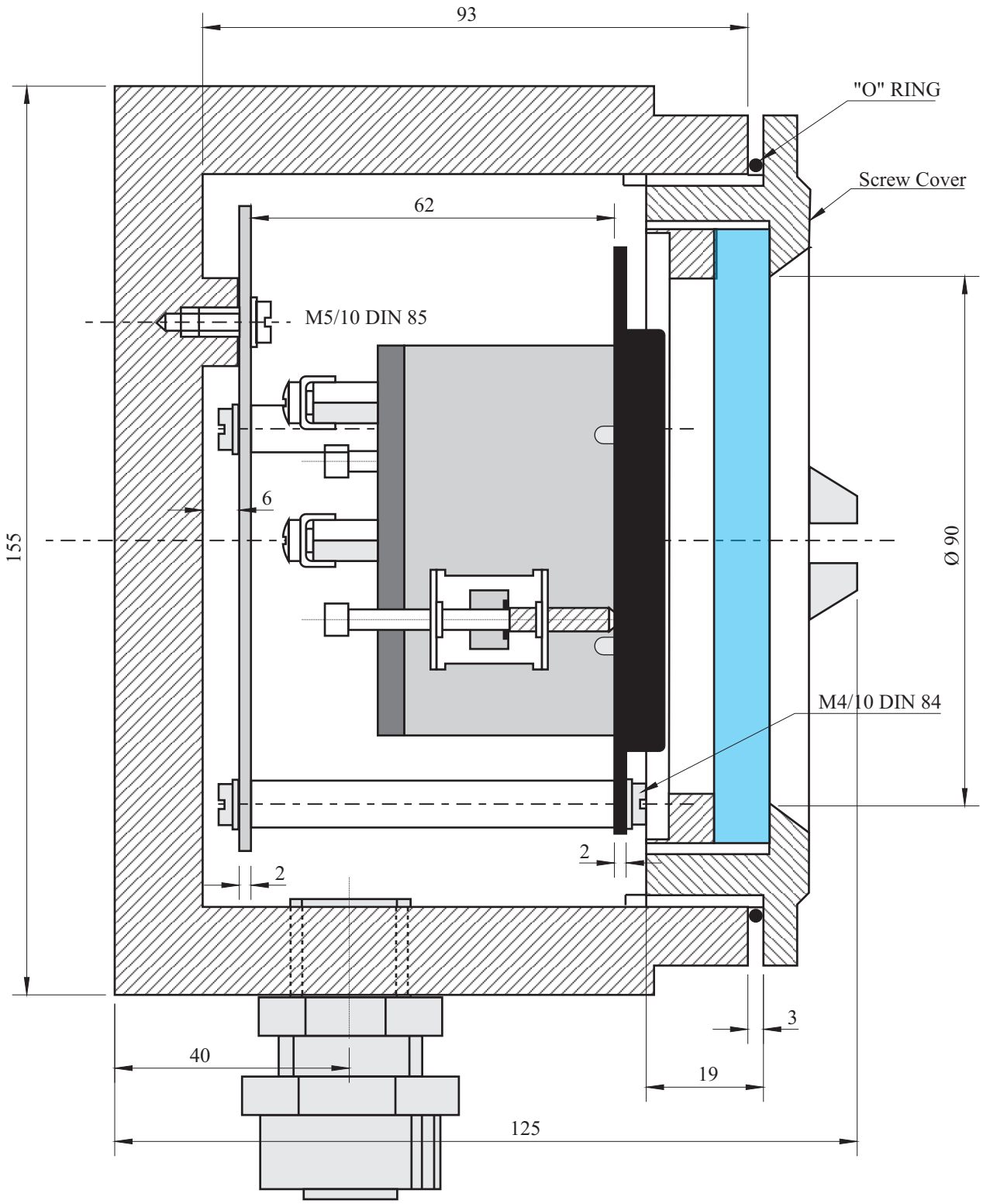
HOUSING EExd IIC T6 IP 65
MATERIAL : Aluminium

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

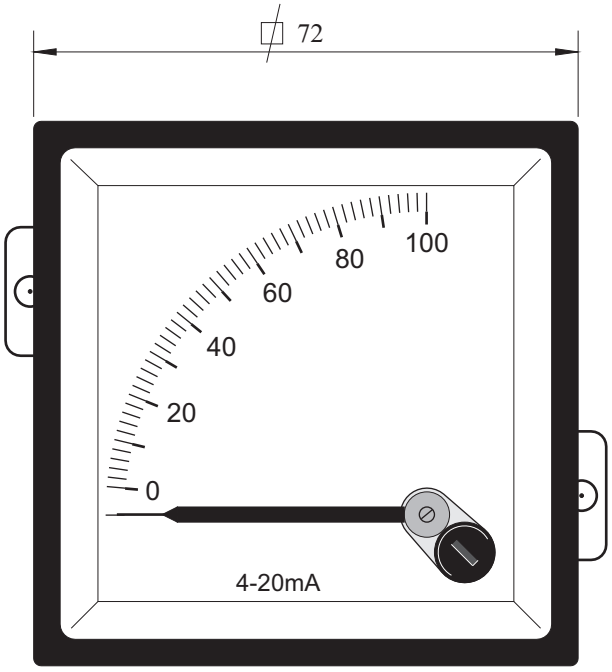




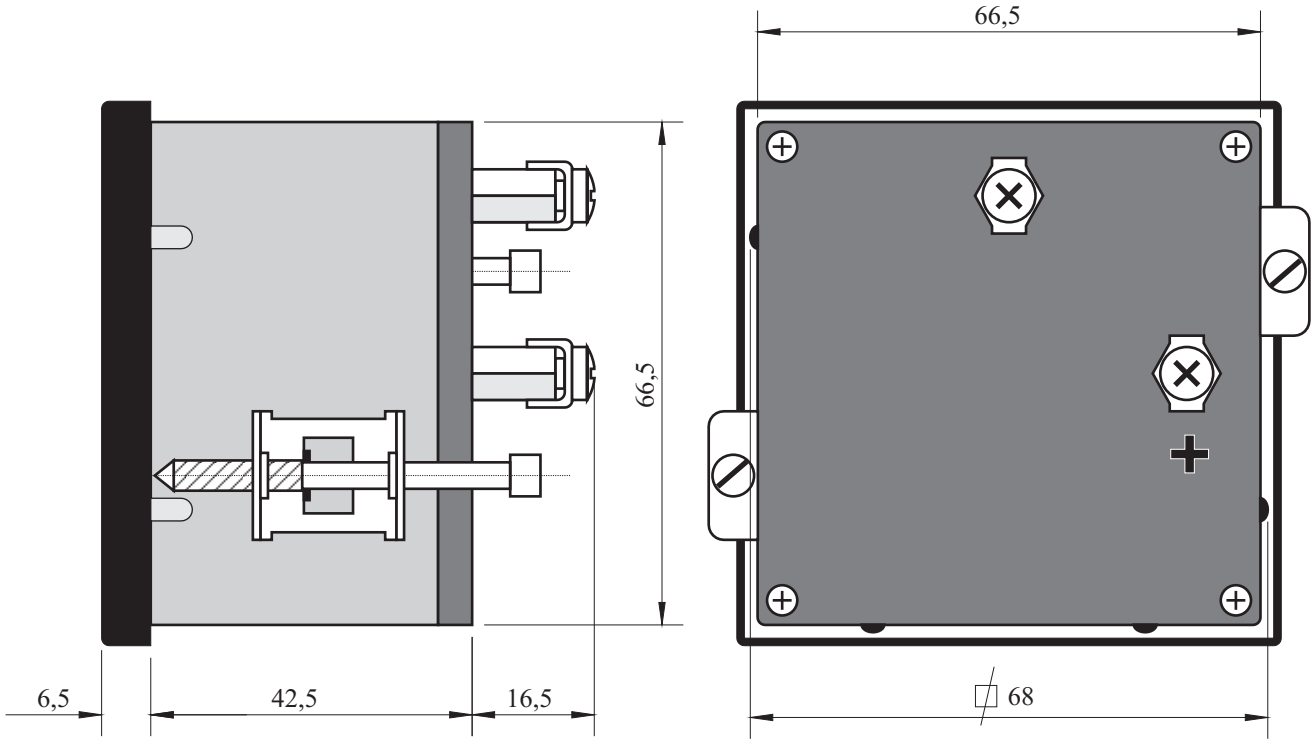
1.6 Internal view



1.7 « SACI » Millimeter specification



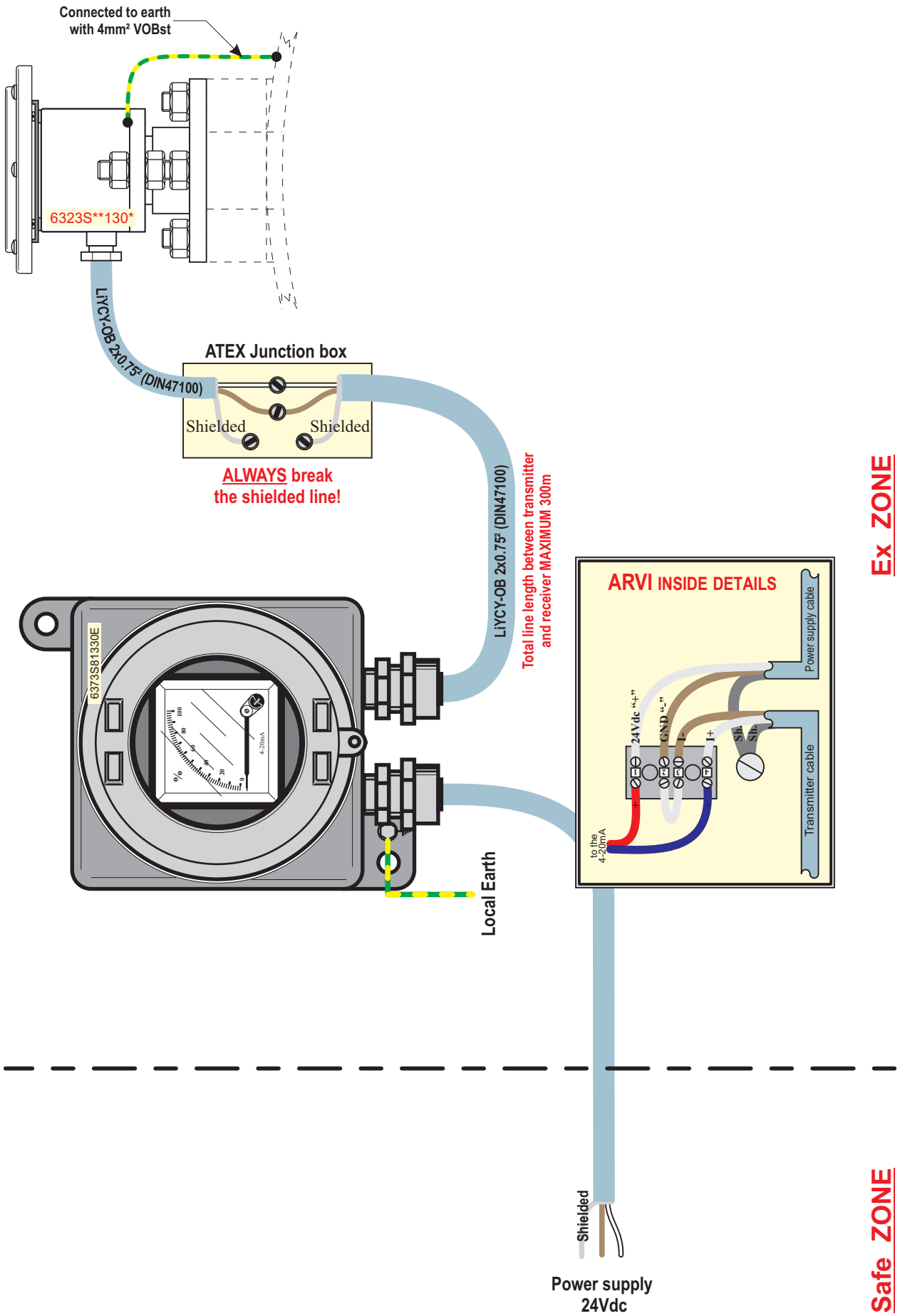
Type	: Moving coil miliammeters
Scale	: 0-100% with 5 divisions
Input	: 4-20mA (24Vdc)
Accuracy	: ± 1.5% of full scale value
Internal resistance	: 130Ω
Aprox. voltage drop	: 60mV
Weight	: ± 0.195 Kg



CHAPTER 2
CONNECTION / WIRING

Note :

2.1 General Instructions for connection to a Current Transmitter



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 :

Number of conductors [mm²]	diameter extérieur [mm]	weight [Kg/Km]
2 x 0.75	6.0	57.0
3 x 0.75	6.2	66.0
4 x 0.75	8.0	87.0
6 x 0.75	8.6	125.0

Colour standard DIN 47100 :

Conductor number	Colour
1	white
2	brown
3	green
4	yellow
5	grey
6	pink

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

CONFORMITY DECLARATION

6373Sx1330E

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

Receiver ARVI

MADE IN EUROPE

10/13

CESI

CESI
Centro Elettrotecnico
Sperimentale Italiano
Giacinto Motta SpA

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interamente versato
Codice fiscale e numero
iscrizione CCIAA 00793580150

Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

CESI-ATEX

Schema di certificazione

Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfera potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/8/1990, D.M. 20/7/1998 e D.M. 27/9/2000

ATEX E U-01

CERTIFICATE

[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Component intended for use on/in equipment or protective system intended for use in potentially explosive atmospheres Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

CESI 02 ATEX 020 U

[4] Component: Enclosures series CCA… and GUB… for electrical equipment

[5] Manufacturer: **FONDISONZO ITALIA S.r.l.**

[6] Address: Via Aquileia Z. I., Romans d'Isonzo (Gorizia – Italy)

[7] This component 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 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.

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

EN 50014: 1997 + A1..A2 EN 50018:2000 EN 500281-1-1: 1999

[10] The sign "U" placed after the certificate number indicates that this certificate must not be mistaken 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.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests 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.

[12] The marking of the component shall include the following:

Ex **II 2 GD EEx d IIC IP 66**

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

Prepared
Mirko Balaz

Approved
Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
Il Responsabile

[13] **Schedule**

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

[15] **Description of component**

Enclosures series CCA… and GUB… for electrical equipment.

The enclosures of these units are made in aluminium or in stainless steel (see technical note A4-4113 annexed to this certificate).

The CCA… and GUB… series are identical in every detail. The code CCA or GUB refers only to the firm which puts the product into the market.
The various items of the code show the size of the enclosure (volume from 0.5 to 31 dm^3), different constructional versions, the type of material used, the presence of glass windows.
The complete codes of all the units subject of this certificate, together with their dimensional characteristics, are reported in the drawings GG.34.1, GG.35.1, GG.37.1, CC.7.1, CC.8.1, CC.13.1, CC.10.1, CC.14.1 annexed to this certificate.
Other characteristics of the enclosures are reported in the drawings annexed to the certificate, in particular:
- dimensions and characteristics of the glass windows: see drawings GG.37.1, CC.8.1, CC.13.1
- number and dimensions of the holes admissible on the enclosures: see drawings GG.35.1 and CC.8.1

On the enclosures series CCA and GUB the command and signalling operators series M… and P…, subject of the certificate of component CESI 02 ATEX 002 U, can be installed.

The accessories used for cable entry and for closing unused apertures shall be certified according to EN 50014 and EN 50018 standards.

The service temperature of the glass windows and of the command and signalling operators shall not exceed 100 °C.

Warning label

"Use screws of quality A2-70 according to UNI 7323 with ultimate tensile strength of at least 700 N/mm^2"

Prot. A2/009059 P: 3
Keywords 13010R 24080T 48010M 54250O 66540E

[13] **Schedule**

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

[16] **Report n. EX-A2/009048**

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-A2/009036)

- n° A4-4113 Rev. 0 (2 p.)	dated	26.02.2002
- n° GG.34.1 Rev. 0	dated	18.07.2000
- n° GG.35.1 Rev. 0	dated	18.07.2000
- n° GG.37.1 Rev. 0	dated	18.07.2000
- n° CC.7.1 Rev. 0	dated	18.07.2000
- n° CC.8.1 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.

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Sezione Ordinaria
N. R.E.A. 429222
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Schema di certificazione CESI-ATEX

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CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE

[1]

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

CESI 02 ATEX 049

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

[5] Manufacturer: **EL.FIT S.p.A.**

[6] Address: Via Aquileia 12, Villesse (Gorizia – 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-A2/016285.

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

EN 50014: 1997 +A1…A2 EN 50018:2000 EN 50019:2000

[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:

Ex **II 2 G EEx d IIC EEx e II**

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

Prepared
Mirko Balaz

Approved
Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
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Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

Schema di certificazione CESI-ATEX

Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfera potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/6/1990, D.M. 20/7/1998 e D.M. 27/9/2000

CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE

[1]

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

CESI 02 ATEX 081 X

[4] Equipment: Cable glands series FGA and FGAD for armoured cables and series FG, FGF and FGN for non-armoured cables.

[5] Manufacturer: **EL.FIT S.p.A.**

[6] Address: Via Aquileia 12, Villesse (Gorizia – 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-A2/027978.

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

EN 50014: 1997 + A1..A2 EN 50018: 2000+A1 EN 50019:2000 EN 50281-1-1:1998+A1

[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:

Ex **II 2 GD EEx d IIC EEx e II IP 66/67**

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

Prepared
Mirko Balaz

Approved
Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
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