TECHNICAL INFORMATION

Interface CONV. U/I 2.0

MADE IN EUROPE
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CHAPTER 1
INTRODUCTION

1.1 Application

When used in conjunction with a Rochester junior or senior Hall Effect transmitter (6320S*207*E) or a Rochester Magnetel Voltage Transmitter (6323S*0071*), this unit will convert the transmitter’s signal into a 4-20mA signal proportional to the liquid level in cylindrical horizontal tank. This converter includes a 24Vdc power supply for the 4-20mA loop.

1.2 Description and Features

- Plastic housing W=100mm, H=76mm & D=58mm for Din Rail mounting
- Connections on screw terminals for maximum 4mm² cable
- Power supply : 230Vac / 50 or 60Hz
- Current consumption : 50mA max.
- Maximum resistance of 4-20mA loop : 250Ω
- Maximum resistance of transmitter loop : ±200Ω (including line resistance and intrinsically safety barrier resistance)
- Fuse protection : Solder Fuse - 250mA Fast - 250V
- Zero and Gain adjustment
- Temperature range : -20°C to +50°C

1.3 Note

When used with junior and senior transmitter for flammable liquid, this converter should be used with intrinsically safety barrier « MTL : 7761ac » for exemple (0146-00075E). This intrinsically safety barrier has 107Ω (Maximum) of internal resistance.

1.4 Ordering Informations

Receiver model number (6390S00523E).
Transmitter type : junior or senior Hall Effect transmitter or Magnetel voltage (0-10V) transmitter.

1.5 Typical Application with a Junior or a Senior Gauge

![Diagram of application with a Junior or a Senior Gauge]
1.6 General Information

1.7 Calibration of the 4-20mA Output to the Actual 4-20mA Loop

To calibrate the 4-20mA signal to the actual 4-20mA loop, proceed as follows:
1. Set transmitter on 50%. Turn the potentiometer of 50% adjustment until receiver indicates 50% (clockwise to decrease and counter clockwise to increase).
2. Set transmitter on 10% and adjust receiver to 10% with potentiometer Z (Zero fine adjustment).
3. Set transmitter on 90% and adjust receiver to 90% with potentiometer G (Gain fine adjustment).

Note: The "G" and the "Z" potentiometer allow only a fine adjustment of ±3%.

1.8 Transmitter Electrical Wiring

In order to realize correct wiring this documentation should be compared with the one that has been supplied with the transmitter. As a standard our transmitters are supplied with a shielded cable of 2m long LIYCY-OB type with 3 wires of the size (0.75mm²). The transmitter connection to the receiver has to be done with the same type of cable by means of a junction box (not supplied).

For a Magnetel Transmitter (6323S*0071*): The cable shield is wired to the technical box. The white wire is the positive (Hi) one, the brown wire is the GND (Lo) one, the green wire is the signal (Wi) one (refer to the specific documentation). For this type of transmitter the junction box must be an explosion proof type.

For a Hall Effect Transmitter (6320S*207*E): The white wire is the positive (Hi) one, the brown wire is the GND one, the green wire is the signal (S) one (refer to the specific documentation).
CHAPTER 2
CONNECTION / WIRING

Note: __________________________________________________________
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5/8
2.1 General Instructions for connection with a transmitter 6320S*207*E

- Brown (GND)
- Green (S)
- White (Hi)
- Shield
2.1 General Instructions for connection with a transmitter 5KΩ (0-10V) 6323S*0071*

Standard: 2m

Hi
Sh
Lo
Wi
Brown (Lo)
Green (Wi)
White (Hi)

This shunt is removed ONLY IF the tank is protected with a cathodic protection.

Power Supply
230Vac with Local ground

1 230Vac (N)
2 230Vac (L)
3 Local ground

10 Hi
11 Wi
12 Lo
13 Shield

14 Hi
15 Wi
16 Lo
17 Shield

18 I-
19 I+

4-20mA Output

Shield

6323S*0071*

www.rochester-gauges.be
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.

**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/m at 800Hz frequency
- capacitance entre cond. & shield: 230pF/m
- Load: maximum 13 A

**Mechanical properties:**

<table>
<thead>
<tr>
<th>Number of conductors</th>
<th>diameter extérieur [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>
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<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>
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</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)