

TECHNICAL INFORMATION



6371S60401x



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Receiver DTU/LCD-HE



CHAPTER 1 INTRODUCTION

READ COMPLETELY BEFORE INSTALLATION

This domestic tank remote system consists of a transmitter (to be mounted on a Rochester Junior or Senior gauge) wired to a receiver which permanently indicates the tank liquid volume by means of a 2 digits LCD display. This system allows the remote indication of volume up to a distance of 50 meters.

The system is powered by 4 alkaline batteries 1.5VDCAAA size installed in the receiver.

The design of the transmitter is such that it maintains the direct reading on the tank and it is possible to replace the direct reading dial of the gauge by the transmitter without replacing the gauge or emptying the tank.

These instructions are prepared to assist tradesmen and others generally familiar with installation and wiring of remote system in LPG area.

1.1 Kit content

The remote system kit contents

- This instruction manual
- The receiver DTU/LCD-HE
- (4) batteries 1.5VDC AAA
- Fixing Kit with 2 screws and 2 plugs
- IN SPECIAL REQUEST one transmitter HALL EFFECT TWINSITE[™] JR, SR or TAYLOR with maximum 2m cord (*)

If the box content does not correspond with the list on the box label, please immediately refer to your distributor.

(*) 2m in standard, different length in request.



1.2 Warning

Mainly dedicated to the remote indication of level in LPG tank the transmitter is located in hazardous area. Every works have to be made by competent body. Any transmitter manipulation or electronic change could be source of heavy injury.

1.3 ID Code Structure

6 3 7 1 S 60401 * Display Response Time E ± 50 seconds R ± 1 second



CHAPTER 2 INSTALLATION

2.1 Transmitter installation on the tank gauge

Note the level indicated by the direct reading dial. Using a Phillips #1 screwdriver, ONLY unscrew the 2 cross pan head screws.

Replace the direct reading dial by the transmitter HALL EFFECT TWINSITE[™] (Also read the specific notices about the serie 6200 gauges and Hall Effect Twinsite).

NEVER UNSCREW THE 4 FIXING SCREWS OF THE GAUGE TO THE TANK (HEXAGON SOCKET HEAD).

Compare the reading on the transmitter dial to the previous one.

They have to be similar $(\pm 5\%)$. In case of discordance take off the transmitter drive the dial needle to the noticed value by means of a metallic barrel (screwdriver) located on the rear of the dial and by smoothly turning drive the needle to the requested position.

Replace the dial and check the readings.



2.2 Cable localisation and wiring

Regarding the tank type (aerial or underground) put the cable following the works rules (tubing, sheath, warning tape ...).

Install the junction box (not supplied), keep the wires colour code. We recommend the use of cable type LiYY-OB 3x0.5mm², conductors brown (+), blue (-) and black (S).

2.3 Receiver installation

- A Take off the batteries cover to the left by pushing on the arrow.
- B Return the enclosure and put a little flat screwdriver into the notch on the right of the cable entrance. Push smoothly the screwdriver to the enclosure front by turning. This one gets out from its base.

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Locate the receiver on the wall as well as the cable axis.
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C Align the cable axis with the cable entrances (see the blue détail). Check the horizontally of the base and point the screws location. Drill (2) holes diameter 4 (see the red détails). Use screws and plugs supplied in the kit.



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2.1 Receiver wiring

Install the cable from the tank to the receiver location through its cable way.

Locate without hurting the cable into the zigzag or through the rear cable entrance.

Cut the cable extra length by saving a 10cm reserve (see the red détail), unsheathe this length and take out the conductors insulation on 0.5cm.

Wire the three conductors into the terminals respecting the colour code indicate on the label inside.



Don't close the enclosure before checking the wiring

2.5 Starting Up

When the transmitter is in place and the wiring ended, put the 4 batteries supplied with the kit in accordance with the polarities indicated on the battery holder.

When placing the last battery, check the start sequence: « .8.8 » followed after around 1 second by « 0.0 » followed (after 30 to 45 seconds for 6371S60401E or after ±1 second for 6371S60401R) by the liquid level in the tank (shown by the dial needle ±5%).

Note that the display has a response time delayed of ±1 minute.

If this sequence is respected you can close the enclosure, the installation is complete.

If the sequence is not correct check each of the above points.

Locate the top of the enclosure on the upper notch of the base. Firmly push on the enclosure bottom to clips it onto the base. Be aware to correctly locate the batteries and the transmitter cords in their way. Close the battery cover by introducing the cover into the guides.

The level remote system is now ready to display the quantity (in % of total volume) of liquid LPG available in the tank.



CHAPTER 3 TECHNICAL INFORMATION

3.1 **Use**

By means of simple codes this system informs you about the status or troubles.

- a) When the display shows a figure upper than 20% this is the percentage level of available gas.
- b) When the display shows a figure between 10 and 20% the display blink in order to be aware to contact the gas supplier to schedule the next refill.
- c) When the display shows « L.L » the tank content is less than 10%. It is realy time to order a refill.
- d) When the display shows « 0.0 » (out of Order) it means a wiring failure. Please advice your distributor to check the installation and the system.
- e) When the display shows PF (Power Failure) in alternation with the level it is time to replace the batteries by (4) 1.5VDC AAA size batteries

3.2 Replacing of the batteries

Open the battery cover like described above and take off the old batteries Install the four new batteries in accordance with the drawing on the battery holder ONLY use new alkaline batteries 1.5V AAA size (LR3)

Close the cover after check the start sequence « .8.8 » followed by « 0.0 » followed by the level display.

A new « P.F.» display would indicate a location mistake or that the batteries are not new.

CAUTION: the use of rechargeable batteries could destroy the electronic devices

3.3 Maintenance

This system do not require particular maintenance :

To clean the plastic enclosure a sweet wet duster is the best. The use of solvent and alcohol could damage the remote indicator. A too hot or to wet atmosphere could destroy the electronic devices.

3.4 Dismantle

To dismantle or move the remote indicator proceeds as below: Open the batteries cover and take off those. Unscrew the left fixing screw. Carefully move the receiver base to the top in order to free the right screw. Open the enclosure likes above and disconnect the transmitter cable.

To re install proceed like described on chapters "installation" and "wiring".

3.5 Technical Data

Power Supply	: (4) batteries 1.5VDCAAA (LR03) size
Transmitter	: Hall Effect TwinSiteTM Sensor
Resolution	:1%
Display response time	: depend model (1second or 50 seconds)

3.6 Name Plate





LiYY-OB 0.5 mm² CABLE DATA SHEET

Controls and signalisation multiconductors screened cable with :

- Stranded conductors of bare copper
- PVC insulation
- Twisted
- Color code in accordance with DIN 47100. Outer sheath of grey PVC.

Temperature range :

Installation and service	-5°C à +70°C
Transport and storage	-30°C à +70°C

Use :

Measuring, controls regulation applications. Electronics control.

LiYCY-OB standards :

Manufactured in accordance with standards VDE 0250, 0245 and 0281. In accordance with DIN VDE 0812 and 0245, test B according to VDE 0472 and part 804, IEC 332.1, without Pgb CEI 20-52

Cable Description :

Wire	: red copper with
	- 14 wires of 0.15mm diameter for 0.25mm ²
	- 16 wires of 0.20mm diameter for 0.5mm ²
Insulation	: coloured PVC in accordance with DIN 47100, 105°C PVC, diameter 1.2mm
Twisted	: by layer
Screening	: tinned copper braid (90% density)
Outer sheath	: RAL 7001 grey PVC

Cable specifications :

: 10 x cable diameter		
imum 20MΩ/Km		
)/500V		
00V (3KV)		

Electrical properties at 25°C :

Conductor resistance	: 77.8Ω/Km (0.25mm²) and 39Ω/Km (0.5mm²)
Servicing capacity	: 150pF/m
Capacitance between 2 conductors	: 110pF/m (0.25mm ²) and 120pF/m (0.5mm ²) at 800Hz frequency
Load	: maximum 3A (0.25mm²) and 6A (0.5mm²)

Mechanical properties :

Number	diameter	weight	
of conductors [mm²]	extérieur [mm]	[Kg/Km]	
3 x 0.25 3 x 0.5	4.2 5.1	21 42	
Colour standard DIN 47100 : Conductor number	Colour		
1	brown		

2	black
3	blue

Source :

Valentin catalogue Legrand electrical catalogue (part standard DIN 47100)



CONFORMITY DECLARATION

Wavre, 11 December 2014

I, PIERRE lionel, Managing Director of

ROCHESTER Gauges International S.A.

Zone Industriel Nord Avenue Lavoisier, 6 B-1300 Wavre BELGIUM

hereby certify that the **DTU/LCD-HE**,

Domestic Remote System dedicated to domestic application is in conformity with the European Directives and Standards applicable today:

Directive ATEX 94/9/EC

type certified by

ISSeP - Rue Chéra, 200 - B-4000 Liège (Belgium)

It has to be marked

II 2 G Ex ib IIB T6 EPL Gb ISSeP 02ATEX027X C€ 0492

European Directives Low Voltage 2006/95/EC and EMC 2004/108/EC do not apply as the power supply is less than 75Vdc or 50Vac.

And the European Norms regarding electrical material for hazardous area, IEC 60079-0, general rules and IEC 60079-11, intrinsically safety « i ».

Certificate can be downloaded from our web site <u>www.rochester-gauges.be</u>

PIERRE Lionel Managing Director

