



**ROCHESTER
GAUGES,INT.**

6390S00523E

TECHNICAL INFORMATION



Interface CONV. U/I 2.0

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**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 : $\pm 200\Omega$ (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

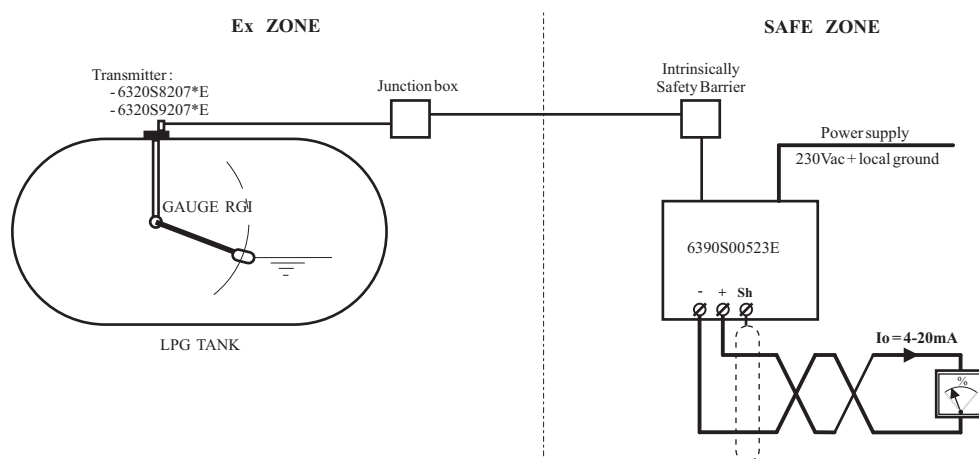
When used with junior and senior transmitter for flammable liquid, this converter should be used with intrinsically safety barrier « MTL : 7761ac » for exemple (0146-00075E). This intrinsically safety barrier has 107Ω (Maximum) of internal resistance.

1.4 Ordeing Informations

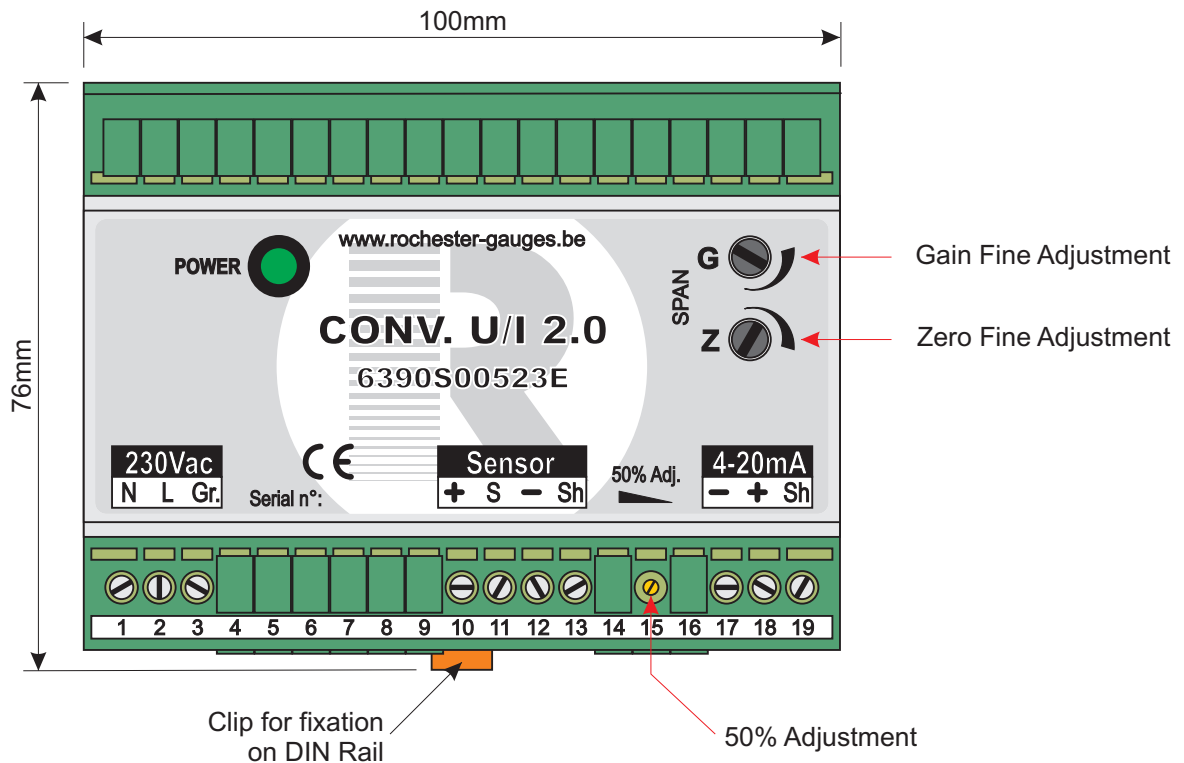
Receiver model number (6390S00523E).

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



1.6 General Information



- | | |
|-------------------------------|--|
| 1 230Vac (N) | } Power Supply 230Vac/ 50-60Hz - 50mA max. |
| 2 230Vac (L) | |
| 3 Local ground | |
| 10 Hi | } Transmitter Input |
| 11 Wi or S | |
| 12 Lo or GND | |
| 13 Shield | |
| 15 Transmitter 50% Adjustment | |
| 17 I- | } 4-20mA Output |
| 18 I+ | |
| 19 Shield | |

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 $\pm 3\%$.

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.

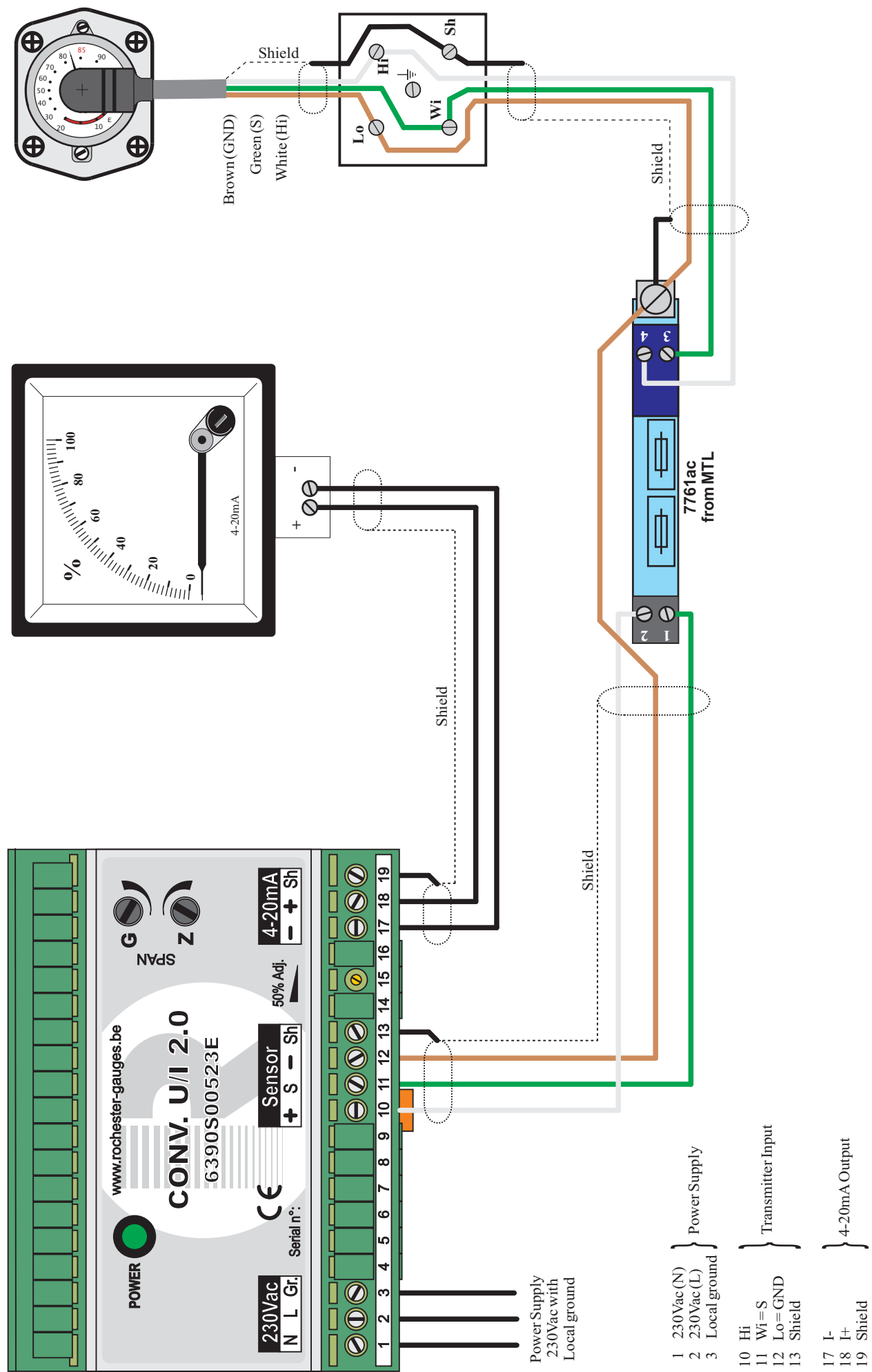
For a Hall Effect Transmitter (6320S*207*E) : The white wire is the positive (Hi) one, the brown wire is the GND one, the green wire is the signal (S) one (refer to the specific documentation).

CHAPTER 2

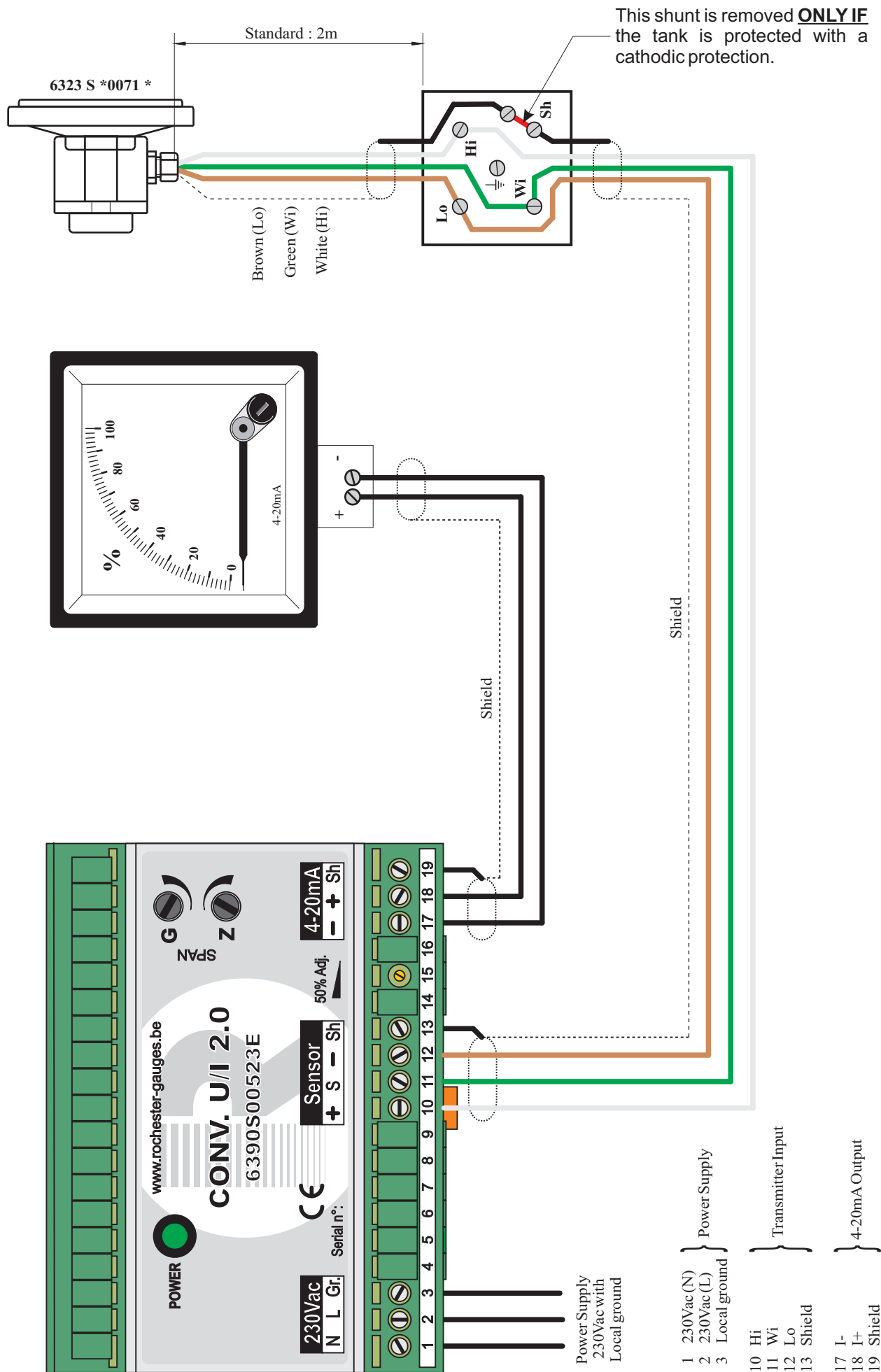
CONNECTION / WIRING

Note : _____

2.1 General Instructions for connection with a transmitter 6320S*207*E



2.1 General Instructions for connection with a transmitter 5K Ω (0-10V) 6323S*0071*



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

Mechanical properties :

Number of conductors [mm ²]	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)