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**Linea Artificiale Esterna**

**External Artificial Line**

Rel.1

# CS123

## External Artificial Line

### 1. Generals

**CS123** is a variable length artificial line useful for simulating real working conditions of a Telephone Terminal.

Normally, this accessory for measurements over telephone sets is used with **CS6015** Telephone Test System. Due to the fact that this equipment is conceived especially for ETSI regulations, without concept of artificial line, by adding the appropriate external **CS123** artificial line, **CS6015** becomes able to feed a TE meeting different Countries Standard.

The Customer, before to purchase **CS123** should specify for which Country or for what kind of cable the Artificial line will be used.

CS-Strumentazione Elettronica offers two types of **CS123** Artificial Line:

- CS123-TC** Constant distributed cable.  
This means that the cable has a capacitance and resistance (inductance) distributed on its length. And therefore this type of cable is defined by a value of Resistance/Km and Capacitance/Km. Typically, for simplicity, this type of line is constructed not symmetrical; this approach is acceptable because the telephone and the instrument are used extremely near.
- CS123-TX** Crossed or lattice cable.  
This means that the cable has distributed values crossed between the two line wires, connected like a net. Therefore this type of line must be defined, not only by values of Resistance/Km (+inductance) or Capacitance/Km, but also by a specific electric diagram for each type.

### 2. Use

You should connect **CS123** Artificial Line to the Test Equipment and to the Telephone terminal under test, using RJ11 cable, connected



CS123 - rear panel

to the relative receptacle in the rear panel.

In the front panel of **CS123** you can see 4 switches, each of them with the relative weight under-written.

The use of these switches is conceived in additive mode. When the switch lever is down, the switch weight will be added to the line value. On contrary, if the switch lever is up, the added value is null.

Therefore, you can obtain all the line values from 0 to 15 times the smallest weight of the switches, with steps of this amount. Obviously the line values are depending from the type of line-TC or TX-, country, and finally from the

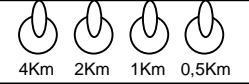
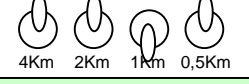

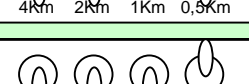


CS123 – front panel

cable that it simulates.

The following table **tab1)**, shown the line values setting. In the example below you can see a line length in Km. But, in dependency of the adopted Standard, the measuring unit can be Ohms, Miles or simply, Cells.

### 3. Main characteristics

|   |              |
|---|--------------|
|    | <b>0 Km</b>  |
|    | <b>0,5Km</b> |
|    | <b>1Km</b>   |
|    | <b>1,5Km</b> |
|    | <b>2Km</b>   |
|   | <b>2,5Km</b> |
|  | <b>3Km</b>   |
|  | <b>3,5Km</b> |
|  | <b>4Km</b>   |
|  | <b>4,5Km</b> |
|  | <b>5Km</b>   |
|  | <b>5,5Km</b> |
|  | <b>6Km</b>   |
|  | <b>6,5Km</b> |
|  | <b>7Km</b>   |
|  | <b>7,5Km</b> |

tab1)

|  |   |
|--|---|
| Input/output   | by two RJ11 female connector.                   |
| Max Voltage  | 250Vdc  |
| Environmental conditions<br>temperature<br>relative humidity | 10 ÷ 45 °C<br>35 ÷ 90 %RH without condensation. |
| Components accuracy  | ± 1%  |
| Line parameters  | see at page 4.                                  |
| Dimensions   | 43 X 67 X 167 mm                                |
| Weight   | 0,275 Kg.                                       |