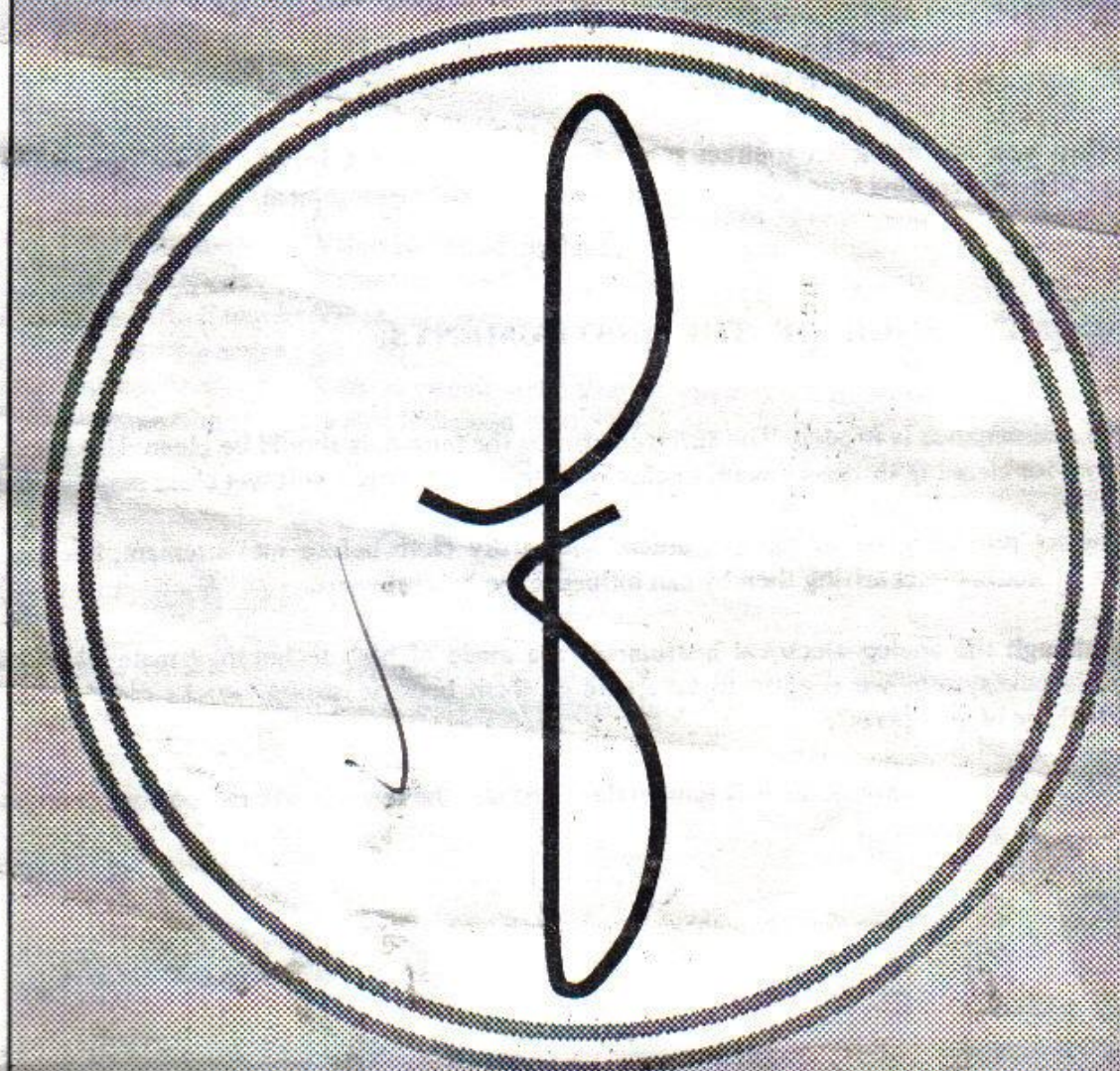


MEASURING INSTRUMENTS



INSTRUCTION MANUAL

WC15 - 3F



FERRARI STRUMENTI ELETTRICI

## ANALOG MEASURING INSTRUMENTS

Looking at an analog electrical instrument you can know everything about it; you can find out all the information printed on its front :

- Type of instrument (voltmeter, ammeter, wattmeter....)
- Type of movement (moving iron, moving coil....)
- Type of measurement (DC, AC.....)
- Type of working (vertical, horizontal.....)
- Insulation voltage (1kV, 2kV.....)
- Accuracy (2% - 1% - 0.5% - 0.2%)

When you are using an indirect reading instrument do not forget, before proceeding, to calculate the reading constant in order to make the right measurement.

### **MAINTENANCE OF THE INSTRUMENTS**

No maintenance is needed. The surface between the terminals should be clean. Use a soft dry cloth for cleaning the instrument. In case of a stronger soiling, a soft wet cloth may be used.

Do not rub the glass of the instrument with a dry cloth before measurement, because the electrostatic effect arising thereby can influence the measurement.

Although the analog electrical instruments are made of high technology material and with antishock system we suggest to take care of them because strong knocks could cause the breakage of the "pivot".

In this case the instruments will remain damaged and the reading will not be correct anymore.

## THREE PHASE ELECTRODYNAMIC WATTMETER

### APPLICATIONS

This instrument has been designed to be used in school and industry laboratories to carry out three - phase measurement.

### TECHNICAL DATA

Measurement : Power in symmetrically loaded three - phase three - wire networks  
 Rated Accuracy : Value indicated on the scale  
 Current Ranges : Value indicated on the scale  
 Voltmetric Ranges : Value indicated on the scale  
 Frequency Ranges : 40 + 60 Hz  
 Highest overload : Current circuit 50%; Voltage circuit 50% Short-time  
 Consumption : Value indicated on the scale (mA)  
 Scale length : 120mm long with a mirror dial and knife edge pointer  
 Case : Accurately polished wooden case

### PREPARATION FOR MEASUREMENT

Place the instrument horizontally. Be sure that the measuring branches are not broken. The phase sequence should be correct when connecting.

### DIAGRAM CONNECTION

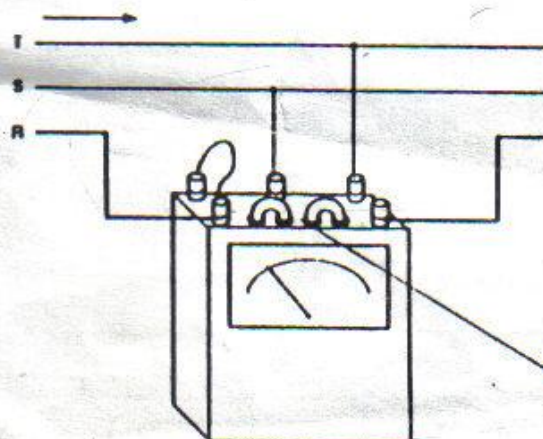
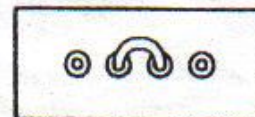


FIG. 1

### AMMETRIC CIRCUIT



Series connection



Paralle connection

Device SERIE/PARALLEL connection for to change ammetric range on the double range wattmeter.