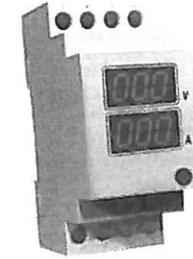


LED SINGLE PHASE MULTIFUNCTION METER

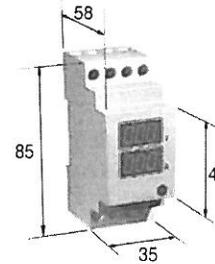


GENERAL DESCRIPTION

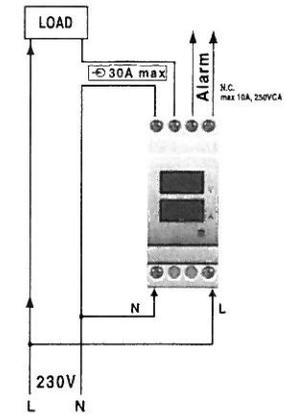
- Two display 3 digit each
- Easy and immediate reading without possible incomprehensions or further elaborations.
- The use of one button only permits to change the measurements pages in natural way.
- During the program phase, the instrument shows the different possibilities present in the device, so it is not necessary to have in hands the user's manual all the time.
- The "power supply" page can be used in all the cases on which is important the information of "power supply loss" (e.g. in refrigerating machines and/or cold storage).
- The 2 modules dimension is the right compromise between the necessity to reduce the space and a good readability of measurements that it is one off the main scope in an electrical net.
- The possibility to reset the energy and contemporary the hour/minutes value permits, in easy way, to see the relative consumption in a fixed time
- USABLE AS PRIORITY RELAY

DIMENSIONS in mm

- The 35 mm dimension correspond to 2 DIN modules
- Weight kg. 0,30



CONNECTION DIAGRAM



TECHNICAL CHARACTERISTICS

MEASUREMENTS

- Ph-N voltage V
- Current (direct connection) A
- Power factor ind/cap
- Active power PW
- Active Energy (resettable capacity) kWh
- Partial working time (resettable capacity) hh
- Acoustical pre-alarm

- OUTPUT RELAYS (N.C. contact 250V-10A-2500W) selectable on principal measures (V-A-PW)

- "R.M.S" true values up 20th harmonic waves

Do not accept any liability for any incidental damage, directly or indirectly, to persons or property through the use of this products.

55DERANM2NEUTRO - Ed. 07.01 I/GB

Auxiliary power supply
 - nominal value U UAUX 230V 50/60 Hz
 - range 0.9...1.1 UAUX
 - max absorbed power 2 VA

Input voltmeter circuit
 - direct insertion (Ph-N) Ph-N voltage
 - permanent overload max 300 V
 - thermic overload 120%
 - input impedance of voltmeter circuit 150Ω
 1.5MΩ Ph-N

Input ammeter circuit
 - current: direct insertion max 32A
 - permanent overload 120%
 - thermic overload (1 s) 200%

Voltage measurement range
 - VLN measurement range (voltage phase, direct insertion) 0...250 V
 - accuracy class 0.5% f s ± 2 digit

Current Measurement range:
 - measurement range direct insertion 0.1...26A
 - accuracy class on range 0.1...26A 0.5% f s ± 2 digit

Active Power
 - range direct insertion 8 kW
 - accuracy class 1% f s ± 2 digit

Active Energy (Wh)
 - resettable visualization Two separate
 - calculating period 15 minutes
 - energy counting direct insertion 9.99 / 999 kWh
 - accuracy class with current 0.05...1.0 In 2% f s ± 2 digit

Power Factor
 - range cosφ 0...1...0
 - accuracy class with current 0.1...1.0 In and voltage 0.8...1.2 Un 2% f s ± 2 digit

Working time
 - Partial working time hh:mm (from previous reset)

Digital filter
 - Average 1...15

Visualization
 - display 2 numerical lines
 - number of characters 6 on two lines
 - colour RED

Mechanical characteristics
 - mounting on DIN rail DIN50022
 - protection IP20/ frontal IP30

Electrical characteristics, options
 - alarm relay coil-contact Galvanic insulation
 3kV

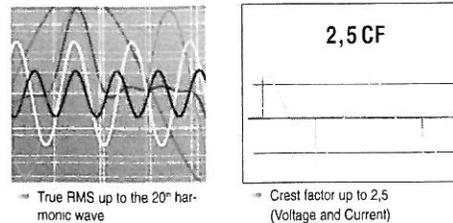
Relay characteristics
 - N.C. contact maxV...maxI...maxP 250VAC,10A (resistive load), 2500W

! When loads more than 10A are present, it is necessary to use (relays) auxiliary contactors

Environment conditions
 Ambient temperature:
 - nominal temperature 0...+45 °C
 - range -5...+55 °C
 - storage temperature -10...+70 °C
 - humidity 10...95 %
 - atmospheric pressure 70...110 kPa

Standards CEI
 - Safety CEI EN 61010-1 300V CAT III
 - Accuracy class CEI EN 60688
 - Electromagnetic compatibility (immunity) CEI EN 61000-6-2 (ex EN 50082-2)
 - Electromagnetic compatibility (emission) CEI EN 61000-6-4 (ex EN 50081-2)
 - Protection IP CEI EN 60529

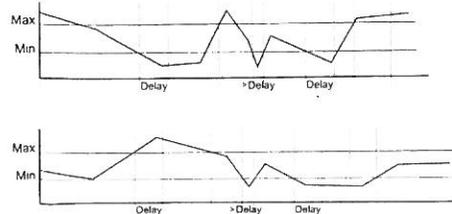
MEASUREMENT'S TYPOLOGY



ALARM RELAYS

One relay with normally closed or normally open contact
 Possibility to set the intervention threshold:
 - "Hi" more of ... (>) and "Lo" less of ... (<)
 - delayed to the excitation "...*" or to the disexcitation "*..."

MEASURE'S CHANNEL TO WHICH THE THRESHOLD IS REFERRED:
 - min or max line Voltage
 - min or max line Current
 - min or max Active Power



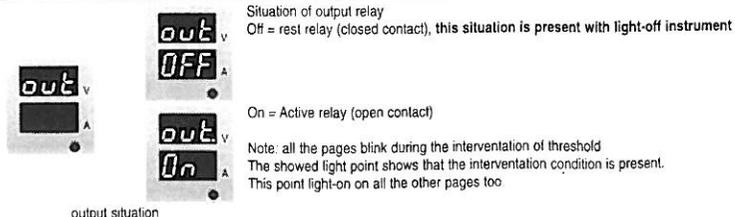
DIRECT INSERTION MODEL

Single phase multifunction meter direct insertion, 230V - 26A (usable on domestic homes and low loads)

OPERATION

Measurements displaying
 The measurements and signalling pages that appear (pushing and releasing the frontal button) are the following.

PUSHED BUTTON	RELEASED	DESCRIPTION
		This BLINKING signal appears only if: - this page is selected as "default page" (see the correspondent configuration chapter) and the instruments is just light-on or if the auxiliary supply light-off and immediately light-on, or the parameters configuration is finished. After the changement of this page, it disappears from the selection pages.
		This page is selected in the case of the display's light is extremely high. The sole line light-on, means that the device is in any case working.
		On the upper line the value of the voltage (V) is displayed On the downner line the value of the current (A) is displayed
		On the downner line the value of the Active Power (kW) is displayed. It has always the centesimal resolution (<0.99 kW max) Active Power can be POSITIVE or NEGATIVE depending by the sense of the current If a red point (in the lower part of the extreme right) is light-on, it means that the value is NEGATIVE It is necessary to verify the correct insertion of the instruments.
		Power Factor (Cos φ) It is the Phase displacement between voltage and current. When the showed value is 1.00 PF indication means that the phase displacement is ZERO (not capacitive or inductive but resistive only)
		Phase displacement is POSITIVE (current is delayed to the voltage = Inductive)
		Phase displacement is NEGATIVE (voltage is delayed to the current = Capacitive). It is necessary to verify the correct insertion of the instruments.
		On the entire display the Active Energy (kWh positive and/or negative) value appears, 6 numbers. The example shows 134.261 kWh To grant long duration of the instrument's memory, automatic backup is effected every 15 minutes If the instrument is light-off, the sum related to the last 15 minutes can be lost. ! The sum can be resetted by a long pressure of the frontal button. The value starts to blink, and after few seconds the numbers show permanently ZERO.
		On the entire display the Partial Hour-counter(hh) appears, 6 numbers. The example shows 4.320 hours from the last zeroing. To grant long duration of the instrument's memory, automatic backup is effected every 15 minutes If the instrument is light-off, the sum related to the last 15 minutes can be lost. ! The sum can be resetted by a long pressure of the frontal button. The value starts to blink, and after few seconds the numbers show permanently ZERO



- The activation of relay is evidenced by the display's flash, every page is displayed
- The threshold intervention can be delayed during the configuration phase.
- The immediate overpassing of the selected value is displayed by the presence of a red point situated on the extreme right of the upper display, contemporary an acoustic alarm (pre-alarm) is emitted. This acoustic signal continue until the intervention of the relay.
- The acoustic alarm is always inhibited within the firsts 10 seconds starting from the powering of the device.

CONFIGURATION SELECTION MENU

- Make a long pressure (4 seconds about) on the frontal button staying in a page where the reset of parameter is not allowed. So not on the pages of Energy and Hour-counter.

The following page appears:
the blinking point means that it is possible now the configuration.



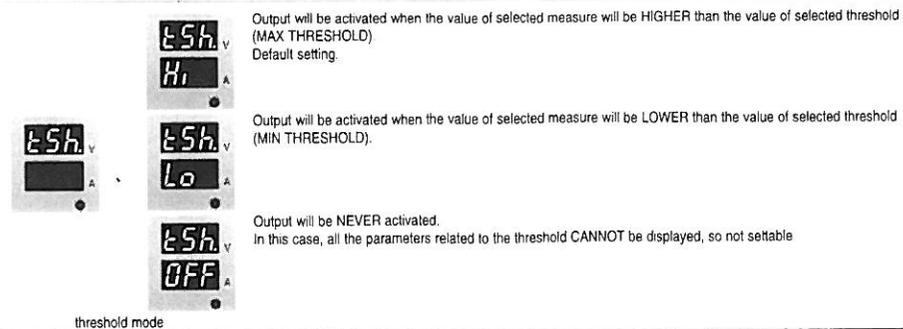
After 4 seconds the pages with configuration parameters start to be displayed; one page every 4 seconds showing the actual selected value. If it is necessary to see the values without any modification don't touch nothing until the automatic end of the showed pages.

To change the values of parameters, it is enough to press the button while this parameter is displayed.

The value change immediately and closed to him a blinking point appears meaning that the value is in modification phase.

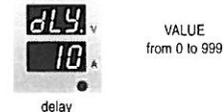
To fast forward maintain pressure on the front button. When the needed value is displayed release the button and after 4 seconds the further parameter appears, the modified value is automatically saved permanently.

DEFAULT PARAMETER POSSIBLE VALUES DESCRIPTION



AVAILABLE IF tSh IS DIFFERENT FROM OFF ONLY

It is the delayed value with which the alarm contact come back to the close situation after an eventual intervention. It is particular usefull to avoid continuous interventions of the device.
Expressed in seconds.
Default setting = 600



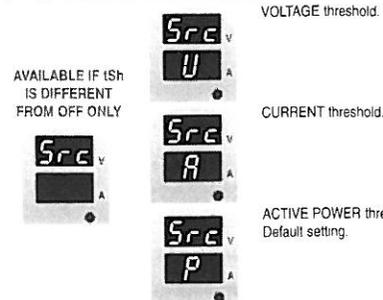
DEFAULT PARAMETER POSSIBLE VALUES DESCRIPTION

AVAILABLE IF tSh IS DIFFERENT FROM OFF ONLY

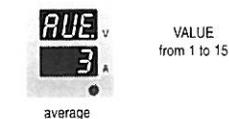
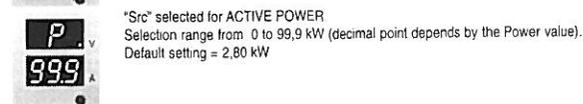
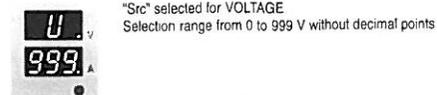
It is the delayed value with which the alarm contact works after the overpassing of the selected level.
This acoustic signal (pre-alarm) is always present together with the delay.
Default setting = 8



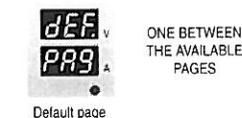
max sound duration



AVAILABLE IF tSh IS DIFFERENT FROM OFF ONLY



It is the number (n) of single measures effected on the electrical parameter before it's visualization on the display. Practically it is the filter of the measure stabilization. The numbering rise up from 1 to 15; more higher is the selected number, more slow are the eventual variations of reading. This is valid for all the measured parameters.

$$MEASURE = \frac{\sum_{i=1}^n Measure (n)}{n}$$


Select the main page that you want to see after the initial powering of the instrument