

## M100 EURO DUAL COIN OPERATED ELECTRONIC METER

### 1.0 INTRODUCTION

The M100 is an electronic coin operated electricity meter for the measurement and control of electrical energy. It is primarily intended to replace the old electro-mechanical meters, which have been used for more than 80 years. Its main applications are for use in Flats, Chalets and Caravans.

The design is such that electricity consumption is monitored electronically and this and many parameters are under software control. Information is displayed on a 16 Character Liquid Crystal Display (LCD).

Four versions are available which can cope with :- **Sterling** £ & (p) pence, **Dollar** \$ & (c) cents, **Euro** € & (c) cents and **Tokens**. These instructions cover all versions irrespective of the coinage ordered. For ease of understanding all denominations will be classified as "COINS".

### 2.0 M100 FEATURES

Credit is added by inserting coins into the coin slots. The default message on the display indicates the remaining credit.

The Light Emitting Diode (LED) below the display flashes when a load is connected and at a rate of 1000 pulses per kWh of energy consumed. The remaining credit is updated and continuously displayed. When the credit falls to zero, the load is disconnected from the electricity supply.

All parameters and data can be displayed by activating a combination of switches as described below. SW2 = Reduce (-) Credit and /or Rate.

SW3 = Increase (+) Credit and /or Rate.

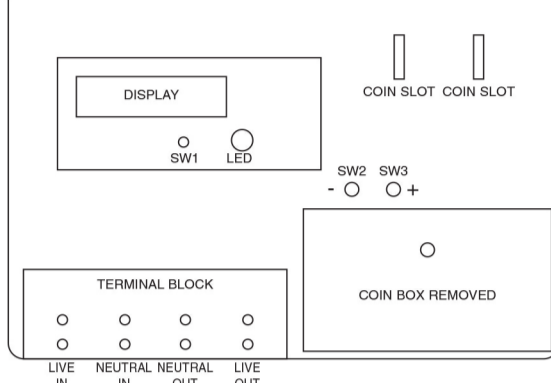


FIGURE 1 THE M100 EURO DUAL COIN METER




### 3.0 DEFAULT MESSAGES

The meter will normally display the amount of credit in Euro currency in the form:

*CREDIT = 00.00 to CREDIT = 99.99*

When the credit has decreased to zero and the electricity supply to the load turned off, the default message will be:

*CREDIT USED UP*

If the amount of credit exceeds the limit set by the owner then the message will read:

*EXCESS CREDIT*

### 4.0 PUBLIC INTERROGATION SWITCH

The switch button below the display, labelled SW1 in Figure 1, allows the consumer to obtain further information. Using a narrow blunt object press once to obtain a reading of the applied tariff expressed in cents per kWh:

*RATE = 00.00 ¢/kWh to RATE = 99.99 ¢/kWh*

Pressing the switch a second time the displayed message gives the total electrical energy in kWh used from the time the meter was manufactured:

*USED = 00000.00 kWh to USED = 99999.99 kWh*

The switch can be pressed twice more to bring the displayed message back to its default credit reading. Alternatively the display will revert automatically to the default reading after 30 seconds.

### 5.0 PRIVATE MODE SWITCHES

The private mode switch buttons, shown as SW2 (decreasing credit and / or rate) and SW3 (increasing credit and / or rate) in Figure 1, are located behind the coin box. They are only accessible by removing the coin box.


The three switches SW1, SW2 and SW3 allow the owner to obtain more information and to adjust various parameters. Use a narrow blunt object to operate the switches.

Press either SW2 or SW3. The displayed message will change to:

*PRIVATE MODE*

Press SW1 once and the message will read:

*CREDIT = 00.00 to CREDIT = 99.99*



It is now possible for the owner to adjust the credit by pressing SW3 to increase the reading or SW2 to decrease. These switch actions exhibit accelerated clocking. To slow down the rate of change, release and press each button again to obtain an accurate adjustment as required.

Press SW1 again. The message will now read:

*RATE = 00.00 ¢/kWh to RATE = 99.99 ¢/kWh*

The required value can now be set by means of SW2 and SW3 as described earlier.

**e.g. if you wish to change the rate to 12¢ per kWh the rate should be set as 12.00 ¢/kWh**

Press SW1 again. The message will now read:

*USED = 00000.00 kWh to USED = 99999.99 kWh*

This displays the accumulated energy consumption since the meter was manufactured. This is not adjustable.

Press SW1 again. The message will now indicate the accumulated total number of coins of each value since the meter was commissioned. Initially before any coins have been inserted these messages will not appear. Coin count messages are shown in the form:

*0 10 COUNT=0000 to 0 10 COUNT=9999 1 coin count*

*0 COUNT=0000 to 2 COUNT=9999 2 coin count*

or *Token COUNT=0000 to Token COUNT=9999*

This is not adjustable.

Press SW1 again to view the coin count for the second coin if applicable.

Press SW1 again. The message now shows the value assigned to a Token.

*Token = 00.00 to Token 99.99*

Any value between these limits can be assigned using switches SW2 and SW3.

Press SW1 again. The message will now read:

*MAX CREDIT = 00 to MAX CREDIT = 99*

This parameter is adjustable and sets a limit on the maximum credit. This causes the default display message to change, when too many coins are put into the meter, to:

*EXCESS CREDIT*

The switch can be pressed twice more to bring the displayed message back to its default credit reading. Alternatively the display will revert automatically to the default reading after 30 seconds. it is advisable to empty the cash from the cash box as often as possible.



### 6.0 INSTALLATION OF THE METER

The installation of the meter must be undertaken by a competent qualified electrician, to a standard that satisfies the requirements of the current Institute of Electrical Engineers (IEE) regulations. The work must be passed by a member of the National Inspection Council for Electrical Installation Contractors (Approved Contractor).

The meter must be positioned to ensure that it will not come into contact with water, adverse heat, steam, extreme dampness or any other substance that will damage the meter or cause the meter to malfunction. This could, if not observed infringe your 2 year guarantee.

First insert a suitable round headed (4mm x 20mm) screw into the wall and leave the screw head proud by 11mm. Hang the meter by the fixing feature at the rear of the meter.

Make sure that the meter is level. Secure the meter with two more screws inserted into the fixing points located behind the sealable terminal cover.

Figure 1 shows the connections to be made.

### 7.0 COMMISSIONING THE METER

After installation the owner can perform simple tests to ensure that the meter is functioning correctly. The various parameters can then be adjusted as required.

Ensure that the electricity supply is connected and that the meter is displaying a message.

Remove the coin box to allow access to the switches SW2 and SW3.

Follow the instructions given in Section 5 and apply a small amount of credit using SW3. The internal switch should operate and the supply should be connected to any load e.g. a light. Reduce the credit using SW2 and ensure that the meter turns off the supply.

Alternatively, credit can be added by inserting a coin. This can then be reduced to zero using SW2.

Follow the instructions given in Section 5 to adjust the Tariff, Maximum Credit and any free Credit required.

Replace the coin box.

The meter is now ready to use.

Please note that coins inserted into the incorrect slots will not register.