



**Issue 1.0**

RDL (Meters) Ltd  
Unit E2 Westfield Business Park  
Long Road Paignton  
Devon TQ4 7AU

Tel: 01803 697600 Fax: 01803 697608  
www.rdlmeters.com sales@rdlmeters.com

## **MAGNETIC CARD OPERATED ELECTRONIC METER & TIMER MODEL TYPE : MCM-030**

### **USER MANUAL FOR SPECIFICATION AND OPERATING SETTINGS**



**MID APPROVED CARD METER**

**CERTIFICATE NO: 0120/SGS0184**

# DECLARATIONS

This meter complies with Class B (1%) to EN50470 1-3

MID Approval Certificate No. 0120/SGS0184

This meter is intended to be installed in a Mechanical Environment 'M1' with Shock and Vibrations of low significance, as per 2004/22/EC Directive.

This meter is intended to be installed in electromagnetic Environment 'E2', as per 2004/22/EC Directive.

This meter is intended for Indoor use only.

This meter is intended for Non Condensing humidity.

Note that this meter is sealed and there are no user serviceable parts and no user adjustments, other than the Landlord / Meter Owner settings of the metering functions and tariffs. The maintenance and repair of this meter is only permissible by RDL Meters Ltd.

## Guarantee

This meter is guaranteed for a period of three years from the date of purchase, subject to the following guarantee conditions:

This meter is covered by RDL (Meters) Ltd for parts and labour.

This guarantee will **not** cover any Consequential losses.

This guarantee will be **void** under any of the following conditions:

- Removal of one or both seals to the case and terminal cover.
- The meter has not been installed by a competent, qualified electrician to standards that satisfy the requirements of the current Institute of Electrical Engineers (IEE).
- The meter has been incorrectly installed.
- The meter has been subject to a load of greater than 100 Amps.
- The meter has been tampered with, to obtain free electricity.

If returning the meter, please contact RDL (Meters) Ltd. to report the return and to arrange an RMA (Return Merchandise Authorisation) number. Make sure that the meter is carefully packed.

# METER MODE

## CONTENTS

## PAGE NO.

<b>1. INTRODUCTION</b>	2
1.1 Overview	2
<b>2. TECHNICAL DATA</b>	2
2.1 Meter LED & Power Registration Security	2
2.2 Main Contactor	2
2.3 Power Supply	2
2.4 Metrology	2
2.5 Environmental	3
2.6 Dimensions	3
<b>3. NORMAL FUNCTIONAL OPERATION</b>	3
3.1 Normal Operation Display	3
3.2 Additional Displayed Information	3 & 4
3.3 Standing Charge Collection	4
3.4 Rate Switching	4
3.5 Disconnection	4
3.5.1 No Remaining Credit	4
3.5.2 Reverse Energy Detection	4
3.6 Emergency Credit	5
3.6.1 Invocation	5
3.6.2 Reduction	5
3.6.3 Expiry	5
3.7 Prepayment Card Tokens	5
3.7.1 Valid Cards	5 & 6
3.7.2 Card Errors	6
3.7.3 Emergency Credit Repayment	6
<b>4. COMMAND CARD PROGRAMMING</b>	6
4.1 Programming Method	6 & 7
4.2 Factory Defaults Reset	8
4.3 Date and Time	8
4.4 Zero Credit	8
4.5 Set Credit	8
4.6 Emergency Credit Value	8
4.7 Emergency Credit Available Point	8
4.8 Cost per Unit of Electricity for Rate 1 and 2	8
4.9 Standing Charge per 24 hours	8
4.10 Operation Mode Meter or Timer	8
4.11 Area Code	8
<b>5. APPENDIX</b>	
5.1 Starting Current	8
5.2 Wiring Diagram and Mounting Template	8 & 9

# TIMER MODE

## CONTENTS

## PAGE NO.

<b>1. INTRODUCTION</b>	10
1.1 Overview	10
<b>2. TECHNICAL DATA</b>	10
2.1 Meter LED & Power Registration Security	10
2.2 Main Contactor	10
2.3 Power Supply	10
2.4 Metrology	10
2.5 Environmental	10
2.6 Dimensions	11
<b>3. NORMAL FUNCTIONAL OPERATION</b>	11
3.1 Normal Operation Display	11
3.2 Additional Displayed Information	11
3.3 Tournament Mode Override	12
3.4 Disconnection	12
3.4.1 No Remaining Credit	12
3.4.2 Reverse Energy Detection	12
3.5 Prepayment Card Tokens	12
3.5.1 Valid Cards	12
3.5.2 Card Errors	12
<b>4. COMMAND CARD PROGRAMMING</b>	13
4.1 Programming Method	13 & 14
4.2 Factory Defaults Reset	14
4.3 Date and Time	15
4.4 Timer Credit Token	15
4.5 Value hh:mm	15
4.6 Maximum Time hh:mm	15
4.7 Tournament Mode Override	15
4.8 Operational Mode Meter or Timer	15
4.9 Area code	15
<b>5. APPENDIX</b>	15
5.1 Wiring Diagram and Mounting Template	15

# METER MODE

## 1. INTRODUCTION

### 1.1 Overview

This manual covers the specification and operation for the MCM-030 single phase prepayment magnetic card meter and timer for operating in METER MODE.

The main features of the product are:

- 1) All solid state with 2 x 16 character LCD.
- 2) Uses secure disposable magnetic token cards available in Sterling, Euro and Dollars.
- 3) When valid token card is inserted, value credit is copied from the card to the meter.
- 4) Multiple cards may be entered in one session.
- 5) Card is erased and permanently marked.
- 6) User settable cost per unit for Rate 1 and 2 in the range £0 to £99.99.
- 7) Programming command card allows settings to be easily changed.
- 8) Standing Charge.
- 9) Emergency Credit.
- 10) Up to 2 tariff rates.
- 11) Switching capacity up to 100A.
- 12) No battery replacement required.
- 13) Internal Real Time Clock with programmable switching.
- 14) Reverse Energy Detection.
- 15) Extension Terminal Cover to Protect Supply Cables.

## 2. TECHNICAL DATA

The MCM-030 is an alternating Current Static Watt Hour Meter, Class B, with programmable timer function facility. Double Insulated.

### 2.1 Meter LED & Power Registration Security

The red LED mounted on the front panel will pulse at a rate of 1000 pulses per kWh. Power registration is recorded in non-volatile memory under control of the microprocessor which is updated every 24 hours and in the event of a power failure. There are separate registers for each rate.

### 2.2 Main Contactor

Contactors Current Rating:	100 Amps
Terminal Arrangement:	BS 7856
Main Terminal Dimensions:	8.0mm to 8.2mm
Terminal Construction:	Solid Brass
Terminal Screws:	6.0mm

### 2.3 Power Supply

Rated Voltage:	230V
Operating Voltage Range:	220V-240V
Current Range:	1.0-20(100A)
Frequency:	50Hz Standard

### 2.4 Metrology

Meter Accuracy:	Active energy, Class B (1%)
-----------------	-----------------------------

## METER MODE (cont.)

### 2.5 Environmental

Temperature Operating Range:	-25 to 55 degrees C
Storage Range:	-25 to 55 degrees C
Transportation Range:	-25 to 70 degrees C
Ingress Protection:	IP51

Maximum period of 6 hours at the extremes of its temperature range

### 2.6 Dimensions

Height:	222.00 mm
Width:	135.00 mm
Depth:	80.00 mm
Weight:	1.0 kg

## 3. NORMAL FUNCTIONAL OPERATION IN METER MODE

### 3.1 Normal Operation Display

During normal operation the display on the M-101 in METER MODE will be one of those shown below.

DISPLAY	CONTACTOR	REMARKS
XXXXXXXX.X kWh R1 £XXX.XX Cred	Closed	XXXXXXXX.X kWh registered on current tariff. Rate 1 represents the current tariff. The consumer has £XXX.XX credit remaining
XXXXXXXX.X kWh R1 £0.00 Credit	Open	XXXXXXXX.X kWh registered on current tariff. Rate 1 represents the current tariff. The consumer has used up all credit.
XXXXXXXX.X kWh £XXX.XX Debt	Open	XXXXXXXX.X kWh registered on current tariff. The consumer has used up all credit and has accumulated a standing charge debt of £XXX.XX.
XXXXXXXX.X kWh R1 £XXX.XX Emer	Closed	XXXXXXXX.X kWh registered on current tariff. Rate 1 represents the current tariff. The consumer has selected emergency credit. £XXX.XX represents the emergency credit remaining. When £XXX.XX reaches £0.00 the display will change to this format below.
XXXXXXXX.X kWh £XXX.XX Debt	Open	XXXXXXXX.X kWh registered on current tariff. The consumer has used up all emergency credit and has accumulated a debt of £XXX.XX

### 3.2 Additional Displayed Information

When the meter is operating normally, momentarily pressing the GREEN button will sequence through the parameters, as listed in the table overleaf. If during a manual sequence cycle, the GREEN button is not pressed within 10 seconds, the meter will revert to its normal display and operation.

The table overleaf gives a list of the 16 sequentially displayed parameters.

## METER MODE (cont.)

STEP	DISPLAY	REMARKS
1	**DISPLAY*TEST** **DISPLAY*TEST**	Test all character positions on display.
2	Current Credit £XXX.XX	The consumer has £XXX.XX credit remaining.
3	Emer Credit Left £XXX.XX	The consumer has £XXX.XX emergency credit left.
4	Current Debt £XXX.XX	The consumer has used up all credit and has accumulated a debt of £XXX.XX.
5	Time HH:MM	Current Time.
6	Date DD/MM/YYYY	Current Date.
7	Total Credit £XXX.XX	Total value of credit that has been inserted.
8	Total Cards XXXXXXXXXX	Total number of cards inserted.
9	Standing Charge £XXX.XX	Standing Charge per 24 hours.
10	Rate 1 Unit Cost £XXX.XX	The tariff for rate 1.
11	Rate 2 Unit Cost £XXX.XX	The tariff for rate 2.
12	kWh Rate 1 XXXXXXXX.X	kWh registered on rate 1.
13	kWh Rate 2 XXXXXXXX.X	kWh registered on rate 2.
14	kWh Total XXXXXXXX.X	Total kWh registered.
15	Emergency Credit £XXX.XX	Emergency Credit.
16	Emergency Avail £XXX.XX	If the meters prepaid credit is above this point then emergency credit is not selectable.

### 3.3 Standing Charge Collection

The standing charge is collected every 24 hours at midnight.

### 3.4 Rate Switching

The meter is configured to have up to 2 different rates controlled by an internal time switch.

### 3.5 Disconnection

#### 3.5.1 No Remaining Credit

When the prepaid credit expires and the meter has gone into debt the main contactor will be open, thus disconnecting the power. To restore power, sufficient coins must be inserted to clear the outstanding debt. An emergency credit facility is also available to reconnect power.

#### 3.5.2 Reverse Energy Detection

If reverse power is detected above a pre-determined level the display will indicate "RED" (Reverse Energy Detection). Reverse detection can only be reset via the private mode switch buttons. Refer to page 8 for resetting.

## METER MODE (cont.)

### 3.6 Emergency Credit

If the prepaid credit is below a given limit or the meter has gone into debt, an “Emergency Credit” facility may be invoked by pressing the RED button marked emergency credit. The meter operation whilst in emergency credit is explained in the following subsections.

#### 3.6.1 Invocation

Emergency credit is a pre-set reserve that can be selected by pressing the RED “Emergency Credit” button when the pre-paid credit has fallen below a given level. The display will change to £XXX.XX Emer to indicate the amount of emergency credit left to the consumer. The debt is to be repaid before the meter is back into prepaid credit. (Emer Credit Left £XXX.XX) may be viewed by pressing the display button.

#### 3.6.2 Reduction

The amount of emergency credit remaining (Displayed as £XXX.XX Emer) will be reduced as electricity is consumed and any Standing Charge collected. The Debt will also be increased by the same amount. (Emer Credit Left £XXX.XX) and (Current Debt £XXX.XX) may be viewed by pressing the display button.

#### 3.6.3 Expiry

When the emergency credit has fallen to zero the supply will be disconnected and the display will show £XXX.XX Debt, where £XXX.XX Debt represents the total amount owed by the customer including any Standing Charge collected. (Current Debt £XXX.XX) may be viewed by pressing the display button.

### 3.7 Prepayment Card Tokens

#### 3.7.1 Valid Cards

When a valid token card is inserted its total monetary value is credited to the meter and its acceptance is indicated by the message “£XX.XX Credited” being displayed momentarily. On removal the card is erased and visibly marked. The maximum credit is limited to £999.99 at which point the display will change to Excess Credit. Three examples are given below:

#### Example 1:

DISPLAY	ACTION
Rate - Credit £121.99	Insert £5 value Card.
£5.00 Credited	
Rate - Credit £126.99	

#### Example 2:

DISPLAY	ACTION
Debt £10.99	Insert £5 value Card.
£5.00 Credited	
Rate - Debt £5.99	

## METER MODE (cont.)

### Example 3:

DISPLAY	ACTION
Debt £2.99	Insert £5 value Card.
£5.00 Credited	
Rate - Credit £2.01	

#### 3.7.2 Card Errors

The message “Card Error” may be displayed if the card was inserted too quickly, too slowly or the card was invalid, the message “Excess Credit” is displayed if a token card is inserted that would cause the pre-paid credit to become greater than £999.99. If either of the above messages are displayed then on removal, the card is not erased and may be used at a later date.

#### 3.7.3 Emergency Credit Repayment

When the preset emergency credit has expired, card tokens must be inserted that are of sufficient value to give a pre-paid credit of at least £1.00 above the emergency credit debt.

## 4. COMMAND CARD PROGRAMMING

### 4.1 Programming Method

After the insertion of a valid COMMAND CARD the following 10 parameters can be sequentially viewed/modified using the RED and GREEN buttons on the meter.

STEP	PROGRAMMING	SETTINGS
1	DD/MM/YYYY – HH:MM	Current Date and Time
2	Zero Credit No Yes	Manually Zero Credit - No or Yes
3	Set Credit £XXX.XX	Manually Set Credit
4	Emergency Credit £XX.XX	Emergency Credit Value
5	Emergency Credit Avail £XX.XX	Emergency Credit Available point
6	Rate 1 Unit Cost £XX.XX	Rate 1 - Cost per kWh Unit
7	Rate 2 Unit Cost £XX.XX	Rate 2 - Cost per kWh Unit
8	Standing Charge £XX.XX	Standing Charge per 24 hours
9	Operational Mode Meter Timer	Select Meter or Timer operating mode
10	Factory Defaults No Yes	Reset to Factory Defaults excluding kWh cumulative totals

To display/modify a particular parameter first insert a COMMAND CARD upon the message “Please Remove Card” will be displayed. On removing the card the message “PROGRAMMING” will be displayed. Next press the RED button until the Date and Time are displayed.



## METER MODE (cont.)

Each press of the GREEN button will increment the value above the cursor. Each press of the RED button for less than 3 seconds will move the cursor one place through the programmable setting of the displayed parameter. To store the new value press the RED button for greater than 3 seconds, then on releasing the RED button the next parameter for programming will be displayed. If no buttons are pressed within 10 seconds the display will revert to its normal operation mode without saving the new value.

**Example:** To change the value on Rate 1 Unit Cost the sequence of events will be as follows:

STEP	ACTION	DISPLAY
1	Insert a valued COMMAND Card.	Please Remove Card
2	Remove COMMAND card.	PROGRAMMING
3	Press and release the RED button for less than 3 seconds.	Date and Time DD/MM/YY    HH:MM
4	Press and hold the RED button for greater than 3 seconds to store the value.	Date and Time DD/MM/YY    HH:MM
5	Press and hold the RED button for greater than 3 seconds to store the value.	Zero credit No Yes
6	Press and hold the RED button for greater than 3 seconds to store the value.	Set Credit £XXX.XX
7	Press and hold the RED button for greater than 3 seconds to store the value.	Emergency Credit £XXX.XX
8	Press and hold the RED button for greater than 3 seconds to store the value.	Emergency Credit Avail £XXX.XX
9	Press and release the GREEN button until the correct value is shown.	Rate 1 Unit Cost £XXX.XX
10	Press and release the RED button for less than 3 seconds to move the cursor one place through the programmable setting of the displayed parameter.	Rate 1 Unit Cost £XXX.XX
11	Press and hold the RED button for greater than 3 seconds to store the settings.	Rate 1 Unit Cost £XXX.XX
12	Press and hold the RED button for greater than 3 seconds to store the settings.	Rate 2 Unit Cost £XXX.XX
13	Press and hold the RED button for greater than 3 seconds to store the settings.	Standing Charge £XXX.XX
14	Press and hold the RED button for greater than 3 seconds to store the settings.	Operational Mode Meter Timer
15	Press and hold the RED button for greater than 3 seconds to store the settings.	Factory Defaults No Yes
16		Exiting Programming

## METER MODE (cont.)

### 4.2 Factory Defaults Reset

DISPLAY	REMARKS	FACTORY DEFAULTS
Factory Defaults No Yes	If Factory Defaults are reset then the following parameters are changed:	
	a Current Credit	£0.00
	b Emergency Credit Left	£1.00
	c Current Debt	£0.00
	d Total Credit	£0.00
	e Total Cards	0
	f Standing Charge per 24 hours	£0.00
	g Rate 1 unit cost	£0.15
	h Rate 2 unit cost	£0.15
	i Emergency Credit Value	£1.00
	j Emergency Credit availability point	£0.50
	k Reverse Energy Detection "RED" when displayed	"RED" Not Displayed

### 4.3 Date and Time

The following date and time parameters are settable: Day, Month, Year, Hours, Minutes.

### 4.4 Zero Credit

Manually reset Debt and Credit to zero.

### 4.5 Set Credit

Manually set credit in the range of £0 to £999.99.

### 4.6 Emergency Credit Value

The emergency credit is settable in the range of £0 to £99.99.

### 4.7 Emergency Credit Available Point

The emergency credit available point is settable in the range of £0 to £99.99.

### 4.8 Cost per Unit for Rate 1 and 2

The cost per unit of electricity for each of the 2 rates is settable in the range £0 to £99.99.

### 4.9 Standing Charge per 24 hours

The standing charge is settable in the range £0 to £99.99 and is factory set to deduct the value set every 24 hours at midnight.

### 4.10 Operational Mode Meter Timer

The meter mode setting operates at cost per kWh unit of electricity or timer mode at cost per time of electricity.

## 5. APPENDIX

### 5.1 Starting Current

The meter starts to register at 80 mA.

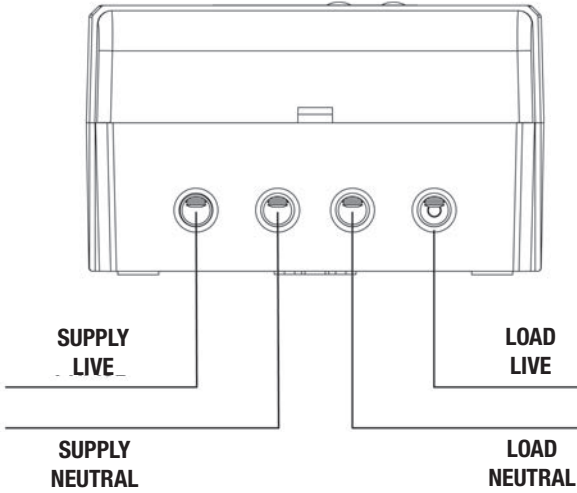
### 5.2 Wiring Diagram and Mounting Template (shown overleaf)

The meter must be installed by a competent, qualified electrician to the standards that satisfy the requirements of the current Institute of Electrical Engineers (IEE).

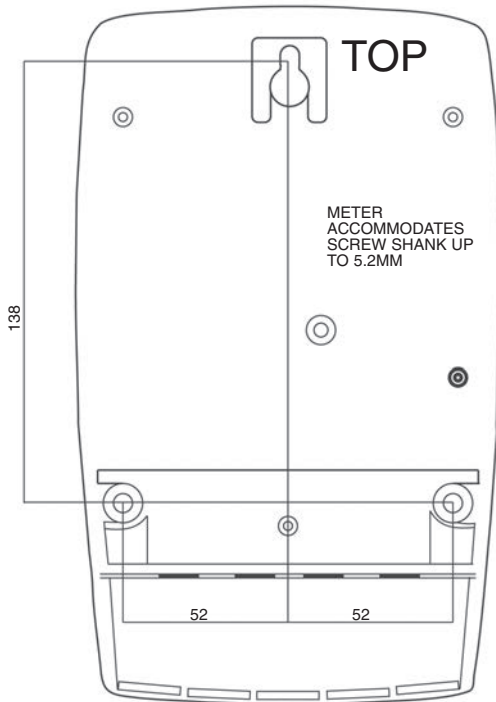
# METER MODE (cont.)

Wiring Diagram and Mounting Template

## WIRING DIAGRAM



## WALL MOUNTING TEMPLATE



# TIMER MODE

## 1. INTRODUCTION

### 1.1 Overview

This document covers the specification and operation of the MCM-030 single phase prepayment magnetic card operated electricity meter and timer for operating in TIMER MODE. The main features of the product are:

- 1) All solid state with 2 x 16 character LCD.
- 2) Uses secure disposable magnetic token cards.
- 3) When valid token card is inserted, time credit is copied from the card to the timer.
- 4) Multiple cards may be entered in one session.
- 5) Card is erased and permanently marked.
- 6) Card timer display counts down in hours, minutes and seconds.
- 7) User settable duration of 0 to 599 minutes.
- 8) Programming command card allows settings to be easily changed.
- 9) Tournament Mode Override.
- 10) Switches up to 100A and can supply up to 25kW of load.
- 11) No battery replacement required.
- 12) Internal Real Time Clock with programmable switching.
- 13) Reverse Energy Detection.

## 2. TECHNICAL DATA

The MCM-030 is an alternating Current Static Watt Hour Meter, Class B, with programmable timer function facility.

### 2.1 Meter LED & Power Registration Security

The red LED mounted on the front panel will pulse at a rate of 1000 pulses per kWh. Power registration is recorded in non-volatile memory under control of the microprocessor which is updated every 24 hours and in the event of a power failure. There are separate registers for each rate.

### 2.2 Main Contactor

Contactors Current Rating:	100 Amps
Terminal Arrangement:	BS 7856
Main Terminal Dimensions:	8.0mm to 8.2mm
Terminal Construction:	Solid Brass

### 2.3 Power Supply

Rated Voltage:	230V
Operating Voltage Range:	220V-240V, Maximum 276V
Current Range:	20 to 100A Standard
Frequency:	50Hz Standard

### 2.4 Metrology

Timer Accuracy:	1%
-----------------	----

### 2.5 Environmental

Temperature Operating Range:	-25 to 55 degrees C
Storage Range:	-25 to 55 degrees C
Transportation Range:	-25 to 70 degrees C
Ingress Protection:	IP51

## TIMER MODE (cont.)

### 2.6 Dimensions

Height:	222.00 mm
Width:	135.00 mm
Depth:	80.00 mm
Weight:	1.0 kg

### 3. NORMAL FUNCTIONAL OPERATION IN TIMER MODE

#### 3.1 Normal Operation Display

During normal operation the display on the MCM-030 in TIMER MODE will be one of those shown below.

DISPLAY	CONTACTOR	REMARKS
Timer Countdown 00:00:00	Open	The consumer has used up all credit
Timer Countdown HH:MM:SS	Closed	The consumer has HH:MM:SS credit remaining
Tournament Mode Enabled	Closed	In this mode the timer dispenses electricity without the consumer needing to enter cards

#### 3.2 Additional Displayed Information

When the timer is operating normally, momentarily pressing the GREEN button will sequence through the parameters, as listed in the table overleaf. If during a manual sequence cycle, the GREEN button is not pressed within 10 seconds, the meter will revert to its normal display and operation.

The table below gives a list of the 7 sequentially displayed parameters.

STEP	DISPLAY	REMARKS
1	**DISPLAY*TEST** **DISPLAY*TEST**	Test all character positions on display.
2	Token Minutes XXX	Amount of time credited for each token card inserted.
3	Maximum Minutes XXXX	Maximum amount of time that can be credited by the consumer.
4	Total Tokens XXXXXXXXXX	Total number of cards inserted.
5	Total Seconds XXXXXXXXXX	Total time of credit that has been inserted.
6	Time HH:MM	Current Time.
7	Date DD/MM/YYYY	Current Date.

#### 3.3 Tournament Mode Override

In this mode the timer dispenses electricity without the consumer needing to enter token cards

## TIMER MODE (cont.)

### 3.4 Disconnection

#### 3.4.1 No Remaining Credit

When the prepaid credit expires the timer main contactor will be open, thus disconnecting the power. To restore power and restart the timed cycle, token cards must be inserted.

#### 3.4.2 Reverse Energy Detection

If reverse power is detected above a pre-determined level the display will indicate "RED" (Reverse Energy Detection). Reverse detection can only be reset via the command card.

### 3.5 Prepayment Card Tokens

#### 3.5.1 Valid Cards

When a valid token card is inserted, time is credited to the timer and its acceptance is indicated by the message "XXXX Token" being displayed momentarily. On removal the card is erased and visibly marked. The maximum credit is limited to 1440 minutes at which point the display will change to Maximum Reached. Three examples are given below:

#### Example 1:

DISPLAY	ACTION
Timer Countdown 00:00:00	Insert value One Token Card
One Token	1 x Set time credited to timer

#### Example 2:

DISPLAY	ACTION
Timer Countdown 00:00:00	Insert value Five Token Card
Five Token	5 x Set time credited to timer

#### Example 3:

DISPLAY	ACTION
Timer Countdown 00:00:00	Insert value Ten Token Card
Ten Token	10 x Set time credited to timer

#### 3.5.2 Card Errors

The message "CARD ERROR" may be displayed if the token card was inserted too quickly, too slowly or the token card was invalid, the message "Maximum Reached" is displayed if a token card is inserted that would cause the pre-paid credit to become greater than Maximum Time hh:mm set. If either of the above messages are displayed then on removal, the card is not erased and may be used at a later date.

## TIMER MODE (cont.)

### 4. COMMAND CARD PROGRAMMING

#### 4.1 Programming Method

After the insertion of a valid COMMAND CARD the following 7 parameters can be sequentially viewed/modified using the RED and GREEN buttons of the timer.

STEP	PROGRAMMING	SETTINGS
1	DD/MM/YYYY - HH:MM	Current Date and Time
2	Zero Timer No Yes	Manually Zero Timer - No or Yes
3	Token hh:mm	Time credited for each token card inserted
4	Max Time hh:mm	Maximum time which can be credited
5	Tournament Mode No Yes	Select Tournament Mode - No or Yes
6	Operational Mode Meter Timer	Select Meter or Timer mode
7	Factory Defaults No Yes	Reset to Factory Defaults excluding kWh cumulative totals

To display/modify a particular parameter first insert a COMMAND CARD upon the message "Please Remove Card" will be displayed. On removing the card the message "PROGRAMMING" will be displayed. Next press the RED button until the Date and Time are displayed.

Each press of the GREEN button will increment the value above the cursor.

Each press of the RED button for less than 3 seconds will move the cursor one place through the programmable setting displayed parameter. To store the new value press the RED button for greater than 3 seconds, then on releasing the RED button the next parameter for programming will be displayed. If no buttons are pressed within 10 seconds the display revert to its normal operation mode without saving the new value.

**Example:** (shown overleaf)

To change the amount of time credited for each token card inserted the sequence of events will be as follows:

## TIMER MODE (cont.)

STEP	ACTION	DISPLAY
1	Insert a valued COMMAND Card.	Please Remove Card
2	Remove COMMAND Card.	PROGRAMMING
3	Press and release the RED button for less than 3 seconds.	Date and Time DD/MM/YY    HH:MM
4	Press and release the RED button for greater than 3 seconds to store the value.	Date and Time DD/MM/YY    HH:MM
5	Press and hold the RED button for greater than 3 seconds to store the value.	Zero Time Credit No Yes
6	Press and release the GREEN button until the correct value is shown.	Token hh:mm XX:XX
7	Press and release the RED button for less than 3 seconds to move the cursor one place through the programmable setting of the displayed parameter.	Token hh:mm £XX:XX
8	Press and release the RED button for greater than 3 seconds to store the value.	Token hh:mm £XX:XX
9	Press and release the RED button for greater than 3 seconds to store the value.	Max Time hh:mm 10:00
10	Press and release the RED button for greater than 3 seconds to store the value.	Tournament Mode No Yes
11	Press and release the RED button for greater than 3 seconds to store the value.	Operational Mode Meter Timer
12	Press and hold the RED button for greater than 3 seconds to store the settings.	Factory Defaults No Yes
13		Exiting Programming

### 4.2 Factory Defaults Reset

DISPLAY	REMARKS	FACTORY DEFAULTS
Factory Defaults No Yes	If Factory Defaults are reset then the following parameters are changed:  a Zero Timer Credit b Token Minutes c Max Time Minutes d Total Tokens e Total Seconds f Reverse Energy Detection "RED" when displayed.	   00:00:00 60 600 0 0 "RED" Not Displayed



## TIMER MODE (cont.)

### 4.3 Date and Time

The following date and time parameters are settable: Day, Month, Year, Hours, Minutes.

### 4.4 Zero Time Credit

Manually reset credit to zero.

### 4.5 Token Value

The amount of time credited for each token card inserted is settable in the range 0 to 599 minutes.

### 4.6 Maximum Time

The maximum credit is settable in the range 0 to 1440 minutes at which point the display will change to Maximum Reached.

### 4.7 Tournament Mode Override

In this mode the timer dispenses electricity without the consumer needing to enter token cards.

### 4.8 Operational Mode Meter or Timer

The timer mode setting operates at cost per time of electricity or meter mode at cost per kWh unit of electricity.

### 4.9 Area Code

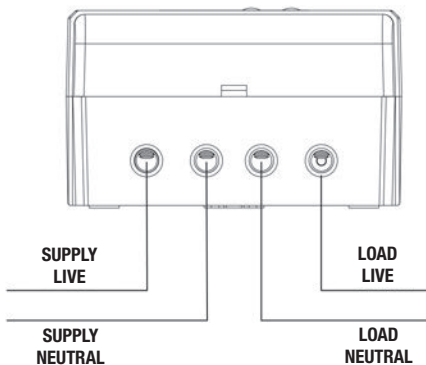
The area code can be factory set in the range 0-255 (Decimal).

## 5. APPENDIX

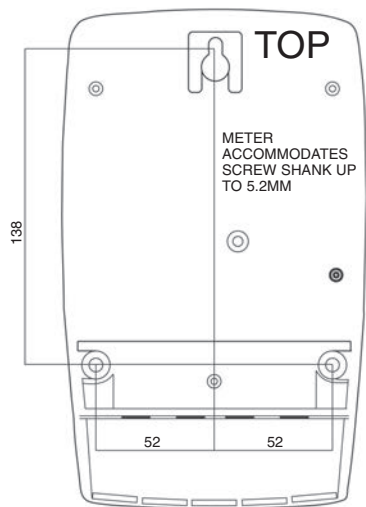
### 5.1 Wiring Diagram and Mounting Template (shown overleaf)

This timer must be installed by a competent, qualified electrician to the standards that satisfy the requirements of the current Institute of Electrical Engineers (IEE).

## WIRING DIAGRAM



## WALL MOUNTING TEMPLATE



# NOTES



Meter Model: MCM-030  
Magnetic Card Meter

This Declaration of  
Conformity applies to  
Meter serial number:



## EC DECLARATION OF CONFORMITY

RDL Meters LTD  
Unit E2, Westfield Business Park  
Long Road  
Paignton TQ4-7AU  
United Kingdom

Declares that the new Measuring Instrument described hereafter as MCM-030, Magnetic Card Meter is in conformity with the provisions of: Council Directive 2014/32/EU and with the national standard transposing harmonized standard Numbers: EN 50470-1:2006 & EN 50470-3:2006

It is identical to the Measuring Instrument which is the subject of EC certification of conformity No. SGS0184 issued by Notified Body 0120

SGS United Kingdom Limited  
Unit 12A/12B  
Southern Industrial Estate  
Bowburn  
Durham DH6 5AD  
United Kingdom

Is subject to the procedure set out in Module D of Directive 2014/32/EU under the supervision of the Notified Body 0120. The fulfilment of the essential requirements set out in Annex 1 and in the relevant instrument-specific Annexes has been demonstrated.

SGS United Kingdom Limited  
Unit 202b,  
Worle Parkway  
Weston-Super-Mare BS22 6WA  
United Kingdom

Verified at RDL Meters Ltd, Paignton

Date:

.....  
Peter Gibbs—Technical Director  
RDL Meters Ltd

