ET60
MANUAL

FOR SETTINGS AND CONFIGURATION

Issue 1.0

For Meter Software Versions: 60.4

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1. INTRODUCTION

What is the ET60?

The ET60 incorporates many of the functions of the LT3100 meter but with the switching capacity increased to 60A although it will be marketed as 12.5kVA.

ET60 Firmware

The ET60 firmware incorporates many of the programmable features and options found in the LT3100.

1) **Pre-start** (Optional**)**
An extra timed period that runs before the start of main session. This gives the customers time to prepare before using a shower, sunbed, etc.

2) **Pre-end** (Optional)
An audible warning is given before session ends

3) **View money and credit audit functions with coin box in** (Optional**)**
Push button operation on the front of the meter allows audit functions to be viewed without removing the coin box.

4) **Clear Credit Remaining** (Optional**)**
Any remaining credit will be cleared when the meter is powered off and on again and after an emergency stop via the Remote Start/Stop buttons.

5) **'Add credit' push button** (Optional**)**
Allows the meter to be used as a control timer. Press a button on the front of the meter to load one credit per coin value into the credit remaining register.

6) **Start button** (Optional**)**
Holds countdown when credit is first entered until pressed. Also allows any remaining pre-time to be cancelled.

7) **N.C. override key switch** (Optional**)**
Select if a N.C. (Normally Closed) key switch is used.

8) **Setting lockout** (Optional**)**
The setting lockout feature can be selected with any mode of operation.

9) **Totalise** (Optional)
Totalise mode is used when a sum of money is required to be collected prior to giving any credit on the meter.

Hardware/mechanical

1) **New PSU board**
To accommodate 60A switching capacity

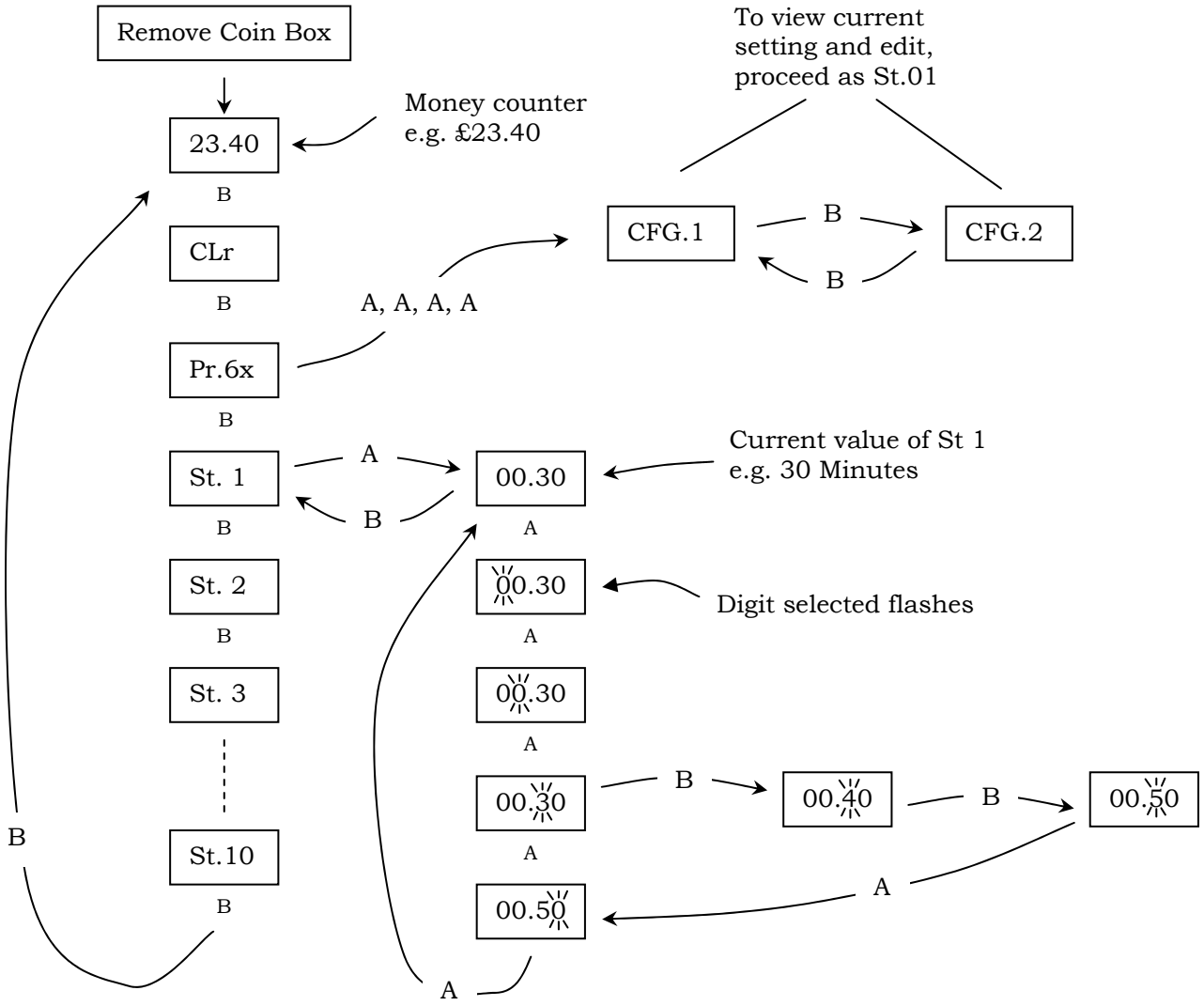
2) **New Fascia design**
Customised ET60 label to sit under the fascia to give better appearance and durability.

2. SETTINGS AND CONFIGURATION

The electronic specification of all ET60 meters is identical. Their individual operation comes from the way the meter is programmed. This is achieved by using ten settings, St.01 to St.10, and two four digit configuration numbers, CFG.1 and CFG.2. This manual explains the function of these settings.

To access these setting the coin box must be removed and the push button operation is as follows: -

Button 'A' = to view current value and to select digit to change.
Button 'B' = cycles through displays and increments selected digit.



Service Mode

There are nine valid settings as described below: -

St 01	CPC1	Credit per first coin.	HH.MM.SS[1]
St 02	CPC2	Credit per second coin.	HH.MM.SS[1]
St 03	TM	Total money entered since installation.	££££.pp
St 04	TC	Total credit given since installation.	HHHH.MM[2]
St 05	Pre-start	Pre-start period value	MM.SS
St 06	Not valid	Run-on not available with ET60	
St 07	Pre-end	Pre-end time period value.	MM.SS
St 08	Max Credit	Maximum credit value.	HH.MM.SS[1]
St 09	Totalise Due	Amount due before credit given.	££.pp
St 10	Totalise CPS	Credit per session in Totalise mode.	HH.MM.SS[1]

See the relevant section for further details: -

St.01, 02, 09 and10	Digit 2 - Coin Acceptance Modes
St.03	St.03 - Total Money
St.04	St.04 - Total Credit
St.05 and 07	Digit 3 - Relay Control
St.08	St.08 - Maximum Credit

To change the Setting values: -

a) Remove the coin box.
b) Press and release button B until the display shows the required setting (St.xx).
c) Press and release button A to show current value.
d) Press and release A to select digit to alter (selected digit flashes).
e) Press and release B to alter the value of selected digit.
f) Repeat d and e until required setting is obtained.

To exit

g) Press and release A until no digits are selected.
h) Press and release B to return to St.xx.
i) Press and release B to proceed to next St.xx.

or

j) Insert coin box.

Note. The new value is not stored in the memory until the coin box is inserted.

Configuration Settings

The basic operating modes of the meter are enabled or disabled using the configuration numbers. There are eight digits arranged into two groups of four. Digits 1 to 4 are set in configuration number 1 (CFG1) and digits 5 to 8 are set in configuration number 2 (CFG2). Each digit controls several modes of operation. The value of each digit is calculated by adding together the values of the features required in that digit. Use the Configuration chart (Appendix 1) to find the value of the feature(s) required.

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[1] HH.MM or MM.SS depending upon Min/Sec setting.
[2] Shown in HH.MM if value < 100 Hours, HHHH if value => 100Hrs.

To change the configuration values: -

a) Remove the coin box.
b) Press and release button B until the display shows the software version number (Pr.60.4).
c) Press and release button A four times until display shows CFG.x
d) Press and release button B to toggle between CFG.1 and CFG.2.
e) Press and release button A to show the current CFG.x value
f) Press and release A to select digit to alter (selected digit flashes).
g) Press and release B to alter the value of selected digit.
h) Repeat f and g until required setting is obtained.

To exit

i) Press and release A until no digits are selected.
j) Press and release B to return to CFG.x.
k) Press both buttons together (i.e. Press one and hold while pressing the other) to return to St.01.

or

l) Insert coin box.

Note. The new value is not stored in the memory until the coin box is inserted.

Digit 1 - Coins/Tokens Selection

Enter the relevant value in configuration digit 1 for one of the following: -

Value	Coin/Token
1	£1 only
2	20p only
3	£1 and 20p
4	10p only
5	£1 and 10p
8	Token, 1 Euro, 50c (Euro)

Digit 2 - Coin Acceptance Modes

The ET60 allows the choice of four means of adding credit

Single coin mode
Totalise mode
Totalise and top up mode
Push Button Credit

Single Coin Mode

In this mode a value is added to the CR (Credit remaining) register each time a coin/token is entered.

Single coin mode is enabled by: -

1) Entering a '1' in digit 2 of the configuration number.
2) Setting St.01 with the amount of credit given for the £1 coin and all but L1 tokens.
3) Setting St.02 with the amount of credit given for the €1, 50c, 10p, 20p coin or L1 token.

Note.
When the meter is configured for token operation the unused setting (St.01 or St.02) must be set to zero to prevent the validation of other coins or tokens.

Totalise Mode

Totalise mode is used when a sum of money is required to be collected prior to giving any credit on the meter. E.g. £1.20

Totalise is enabled by: -

1) Entering a '2' in digit 2 of the CGG1 number.
2) Setting St.09 with the amount of money required before any credit is given.
3) Setting St.10 with the amount of credit given when the correct amount of money has been inserted.

The meter will display the amount of money required and intermittently show 'FEE'. This value will be reduced as money is entered. Once the correct amount of money has been entered the display will add credit to the credit remaining registers and the session will begin. If the value is exceeded, e.g. entering two £1 coins when the required amount is £1.80, the balance (20p in this example) will be held towards the next session. When the credit remaining reaches zero this balance is cleared.

The full value of all coins inserted will be added to the Money Counter and the Total Money (St.03) registers regardless of whether any credit is given. The Credit Remaining and Total Credit (St.04) registers will only be added to each time a sufficient amount of money is entered.

Note. In Totalise mode St.01 and St.02 are unused.

Any invalid setting will generate an Error Message (See Error Messages). E.g. Setting the amount required (St.09) to £1.60 on a £1 only meter.

Totalise + Top Up

Totalise + Top Up mode operates in a similar manner to Totalise mode but allows single coins to give credit once the meter is in credit.

Totalise + Top Up is enabled by: -

1) Entering a '4' in digit 2 of the configuration number.
2) Setting St.09 with the amount of money required before any credit is given.
3) Setting St.10 with the amount of credit given when the correct amount of money has been inserted.
4) Setting St.01 & St.02 with the required amount of credit given once the meter is in credit. (St.01 gives credit for the £1 coin and St.02 gives credit for a 20p or 10p coin.)

The meter will display the amount of money required and intermittently show 'FEE' . This value will be reduced as money is entered. Once the correct amount of money has been entered the session will begin. If the value of the coin entered exceeds the value required, then the overpayment also adds credit according to the value set in St.02.

NOTE. Operation is different if a lockout value has been set and depends on whether a pre-time value is entered in St05. With no pre-start button A (Start) must be pressed to commence the session. With a value in St05 then top-up coins are only accepted during pre-start. When pre-start ends and the session commences then any coin(s) added will be ignored and "Stop" displayed. These coins are saved for the next session.

Any invalid setting will generate an Error Message (See Error Messages appendix 3). E.g. Setting the amount required (St.09) to £1.60 on a £1 only meter.

Push Button Credit

This optional feature allows a value to be added to the Credit Remaining register each time button 'B' is pressed.

Push Button Credit is enabled by: -

1) Entering an '8' in digit 2 of the configuration number.
2) Setting St.01 with the amount of credit given each time button 'B' is pressed.

Each time button 'B' is pressed the value set in St.01 is added to the Credit Remaining register.

The Maximum Credit facility can be used with this feature to limit the amount of credit accumulated. (See setting lockout, page 11 for further details).
Note. No coin or token operation is possible whilst this feature is enabled.

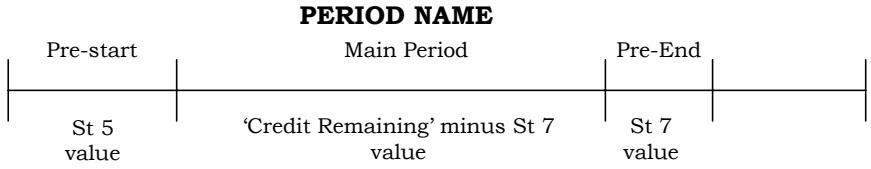
Digits 3, 4, and 5 Relay Control

Digit 3 - is used to control the relay; either on or off

Digit 4 – Auxiliary relay not valid in ET60 - always set to zero

Digit 5 – Run-on not valid in ET60 - always set to zero

The time periods of the meter are divided into three sections. Pre-start Period, Main Period and Pre-end Period. The time periods are determined by various St settings as follows: -



Pre-start and Pre-end are both optional.

Main period

This time period will always run unless the Credit Remaining fails to exceed the pre-end period value. In which case the whole of the Credit Remaining will run in the Pre-end period.

The length of the Main Period is dependent upon the amount of Credit Remaining on the meter and the setting of the Pre-end Period.

Pre-start Period

This time period runs prior to the Main Period allowing the customer time to prepare for the session. E.g. changing prior to using a shower or sunbed.

Entering the required time in the 'Pre-start' setting, St.05, enables this feature. The value is entered in Minutes and Seconds. Entering zero disables this feature. When the Fascia Start Button is enabled, pressing the start button cancels the remainder of the Pre-start Period and initiates the Main Period.

During the 'Pre-start' period the relay is not switched on.

Note: When a valid coin/token is inserted the display will show the accumulated credit for four seconds before returning to the Pre-start countdown display.

Pre-end period

The Pre-end Period is used in conjunction with configuration digit 8 to give an audible warning before the timer reaches zero. For example, if the Pre-end Period is set to five minutes when the credit remaining equals five minutes an audible warning is given (if CFG2 is configured for audible warning). The relay remains on during both Main and Pre-end periods. Entering the required time in the Pre-end Period setting, St.07, enables this feature. The value is entered in Minutes and Seconds. Entering zero disables this feature.

Digits 6, 7 & 8

Digit 6 - Minutes and seconds mode
Credit save. (Not available with PB credit)
Clear Credit Remaining.
Digit 7 - View audit functions with coin box in.
Fascia Start button.
Digit 8 - Audible indicator (beep).
Normally closed override switch.
Setting lockout (with override switch).

Minutes and Seconds Mode

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 6. If no other configuration changes are required add 1 to digit 6 to enable, or subtract 1 to disable this feature.

When enabled St.01, 02, 08 and 10 are displayed and set as MM:SS instead of HH:MM. The flashing Mins/Secs dot on the display indicates this.

When changing from HH:MM to MM:SS the value set in the Hours register will be zeroed. When changing back to HH:MM the value set in the Seconds register will be zeroed.

Credit Save

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 6. If no other configuration changes are required add 2 to digit 6 to enable, or subtract 2 to disable this feature.

When enabled this feature allows the credit remaining value to be held during the Main and Pre-end Periods.

To activate Credit Save press button ‘B’. This will hold the remaining credit and switch off the relay. An intermittent ‘HELd’ message will be displayed whilst credit save is active.

To return to normal countdown press button ‘A’ (Fascia Start Button). This will restart the countdown, clear the ‘HELd’ message and switch on the relay.

Clear Credit on Power-up/after Emergency Stop

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 6. If no other configuration changes are required add 4 to digit 6 to enable, or subtract 4 to disable this feature.

This feature: -

a) When enabled clears all Credit Remaining when the meter is powered up. If Disabled, then any Credit Remaining left on the meter when it was powered down will be restored. This feature is useful when the meter is connected via a time clock that prevents use of a facility after a certain time. In this type of application the remaining credit is not normally required when the time clock switches back on.

b) Clears the Credit Remaining when the emergency stop is released. If disabled then any Credit Remaining left on the meter when the emergency stop was activated will be restored.

View Audit functions with coin box in

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 7. If no other configuration changes are required add 1 to digit 7 to enable, or subtract 1 to disable this feature.

When enabled this feature allows the values of the Total Money register (St.03) and Total Credit register (St.04) to be viewed without removing the coin box as follows:

1) Press both 'A' and 'B' together (i.e. press and hold one button while pressing the other). 'St.03' will be displayed.
2) Press button 'A' to view the current value of St.03.
3) Press button 'B'. 'St.03' will be displayed again.
4) Press button 'B' again. 'St.04' will be displayed
5) Press button 'A' to view the current value of St.04.
6) Press button 'B' to return to the Credit Remaining display.

Ignore the relevant button 'A' press if it is not required to view that value.

Fascia Start Button

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 7. If no other configuration changes are required add 2 to digit 7 to enable, or subtract 2 to disable this feature.

When enabled, the start button function is different with or without Pre-start enabled.

Start Button **without** Pre-start. Te meter will not start until button A is pressed. (For the purpose of this example Single Coin Mode is assumed.)

1) Credit remaining equals to zero.
2) Coin(s) entered.
3) Credit added to Credit Remaining.
4) Countdown held and Credit Remaining shown on the display.
5) Pressing the Start Button starts the Main period and countdown begins.

Start Button **with** Pre-start. (For the purpose of this example 'Single coin mode' is assumed.) Pressing button A cancels pre-time remaining and starts the timer.

1) Credit remaining equal to zero.
2) Coin(s) entered.
3) Credit added to Credit Remaining.
4) Pre-start countdown begins
5) Pressing 'Start Button' cancels remaining Pre-start value and starts the 'Main Period'.

Note. When Maximum Credit is enabled, the start button is operational regardless of the Fascia Start Button configuration. (For details see Maximum Credit, page 14).

Audible indicator (Beep)

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 8. If no other configuration changes are required add 1 to digit 8 to enable, or subtract 1 to disable this feature.

When enabled an audible indication is given when:

1) A button is pressed.
2) The Pre-end Period starts.
3) The Main Period finishes.
4) A coin or token is entered and validated.

Normally closed override switch

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 8. If no other configuration changes are required add 2 to digit 8 to enable, or subtract 2 to disable this feature.

When enabled this feature allows a normally closed key switch to give the same function as a normally open key switch.

Setting lockout

Use the Configuration Chart (Appendix 1) to find the value of the option(s) required and include this feature when calculating the value of digit 8. If no other configuration changes are required add 4 to digit 8 to enable, or subtract 4 to disable this feature.

When enabled this feature prevents the settings (St.01 to St.10) being changed whilst the optional key operated switch is in the locked position.

Note. The Override facility is not available whilst this feature is active.

3. AUDIT COUNTER

The audit counter is displayed automatically when the coin box is removed. This display shows the amount of money (St03) or total accumulated credit (St04) entered since the coin box was last inserted/emptied. See note below.

The display switches from pounds and pence or hours and minutes to whole pounds or hours format automatically when the value exceeds 99. When the whole pounds or hours format is displayed pressing and holding button 'A' will change the display to pounds and pence or hours and minutes format to allow the pence or minutes value to be displayed.

As the display can only show four digits of this six digit register the value is shown in one of the following formats: -

Format	**Example value** Money/time	**Displayed as**	
< 99	0012.40	12.40	
>99	0234.60	0234	(No centre dot indicates whole pounds or hours only)

Tokens are always displayed in 4 digits 0000 to 9999. Therefore 10 tokens would be displayed as 0010.

Note. When the coin box is inserted the money counter is automatically reset to zero. To prevent the counter being reset press and hold button B while inserting the coin box.

Total Money (£££££.pp)

The Total Money register (St.03) shows the total accumulated amount of money or tokens entered since the meter was manufactured or received a factory reset.

This register stores a value up to £9999.90. When this value is exceeded the register rolls over. E.g. £9999.00 plus £5 would result in a value of £0004.00 (£4) being stored.

As the display can only show 4 digits of this 6 digit register the value is shown in one of the following formats: -

Format	**Example value** £££££.pp	**Displayed as**	
££.pp	0012.40	12.40	
££££	0234.60	0234	(No centre dot indicates whole Pounds Only)

The display switches from ££.pp to ££££ format automatically when the value of accumulated Pounds exceeds 99. When the ££££ format is displayed pressing and holding button 'A' will change the display to ££.pp format to allow the Pence value to be displayed.

Tokens are always displayed on 4 digits 0000 to 9999. Therefore 10 tokens would be displayed as 0010.

Total Credit (HHHH:MM)

The Total Credit register (St.04) shows the total accumulated credit since the meter was manufactured or received a factory reset.

This register stores a value up to 9999:59 (9999 Hours 59 Minutes). When this value is exceeded the register rolls over. E.g. 9999:59 plus 5 Hours would result in a value of 0004:00 (4 Hours) being stored.

As the display can only show 4 digits, the value is shown in one of the following formats depending upon its value: -

Format	**Example value** HHHH:MM	**Displayed as**	
HH:MM	0005:45	05.45	
HHHH	0107:54	0107	(No centre dot indicates whole hours only)

The display switches from HH:MM to HHHH format automatically when the value of accumulated hours exceeds 99. When the HHHH format is displayed pressing and holding button 'A' will change the display to HH:MM format to allow the Minutes value to be displayed.

This register is updated at the same time as the Credit Remaining register, therefore any credit cleared from the Credit Remaining value using the Clear Credit facility will still be included in the Total Credit reading.

When the Maximum Credit feature is operational (see Maximum Credit page 14 for details) the Total Credit register is only added to when the full Credit per Coin value is added to the Credit Remaining register.

For example with:

The meter set for single coin operation.
The Maximum Credit value (St.08) set to 7 minutes.
The Credit per Coin/Session (St.01, or 02) set to 3 minutes.

1) When the first coin is entered 3 minutes is added to the Credit Remaining register and the Total Credit register.
2) When the second coin is entered 3 minutes is added to the Credit Remaining register and the Total Credit register.
3) When the third coin is entered 1 minute is added to the Credit Remaining register (as the Maximum Credit has been reached) but nothing is added to the Total Credit register.

Therefore the Maximum Credit setting should be a multiple of the Credit per Coin setting for meaningful Total Credit values.

4. OTHER FEATURES

Maximum Credit (HH:MM or MM:SS)

The 'Maximum Credit' feature prevents credit being accumulated above a pre-set time limit and is controlled by setting St08.

Entering the required time limit in the 'Maximum Credit' setting, St.08, enables this feature. The value is entered in hours and minutes (HH:MM) or minutes and seconds (MM:SS)[3]. Entering zero disables this feature.

Maximum Credit operation: -
(For the purpose of the example 'Single coin mode' without Pre-start is assumed.)

1) Credit Remaining equal to zero.
2) Coin(s) entered.
3) Credit added to Credit Remaining.
4) Countdown held and Credit Remaining shown on the display.
5) Pressing the Start Button starts the Main period and countdown begins.

If Pre-start is enabled then the Pre-start countdown will commence as soon as the first coin is entered.

Note:

The Fascia Start Button is enabled automatically when Maximum Credit is used, but the Fascia Start Button cannot be used to skip the remaining Pre-start period unless it is also enabled in the configuration setting.

Override

The override allows free use of the facility controlled by the meter for servicing or match play.

Turning the optional key operated switch to the on position will: -

1) Clear any Credit Remaining.
2) Switch the relay on.
3) Show 'FrEE' on the display.

When the override is switched off the relay is switched off and the meter display 00:00.

Note. This feature is not available when the Lockout feature is enabled.

[3] If Minutes and Seconds operation is selected in the configuration. (Refer to Configuration Chart Appendix 1).

Clear Credit Remaining

The Credit Remaining can be cleared in one of three ways:

1) On power up with Clear CR option set. (See 'Clear Credit On Power-up/after Emergency Stop' on page 10 for further details)

2) By using the Override feature. (See Override for further details)

3) By using the Clear Credit option in the service mode (Coin box removed)

   Whilst the Main period is running:

   a) Remove the coin box
   b) Press button 'B'. Display will show 'CLr'.
   c) Press both buttons together (i.e. press and hold one button while pressing the other). This clears the Credit Remaining.

Note: Option 3 only clears the period that is currently running, therefore using the clear function during:

a) Pre-Start period will clear the balance of the Pre-Start and the Main period will commence.

b) Main period will clear the remaining credit and switch off the relay.

Appendix 1. Configuration Chart

CFG.1

Digit 1

Coin/Token Selection

Feature	Value
£1 only	1
20p only	2
£1 & 20p	3
10 only	4
£1 & 10p	5
Token	8

Digit 3

Main Relay Control

Feature	Value
Main	2
Pre-Start	4

Add values of features required and enter total in Digit 3

Digits

1	2	3	4

Digit 2

Coin Acceptance Mode

Feature	Value
Single Coin Mode	1
Totalise Mode	2
Totalise + Top-up	4
PB Credit	8

Digit 4

Auxiliary Controls

Feature	Value
Pre-end	1
Main	2
Pre-Start	4

Add values of features required and enter total in Digit 4

CFG.2

Digit 5

	Value
Set Zero	0

Digit 5 is invalid for ET60 and must be set to zero

Digit 7

Feature	Value
View St.03 & 04	1
Fascia Start Button	2

Add values of features required and enter total in Digit 7

Digits

5	6	7	8

Digit 6

Feature	Value
Min/Sec	1
Credit Save	2
Clear CR	4

Add values of features required and enter total in Digit 6

Digit 8

Feature	Value
Audible Indicator	1
N.C. Key Switch	2
Setting Lockout	4

Add values of features required and enter total in Digit 8

Appendix 2. Text Messages

One second messages

Message	Description
CrEd / Coin	Token validated and accepted.
1Pd	£1 coin validated and accepted.
20P	20p coin validated and accepted.
10P	10p coin validated and accepted.
StOP	Coin or Token validated but maximum credit limit has been reached and no credit has been given.
Er.xx	Where 'xx' is the error number (See Appendix 3 Error Messages).
SynC	See Appendix 3 Error Messages.
Pr.x.x	Program/Software version installed, where 'x.x' is the version number.

Flashing Messages

Message	Description
FEE	The value shown on the display is the amount due for the session, Value is shown as ££.pp.
PrE	The current countdown is the Pre-start period.
End	The current countdown is the Run-On period.
HELd	The Credit Save has been activated. The countdown has stopped.
CALL,HELP	Emergency stop - The red button on the Remote Button Unit has been pressed

Static Messages

Message	Description
FrEE	The optional key operated switch has been activated. (See Override on page 14).
COLL	The coin box is full or the validation sensor has been obstructed

Static Service Mode Messages

CLr	Clear credit remaining. (See Clear Credit Remaining on page 15).
Pr.x.x	Program/Software version installed, where 'x.x' is the version number.
CFG.x	Configuration number location, where 'x' is the configuration number 1 or 2.
St.xx	Setting number location, where 'x' is the setting number 1 to 10.

Appendix 3 Error Messages

Error (Er.xx)	Description
01	Opto 1 (£1) detected an object not conforming to the required parameters.[1]
02	Opto 2 (20p) detected an object not conforming to the required parameters.[2]
03	IIC communication error talking to the non-volatile memory.[3]
04	Not used – Replaced with 'Sync' message. See below.[4]
05	Opto 1 validated but meter is configured as a 10p or 20p only.[5]
06	Opto 2 validated but meter is configured as a £1 only.[6]
07	Opto 1 validated but St.01 is zero.[7]
08	Opto 2 validated but St.02 is zero.[8]
09	Configuration number 1 (CFG.1), digit 2 is zero.[9]
10	Meter configured in Totalise or Totalise + Top Up mode but St.09 is zero.[10]
11	Totalise + Top Up on £1 only (or token) meter but St.09 has pence value.[11]
12	St.09 set with odd 10p on 20p meter. E.g. set to £1.50.[12]
	If any of the error messages 13 – 16 are encountered please contact the LCS technical department.
13	System Error – Mode routine entered with invalid 'mode' value.
14	System Error – Temp_mode routine entered with invalid 'Temp_mode' value.
15	System Error - '_Add_Mc' entered with zero 'Coin Value'.
16	System Error – IIC routines internal error.
SynC	Software re-synchronising with the 50Hz signal. [4]

Notes:

1. **Opto 1 is the coin sensor used to validate £1 coins, L2 & L4 tokens. If the sensor detects that the coin is the wrong size it will show the error message.**
2. **Opto 2 is the coin sensor used to validate 20p, 10p, €1 & 50c coins or L1 tokens. If the sensor detects that the coin is the wrong size it will show the error message.**
3. **This is usually caused by a faulty component (IC4).**
4. **The meter has sensed that the mains supply has been switched off/on. This message is only normally displayed for a second as the meter is switched on or off. If the message is being displayed intermittently there may be a loose connection around the PSU PCB area of the meter.**
5. **Use CFG.1 – digit 1 to set the meter up for the correct coinage.**
6. **Use CFG.1 – digit 1 to set the meter up for the correct coinage.**
7. **Set a value in St.01.**
8. **Set a value in St.02**
9. **Digit 2 of CFG.1 must contain a value.**
10. **Set a value in St.09**
11. **Change St.09 to show whole pounds (or tokens) e.g; 02.00.**
12. **Change St.09 to an even number, e.g; 01.60.**