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TIM3200 MANUAL

FOR SETTINGS AND CONFIGURATION

Issue 2.0

For Meter Software Ver 17.4 & 35.1

CONTENTS

THE TIM32003

 WHAT’S NEW?3

 TIM3200 Software3

 Hardware/mechanical4

SETTINGS AND CONIGURATION5

 SETTINGS 1 TO 86

 CONFIGURATION SETTINGS7

 Digit 1 & 27

 Digit 3, 4, & 5 Relay Control7

 Main period8

 Pre-start Period8

 Pre-end period8

 Run-on period8

 Digit 6, 7 & 89

 Minutes and Seconds Mode9

 Credit Save9

 Clear Credit on Power-up/after Emergency Stop10

 View St.03 & St.04 without Service card10

 Fascia Start Button10

 Remote Start / Stop11

 Audible indicator (Beep)11

 Normally closed override switch12

 Setting lockout12

 SESSION COUNTER (XXXX)12

 ST.03 - TOTAL SESSIONS (XXXX)12

 ST.04 - TOTAL CREDIT (HHHH:MM)12

 ST.08 - MAXIMUM CREDIT (HH:MM OR MM:SS)13

 OVERRIDE14

 CLEAR CREDIT REMAINING14

CONFIGURATION CHART16

TEXT MESSAGES17

 ONE SECOND MESSAGES17

 FLASHING MESSAGES17

 STATIC MESSAGES17

ERROR MESSAGES18

The TIM3200

What's New?

The TIM3200 is an updated 'Leisuretime' card meter.

The stock number of this meter will be 'TIM3200' as opposed to just '3200' for the existing meter. (3200K becomes TIM3200K etc.)

All the functions of the 'Leisuretime' card meter are still present, although some will be achieved in a different manner.

TIM3200 Software

Features available with 17.x & 35.x software: -

- 1) **256 Card codes**
The meter can now be configured to accept any card code from 00H to FFH.
- 2) **Three session cards.**
A three-session card will now be accepted with any code.
- 3) **Pre time (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.
- 4) **Remote Start / Stop button (Optional)**
A separate unit equipped with two buttons which can be connected to the meter to give remote start and emergency stop functions.
- 5) **View ST.03 & St.04 without a Service card (Optional)**
Push button operation on the front of the meter allows ST.03 & St.04 to be viewed without a service card.
- 6) **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.
- 7) **Start button (Optional)**
Holds countdown when credit is first entered until pressed. Also allows any remaining pre-time to be cancelled.
- 8) **Flexible Relay configuration**
Allows either relay to operate during any period.
- 9) **View Run-On period (Optional)**
Allows display of the Run-On countdown.
- 10) **N.C. override key switch (Optional)**
Select if a N.C. (Normally Closed) key switch is used.
- 11) **Setting lockout (Optional)**
The setting lockout feature can now be selected with any mode of operation, not just Run-Thro fan.

- 12) **Improved memory saving**
Improved memory saving routines prevents credit used returning to the meter if the meter fails to store during powerdown due to interference.
- 13) **Improved setting operation**
Display full value and flashes digit to change.
- 14) **Additional display messages**
New messages to indicate Totalise amount required, Pre-start, Run-on etc.
(See TEXT MESSAGES for full details)

Hardware/mechanical

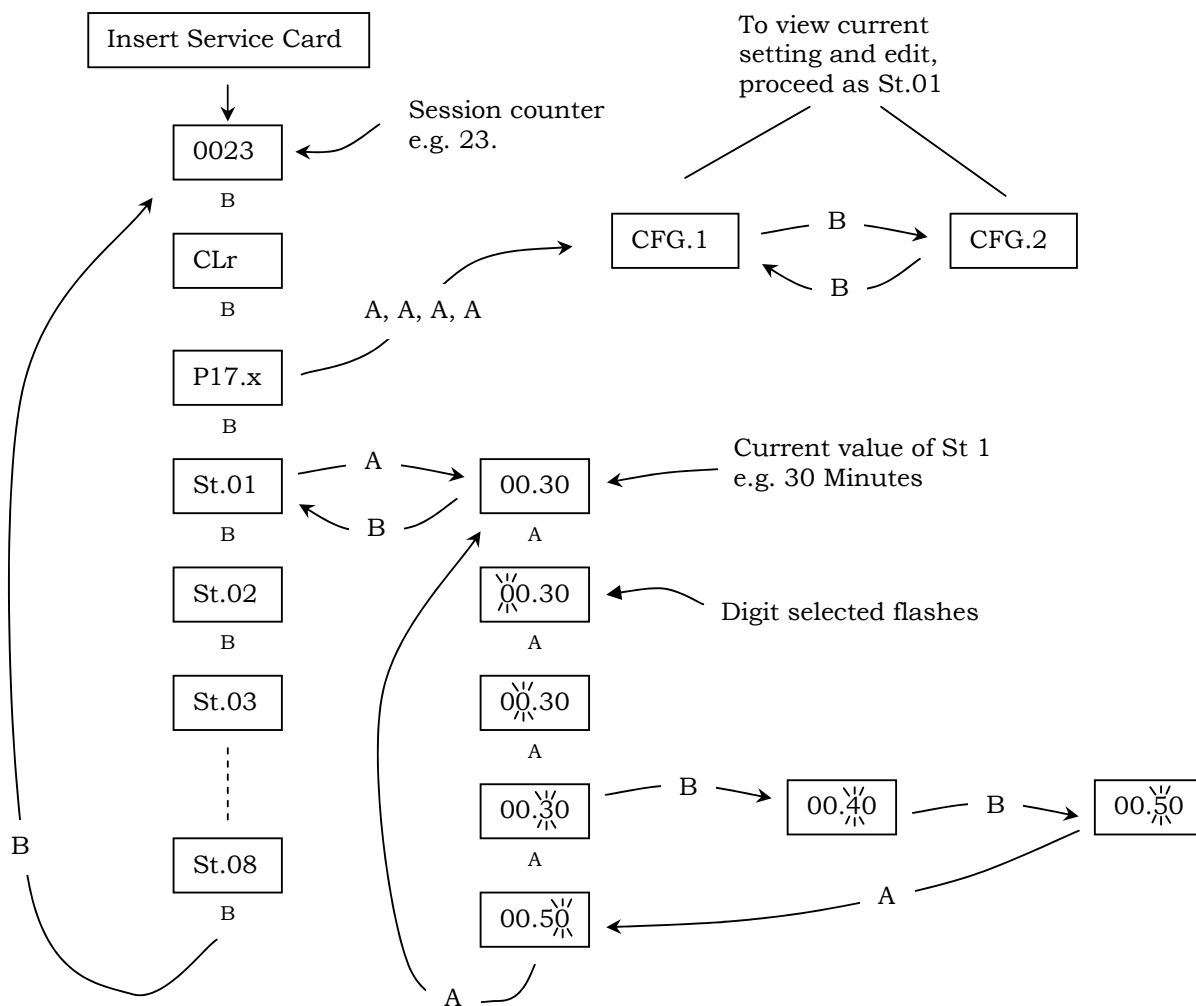
- 1) **New PSU board**
To accept remote start/stop button input.
- 2) **New Fascia design**
Customised label to sit under the fascia to give better appearance and durability.
- 3) **New Rating label**
Model number no longer shown.

SETTINGS AND CONIGURATION

The electronic specification of all TIM3200 meters is identical. Their individual operation comes from the way the meter is programmed. This is achieved by using eight settings, St.01 to St.08, and two 4-digit configuration numbers, CFG.1 and CFG.2. This manual explains the function of these settings.

To access these setting a service card must be inserted and the push button operation is as follows: -

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



Settings 1 to 8

There are 8 settings to be configured, as follows: -

St 1	CPS	Credit per session.	HH.MM.SS ¹
St 2	Code	Confirms card code.	
St 3	TS	Total sessions entered since installation.	XXXX
St 4	TC	Total credit given since installation.	HHHH.MM ²
St 5	Pre-start	Pre-start period value.	MM.SS
St 6	Run-on	Run-on period value.	MM.SS
St 7	Pre-end	Pre-end time period value.	MM.SS
St 8	Max Credit	Maximum credit value.	HH.MM.SS ¹

See the relevant section for further details: -

St.01, 02	Digit 1& 2 – Card Code
St.03	St.03 - Total Sessions
St.04	St.04 - Total Credit
St.05, 06 & 07	Digit 3, 4 & 5 - Relay Control
St.08	St.08 - Maximum Credit

To change the Setting values: -

- Insert Service card and leave inserted.
- Press and release button B until the display shows the required setting (St.xx).
- Press and release button A to show current value.
- Press and release A to select digit to alter (selected digit flashes).
- Press and release B to alter the value of selected digit.
- Repeat d and e until required setting is obtained.

To exit

- Press and release A until no digits are selected.
 - Press and release B to return to St.xx.
 - Press and release B proceed to next St.xx.
- or**
- Remove Service card.

Note: The new value is not stored in the memory until the Service card is removed.

¹ HH.MM or MM.SS depending upon Min/Sec setting.

² Shown in HH.MM if value < 100 Hours, HHHH if value => 100Hrs.

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 to find the value of the feature(s) required.

To change the configuration values: -

- a) Insert Service card.
- b) Press and release button B until the display shows the software version number (P.17.x).
- 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 continue proceed to St.01.

or

- l) Remove Service card.

Note: The new value is not stored in the memory until the Service card is removed.

Digit 1 & 2

Digits 1 & 2 are used to enter a two-digit number that relates to the code of the card that the meter will accept.

The number format for these digits is in a Hexadecimal, therefore the value entered will run sequentially from 0-9 then A-F. e.g. the two digit code could be 8C.

Digit 3, 4, & 5 Relay Control

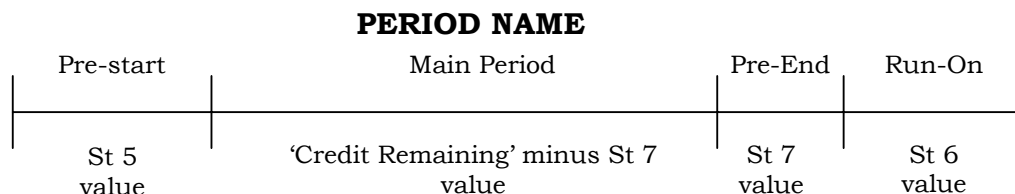
Digit 3 - Main relay on during 'Pre-start', Main or Pre-end period

Digit 4 – Auxiliary relay on during 'Pre-start', Main or Pre-end period

Digit 5 – Main/Auxiliary relay on during Run-on and display 'run-on time'.

The time periods of the meter are divided into 4 sections. Pre-Start period, Main period, Pre-end period and Run-on period. Use the Configuration chart to find the value of the option(s) required and enter the relevant value in digits 3, 4 or 5 of the configuration number, both relays can be configured to be on or off during any or all of these 4 period.

The 4 time periods are determined by various St setting as follows: -



LENGTH OF PERIOD

Pre-start, Pre-end and Run-on are all 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 relays are switched on in accordance with the configuration number setting.

Note: When a valid card is inserted the display will show the accumulated credit for 4 seconds before returning to the Pre-Start countdown display.

Pre-end period

This time period replaces the end of the Main period. For example, if the pre-end period is set to 5 minutes when the Credit Remaining equals 5 minutes the Main period ends and the pre-end period takes over and runs for 5 minutes. At the change over an audible warning is given (if beep is enabled) and a change in relay status may take place depending upon the configuration setting.

Entering the required time in the Pre-end setting, St.07, enables this feature. The value is entered in Minutes and Seconds. Entering zero disables this feature.

Run-on period

This time period runs after the Main period (or Pre-end if enabled) and allows an auxiliary function to take place after the credit has expired. For example, to run the cooling fans on a sunbed.

Entering the required time in the Run-on setting, St.06, enables this feature. The value is entered in Minutes and Seconds. Entering zero disables this feature. During the Pre-end period the relays are switched on in accordance with the configuration number setting.

Select 'Display Run-On' in digit 5 of the configuration number to display a countdown of the Run-On period.

- Notes:** a) When enabled the Run-On period will run when the credit save is activated but even when enabled the Run-on display is not shown.
- b) With the Start button is enabled, after inserting a valid card during the Run-On period, the display will show the credit accumulated even if the Run-On display is enabled.

WARNING:

When the Run-On period is running and credit is added the Pre-Start, if enabled, will operate. Therefore if the Run-On period controls a vital part of the system e.g. fans on a sunbed, then the Pre-Start period must be configured to control the fans as well. If not then when credit is added during the Run-On period the fans will switch off.

Digit 6, 7 & 8

Minutes and seconds mode.
Credit save.
Clear Credit Remaining.
View St.03 and St.04 without a service card.
Fascia Start button.
Remote Start/Stop.
Audible indicator (beep).
Normally closed override switch.
Setting lockout (with override switch).

Minutes and Seconds Mode

Use the Configuration chart 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, and 08 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 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 both relays. 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 reactivate the Main or Pre-end period relay status.

Note:

If the Run-On period is enabled this will run when the credit save is activated during which time the relays configured for the Run-On period will be active.

Clear Credit on Power-up/after Emergency Stop

Use the Configuration chart 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 St.03 & St.04 without Service card

Use the Configuration chart 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 Session register (St.03) and Total Credit register (St.04) to be viewed without using a Service card 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 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 if Pre-start is also enabled.

Start Button **without** Pre-start

- 1) Credit remaining equals to zero.
- 2) Card(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

- 1) Credit remaining equal to zero.
- 2) Card(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)

Remote Start / Stop

Use the Configuration chart 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 4 to digit 7 to enable, or subtract 4 to disable this feature.

When enabled the meter will respond to the Remote Button Unit. This unit normally consists of 2 button, a green start button and a red stop button.

Green Start Button

The green start button functions in exactly the same way as the Fascia Start Button. (See Fascia Start Button for further details)

Red Stop Button

The red stop button is intended for use as an emergency stop button. When pressed the meter: -

- 1) Switches the relays to the Run-On configuration status (even if Run-On is not enabled). The relays will be held in this state until the alarm condition is removed.
- 2) Sounds an audible alarm to summon help. (even if audible indicator is disabled)
- 3) Flashes a 'CALL HELP' message.

The alarm status cannot be cleared with the Remote Button Unit and must be cleared using button 'A' on the fascia as follows: -

- 1) Press button 'A'. This stops the audible alarm but maintains the rest of the alarm condition.
- 2) Press button 'A' again to total clear the alarm condition and resume normal operation.
If the Clear Credit feature is enabled then the remaining credit will be cleared.

Note:

As the two buttons on the Remote Button Unit are wired in parallel both buttons effectively have the same function. Their individual operation is only achieved by the status of the meter when the button is pressed. Therefore the emergency function is not available between adding credit to the meter and the start of the Main period.

Audible indicator (Beep)

Use the Configuration chart 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 card is entered and validated.

Normally closed override switch

Use the Configuration chart 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 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.08) 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.

Session Counter (XXXX)

The session counter is displayed automatically when the Service card is inserted. This display shows the amount of sessions entered since the Service card was last entered.

The Session counter is a four-digit counter, 0000 to 9999. Therefore 10 sessions would be displayed as 0010.

When the Service card is removed the session counter is automatically reset to zero. To prevent the counter being reset press and hold push button B while removing the Service card.

St.03 - Total Sessions (XXXX)

The Total Session register (St.03) shows the total accumulated sessions entered since the meter was manufactured or received a factory reset.

This register stores a value up to 9999. When this value is exceeded the register rolls over. E.g. 9999 plus 5 would result in a value of 0004 being stored.

The Session counter is a four-digit counter, 0000 to 9999. Therefore 10 sessions would be displayed as 0010.

St.04 - 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. 9999:00 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	Displayed as
	HHHH:MM	
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 for details) the Total Credit register is only added to when the full Credit per Card value is added to the Credit Remaining register.

For example with: -

(The use of one-session cards is assumed for this example)
The Maximum Credit value (St.08) set to 7 Minutes.
The Credit per Session (St.01) set to 3 Minutes.

- 1) When the first card is entered 3 Minutes is added to the Credit Remaining register and the Total Credit register.
- 2) When the second card is entered 3 Minutes is added to the Credit Remaining register and the Total Credit register.
- 3) When the third card is entered 1 Minutes 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 Session setting for meaningful Total Credit values.

St.08 - Maximum Credit (HH:MM or MM:SS)

The 'Maximum Credit' feature prevents credit being accumulated above a pre-set time limit.

Entering the required time limit in the 'Maximum Credit' setting, St.08, enables this feature. The value is entered in Hours and Minutes (or Minutes and Seconds³). Entering zero disables this feature.

Maximum Credit operation: -

- 1) Credit Remaining equal to zero.
- 2) Card(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.

³ If Minutes and Seconds operation is selected in the configuration. (See Minutes and Seconds Mode for details)

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

Note:

Unless the 'Remote Start/Stop' is enabled in the configuration settings 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.

The automatic enabling of the 'Fascia Start Button' is prevented if the 'Remote Start/Stop' feature is enabled. This is to prevent undesired starting of the session on the meter. If starting is required from both the 'Remote Button Unit' and the 'Fascia start Button' then both must be enabled in the configuration.

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 relays to the Run-On configuration status.
- 3) Show 'FrEE' on the display.

When the override is switched off the Run-On period will run (if enabled).

Note:

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

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' 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 (service card inserted)

Whilst the Main period is running: -

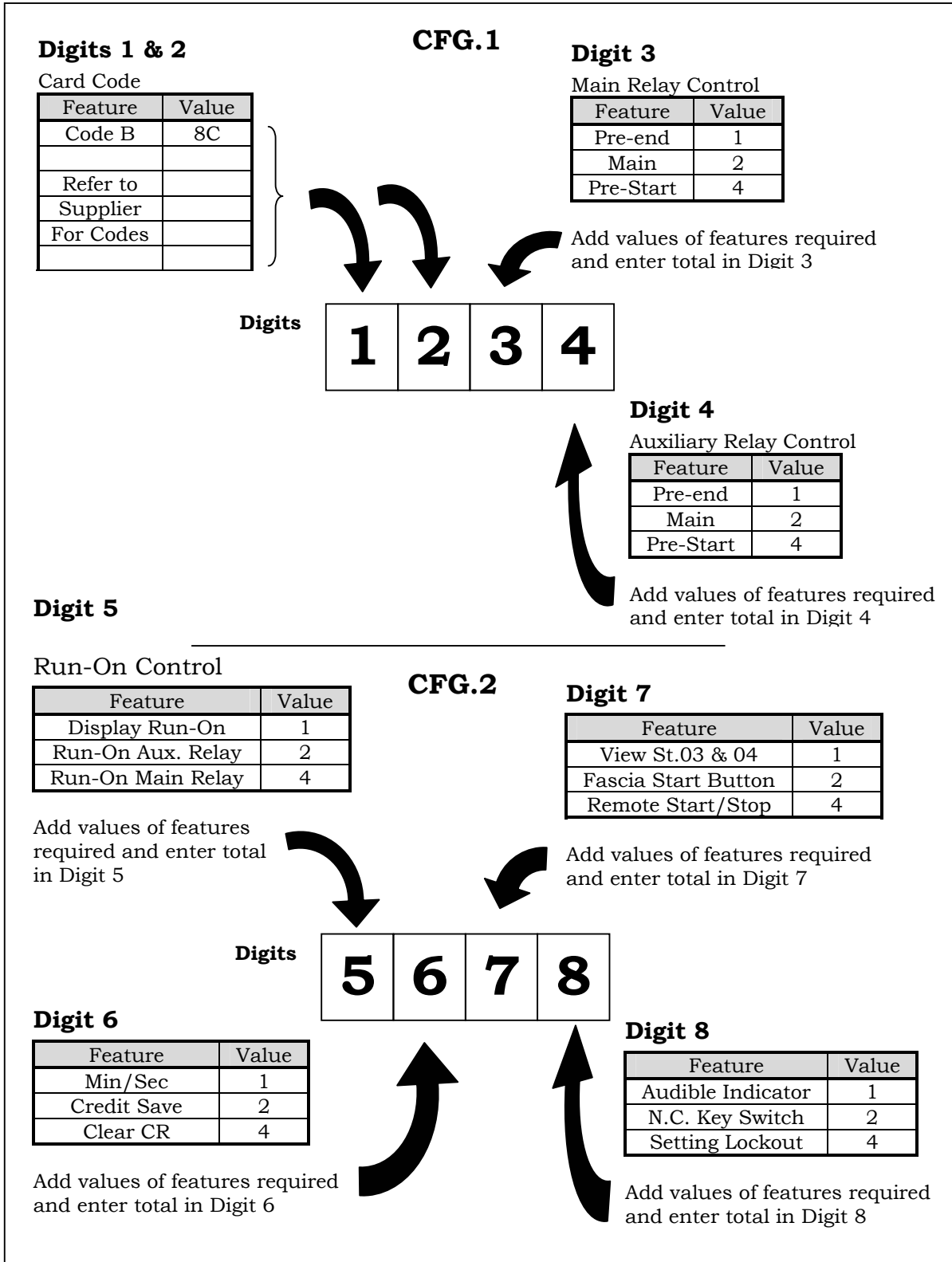
- a) Insert Service card and leave in place.
- b) Press button 'B'. Display will show 'CLr'.
- c) Press both buttons together (i.e. press and hold one button while pressing the other). This clears the Credit Remaining.
- d) If enabled the Run-On period will run.
- e) If required press both buttons again to clear the Run-On.

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

- 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 the Run-On period will commence.
- c) Run-On period will clear the balance of the Run-On period.

Configuration Chart



Text Messages

One second messages

Message	Description
CrEd	Card validated and accepted.
FAIL	Card not accepted, could be wrong code or already used
StOP	Card validated but maximum credit limit has been reached and no credit has been given. (Card will not be punched)
Er.xx	Where 'xx' is the error number (See 'Error Messages' for further details)
SynC	See 'Error Messages'
P.xx.x	Program/Software version installed, where 'xx.x' is the version number.

Flashing Messages

Message	Description
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 for further details)

Static Service Mode Messages

CLr	Clear credit remaining. (See 'Clear Credit' for further details)
P.xx.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 08.

Error Messages

Error (Er.xx)	Description
01	CPS is set to zero. ¹
02	The meter is configured for a different code to the card entered. ²
03	IIC communication error talking to the non-volatile memory. ³
04	Not used – Now replaced with ‘Sync’ message. See below. ⁴
If any of the error messages 12 – 15 are encountered please contact the LCS technical department.	
12	System Error – Mode routine entered with invalid ‘mode’ value.
13	System Error – Temp_mode routine entered with invalid ‘Temp_mode’ value.
14	System Error - ‘_Add_Mc’ entered with zero ‘Coin Value’.
15	System Error – IIC routines internal error.
SynC	Formerly Er.04 – Software re-synchronising with the 50Hz signal. ⁴

Notes:

- 1 Set a value for the Credit Per Session (CPS) in St.01.**
- 2 Contact your supplier for instructions on changing the card code.**
- 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.**