

Standard Timer Range

Coin or Token Operated



INSTALLATION AND OPERATING INSTRUCTIONS FOR COIN AND TOKEN OPERATED TIMERS

1kVA types maximum load 4.5 Amp resistive

7kVA types maximum load 30 Amp resistive

12kVA types maximum load 50 Amp resistive

VF types for voltage free switching maximum load 5 Amp @ 230V AC



1. INTRODUCTION

All meters are designed using modern electronic technology to give a very reliable unit when installed correctly. The modular construction allows for easy servicing or updating. Simple to install the meters require no maintenance other than regular emptying of the cash box. Most versions can be fitted with a variety of optional extras. The operating characteristics, as defined by BS-EN60730, are type 1B. The meters comply to the latest EMC and Low Voltage directives, meeting EN60730-1:92, EN50082-1:92, EN55014:93, and EN60555-2:87.

2. INSTALLATION

The meters are designed as independently surface mounted controls. They can be corner mounted either way unless incorporating the coin counter option when only right hand mounting is possible. Ensure ambient temperature of 40°C is not exceeded.

Before installing meter ascertain which model type and options are being installed.

- i. Lay the meter on its back and unlock and remove the cash box.
- ii. See Figure 1. Using a No. 1, 9 inch pozidrive screwdriver remove the recessed screw and remove the front panel by pulling towards base as far as possible, lifting bottom edge slightly outwards and then lifting panel upwards. **IMPORTANT.** It is essential that panel recess is clear of case lip before attempting to lift panel out. Rotate front panel and withdraw 9 way connector from printed circuit board, thus separating front panel from the meter case. Set programming switches (Section 4) and place panel in a safe place.
- iii. Position the case on the wall and mark the top centre fixing position. Drill and plug the wall and fit with No. 8 or 10 screw of not less than 22 mm. Hang case on screw and tighten. Use a spirit level to ensure the case is perfectly level.

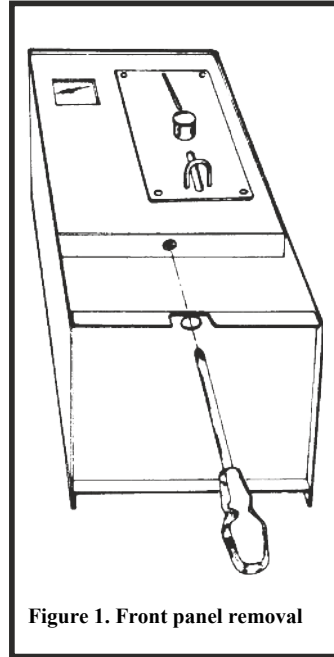


Figure 1. Front panel removal

- iv. Remove the cable knockouts as required and fix to the wall.
- v. Using a fused double pole switch for the mains input, wire the unit as shown in Figure 2. **IMPORTANT.** With 24V, VF (voltage-free) and 1kVA models use cable of cross sectional area not less than 1.0 mm² and fuse at 5A. With 7kVA rated models use cable of not less than 6.0 mm² and fuse as appropriate up to a maximum of 30A. For 12kVA rated models use cable of not less than 10 mm². The use of 20 mm conduit is recommended (use male thread adaptor with lock-ring e.g. Egatube type EMA/2). Alternatively fit a 20 mm nylon compression cable gland to provide strain relief.

Some models may incorporate an in line fuse. If blown, ensure new fuse is of correct value.

WARNING!

THE EARTH TERMINAL MUST BE CORRECTLY CONNECTED TO A KNOWN EARTH ENSURE EARTH WIRE IS ADEQUATELY TRAPPED BY THE TAGS OF THE CLAMPING WASHERS

- vi. Refit front panel, making sure the 9 way connector is the right way round. There is a polarising back wall to ensure correct polarity. **Forcing the connector the incorrect way round will cause irreparable damage.** Replace the recessed screw, making sure the screw head is flush with the front panel but not over tightened.
- vii. Insert cash box and lock. **MAKE A NOTE OF THE KEY NUMBER AND PUT ONE KEY IN A SAFE PLACE.**
- viii. Switch on and test for correct operation. See Section 4.

NEVER OPERATE THE UNIT WITH THE FRONT PANEL UNSECURED OR WITH THE CASE UNEARTHED.

6. SERVICE AID

All display timers have a service aid inbuilt into the electronic software which detects a fault with the coin acceptor. If the coin acceptor jams (usually because the cashbox has not been emptied or a coin has stuck) the display will flash until the fault is cleared.

7. REPAIRS

IN MOST CASES IT IS NOT NECESSARY TO REMOVE THE METER FROM THE WALL.

In case of failure the front panel may be removed and replaced, or individual parts replaced. To replace the top PCB unplug all connectors and then squeeze the four PCB stand offs in turn while lifting the board off them. The replacement is pushed down firmly until the flanges open. The bottom PCB (if fitted) is withdrawn, after unplugging the ribbon connector, by sliding down the guides, being careful not to damage the ribbon cable. See Figure 8.

If the coin/hour counter fails the module is withdrawn from the case, the 3 way connector unplugged, and replaced with a new counter PCB.

If the 7kVA relay in the back of the box fails, the loom should be pulled off, and the two M3 screws and washers removed carefully and a new relay fitted.

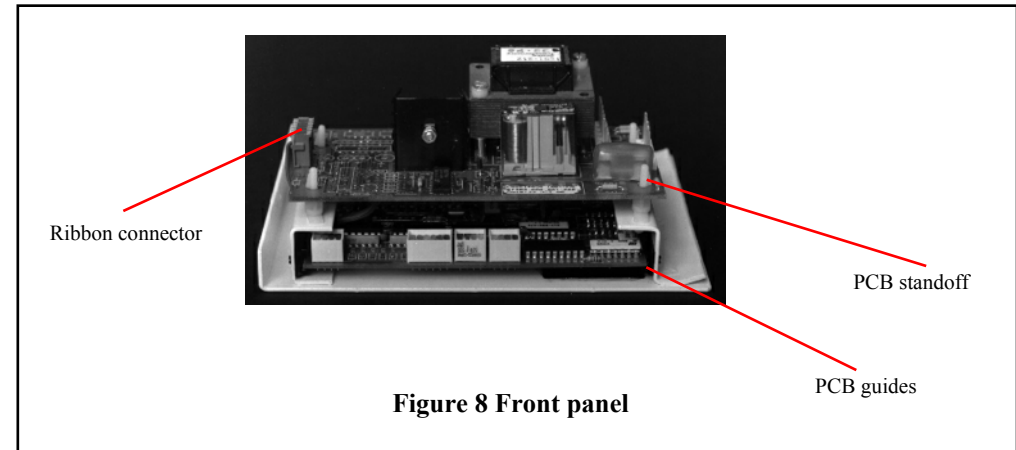


Figure 8 Front panel

8. TECHNICAL SUPPORT

Answers to many technical questions may be found on the support section of Leisure Controls International's web site at www.lcigb.com/support.

Alternatively contact technical support directly by one of the following:

E-mail: support@lcigb.com

Telephone: +44 (0) 1258 483574

Fax: +44 (0) 1258 488526

IMPORTANT The Standard range of timers are designed for indoor use only.

Although the timing meters are strong and reliable they are targets for petty theft. We therefore recommend that cash boxes are emptied daily and left open overnight where possible.

In addition **DMP/DRP** are fitted with a key override facility which when turned to the ON position overrides the timer and switches on the load permanently. The **DPC/DPR** are fitted with a panic button which when depressed resets the timer and switches off the load.

DFC, DFP and DPF (minutes) or **DRF, DRM and DPF** (seconds).

These models are fitted with a secondary output which can be programmed to continue for a predetermined time after the main output has turned off. The output can be used to switch a contactor coil or a small load such as a cooling fan or safety light. Under no circumstances should the secondary load exceed 3A and the combined load 4.5A. In all other respects they are identical to the **DMC/DRC** and **DMP/DRP** timers. In addition the **DRF/DRM** are fitted with the key override facility which when turned to the ON position overrides the timer and switches on the load permanently and **DPF/DPFR** are fitted with a panic button which resets the timer and turns off the load when pressed.

DPL (Washing Machine Control).

The DPL is designed for washing machines that do not allow the door to be opened when there is no power applied to the washing machine. When coin-operated this can cause a problem if the user does not open the door before the coin timer has disconnected power (normally there is several minutes overlap between machine cycle and coin timer disconnecting power). This problem can occur if the user leaves the laundry room and does not return until after power has been disconnected. To overcome this the coin timer re-applies power for a pre-determined time to allow the door to be opened when a START button is pressed on the front panel. If the user is present at all times and opens the door before coin timer disconnects power then the pushbutton is ignored until another coin time has been initiated. The START button is ignored if pressed during a timing cycle or if the display shows zero. If coins are inserted before the START button is pressed then a complete washing cycle is initiated. The normal sequence of operation is:

1. User inserts coin to start timing sequence.
2. User opens door, puts in washing and selects washing program.
3. User leaves laundry room.
4. User returns to find timing sequence completed, display flashing "door" and door locked.
5. User presses pushbutton, power is re-applied allowing door to be opened and washing retrieved. Display reverts to zero.

All the above models may be fitted with a Price Change Option.

The price change option enables the number of coins required to turn on the timer to be altered from one to fifteen. See Figure 4 to set the coin count.

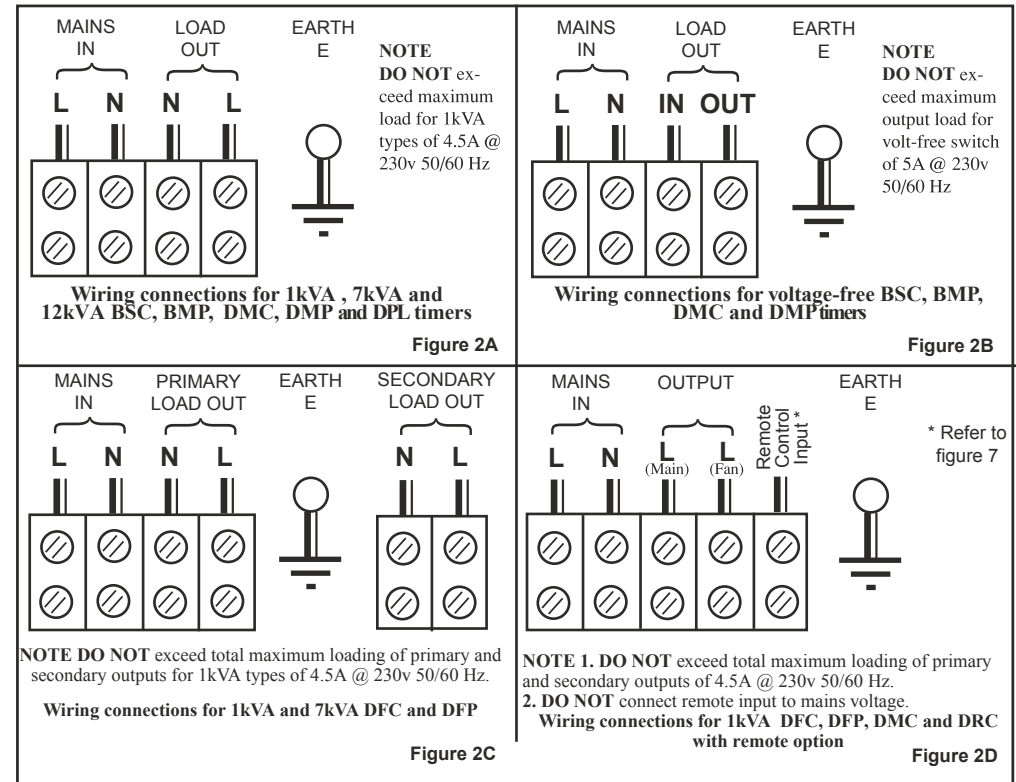


Figure 2 Input wiring connections

3. REMOTE CONTROL AND HOLD TIMER INPUTS

The hold timer option is only available with 1kVA **DMC, DMP, DRC and DRP** units. When the hold timer switch is placed in the OFF position the load is turned off and the timer stops counting. Normal operation commences when the switch is returned to the ON position. Refer to Figure 3 for wiring details.

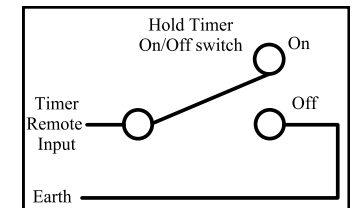


Figure 3a Hold timer wiring diagram

The remote control input is only available with 1kVA **DFC, DFP, DRF and DRM** units. On insertion of a valid coin or token the display shows the time allowed but the load is not switched on and the timer does not start until a remote push button is depressed. When the push button is pressed the load turns on and the timer commences counting down.

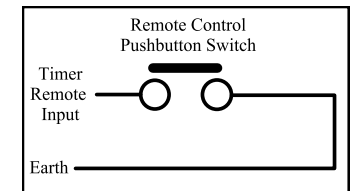


Figure 3b Remote control wiring diagram

WARNING! Only connect remote input to earth as any voltage applied to this input will damage the meter irretrievably. This input must ONLY be switched to earth.

4. SETTING PROGRAMMING SWITCHES

IMPORTANT - ALWAYS DISCONNECT FROM THE MAINS BEFORE ADJUSTING.

i. Setting the TIME PER COIN.

This is achieved with a 7 way switch bank located on a PCB (printed circuit board) on the back of the front panel. If there are two PCBs it is on the lower board. See Figure 6. Time periods may be minutes or seconds as specified on ordering and are selectable in 1 to 63 steps. The maximum time per coin is 127 minutes or seconds. The time units double for each switch; For example, Switch 1 gives one minute (or second), Switch 2 gives two and Switch 3 gives four; so if Switches 1, 2, 3 and 4 are ON, 15 minutes (or seconds) will have been programmed. See Figure 7.

ii. Setting the PRICE CHANGE OPTION.

This gives the facility to alter the number of coins required to activate the timer from one to sixteen. This is a 4 way switch bank located to the left of the 7 way switch. See Figures 6 and 4.

iii. Setting the RUN-ON DELAY.

This facility is only fitted to model types **DFC** and **DFP** and allows the length of time for the secondary output overrun to be programmed from 1 to 99 minutes. Use the two 4 way switches to the right of the seven way switch bank. Refer to Figures 6 and 5.

iv. Setting Accumulative/Non-accumulative Modes

This only applies to non-display models **BSC**, **BMP**, **BRC** and **BRP**. Use the 1 way switch bank to the right of the 7 way switch bank. Set to OFF for non-accumulative or set to ON for accumulative mode. See Figure 6.

COINS	SW1	SW2	SW3	SW4
1	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF
3	OFF	ON	OFF	OFF
4	ON	ON	OFF	OFF
5	OFF	OFF	ON	OFF
6	ON	OFF	ON	OFF
7	OFF	ON	ON	OFF
8	ON	ON	ON	OFF
9	OFF	OFF	OFF	ON
10	ON	OFF	OFF	ON
11	OFF	ON	OFF	ON
12	ON	ON	OFF	ON
13	OFF	OFF	ON	ON
14	ON	OFF	ON	ON
15	OFF	ON	ON	ON
16	ON	ON	ON	ON

Example. Set for 12 coins

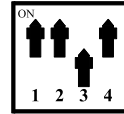


Figure 4. To set price change

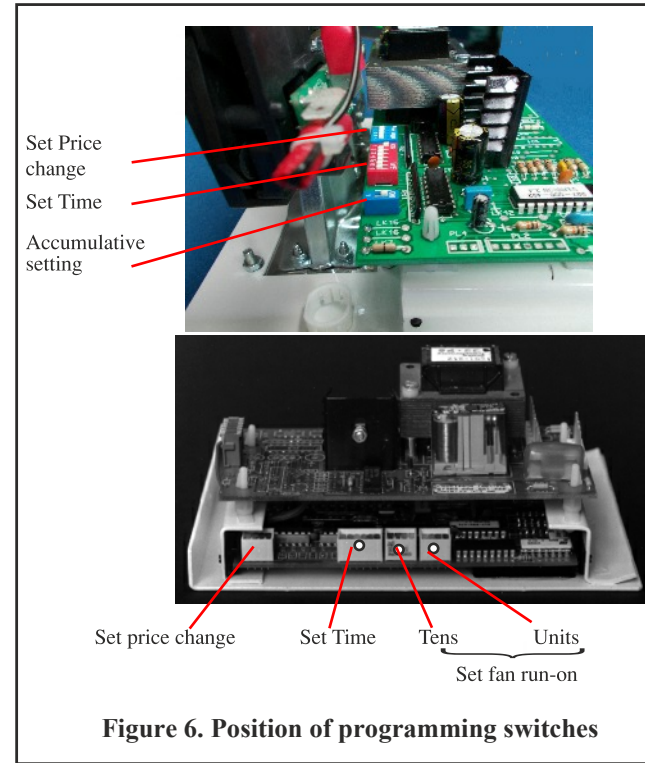


Figure 6. Position of programming switches

TO SET TIME PERIOD	
Switch No.	Time Period
1	1
2	2
3	4
4	8
5	16
6	32
7	64

Example set for 15 minutes

Switch numbers 1,2,3,4 ON
=1+2+4+8 = 15 minutes

Figure 7. To set time period

5. OPERATION

Non-display types

BSC and **BMP** (minutes) or **BRC** and **BRP** (seconds)

These timers can be configured to be either accumulative or non-accumulative using setting switch (see Figure 6). In non-accumulative mode (switch OFF) when a correct coin is inserted the load will be switched on for the time period selected. If a second coin is inserted the timer will reset to the programmed time and remaining time on the previous coin will be lost. If a coin counter is fitted both coins will be counted. In accumulative mode (switch ON) additional coins inserted add programmed time to time remaining. For example, if the time period is ten minutes, one coin gives ten minutes, two gives twenty and three gives thirty and so on. The maximum time which may be accumulated is 255 minutes (or seconds for types **BRC/BRP**). In addition models **BMP/BRP** are fitted with a key switch on the front panel which when turned to the ON position overrides the timer and switches on the load permanently. All models may be fitted with a lockout to prevent more than one coin being inserted; the **BMP/BRP** override facility activates the lockout.

Display types

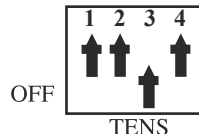
DFC, **DFP**, **DMC**, **DMP**, **DPC**, **DPF** and **DPL** (minutes) or **DRC**, **DPR**, **DRF**, **DRM** and **DRP** (seconds).

These timers have a three digit display on the front panel showing the minutes/seconds allocated on coin insertion and then count down. They are accumulative with a maximum time of 999 minutes (or seconds) but can be fitted with a lockout which prevents more than one coin being inserted and so preventing accumulation.

Tens Req'd	SW1	SW2	SW3	SW4
0	ON	ON	ON	ON
1	OFF	ON	ON	ON
2	ON	OFF	ON	ON
3	OFF	OFF	ON	ON
4	ON	ON	OFF	ON
5	OFF	ON	OFF	ON
6	ON	OFF	OFF	ON
7	OFF	OFF	OFF	ON
8	ON	ON	ON	OFF
9	OFF	ON	ON	OFF

TENS SWITCH BANK

Example shown
set for 45



Units Req'd	SW1	SW2	SW3	SW4
0	ON	ON	ON	ON
1	OFF	ON	ON	ON
2	ON	OFF	ON	ON
3	OFF	OFF	ON	ON
4	ON	ON	OFF	ON
5	OFF	ON	OFF	ON
6	ON	OFF	OFF	ON
7	OFF	OFF	OFF	ON
8	ON	ON	ON	OFF
9	OFF	ON	ON	OFF

UNITS SWITCH BANK

Figure 5
Set secondary
run-on

