

Wyvern Timer

☐ Token Coin ☐ Operated



INSTALLATION AND OPERATING INSTRUCTIONS FOR COIN AND TOKEN OPERATED TIMERS

1kVA types maximum load 4.5 Amp resistive
(typically five 100W incandescent or two 100W fluorescent lamps)

7kVA types maximum load 30 Amp resistive
(typically 7kW shower or 12 fluorescent lamps)

VF types for voltage free switching maximum load 5 Amp @ 230V AC
(typically switching contactors)



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 it requires 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, and can be corner mounted either way unless it is a coin counter version 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 (see section 5).

- 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 3) and place panel in a safe place.
- iii. Position the case on the wall and mark the top centre fixing position. Plug the wall and fit with No. 8 or 10 screw of not less than 22mm. Hang case on screw and tighten, use a spirit level to ensure the case is perfectly level. Mark the bottom two screw positions, remove case and plug the holes.
- iv. Remove the cable knockouts as required and fix to the wall.
If the case is not level the coin mechanism may malfunction.
- v. Using a fused double pole switch for the mains input, wire the unit as shown in Fig 2. **IMPORTANT.** With 24V, VF (volt-free) and 1kVA models use cable of crosssectional area not less than 1.0sq. mm and fuse at 5A. With 7KVA rated models use cable of not less than 6.0 sq. mm and fuse as appropriate upto a maximum of 30A. The use of 20mm conduit is recommended (use male thread adaptor with lock-ring e.g. Ega type EMA 1ZM). Alternatively fit a 20mm 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. Refer to section 4 for wiring details for units with remote control and hold timer options. **WARNING.** Do not connect remote/hold timer input to mains.
- vii. Refit front panel, make sure the 9 way connector is the right way round, there is a polarising pin to assist in this. Replace the recessed screw, making sure the screw head is flush with the front panel but not overtightened.
- viii. Insert cash box and lock. **MAKE A NOTE OF THE KEY NUMBER AND PUT ONE KEY IN A SAFE PLACE.**
- ix. Switch on and test for correct operation, see section 5.

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

Options available with the above

PRICE CHANGE OPTION (PC). This enables the number of coins required to turn on the timer to be easily altered. See 3.ii.

EXTENDED TIME (ET). This increases the maximum time per coin from 63 to 127 minutes (or seconds). This will be a 7 way switchbank on the PCB instead of a 6 way. See section 3.i.

COIN COUNTER (CC). This is a small PCB located behind a window on the left hand side of the timer. This is a tamper proof way of checking the exact income derived from each timer. The total count is 99999, after which it resets to 00000.

HOURLY COUNTER (HC). This is located in the same place as the coin counter, but registers how long the timer has been in use. The maximum recorded hours before resetting to zero is 99999.99

LOCKOUT (LO). With the mains off a bar will cross the coin slot preventing the insertion of coins. When the mains is on the bar is removed until a coin is inserted when it will reappear blocking the coin slot until the time period has expired.

REMOTE CONTROL (RC) & HOLD TIMER (HT). The RC option, available only with 1kVA DFC, DFP, DRF and DRM timers, allows the timer to be remote started whereas the HT option, available only with 1kVA DMC, DMP, DPC, DRC, DRP and DPR timers, allows the timer to be remotely started and stopped. See section 4 of this installation guide.

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 microswitch 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.

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.

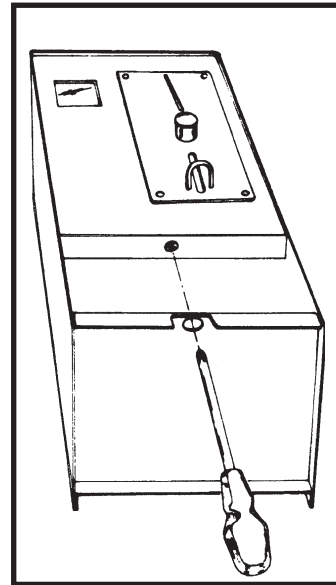


Figure 1

IMPORTANT The Electronic Timing Meters 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.

4. REMOTE CONTROL & HOLD TIMER INPUTS

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. The hold timer option is only available with 1kVA DMC, DMP, DRC and DRP units. When a remote 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 7 for wiring details.

WARNING ! Do not connect to any voltage input as this will irretrievably damage the meter. This input must ONLY be switched to earth.

5. OPERATION

Non-display types

BSC & BMP (minutes) and **BRC & BRP** (seconds). With the mains off any coins inserted will be lost. When the mains is applied and the correct coin inserted the load will be switched on for the time period selected. If a second coin is inserted the timer will reset to the new coin and remaining time on the old coin will be lost. If a coin counter is fitted both coins will be counted. In addition the 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. They may be fitted with a lockout to prevent coin loss; the BMP/BRP override facility activates the lockout.

ACC & ACP (minutes) and **ARC & ARP** (seconds). (Accumulative BSC/BMP & BRC/BRP). This type has no lockout facility. These timers will add the specified time for every coin inserted, e.g.. if the time period is ten minutes 1 coin gives ten minutes, 2 gives twenty and 3 gives thirty and so on. The maximum time which may be accumulated is 255 minutes (or seconds if the timer is set for seconds). For example with extended time set to maximum (127) no more than 2 coins should be inserted, whereas if the time period is set for 5 up to 50 coins may be inserted.

Display types

DMC, DMP & DPC (minutes) and **DRC, DRP & DPR** (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. In addition DMP/DRP are fitted with a key override facility and DPC/DPR with a panic button which when depressed resets the timer and switches off the load.

DBC & DBP (minutes) and **DRB & DRS** (seconds). These timers are identical to the above but with the addition of a buzzer output which is activated ten seconds before the timing period is due to reach zero. An additional terminal block is located to the right of the earthing stud which can be connected to the Wyvern Buzzer Warning Station. (Other buzzers may be used if they do not exceed 100mA @ 12V DC)

DFC, DFP & DPF (minutes) and **DRF, DRM & DPF** (seconds). (With a secondary output e.g. fan run-on). These timers have 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. 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 and DPF/DPFR with a panic button which resets the timer and turns off the load when pressed.

PMC, PMP & PPC (minutes) and **PRC, PRP & PPR** (seconds). (Display timer with programmable lockout). These timers have a two digit display on the front panel showing the minutes/seconds allocated on coin insertion and then count down. They can be set to allow accumulation up to a specified time with a maximum of 99 minutes (or seconds). The lockout bar if fitted is activated when the maximum allowable time is reached. If the lockout is not fitted any coin inserted after maximum time is reached will be lost. Additionally PMP/PRP are fitted with the key override facility, and the PPC/PPR with a panic button which resets the timer and turns off the load when pressed.

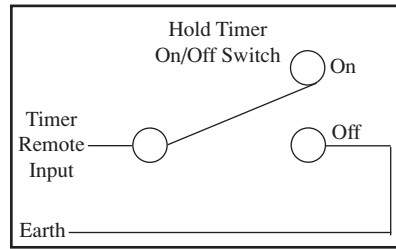


Figure 9a Hold Timer Wiring Details

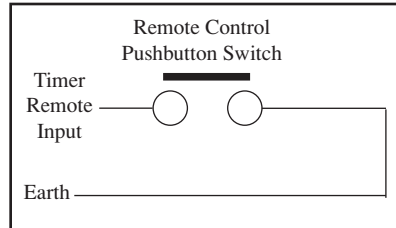
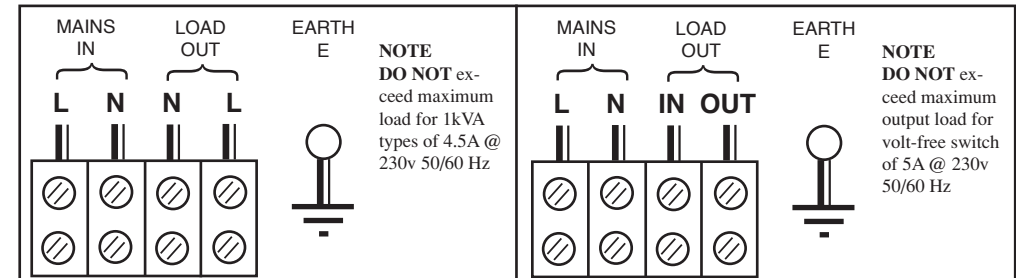


Figure 9b Remote Control Wiring Details

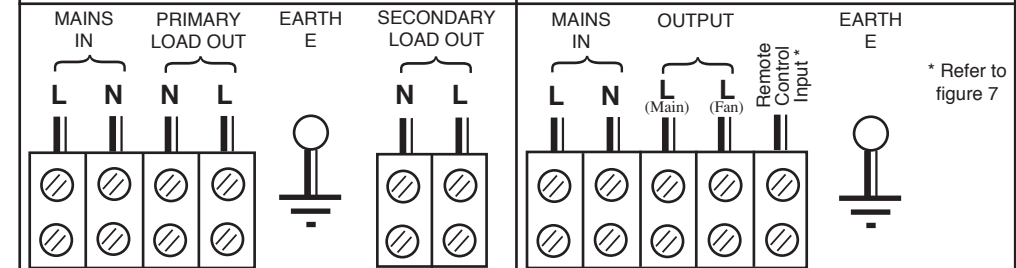


Wiring connections for 1kVA & 7kVA BSC, BMP, ACC, ACP, DMC, DMP, PMC, PMP

Figure 2A

Wiring connections for Volt-free BSC, BMP, ACC, ACP, DMC, DMP, PMC, PMP

Figure 2B



NOTE DO NOT exceed total maximum loading of primary and secondary outputs for 1kVA types of 4.5A @ 230v 50/60 Hz.

Wiring connections for 1kVA & 7kVA DFC and DFP

Figure 2C

NOTE 1. DO NOT exceed total maximum loading of primary and secondary outputs of 4.5A @ 230v 50/60 Hz.

2. DO NOT connect remote input to mains voltage.

Wiring connections for 1kVA DFC and DFP with remote option

Figure 2D

Figure 2 (above)

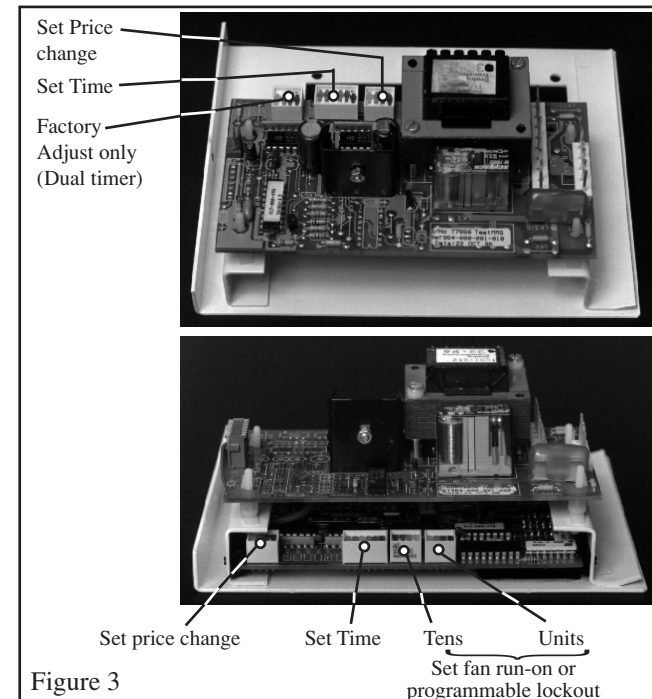
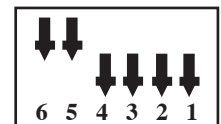


Figure 3

TO SET TIME PERIOD

SW NO.	TIME (MINS)
1	1
2	2
3	4
4	8
5	16
6	32
7	64

eg for 15 minute period



Switch nos 1,2,3,4= 1+2+4+8 = 15 minutes

Figure 4

3. SETTING PROGRAMMING SWITCHES

IMPORTANT - ALWAYS DISCONNECT FROM THE MAINS BEFORE ADJUSTING.

i. **Setting the TIME PER COIN.** This is done with a 6 way (standard) or 7 way (optional) switchbank 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 3. Time periods may be minutes or seconds as specified on ordering and are selectable in 1 to 63 steps. The **extended time option** gives up to 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 4; so if switches 1, 2 and 3 are up 7 minutes (or seconds) will have been programmed. See Figure 4.

ii. **Setting the PRICE CHANGE OPTION.** This gives the facility of altering the number of coins required to activate the timer from one to sixteen. This is a four way switchbank located to the left of the 6 (or 7) way switch. See figures 3 and 5.

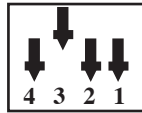
iii. **Setting the PROGRAMMABLE LOCKOUT.** This facility, only fitted to model types PMC and PMP selects the time when the lockout is activated and can be set from 1 to 99 minutes. Note that if a lockout bar is not fitted further coins that are added after the programmed time has been reached will be lost, but recorded by the coin counter (if fitted). Use the two four way switches to the right of the 6 (or 7) way switch. Refer to figures 3 and 6.

iv. **Setting the FAN RUN-ON DELAY.** This facility is only fitted to model types DFC and DFP and allows the length of time for the fan overrun to be programmed from 1 to 99 minutes. Use the two four way switches to the right of the 6 (or 7) way switch. Refer to figures 3 and 6.

v. **Setting DUAL COIN TIMERS.** These are preset at the factory and should not be adjusted. If inadvertently changed please contact the Sales Office.

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

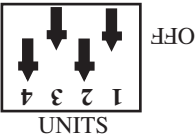
Figure 5
To set coin count eg set for 12



Units Reqd	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

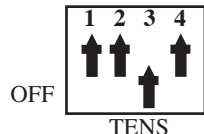
Figure 6
Set Programmable Lockout (Fan overrun)



Tens Reqd	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

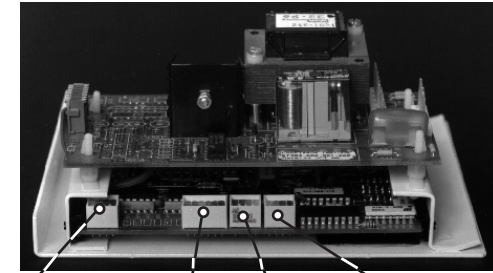
TEN SWITCH BANK

Example shown set for 45



vi. **Setting RDM/RDF Timers.** The RDM/RDF range incorporate a pre-time or wait time function. This wait time is programmable between zero and fifteen minutes. In addition the RDF has a post time or ran over-run facility which is also programmable between zero and fifteen minutes. The four way programming switches for both these functions are to the **Right** of the six way bank of switches. The switch settings are shown in figure 9 of this supplement.

Both the RDM and the RDF can have an optional price change function (see section 3.ii in the main instruction leaflet) or a programmable lockout. With the RDM/RDF range the lockout is programmed for the maximum number of coins that may be inserted per session (as opposed to the maximum time that may be allowed with the FMC/PMP). Both the price change and lockout values are programmed using the four way switch bank to the left of the six way switch bank. The switch settings are identical to those shown in figure 5 of the main instruction leaflet.



Set price change (or lockout) Set time Set wait time Set fan run-on time

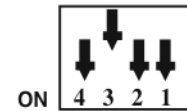
Figure 3

To set price change or lockout (if fitted) see figure 5 in main instruction leaflet. To set main time see figure 4 in main instruction leaflet.

To set pre-time use figure 9.

To set fan fun-on (if fitted) see figure 9.

Figure 9
To set wait time and fan run-on time (RDM/RDF only)



eg set for 4 min

TIME	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
10	ON	OFF	ON	OFF
11	OFF	OFF	ON	OFF
12	ON	ON	OFF	OFF
13	OFF	ON	OFF	OFF
14	ON	OFF	OFF	OFF
15	OFF	OFF	OFF	OFF