*Panel*MASTER

Timer Modules

Without Housing
MEU11 (24 Hour) MEU17 (7 Day)

With Housing
(Giving Panel Mount Capability)
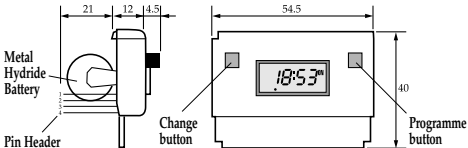**EMU11 (24 Hour) EMU17 (7 Day)**

MEU 11 & MEU 17   **Figure 1**
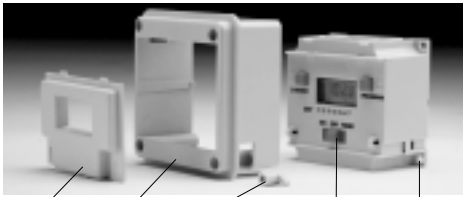

Metal Hydride Battery

Pin Header

Change button

Programme button

Engineering drawing can be supplied on request

EMU 11 & EMU 17

Tamper proof cover

Bezel for panel mounting

Panel mount bolts

Slide switch allowing continuous ON or OFF or programmed operation

Surface mount fixing

Contents

1   EMU11 (24 hour) or EMU17 (7 day)
1   Panel mount bezel
1   Tamper proof cover
4   Surface mount stand offs (length 10mm)
2   Panel mount bolts
2   Self-tapping screws (No. 4 x 5/8 in) for panel mount bolts
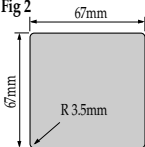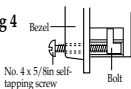2   Self-tapping screws (No.6 x 3/8 in) for attaching bezel to EMU11/17

Fig 2

67mm

67mm

R 3.5mm

Fig 3

Use No. 6 x 3/8in self-tapping screws to fully secure bezel to EMU11/17 (fixed from rear)

Fig 4

Bezel

No. 4 x 5/8in self-tapping screw

Bolt

Installation - Panel Mounting

For panel mounting (in panels up to 7.0mm thick with the cut-out as shown in figure 2) the EMU11/17 should be snapped into the bezel supplied and secured in place by the use of the 2 No. 6 x 3/8in self-tapping screws provided as shown in figure 3.

When selecting a position for the unit it should be born in mind that a clearance behind the front panel surface of 26.0mm is required over the full area of the panel cut-out.

The unit is designed to be mounted from the front of the panel by the following procedure:

a. Insert the 2 bolts provided in the locations shown in figure 4.

b. Then insert the 2 No. 4 x 5/8 in self-tapping screws into the bolts and engage thread.

c. Make connections to the unit by wires terminated in a Molex 4 way 7720 or similar connector from behind the panel.

d. Insert the EMU11/17 complete with bezel into the panel and tighten up the 2 No. 4 self-tapping screws. The ears on the bolts will rotate under the tightening action to clamp the unit to the panel.

Surface Mounting

The EMU11/17 without bezel can be surface mounted using the 4 securing holes as shown in figure 5. The unit can be stood off from the mounting surface by 10mm using the 4 spacers if required. Screws are not provided and it must be remembered that if used in this way the EMU11/17 must be installed within a housing or cubicle to prevent access to the mains terminations.
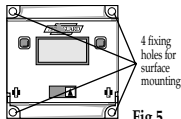
4 fixing holes for surface mounting
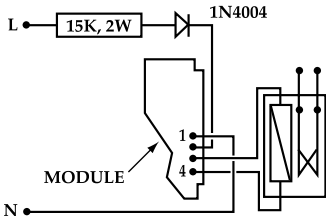
Fig 5

2. Specifications
MEU11 & EMU11

● 4 ON/OFF programmes
● Easy 2 button programming
● Change/Override until next programme
● Rechargeable Metal Hydride battery back-up with 1000 hours reserve
● Requires only an external diode, resistor and relay to switch mains
● Temperature range 0° to 55°C

Operation

The programme button advances programme steps and the change button the hours and minutes which flash. Time of day is set first and is updated during the programming period. Programmes 1 to 4 follow. If, during programming, no button is pressed over a period of one minute then the display will revert to normal operation. In normal operation, pressing the change button changes the output until the next programme step.

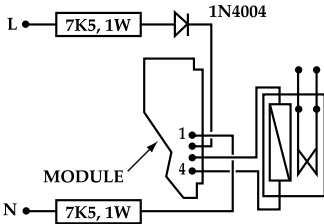### Single Resistor PSU (MEU11 & MEU17 only)

Fig 6

MEU17 & EMU17

● 6 ON/OFF programmes, daily, weekly, weekend or weekday options
● Easy 2 button programming
● Change/Override until next programme
● Rechargeable Metal Hydride battery back-up with 1000 hours reserve
● Requires only an external resistor, diode and relay to switch mains
● Temperature range 0° to 55°C

Operation

The programme button advances programme steps and the change button then updates the item selected. Day/days of week is first to be programmed followed by hours and minutes. The 6 ON/OFF programmes then follow, each in the sequence day/days, hours and minutes. If, during programming, no button is pressed over a period of one minute then the display will revert to normal operation. In normal operation, pressing the change button changes the output until the next programme step.

Two Resistor PSU - gives Optimum EMC Performance (MEU11 & MEU17 only)

Fig 7

All Types

Connections

Pin 1: Common.

Pin 2: Positive battery charge plus relay current. Min 0.50 mA (No relay).

Pin 3: Relay connection.

Pin 4: Output & relay connection. NPN open connector. Max 10 mA, 47 V A Molex 7720 4 way connector or similar is recommended.
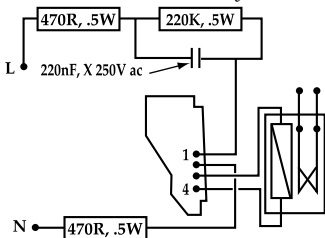
MEU11 and MEU17 - Typical Usage

The examples in figs 6, 7 and 8 show the module driving a Shrack 48V relay with power derived from the mains. Type RP330048 or RP331048 (Changeover contracts). In these configurations the relay pulls in at 47V and is held at above 24V with mains voltages down to 200V.

EMU11 and EMU17 - Typical Usage

In this case the circuit in fig 6 can be used with a 10K, 3W resistor in place of the 15K, 2W resistor shown and a 1.3W zener must be connected between pins 1 and 2 of the module. The circuit in fig 7 can be used with two 5K1, 1.5W resistors in place of the 7K5, 1W resistors shown and a 1.3W zener must be connected between pins 1 and 2 of the module. The circuit in fig 8 can be used with a 330nF, X 250V ac capacitor instead of the 220nf capacitor shown and a 1.3W zener must be connected between pins 1 and 2 of the module.

In all cases the zener is 47V and its cathode is connected to module pin 2.

Capacitor PSU (MEU11 & MEU17 only)
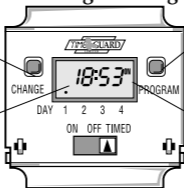
Fig 8

It is possible to operate these modules from other voltages. Please contact Technical Service on 020 8450 0515 for advice.

3. EMU11 & MEU11 Programming Instructions

Change Button
sets Hours and Minute times and self cancelling override

Programme Button
used to select the clock time and the 4 ON/OFF programme times and to review them once set

Easy view 24 hour digital clock/timer display

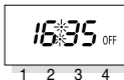**Output Status**
showing unit either ON or OFF

Battery
This product has a factory fitted rechargeable battery. If the time controller is left with its mains power switched off for more than 1 month the display may go blank. In this case switch mains on, wait 30 minutes, and apply reset - see 1 before programming.

Programming
Only two setting buttons are required, Change and Program. In normal use the Change button is used to switch ON or OFF, overriding the timeswitch until the next programmed OFF or ON time. During programming the Change button is used to set the hours and minutes. The Program button is only used when setting or adjusting the clock time or the 4 programmed ON/OFF times, although it can also be used to review the ON/OFF times once they have been set. Each time the Program button is pressed the display will flash either the hours or minutes in turn, starting with the clock then the first ON time, first OFF time, second ON time etc. Wherever the hours or minutes are flashing they may be set using the Change button. Once set the Program button is pressed again to proceed to the next stage.

Normal Operating Mode
In normal operation the PanelMaster will display the correct time with the colon flashing. The output status will be shown by either ON or OFF on the display.

1 To Reset Display
To clear programs from memory and reset the time controller press and hold down both buttons until the display goes blank.
Release buttons and display will fill its complete range of characters and then clear to show clock and hour digit flashing.

You are now in the clock setting mode at the beginning of the programme sequence

Programming sequence

Setting clock	:····→	Programme 3 ON
Programme 1 ON	:	Programme 3 OFF
Programme 1 OFF	:	Programme 4 ON
Programme 2 ON	:	Programme 4 OFF
Programme 2 OFF ······		Operating Mode

Note: Button pauses greater than 1 minute during programming will result in automatic return to the operating mode.
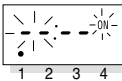
2 Setting Clock (after reset)

i **Hour Setting** - Press the <Change> button to advance the hour setting.Note: For rapid hour selections press and hold down <Change> button.

ii **Minute Setting** - Press the <Program> button once to select the minutes - display shows clock symbol and minute digits flashing. Press the <Change> button to advance the minutes setting. Note: For rapid minute selection press and hold down <Change> button. (Note: 16 hrs shown as example of hrs set)

iii Press <Program> button once - clock is now set and display shows ready for the first ON programme time with ON and hours digits flashing.
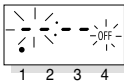
3. To Set Programme ON/OFF Times (after clock setting)

Programme 1 ON time

i Press <Change> button to advance the hour setting.

ii Press <Program> button once to select minute time - display shows minute digits and ON flashing. Press <Change> button to advance minute setting. (Note: 16 hrs shown as example of hours set).

iii Press <Program> button once - the first ON time is now set and display shows ready for the first OFF programme time.

iv Now set the hrs and minutes as before.

v Repeat steps i to iv to set the remainder of the 3 ON/OFF times as required. Note: Any unused ON/OFF programme should be skipped until the display shows normal operating mode. Do not programme '0's into unused programmes.

IMPORTANT After setting a clock time which falls within a programmed ON period, the unit will not switch ON. Use the Change button to switch unit ON. After this the unit will operate normally to the programmes set.
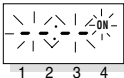
4. Programme Review
To fast review the set programmes or for quick exit to normal operating mode - press and hold the <Program> button.

5. Initiating Programme Mode
This can be initiated any time during the normal operating mode. Press <Program> button and the Clock symbol, hrs and minutes symbols on the display will flash - this is review mode. If any change to programmes is required press <Change> button to initiate programme mode and then follow steps 2 and 3.

6. Cancelling Programmes
Any ON/OFF programme can be cancelled by clearing its ON and OFF time. Follow step 5 and when into the ON or OFF programme to be cancelled press the <Change> button until the hour digits show --:
then press the <Program> button to clear the programme. The display will show the hour and minute digits and ON or OFF flashing.
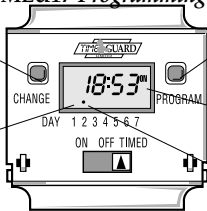

Self Cancelling Override
To change the output status from ON to OFF or vice versa during normal operation press the <Change> button. The output status will change and indicate override is in operation by flashing.

4. EMU17 & MEU17 Programming Instructions

Change Button
sets Day(s), Hours and Minute times and self cancelling override

Programme Button
used to select the clock time and the 6 ON/OFF programme times and to review them once set

Easy view 24 hour digital clock/timer display

Output Status
showing unit either ON or OFF

Day indicator
1 = Monday
7 = Sunday

Clock display shows: `18:53` PM, DAY 1 2 3 4 5 6 7, ON OFF TIMED

CHANGE   PROGRAM

Battery
This product has a factory fitted rechargeable battery. If the time controller is left with its mains power switched off for more than 1 month the display may go blank. In this case switch mains on, wait 30 mins, and apply reset - see 1 before programming.
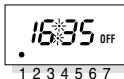
Programming
This is a seven day (weekly) timeswitch which has six programmes, each of which can be block programmed to work on all of the five weekdays, both weekend days, or all 7seven days (24 hour operation). Programmes can also be designated to operate on individual days.

Only two setting buttons are required, Change and Program. In normal use the Change button is used to switch ON or OFF, overriding the timeswitch until the next programmed OFF or ON time. During programming the Change button is used to set the hours, minutes and days. The Program button is only used when setting or adjusting the clock time and day or the 6 programmed ON/OFF times and days, although it can also be used to review the ON/OFF times and days once they have been set. Each time the Program button is pressed the display will flash either the days, hours or minutes in turn, starting with the clock then the first ON time and day(s), first OFF time, second ON time and day(s) etc. Wherever the days, hours or minutes are flashing they may be set using the Change button. Once set the Program button is pressed again to proceed to the next stage.

Normal Operating Mode
In normal operation the PanelMaster will display the correct day and its time with the colon flashing. The output status will be shown by either ON or OFF on the display.

Display shows: `16:35` OFF, 1 2 3 4 5 6 7

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1 To Reset Display

To clear programmes from memory and reset the time controller press and hold down both buttons until the display goes blank. Release buttons and display will fill with its complete range of characters and then clear to show clock and day 1 symbol flashing.

You are now in the clock setting mode at the beginning of the programme sequence

Programming sequence

Setting clock	:	→ Programme 4 ON
Programme 1 ON	:	Programme 4 OFF
Programme 1 OFF	:	Programme 5 ON
Programme 2 ON	:	Programme 5 OFF
Programme 2 OFF	:	Programme 6 ON
Programme 3 ON	:	Programme 6 OFF
Programme 3 OFF	····	Operating Mode

Note: Button pauses greater than 1 minute during programming will result in automatic return to the operating mode.

2 Setting Clock (after reset)

i   **Day Setting** - Press <Change> button to advance to the day required. Day 1 = Monday and Day 7 = Sunday.

ii   **Hour Setting** - Press the <Program> button once to select the hour - display shows clock symbol and the hrs digit flashing.
Press the <Change> button to advance the hour setting.Note: For rapid hour selections press and hold down <Change> button.

iii   **Minute Setting** - Press the <Program> button once to select the minutes - display shows with clock symbol and minute digits flashing. Press the <Change> button to advance the minutes setting. Note: For rapid minute selection press and hold down <Change> button.

iv   Press <Program> button once - clock is now set and display shows ready for the first ON programme time.

3. To Set Programme ON/OFF Times (after clock setting)

Programme 1 ON time

i   Press <Change> button to advance the day flag to the required day(s) settings which are:

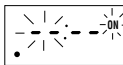| 1	2	3	4	5	6	7	
•	•	•	•	•			= 5 days (Weekdays) Mo Tu We Th Fr
					•	•	= 2 days (Weekend) Sa Su
•	•	•	•	•	•	•	= 7 days (Everyday) Mo Tu We Th Fr Sa Su
•							= Individual days Starting with Monday through to Sunday

ii Once day option selected press <Program> button once to select hour time - display shows hour digits and ON flashing. Press <Change> button to advance hour setting. (Note: Monday shown as an example of days set).
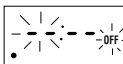
iii Press <Program> button once to select minute time - display shows minute digits and ON flashing. Press <Change> button to advance minute setting. (Note: 16 hrs shown as example of hours set).

iv Press <Program> button once - the first ON time is now set and display shows ready for the first OFF programme time.

v   Now set the hrs and minutes as before. The day(s) selected remains the same.

vi Repeat steps i to v to set the remainder of the 5 ON/OFF times as required. Note: Any unused ON/OFF programme should be skipped until the display shows normal operating mode. Do not programme '0's into unused programmes.

IMPORTANT After setting a clock time which falls within a programmed ON period, the unit will not switch ON. Use the Change button to switch unit ON. After this the unit will operate normally to the programmes set.

4. Programme Review

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Self Cancelling Override

To change the output status from ON to OFF or vice versa during normal operation press the <Change> button. The output status will change and indicate override is in operation by flashing.