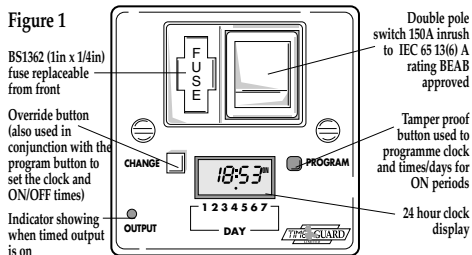**FST11 SupplyMaster 24 Hour Fused Spur Time switch**

Farnell SKU – 987-037

24 hour fused spur time switch for controlling combination boilers, storage heaters, convector heaters, water heaters, washing machines and dishwashers.

- 13A (3kW) loading.
- Up to 4 ON/OFF programmes per day.
- Switched and switched/timed outputs.
- Simple two button programming.
- Manual override until next programme change.
- Integral double pole switch and BS1362 fuse.
- Shortest switching time 1 minute.
- 1000 hours rechargeable memory back up.
- Voltage free contacts.
- Fits on to a single gang wall box minimum 25mm deep.
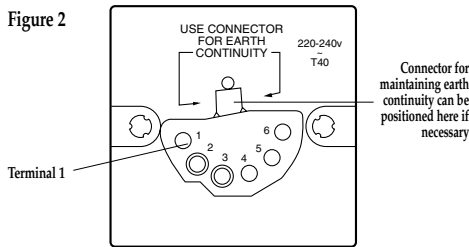- Part No. FST11

Figure 1

BS1362 (1in x 1/4in) fuse replaceable from front

Override button (also used in conjunction with the program button to set the clock and ON/OFF times)

Indicator showing when timed output is on

Double pole switch 150A inrush to IEC 65 13(6) A rating BEAB approved

Tamper proof button used to programme clock and times/days for ON periods

24 hour clock display

CHANGE   *18:53*   PROGRAM

1234567

OUTPUT   **DAY**   *TIME GUARD*

Contents

1   SupplyMaster FST11 (24 hour) or FST17 (7 day)
2   3.5mm screws 50mm long
2   3.5mm screws 65mm long
1   Flying lead adaptor plate
1   Earth continuity connector
2   No. 4 self-tapping screws 12mm long

General

The FST11 (24 hour) or FST17 (7 day) is a unit which mounts on a BS4662 plaster depth single box or alternatively on a BS5733 surface mount single box. It can be modified, if required, to have a flying lead output in which case the adaptor plate is fitted between the SupplyMaster unit and the plaster depth box using the longer screws supplied.

The unit combines the facilities of a double pole switched and fused connection unit capable of being wired directly into a ring main and a timeswitch. A normal switched output is available as well as the timeswitch output. The front and back of the unit is shown in figs 1 and 2 and the internal circuit in fig 3.

1

Figure 2

USE CONNECTOR FOR EARTH CONTINUITY

220-240v — T40

Terminal 1

Connector for maintaining earth continuity can be positioned here if necessary

Applications

Combination Boilers

The SupplyMaster has six terminals primarily to provide a combined connection unit and timeswitch for combination boilers. It provides a timed output for heating control and a continuous output supplying the boiler system itself. In this instance terminals 2 and 3 can be used for connecting to a room thermostat or can be linked together. If the boiler works with extra low voltage controls then terminals 1 and 2 offer true voltage free contacts.

Storage Heaters

In this instance the timed output can be used for charging and the continuous output can be used in conjunction with a room temperature control to supply the fan. A link is required between terminals 2 and 3.

Lighting

The SupplyMaster can replace a normal light switch, provided a neutral is made available and lighting of up to 2.5kw filament or 500w fluorescent can be controlled.

Other Appliances

Energy consuming appliances such as immersion heaters and washing machines, dishwashers and tumble driers up to 13A total loading can be supplied by the FST11/17 enabling the users to make use of Economy Seven electricity without the use of a plug and socket arrangement and its associated risk of overheating damage at 13A. In this instance a link is required between terminals 3 and 2.
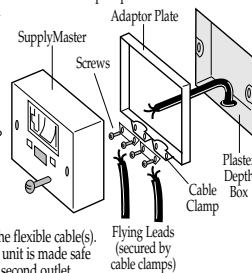
2

Installation

The unit is designed to replace an existing single gang connection unit or fixed appliance outlet giving both switched mains and switched and timed mains outputs both protected by a BS1362 fuse. The unit is capable of forming part of a ring main (the terminals can accept 2 x 2.5mm² cables) or terminating a spur off a ring main. The unit requires a minimum of 25mm depth within the box to enable it to be fitted. Ensure that the wiring is adequate for the load to be carried. Cut the cable tails to length and strip sleeving and insulation as required, tighten the screw terminals on the cables and form the cables. Offer the unit up to the mounting box forming the cables as required finally tightening up the shorter (50mm) 3.5mm screws.

If you require a flying lead for controlling a washing machine or two for controlling a combination boiler then use the flying lead adaptor plate between the mounting base and the FST11/17. Two cable clamps and one blanking piece (if only one cable is required) are provided on the plastic sprue within the adaptor plate.
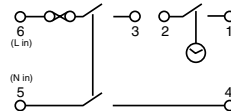
Break off the required parts and discard the remainder of the sprue.

Wire the flexible cable(s) to the appropriate terminals (ensuring that they are adequately rated). Hang the adaptor over the fixed cable tails and connect these to the appropriate screw terminals. Then offer the FST11/17 and adaptor plate up to the box and screw home the longer (65mm) of the 3.5mm screws. Finally screw home the cable clamp(s) with the self-tapping screws provided giving strain relief to the flexible cable(s). If only one cable is used ensure that the unit is made safe by securing the blanking piece over the second outlet.
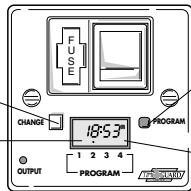
SupplyMaster
Adaptor Plate
Screws
Plaster Depth Box
Cable Clamp
Flying Leads (secured by cable clamps)

Fuse

Use the appropriate BS1362 fuse for the load to protect the cabling to the load and the FST11/17 itself. A 13A fuse is supplied with the unit.

Figure 3

6 (L in)

3   2   1

(N in)

5

4

3

FST 11 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
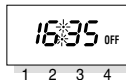
Output Status
showing unit either ON or OFF

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 provided <Change> and <Program>. The <Program> button is recessed to prevent inadvertent program change and requires a pen or other similar impliment to operate it.During the programme mode the <Change> button is used to set the hour and minute times. Holding this button down achieves rapid selection of the hr and minute times. It is also used for changing the output status during normal operation. The <Program> button is used to select the clock time and 4 ON/OFF programmes and to review them once set. Holding this button down achieves rapid selection of the next programmes or can be used as a quick exit from programme mode or programme review.

Normal Operating Mode
In normal operation the SupplyMaster 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 programmes from memory and reset the time controller press and hold down both setting 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 hour symbol flashing.
You are now in the clock setting mode at the beginning of the programme sequence

Programming sequence

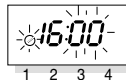|	
Setting clock	Programme 3 ON
Programme 1 ON	Programme 3 OFF
Programme 1 OFF	Programme 4 ON
Programme 2 ON	Programme 4 OFF
Programme 2 OFF	Operation Mode

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 Programme 1 flashing.

3 To Set Programme ON/OFF Times (after clock setting)
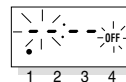**Programme 1 ON time**

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 override facility to switch unit ON. After this the unit will operate normally to the programmes set.
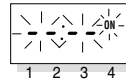
4 Programme Review
To fast review the set programmes or for quick exit to normal operating mode - press and hold the <Program> button.

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 and OFF programme to be cancelled press the <Change> button until the hour digits show --: then press the <Program> button to clear last programme. The display will show the hour and minute digits 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.

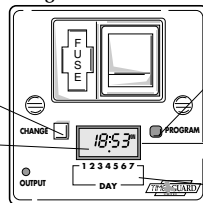## *FST 17 Programming Instructions*

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

Easy view 24 hour digital clock/timer display

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

Output Status showing unit either ON or OFF

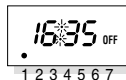**Day indicator** 1 = Monday 7 = Sunday

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
Only two setting buttons are provided <Change> and <Program>. During the programme mode the <Change> button is used to set days and the hour and minute times. Holding this button down achieves rapid selection of the day and the hour and minute times. During normal operation it is used for changing the output status. The <Program> button is used to select the clock time and 6 ON/OFF programmes and to review them once set. Holding this button down achieves rapid selection of the next programmes or can be used as a quick exit from programme mode.

Normal Operating Mode
In normal operation the SupplyMaster 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.

1 To Reset Display
To clear programmes from memory and reset the time controller press and hold down both setting 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 ·····		Operation 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.
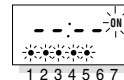Press the <Change> button to advance the hour setting.Note: For rapid hour selections press and hold down <Change> button.

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. (Note: 16 hrs shown as example of hrs set)
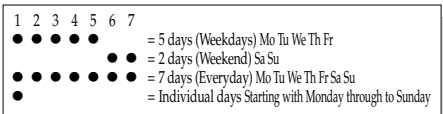
iv Press <Program> button once - clock is now set and display shows ready for the first ON programme time.
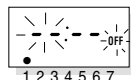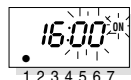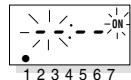
3. To Set Programme ON/OFF Times (after clock setting)

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 an 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 override facility to switch unit ON. After this the unit will operate normally to the programmes set.

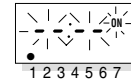### 4. Programme Review

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, day flag, 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.

9

10

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 and OFF programme to be cancelled press the <Change> button until the hour digits show --: then press the <Program> button to clear set programme. The hour and minute digits should display with ON or OFF also flashing. (Note: Monday shown as an example of days set).

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.
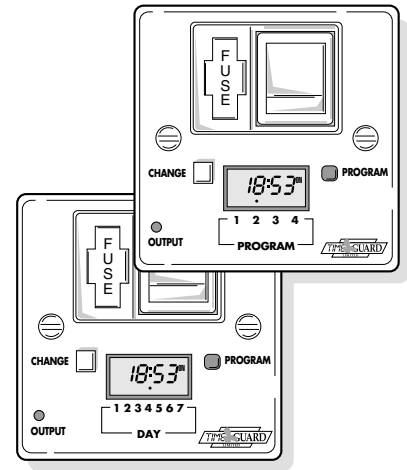
Specifications

1. Conforms to directives 73/23/EEC, 89/336/EEC

2. Complies with the applicable standards for EMC EN50081-1 for emission and EN50082-1 for immunity.

3. Permissible Loads: 13A   Resistive

                  6A   At 0.4 power factor inductive

                10A   Filament lamps

            500W   Fluorescent lighting with or without power factor correction capacitors (4μF per 65W tube).

               1hp   motor

For other loads refer to Technical Service on 020 8450 0515.

In applications such as use of Economy Seven electricity the full load will not usually be switched. In the cases of a washing machine and a dish washer the load switched on to will be water valves only and the load turned off will be negligible providing an appropriate time interval has been left to enable the machine to complete its programme.

4. Fuse protection BS1362 as dictated by load.

5. Switched output and switched timed output available to 13A resistive total load capability. **If in doubt refer to Technical Service on 020 8450 0515.**

6. 1000 hrs battery back up in case of supply loss or FST11/17 fuse blow.

7. Operating ambient temperature: -10°C to 40°C

8. Operating voltage: 220 - 240V AC

*Supply***MASTER**

**Models:
FST11 (24 hour)
FST17 (7 day)**

TIME GUARD
LIMITED