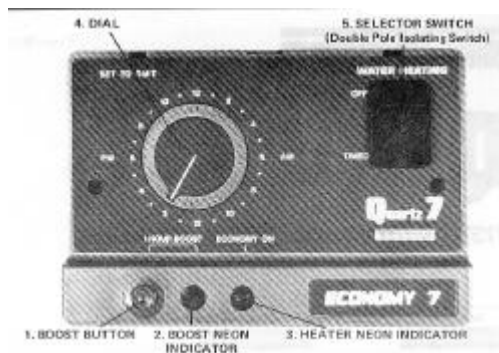


## QUARTZ 7 INSTALLATION INSTRUCTIONS



**NOTE**  
**ONLY A QUALIFIED ELECTRICIAN**  
**SHOULD INSTALL A QUARTZ 7**

The Quartz 7 is designed to switch on the water heater automatically during the economy tariff period (normally overnight).

The timing of this period has been set by the manufacturer, but may be altered (See Inst 13).

Installation information is provided in a step by step sequence of instructions which should be strictly adhered to.

**The following notes are most important:**

- 1 The Quartz 7 Water Heating Controller is suitable for direct wall mounting or for mounting on standard conduit boxes to BS 1363 1967 and to BS 4662 1970. It may be used to replace a Double Pole Isolating Switch but a separate fuse supply to the Controller is essential. If the Immersion Heater is connected to a ring main, the spur must be fixed.
- 2 The cable clamp is only for use of the outgoing Immersion Heater cables.
- 3 Care must be taken to remove all sharp edges from the cable entries where 'knockouts' have been removed.
- 4 Ensure that when connections are made all screws are tight.

### QUARTZ 7 INSTALLATION INSTRUCTIONS

- 1 The switch assembly and dust cover should not be removed from their polythene bags until the base has been mounted on the wall and all dust removed. The two mounting screws for the switch assembly are located in the base, secured by tape.
- 2 Remove 'Knock-outs' in Base as follows (See Figure 2):-

**Supply Cable:**

- I - For rear entry wiring use Knock-out A
- II - For surface mounted wiring use Knock-out B

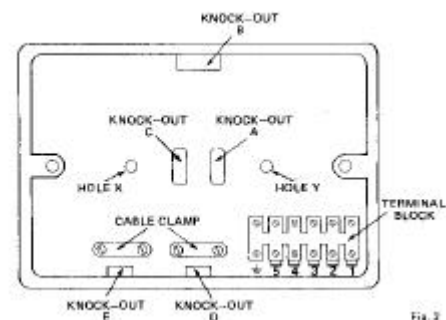
**Connections to Heater:**

- I - For fixed wiring use Knock-out C

II - For flexible wiring use Knock-out D with Cable Clamp for a single element, Knock -out D and Knock-out E with Cable Clamps for two elements.

- 3 Mount base on wall using appropriate holes. Holes X and Y (Fig 2) may be used to mount base onto an existing flush-mounted box. If Timer is fitted to a double gang-box, the wiring must conform to IEE regulations and no wiring must be left exposed.

**NOTE**  
**Care must be taken to remove all sharp edges from Knock-outs. Also remove all dust and debris.**  
**The cable clamp is not suitable for flexible cables of less than 1.5mm.**



### 4 ELECTRICAL CONNECTIONS

- a) Use 1.5mm minimum cable; heat resistant or high temp. specification cable is preferred.
- b) Remove 8mm of insulation from conductors.
- c) Insulate exposed earth wires with the PVC sleeving. (Green and Yellow).
- d) All wiring to be flat to base and not interfere with mechanism.

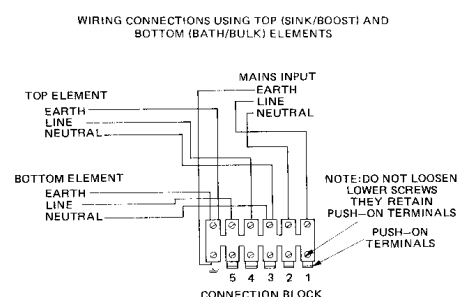
4.1 Connections for two element system using top (sink/boost) and bottom (bath/bulk) elements.  
See Figs 3 and 4.

Terminal 1	Line input
Terminal 2	Neutral input
Terminal 3	Neutral return from both elements
Terminal 4	Line to top element
Terminal 5	Line to bottom element

4.2 Connections for system using single element.  
See Figs 5 and 6

Terminal 1	Line input
Terminal 2	Neutral input
Terminal 3	Neutral return from element
Terminal 4	Link to Terminal 5 using 2.5mm <sup>2</sup> cable
Terminal 5	Line to element

**WARNING**  
**Cable link between Terminal 4 & 5**  
**must not be used in a 2-element system.**



METHOD OF WIRING CONNECTION BOX USING TOP (SINK/BOOST) AND BOTTOM (BATH/BULK) ELEMENTS

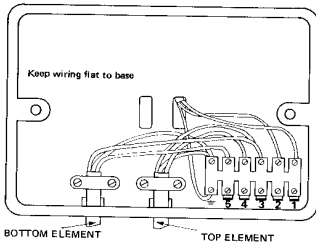


Fig. 4 BOTTOM ELEMENT TOP ELEMENT

WIRING CONNECTIONS USING SINGLE ELEMENT

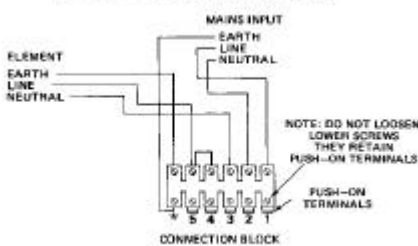


Fig. 5

METHOD OF WIRING CONNECTION BOX WITH SINGLE ELEMENT

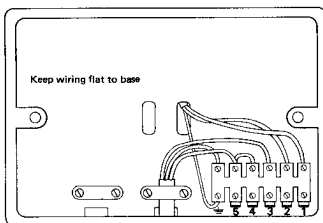


Fig. 6 NOTE: ON NO ACCOUNT MUST LINK BETWEEN TERMINALS 4 & 5 BE USED ON DOUBLE ELEMENT.

### NOTE

**ON NO ACCOUNT MUST LINK BETWEEN TERMINALS 4 & 5 BE USED ON DOUBLE ELEMENT.**

- 5 RESETTING ECONOMY TIME  
At this stage, if the Economy Time requires resetting refer to instruction 13.
- 6 CONNECTION OF SWITCH ASSEMBLY BASE  
On completion of Base wiring connections and resetting of Economy Time (if necessary) connect Switch to base by pushing the numbered connectors firmly on to the corresponding 'push-on' terminals in the Terminal Block (See Fig 7)

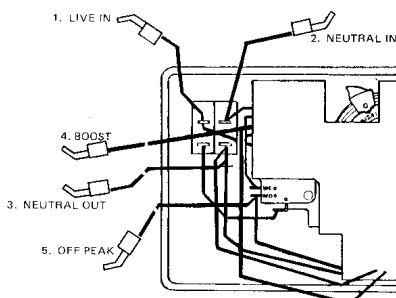


Fig. 7

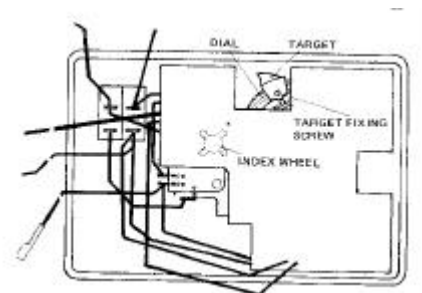
- 7 Locate Switch Assembly to the base, taking care that no wiring is trapped.
- 8 Secure in position with two Mounting Screws.
- 9 Rotate dial clockwise on complete turn (360 degrees).
- 10 Switch on power and check all functions (See note below).
- 11 Set dial to correct GMT (BST -1 hour).
- 12 Replace dust cover by inserting bottom lugs first and then clipping in top lugs (reverse procedure to that shown in Fig 1).

### NOTE

**Both indicators will glow when water is heated by single element system (i.e. during economy and boost period).**

- 13 RESETTING ECONOMY TIME (if required).
- 13.1 Disconnect mains supply.
- 13.2 Separate switch assembly from base by removing dust cover, two mounting screws and five 'push-on' connectors as previously described.
- 13.3 Remove snap-on cover plate from rear of switch assembly to expose printed circuit board. The rear of the dial will be visible through a cut-out in the printed circuit board. See Fig 8.
- 13.4 Rotate the dial until the appropriate target appears in this area.
- 13.5 Loosen the target fixing screw by one turn and move target around dial to chosen time which is marked on the rear face of the dial (1 - 24 markings). Line up the leading edge of the target to the moulded mark and the pointer below the target to the time setting required.
- 13.6 Tighten screw to lock target.
- 13.7 Adjust other target in a similar manner if required.
- 13.8 Rotate dial one complete turn (360 degrees).
- 13.9 Set pointer on front of dial to middle of high peak period, usually 4pm.
- 13.10 Check that the longer tooth of the index wheel is in the position indicated in Fig 8, if not, rotate index wheel by hand until this position is reached.
- 13.11 Rotate dial two complete turns and check that the index wheel is now in correct position.
- 13.12 Replace snap-on printed circuit board cover plate.
- 13.13 Re-assemble as described in section 6 - 12.

Fig. 8



**ENSURE LONGER TOOTH IS IN THE POSITION SHOWN THUS\* (IF THIS IS NOT DONE, NEON INDICATION CAN BECOME INVERTED).**

### SPECIFICATION

Voltage Rating:	220/250V, 50/60Hz
Contact Rating:	3kW
Exposure of Live Parts:	Enclosed

Moisture Protection: Ordinary  
 Dirt Protection: Normal situations  
 Shock Protection: Class I  
 Ambient Temp: Range: 0°C to 35°C

**IMPORTANT**  
**ALTHOUGH EVERY CARE IS TAKEN TO ENSURE THE ACCURACY OF THE ELECTRICAL CIRCUIT DIAGRAM SHOWN, SANGAMO CONTROLS OR ASSOCIATED COMPANIES CANNOT BE HELD RESPONSIBLE OR LIABLE FOR THE CIRCUIT CONNECTIONS OTHER THAN THOSE DIRECTLY ASSOCIATED WITH THE QUARTZ 7.**  
**ELECTRICAL CONNECTIONS: INSTALLATION TO CONFORM TO IEE REGULATIONS.**

**WARNING**  
**THE QUARTZ 7 MUST BE EARTHED. TERMINALS ARE FOR FIXED/FLEXIBLE WIRING. PROVISION MUST BE MADE IN THE FIXED WIRING FOR DOUBLE POLE ISOLATION OF AT LEAST 3MM IN BOTH POLES. THIS CAN BE PROVIDED BY THE SWITCH ON THE CONSUMER UNIT (MAIN FUSE BOX).**

## SANGAMO QUARTZ 7

### USER INSTRUCTIONS

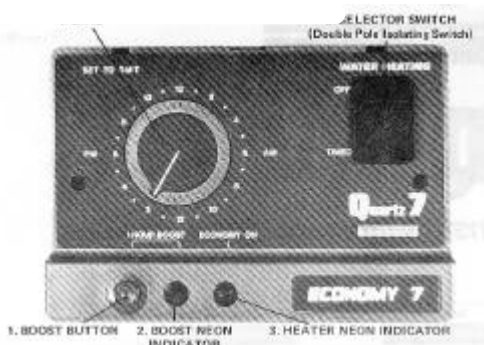


Fig. 1

### QUARTZ 7 USER INSTRUCTIONS

The Quartz 7 is designed to switch on the water heater automatically during the economy tariff period (normally overnight), and will have been set by the installer. If, however, additional hot water is required during the peak tariff period, the water heater can be switched on for one hour by pressing the Boost Button.

#### BOOST BUTTON (1):

If additional water is required to be heated during the day, press the Boost Button once, and the water heater will be switched on. It will switch off automatically after 1 hour. To switch off boost heating after a period of less than 1 hour, press Boost Button again.

**NOTE:** The boost will not operate when the Selector Switch is in the OFF position.

#### BOOST NEON INDICATOR (2):

The Red Indicator will glow when the boost heating is taking place. That is, when the water is being heated at the full-rate tariff.

#### HEATER NEON INDICATOR (3):

This will glow when water is being heated during the economy period.

**NOTE:** Both indicators will glow when water is heated by a single element system.

#### DIAL (4):

The dial is marked with a time pointer, and the casing around the Dial is divided into 24 hours with two 12 hour periods AM and PM. The time pointer is set to the correct time of day (GMT) by rotating the dial in a clockwise direction. It must be set to GMT to coincide with the setting of the Off-Peak period. THEREFORE - DO NOT ADJUST FOR BRITISH SUMMER TIME (GMT= BST -1 HOUR).

#### SELECTOR SWITCH (5):

The selector switch has two positions.

**Timed:** Water will be heated automatically during the pre-set period each night at the Off-Peak tariff.

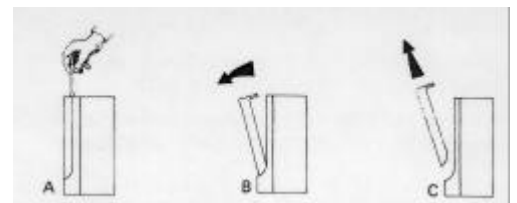
**Off:** Although the dial will continue to rotate and indicate the correct time, no water heating will take place.

**NOTE:** There is an interval, continuously charged battery which will provide up to 100 hours of back-up power to the time clock if mains power is disrupted. If power to the unit has been disrupted for more than 4 days. The time clock may need to be reset to GMT as described above, but do not disconnect the supply. The battery will re-charge on re-connection of the supply and remain continuously charged thereafter.

To gain access to the selector switch or dial, remove dust cover by

- Inserting a fingernail or coin into the slot in the top edge of the cover.
- Ease out the top lugs
- When free, lift cover upward to release bottom lugs.

See Fig.2



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