



## BX2000

# Installation Instructions



Bx2000 has been designed to provide greater flexibility to the consumer using Off-Peak electricity for Water heating. It provides the facility to Boost your Hot water at any time and to ensure you are automatically connected to the Off-Peak supply whenever it is available.

INSTALLATION AND CONNECTION SHOULD ONLY BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON AND IN ACCORDANCE WITH THE CURRENT EDITION OF THE IET WIRING REGULATIONS.

**WARNING : ISOLATE MAINS SUPPLY. BEFORE COMMENCING INSTALLATION ENSURE THE UNIT IS PROPERLY EARTHED.**

The BX2000 should be mounted on a standard conduit box or directly onto the wall. It should NOT be mounted on an unearthed metal surface. The BX2000 should be connected to the incoming supplies using 3 core cable with a minimum conductor size of 1.5mm<sup>2</sup>. Heat resisting flexible cords should be used to make connection to the immersion heater(s).

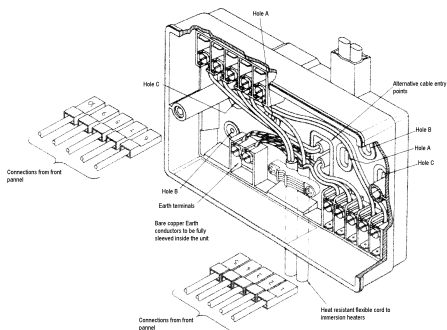
Means of disconnection from the 24 Hour and Off Peak supplies having at least 3mm contact separation in both poles must be incorporated in the fixed wiring (This is usually provided in the consumer unit). Both the Off Peak and 24 Hour supplies must be on the same phase. Both the Off Peak and 24 Hour supplies should be protected by a 15 amp HRC fuse or, preferably a 16 amp MCB. In some cases immersion heater failure can damage the BX2000. Installation of a 100 mA RCD will provide additional protection for the unit. If the BX2000 is to be connected to a ring main then the spur feeding the controller should be protected in the same way.

## Mounting

The BX2000 should be removed from the mounting box by unscrewing the 2 captive screws securing the unit.

## Conduit Box Mounting

Use either the 2 holes marked 'A' (see diagram) to secure to a single gang box, or the two holes marked 'C' for a double gang box. Cable entry is through the cut-out between the 2 fixing holes 'A'.



## Surface Mounting

Use the two holes marked 'B' (see diagram). Cable entry is through the most appropriate cut-out.

REMOVE THE APPROPRIATE CABLE ENTRY CUT-OUTS BEFORE FIXING THE BOX, WHERE POSSIBLE DRILL THE BOX TO PROVIDE A CLOSE FITTING ENTRY FOR CABLES AND HEAT-RESISTANT FLEXIBLE CORDS. TAKE CARE TO REMOVE SHARP EDGES.

## Connections - Single Immersion Heater

Use a three-core cable with a minimum conductor size  $1.5\text{mm}^2$  to connect the unit to the supply. Connect the incoming wires to the terminal block as follows;

- TERMINAL 1 - Link to Terminal 7
- TERMINAL 2 - Link to Terminal 8
- TERMINAL 3 - LIVE 24 Hour On Peak (Boost) supply in
- TERMINAL 4 - NEUTRAL 24 Hour On Peak (Boost) supply in
- TERMINAL 5 - LIVE out to immersion heater
- TERMINAL 6 - NEUTRAL to immersion heater
- TERMINAL 7 - Linked to Terminal 1
- TERMINAL 8 - Linked to Terminal 2
- TERMINAL 9 - LIVE Off Peak supply in
- TERMINAL 10 - Neutral Off Peak supply in

Clamp all surface wiring adjacent to the box or use trunking where appropriate. Secure the heat resistant flexible cords from the immersion heaters using the cable clamp in the box.

## Connections - Dual Or Twin Immersion Heaters

Use a three-core cable with a minimum conductor size of  $1.5\text{mm}^2$  to connect the unit to the supply. Connect the incoming wires to the terminal block as follows;

TERMINAL 1 - Do not use

TERMINAL 2 - Do not use

TERMINAL 3 - LIVE 24 Hour On Peak (Boost) supply in

TERMINAL 4 - NEUTRAL 24 Hour On Peak (Boost) supply in

TERMINAL 5 - LIVE out to top or Boost immersion heater

TERMINAL 6 - NEUTRAL to top or Boost immersion heater

TERMINAL 7 - LIVE out to bottom or Off Peak immersion heater

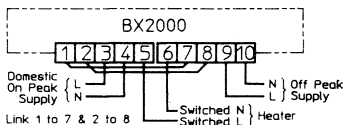
TERMINAL 8 - NEUTRAL to bottom or Off Peak immersion heater

TERMINAL 9 - LIVE Off Peak supply in

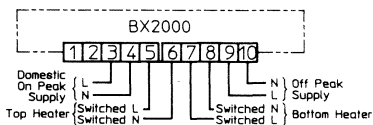
TERMINAL 10 - NEUTRAL Off Peak supply in

Clamp all surface wiring adjacent to the box or use trunking where appropriate. Secure the heat resistant flexible cords from the immersion heaters using the cable clamp in the box.

## Bx2000 Internal Connections



Wiring diagram for Hot water cylinders with single immersion heater.



Wiring diagram for Hot water cylinders with dual or twin immersion heater.

**When wiring is complete ensure that all terminal screws, including the earth terminal screws are securely tightened to achieve a minimum torque of .75Nm.**

## Completing The Installation

To assemble the controller to its mounting box first push the connectors numbered 1 - 10 into the corresponding numbered terminal as shown (see diagram on page 2) Carefully offer the controller to the box and secure with the fixing screws, ensuring the wiring does not become damaged.

Switch on the mains supply, put the rocker switches in the ON position.

## Specification

### Electrical

Purpose of Control	Electronic immersion heater boost control
Contact Rating	13A 230V AC (Suitable for immersion heater up to 3kW)
Contact Type	Full disconnection on Double pole isolator
Supply	230V AC 50Hz only
Protection	Class I
Control Action	Type 1B, Q/R (R-Off-Peak Relay, Q-Boost Relay)
Operating Time Limitation	1 or 2 Hour Boost
Software Class	Class A

### Mechanical

Dimensions	170mm x 115mm x 62mm
Case Material	Thermoplastic, flame retardant
Ball Pressure Test	
Temperature	75°C
Mounting	independently wall mounted

### Environmental

Impulse Voltage Rating	Cat II 2500V
Enclosure Protection	Ip30
Pollution Degree	Degree 2
Operating Temperature Range	0°C to +35°C

### Compliance

Design Standard	EN 60730-2-7, BS EN 60730-1, BS EN 60720-2-7
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