E7+

Quick installation and operation guide

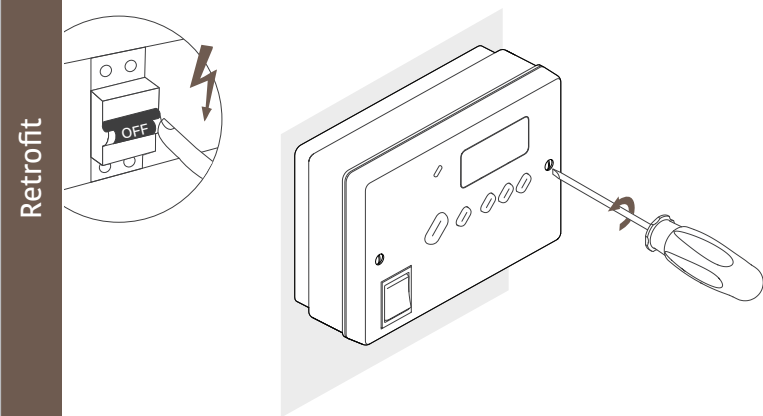BGX701-348-RO2

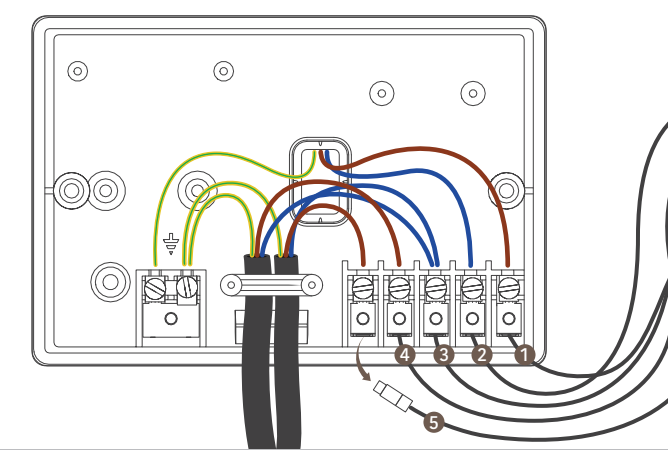---

Tools

Safety precautions

• Installation and connection should only be carried out by a suitably qualified person in accordance with the current edition of the IET wiring regulations.

• E7+ should be mounted approximately 1.5 metres above floor level, in 'free space', away from sources of heat or electrical interference.

• Means of disconnection from the supply having at least 3 mm contact separation in both poles must be incorporated in the fixed wiring.

• We recommends a separate fused circuit from the consumer unit (24 Hour supply) protected by a 15 amp HRC fuse or, preferably, a 16 amp MCB

• Installation of a 100 mA RCD will provide additional protection for the unit.

CAUTION

SECURE

www.securemeters.com

Secure Meters (UK) Ltd
Secure House, Lulworth Close,
Chandlers Ford, Eastleigh,
SO53 3TL, England

BGX701 - 348

ℹ In the box

E7+ device

Adaptor plate
(for retrofit only)

Quick installation
and operation guide

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3 Remove both the screws on the front cover

Scrap the wallbox

New E7+
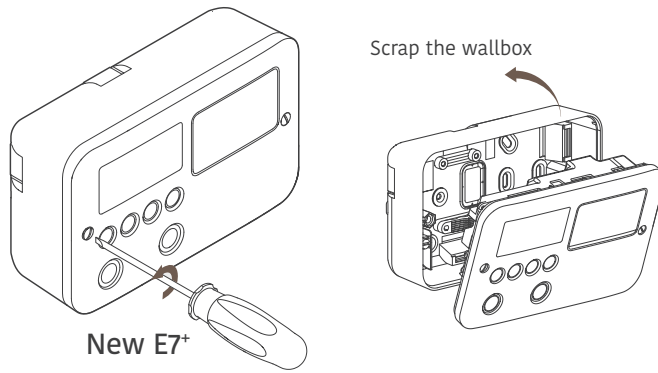
Note: Scrap the wallbox adhering to local regulations

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1 Unscrew the screws

Scrap the adaptor plate

Note: The supplied Adaptor plate is ONLY required when retrofitting the E7+ onto an existing Electronic 7 or Economy 7 quartz back box.

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4 Select mounting option

A - Single gang box   C - Double gang box   B - Surface

Note: Select the most appropriate mounting option

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1 Unscrew and open the front cover

OFF

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4 Route the wires

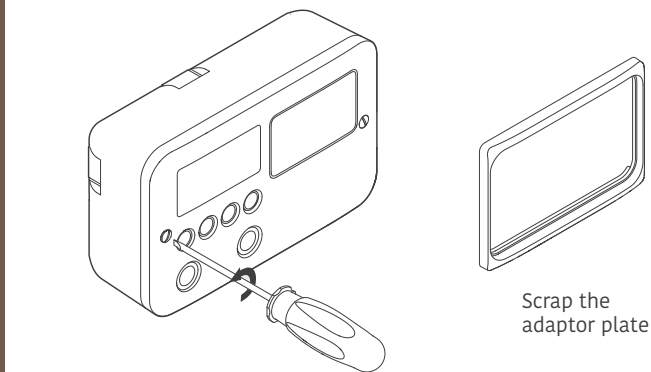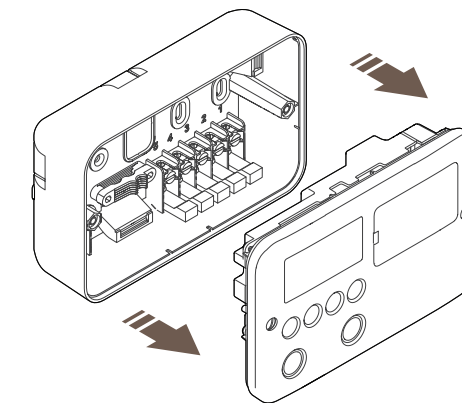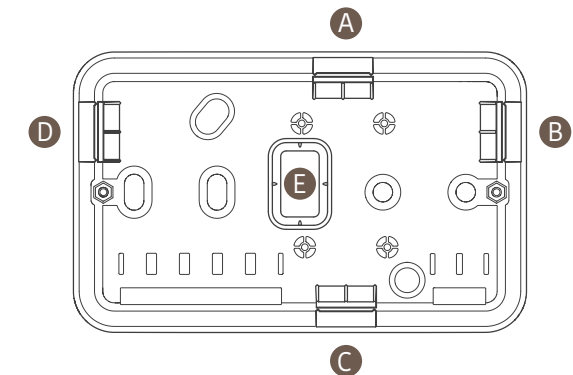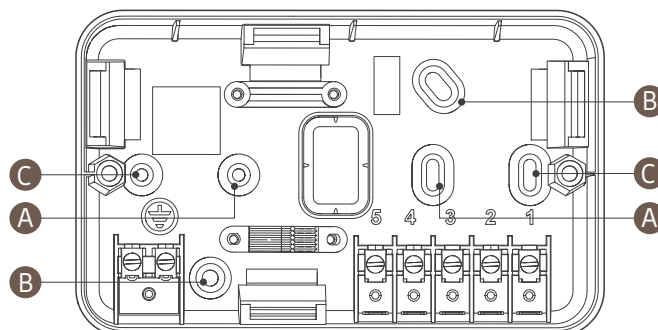Place the adaptor plate on the front cover

B

A
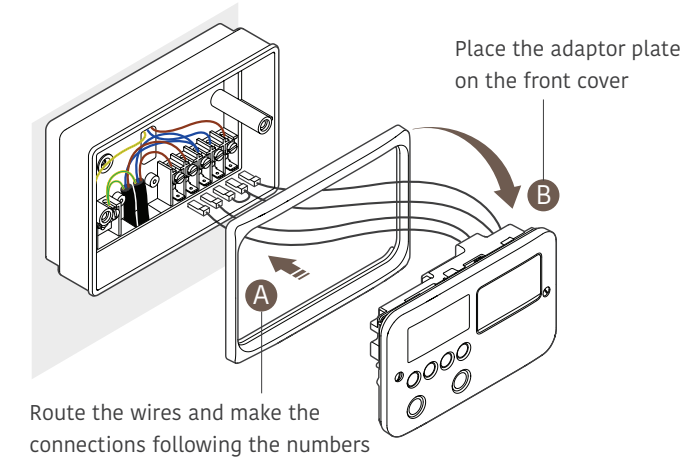
Route the wires and make the connections following the numbers

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2 Take out the front cover

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5 Connection diagram and cable details

Use a three-core cable with a minimum conductor size of 1.0mm for a 2kW heater, or 1.5mm for a 3kW heater to connect the unit to the supply. Connect the incoming wires to the terminal block as follows;

TERMINAL 1 -LIVE in

TERMINAL 2- NEUTRAL in

TERMINAL 3 - NEUTRAL(s) out to immersion heater(s)

TERMINAL 4 - LIVE out to Boost immersion heater

TERMINAL 5- LIVE out to Off-Peak immersion heater

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.

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2 Remove all five lugs and scrap the old front cover

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5 Fit the front cover

C

ON

B

Tighten both the screws
(Torque 0.8 to 1 Nm)

A — Fit the cover

Note: Go to section 8 for settings

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3 Cable entry options

A

D

E

B

C

Note: Remove the suitable cable entry cutout before fixing the box. Take care to remove sharp edges.

Hot water tank (Twin immersion)

Boost

Neutral

Off-Peak

Neutral
Phase
Earth

MAINS
SUPPLY

5 4 3 2 1

Wallbox

Note: Link terminals 4 and 5 when using a single immersion heater.

6. Connection with immersion heater(s)*

A Single immersion heater
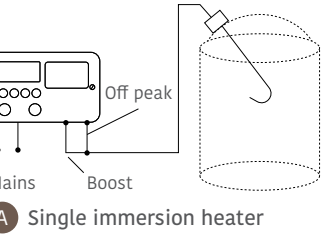
The 3 core flexible cord should be heat-resistant and rated to 85°C.

TERMINAL 4 (Boost live output) should be connected to TERMINAL 5 (Off-Peak live output) and to the immersion heater.

The Neutral connection should go to TERMINAL 3 and the Earth connection to the EARTH TERMINALS.

B Dual immersion heater

The thermostat for the top (short) element is usually set 5-10°C less than the thermostat for the long Off-Peak element. The 3 core flexible cords should be heat-resistant and rated 85°C.

TERMINAL 4 (boost live output) should be connected to the short element and TERMINAL 5 (Off-Peak live output) to the long element.

The Neutral connections should go to TERMINAL 3 and the Earth connection to the EARTH TERMINALS.

C Twin immersion heater

The thermostat for the top immersion element should be set lower than the thermostat for the bottom immersion heater. The 3 core flexible cords should be heat-resistant and rated 85°C.
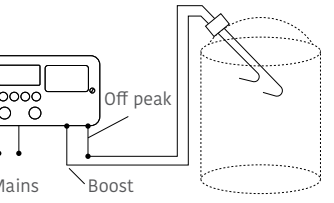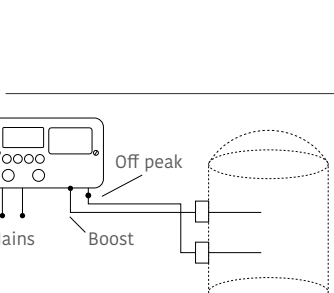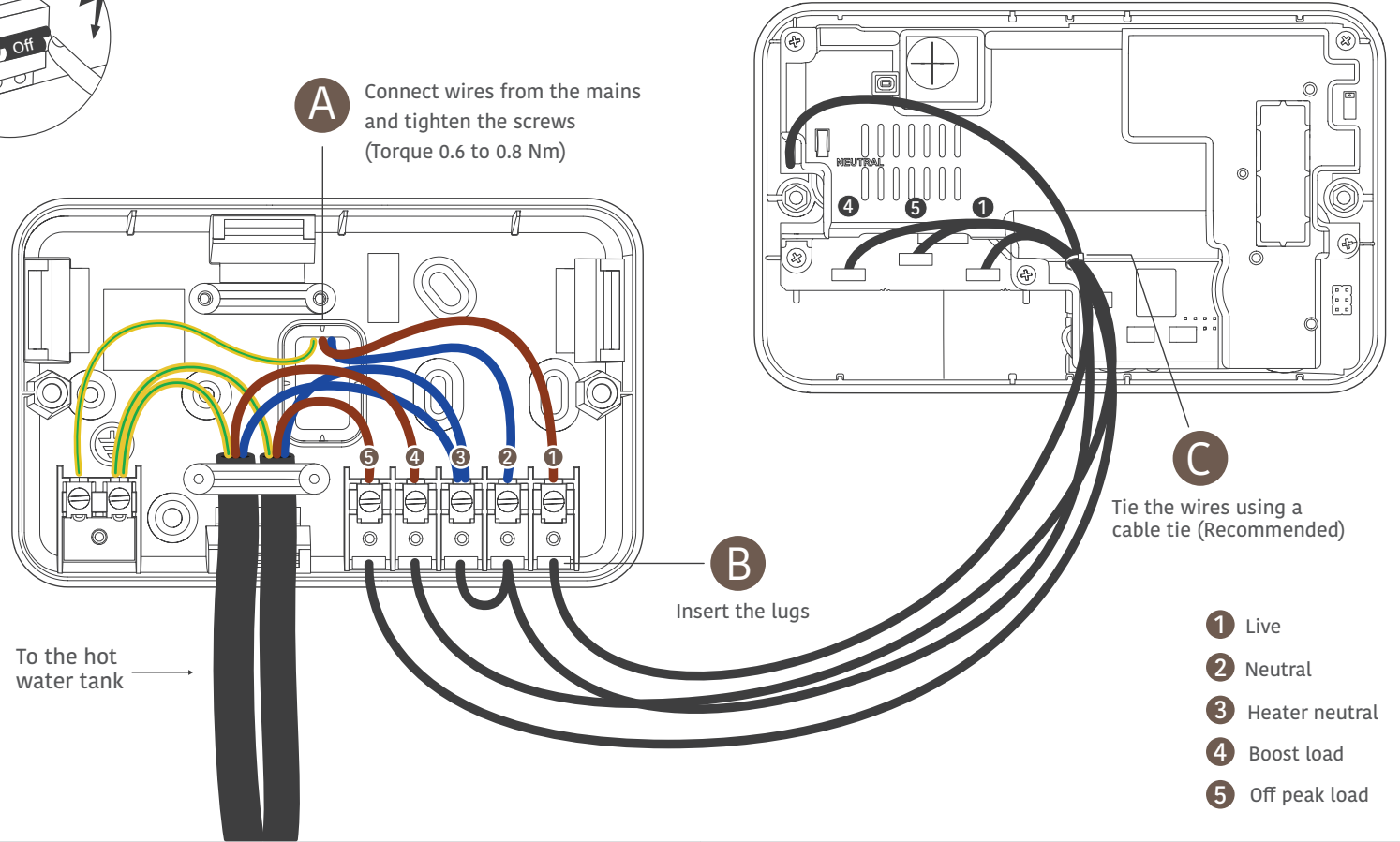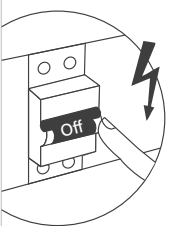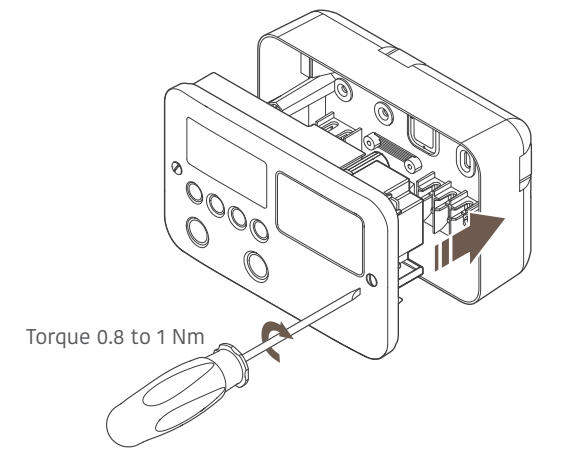
TERMINAL 4 (boost live output) should be connected to the top immersion heater and TERMINAL 5 (off-peak live output) to the bottom immersion heater. The two Neutral connections should go to TERMINAL3 and the Earth connections to the EARTH TERMINALS.

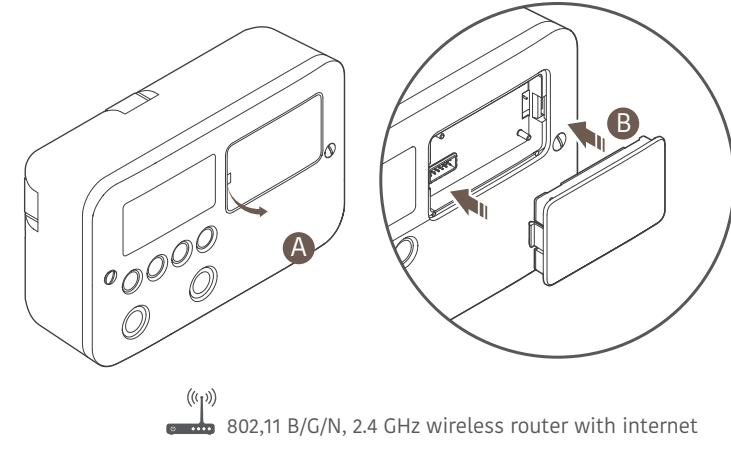*For illustration only

Note: Refer connection diagram in section 5

7. Make connections, insert the lugs according to the numbering and tie the wires using the cable tie.
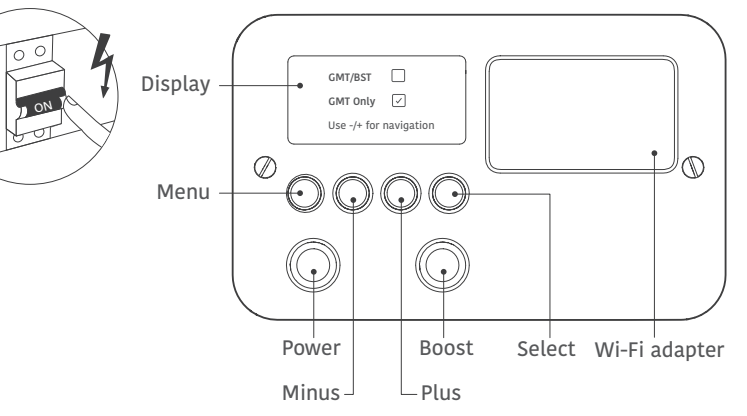

A Connect wires from the mains and tighten the screws (Torque 0.6 to 0.8 Nm)

C Tie the wires using a cable tie (Recommended)

B Insert the lugs

To the hot water tank

1. Live
2. Neutral
3. Heater neutral
4. Boost load
5. Off peak load

8. Fix the cover and tighten both the screws

Torque 0.8 to 1 Nm

9. Insert the Wi-Fi module (if required)

802,11 B/G/N, 2.4 GHz wireless router with internet

10. Power up the device and select day light saving option

Display
Menu
Minus
Power
Boost
Plus
Select
Wi-Fi adapter

GMT/BST -Switching time will be changed by one hour. In the GMT/BST mode the clock display will match the actual switching time.

GMT ONLY- Switching will always take place at GMT times (summer and winter). The clock display will tell the correct lime of day.

If Connection is to be made where a 2-Rate electricity meter is controlled by a Radio Teleswitch or other equipment which control tariffs remotely or seasonally, it is essential that before setting the commissioning switch you find out how the off-peak times are controlled.

The Customer Service Centre of your Electricity Supplier will confirm information regarding Off-Peak electricity timing and the switching method used for your area. On installations where the 2-Rate electricity meter is controlled by a mechanical Tariff Time switch the commissioning switch should be setto GMT ONLY.

11. Home screens

Mon — 12:50 PM

Mon — 12:50 PM — Off- Peak

Mon — 12:50 PM — Boost — Timed Boost
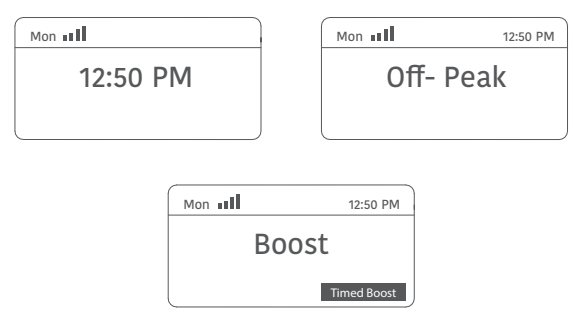
Notes: 1. One of the above screens will appear on power up 2. 📶 appears only when E7⁺ is connected to the Wi-Fi network.

12. Know the buttons

Button	Function(s)
Power	To On/Off the device
Select	• To enter a setting/option • To confirm a selection • To enable/disable timed boost
Plus (+)	• To increase the date, time • To navigate between different menus/menu items in the forward direction
Minus (-)	• To decrease the date, time • To navigate between different menus/menu items in the backward direction
Menu	• To enter the main menu • To return back to previous menu from within a submenu/selection
Boost	To set Boost manually

13. Default schedule (Monday to Sunday)

Off peak	1st On	1st Off	2nd On	2nd Off	3rd On	3rd Off
	2:15 am	7:15 am	12:00 pm	12:00 pm	12:00 pm	12:00 pm

Boost	On	Off
	12:00 am	12:00 am

14. Technical specifications

Electrical	
Number of relays	2
Contact rating	13 A resistive (max), suitable for immersion heaters up to 3 kW
Contact type	Micro-interruption
Switch type	Contact
Supply	230 V ± 10%AC, 47.5 - 52.5 Hz
Insulation category	CAT II
Software class	Class A
Clock	12/24 hours
Programme selection	Off-Peak - upto 3 on/off time periods, programmable boost and 30 minutes, 1 hour & 2 hours manual boost
Live parts	Enclosed

Radio	
Operating frequency	2.4 GHz
RF range	~60m, line of sight

Mechanical	
Dimensions	102 mm x 165 mm x 54 mm (W*L*H)
Weight	425 gms (approx)
Case material	Thermoplastic, flame retardant
Mounting	Wall mounting

Environmental	
Impulse voltage rating	Cat II 2500V
Enclosure protection	IP30
Pollution degree	Degree 2
Operating temperature range	0°C to +35°C
Storage temperature	-20°C to +70°C
Environmental humidity range	0% to +95% relative humidity
Product life warranty	7 years

Compliance	
Product standards	EN 60730-2-9, BS EN 60730-1
RED radio	ETSI EN 300 328,
RED EMC	ETSI EN 301 489-1,ETSI EN 301 489-17