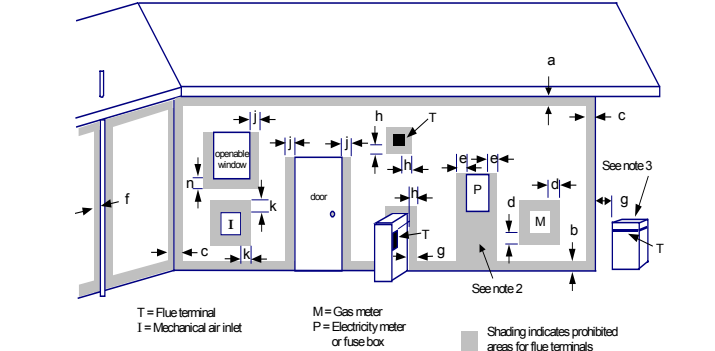


INSTALLATION – GENERAL (REU-2425W Series)

- These instructions apply to models REU2425W, REU2422W, REU2020W and REU2018W.
- The Infinity is an externally mounted, power flued appliances. IT MUST ONLY BE FITTED OUTSIDE THE BUILDING.
- When determining a suitable position for the Infinity, the length of hot water pipe runs should be taken into consideration. It is recommended that the Infinity be positioned as close as possible to the most often used taps or in a central; location between taps, showers etc. Alternatively, the units can also be fitted with a ‘flow and return loop’, which minimises the waiting time for hot water delivery. Contact Rinnai for further information.
- The location of the flue terminal must comply with the clearances shown in Figure 5.3 of AG601 / AS5601 – 2000 which is reproduced below. Note that AG601 / AS5601 – 2000 was current at the time of printing this document but may have been superseded. It is the installers responsibility that the current clearance requirements are met.  
\* FIGURE 5.3 MINIMUM CLEARANCES REQUIRED FOR TERMINALS, FAN-ASSISTED FLUE TERMINALS, ROOM –SEALED APPLIANCE TERMINALS OR THE TERMINALS OF OUTDOOR APPLIANCES



Ref.	Item	Min. clearances (mm)
		Fan assisted
a	Below eaves, balconies and other projections:	
	• Appliances up to 50 MJ/h input	200
	• Appliances over 50 MJ/h input	300
b	From the ground, above a balcony or other surface †	300
c	From a return wall or external corner †	300
d	From a gas meter (M) (see 4.7.11 for vent terminal location of regulator)	1000
e	From an electricity meter or fuse box (P)	500
f	From a drain pipe or soil pipe	75
g	Horizontally from any building structure † or obstruction facing a terminal	500
h	From any other flue terminal, cowl, or combustion air intake †	300
j	Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	• Appliances up to 150 MJ/h input	300
	• Appliances over 150 MJ/h input up to 200 MJ/h input	500
	• Appliances over 200 MJ/h input	1500
	• All fan-assisted flue appliances, in the direction of discharge	1500
k	From a mechanical air inlet, including a spa blower	1000
n	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	• Space heaters up to 50 MJ/h input	150
	• Other appliances up to 50 MJ/h input	500
	• Appliances over 50 MJ/h input and up to 150 MJ/h input	1000
	• Appliances over 150 MJ/h input	1500

† - unless appliance is approved for closer installation  
NOTES:  
1 All distances are measured to the nearest part of the terminal.  
2 Prohibited area below electricity meter or fuse box extends to ground level.  
3 See Clause 5.13.6.6 for restrictions on a flue terminal under a covered area.  
4 See Appendix J, Figures J2(a) and J3(a), for clearances required from a flue terminal to an LP Gas cylinder. A flue terminal is considered to be a source of ignition.  
5 For appliances not addressed above, approval shall be obtained from the Authority.

**Note:** \*Contact Rinnai for exemptions for the above clearances which may have been granted since printing of this document.

- A 240V weatherproof external earthed power point is required within 1500 mm of the Infinity.
- The Infinity 2425 series weighs approx. 20-25 kg depending on model and the wall on which it is to be mounted must be capable of supporting it and the associated pipework. Ensure that suitable fixing screws or bolts are used to secure the Infinity to the wall. Bracket and fixing hole locations are shown overleaf.
- The top bracket has a keyhole slot so that the Infinity can be positioned by hanging it on one screw, then the other screws can be secured. After determining the most suitable position, fix the Infinity to the wall.

- Positions of the cold water inlet, hot water outlet and gas connections are shown overleaf. All connections are R ¾ (20mm). This is NOT an indication of the pipe sizes required. The Infinity 2425 series can use up to 160 or 188 MJ/h of gas. If the gas pipe sizing is insufficient the customer will not get the full performance benefit. The gas meter and regulator must also be correctly specified for this gas rate.
- Gas pipe sizing must be performed for each installation using an approved sizing chart (such as the one in AG601 / AS5601). Water pipe sizing should be performed in accordance with AS3500. Approved isolation valves MUST be fitted to both the cold water and gas inlets.

RECESS BOX

- The Infinity 2425 series can be ‘recessed’ into a brick wall for flush fitting reducing even further the space required. A custom made Rinnai Infinity Recess Box must be used for this purpose.

TEMPERATURE FLOW SWITCH (TFS02)

- The Infinity 2425 series can be fitted with the Rinnai Temperature Flow Switch (TFS02). This allows delivery of water at 50°C to areas used primarily for personal hygiene, as detailed in AS3500.4.2 Clause 1.6.2. It must be fitted in accordance with the Installation Instructions provided with it.

REMOTE CONTROLS

- Remote Controls are an optional extra. ‘Standard’ and ‘Deluxe’ controls can be fitted. Standard controls allow temperature selection only. Deluxe controls have temperature selection, bathfill and intercom functions.
- Both ‘Standard’ and ‘Deluxe’ controller versions have ‘kitchen’ and ‘bathroom’ models. ‘Kitchen’ controls are intended for the kitchen or other convenient area where the majority of hot water is used. Bathroom controllers are intended to be fitted conveniently close to the shower recess, in the bathroom, en-suite or other area where the user requires priority over water temperature selection. All Bathroom controllers enable the user in the shower/bath area to lock in the selected water temperature, so that the temperature cannot be changed from another controller. Deluxe bathroom controllers also enable the user to have the bath filled to the required level and temperature automatically.

One kitchen controller and up to 2 bathroom controllers can be fitted as follows:

**Standard Controllers’**  
Kitchen controller model MC33-3A  
Bathroom controller model BC45-3A  
Second Bathroom or (ensuite) controller model BSC45-3A.

**NOTE:** The functionality and appearance of bathroom controller models BC45-3A and BSC45-3A are identical. However, the electrical configuration is different and when two ‘Standard’ bathroom controllers are fitted they must be a BC45-3A and BSC45-3A.

**Deluxe Controllers’**  
Kitchen controller model MC70-1A  
Bathroom controller model BC70-1A  
Ensuite controller model BSC45-3A

**NOTE:** Two ‘Deluxe’ bathroom controllers cannot be fitted simultaneously. They must be a BC70-1A and BSC45-3A.

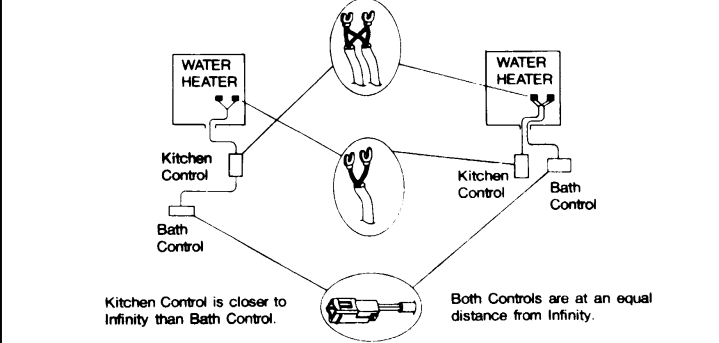
**Positioning of Controllers**  
When deciding remote controls positioning, the following should be considered:

- The requirements of AS3000 – “SAA Wiring Rules”.
- When mounted against a metal wall, the wall must be earthed in accordance with AS3000.
- Fit the controls out of reach of children (suggested height from floor at least 1500mm)
- Avoid positions where the remote controls will become hot (eg. Over hot plates, near ovens or heaters)
- If possible, avoid direct sunlight (the Digital Monitor is difficult to read)
- Avoid fitting Remote Controls near cooking appliances where they may be subjected to oil splashing etc.
- Bathroom controllers are water resistant, however durability is improved when positioned outside a shower recess.

Remote control cables

- Remote controls operate on 12V DC (extra low voltage), which is supplied from the Infinity unit. Controllers are supplied with 15 metres of electrical cable and connections. If more cable is needed, any multi-stranded cable with similar specification to the cable supplied can be used. Maximum cable length is 50m.
- Polarity (+ or -) does not need to be considered when connecting controllers. Either colour wire can be connected to either terminal at both the Infinity or kitchen controller.

- Cables can be individually run from each controller back to the Infinity, or can be connected in parallel (‘piggybacked’) to a common cable running back to the Infinity, as shown in the diagram below.



FITTING THE KITCHEN CONTROL MC-33-3A

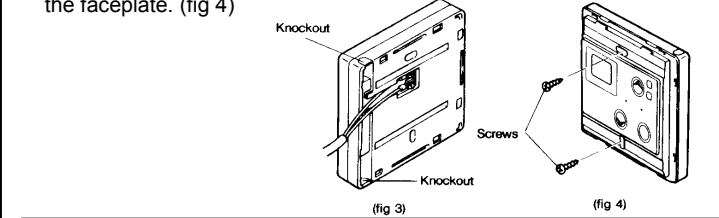
- Determine the most suitable position for the Remote Control. Consider access by children.
- Drill 3 holes in the wall, as shown, one for the cable and two for the securing screws. Ensure holes are level. (fig 1)
- Run the cable provided between the Remote Control and the Infinity water heater.

- Remove the faceplate from the Remote Control, using a screwdriver. (fig 2)

- Connect the cable to the Remote Control as shown. (fig 3) Either colour wire can be connected to either terminal.

Note: If the cable cannot be run in wall cavity. In this case, the plastic “knockout” should be removed from the top or bottom of the Remote Control.

- Fix the Remote Control to the wall, and replace the faceplate. (fig 4)



FITTING THE BATH CONTROL BC-45/BSC-45

- Determine the most suitable position for the Remote Control. Consider access by children.

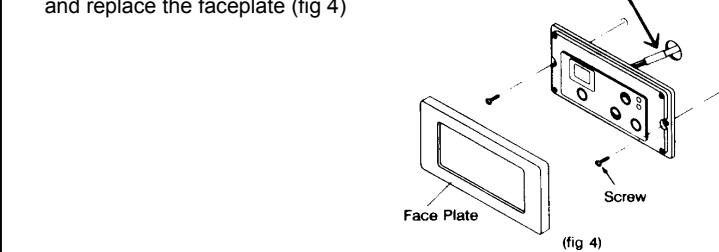
- Drill 3 holes in the wall, as shown, one for the cable and two for the securing screws. Ensure holes are level. Fit wall plugs if required (fig 1)

- Run the cable provided between the Remote Control and the Infinity.

- Remove the faceplate from the Remote Control using a screwdriver. (fig 2)

- Connect the BC-45 / BSC-45 Remote Control to the cable, using the end of the cable with the connector fitted. (fig 3)

- Fix the Remote Control to the wall, and replace the faceplate (fig 4)



FITTING THE ‘DELUXE’ KITCHEN CONTROL MC-70

- Determine the most suitable position for the Remote Control.
- Drill 3 holes in the wall, as shown in Fig 1, one for the cable and two for the securing screws. Ensure holes are drilled. Fit wall plugs if required.

- Fix the mounting bracket to the wall using the screws provided

- Run the cable through the hole in the wall.

- Remove the face plate from the Remote Control, using a screw driver (fig 2)

- Connect the cable to the kitchen remote control as shown in (fig 3). Connect cables from bathroom controllers (if fitted) to the kitchen remote control also (if required). Polarity is not important; either colour wire can be connected to either terminal.

- Note: If the cable cannot be run in the wall cavity, remove the plastic ‘knockout’ lugs as shown in Fig 3

- Fix the Kitchen controller to the wall bracket and fasten with phillips head screws supplied (M4 x 12) as shown in Fig 4

- Open the flip panel and remove the protective plastic film from the controller face as shown in Fig 5)

- Close the flip panel.



FITTING THE ‘DELUXE’ BATH CONTROL BC-70

- Drill 3 holes in the wall, as shown in Fig 1, one for the cable and two for the securing screws. Drill holes to ensure controller position will be level when installed. Fit wall plugs if required.

- Fix the mounting bracket to the wall using the screws provided

- Run the cable through the hole in the wall – ensuring that the end fitted with the connector is near the controller.

- Remove the face plate from the Remote Control, using a screw driver (fig 2)

- Connect the cable to the bathroom remote controller.

**Note:** If the cable cannot be run in the wall cavity, remove the plastic ‘knockout’ lugs as shown in Fig 3

- Fix the bathroom controller to the wall bracket and fasten with phillips head screws supplied (M4 x 12) as shown in Fig 4

- Open the flip panel and remove the protective plastic film from the controller face as shown in Fig 5)

- Close the flip panel.



CONNECTING REMOTE CONTROL CABLE(S)

Isolate power supply. DO NOT ATTEMPT TO CONNECT THE REMOTE CONTROL CABLE WITH POWER ON.

Remove the cover from the Infinity (4 screws) Fig 1.

Thread the cable(s) through the cable access hole at the base at the Infinity, then connect to the Remote Control terminals on the Printed Circuit Board (PCB) housing as labeled (fig 2). Polarity is not important. Either colour can be connected to either terminal.

**NOTE:** Fig 2 shows one set of controller cable terminals connected to the PCB terminals. Multiple controller cable terminals can be fitted to the PCB in parallel.

Secure the remote control cable(s) using the clamp provided (fig 2).

TESTING

The gas supply to the Infinity unit should be checked as part of the commissioning process as outlined below:

Checking Gas Supply

Purge gas and water pipes to remove air and swarf. Swarf in either the gas or water supplies may damage the Infinity unit.

Remove the water filter on the Infinity water inlet connection, and inspect for blockage. Clean if necessary and reinstall.

Check that all pipes are correctly connected to the Infinity unit.

Turn on gas and water.

Test for water leaks and gas escapes. Use soapy water to check for gas leaks.

Turn 'OFF' gas supply.

Remove the screw from the test point on the appliance gas inlet connection and attach pressure gauge.

Turn 'ON' the gas supply.

Turn the power 'ON' at the power point socket.

If remote controllers are fitted, turn the unit 'on' at the kitchen controller, select a delivery temperature of 55 C and open ALL available hot water taps. If remote controllers are not fitted, open ALL available hot water taps. (CAUTION: Ensure building occupants do not have access to hot water outlets during this procedure)

Turn on ALL other gas appliances at their maximum gas rate, in accordance with manufacturers instructions.

With all gas appliances running at maximum gas rate, the pressure gauge at the test point of the Infinity should read at least 1.13 kPa on Natural Gas or higher depending on your area. On LPG the pressure should no less than 2.75 kPa. If it is not, the gas supply is inadequate and the Infinity unit will not operate to specification. Check gas meter, regulator and pipework for correct operation/sizing as required until the required gas pressure is achieved.

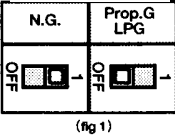


CORRECT GAS PIPE SIZING IS VERY IMPORTANT. IF GAS PIPE IS INSUFFICIENT, THE CUSTOMER WILL NOT GET THE FULL PERFORMANCE BENEFIT. CHECK MAXIMUM CONSUMPTION TO CALCULATE THE PIPE SIZING. USE A SUITABLE PIPE SIZING CHART (FOR EXAMPLE THE CHARTS IN AG601) TO CALCULATE PIPE SIZING

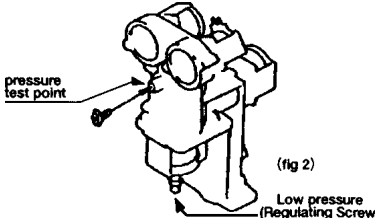
GAS PRESSURE SETTING

The regulator on the Infinity is electronically controlled and factory pre-set. Under normal circumstances it **does not** require adjustment during installation. Perform this procedure **only** if the unit is not operating correctly and **all** other possible causes for incorrect operation have been eliminated.

1. Turn 'OFF' the gas supply.
2. Turn 'OFF' 240V power supply.
3. Remove the front cover from the appliance.
4. Check gas type switches (fig.1) are in the correct position (top set or SW1 of switches).
5. Attach pressure gauge to burner test point. (fig. 2)
6. Turn 'ON' the gas supply
7. Turn 'ON' 240V power supply.



(fig 1)

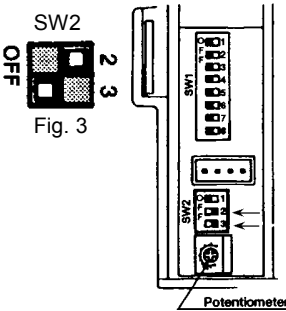


(fig 2)

PRESSURE SETTING LOW

	2018W 2020W	2422W 2425W
N.G.	0.08 kPa	0.08 kPa
Prop.G	0.17 kPa	0.17 kPa

9. Set the Infinity to 'Forced Low' combustion by setting N°. 2 dipswitch of the bottom (SW2) set of dip switches to 'ON'. (fig 3)
10. Check the burner test point pressure.
11. Adjust the regulator screw on the modulating valve as required to the pressure below. (fig 4)
12. Lock the regulating screw on the modulating valve.



PRESSURE SETTING HIGH

	2018W 2020W	2422W 2425W
N.G.	0.65 kPa	0.90 kPa
Prop.G	1.60 kPa	2.26 kPa

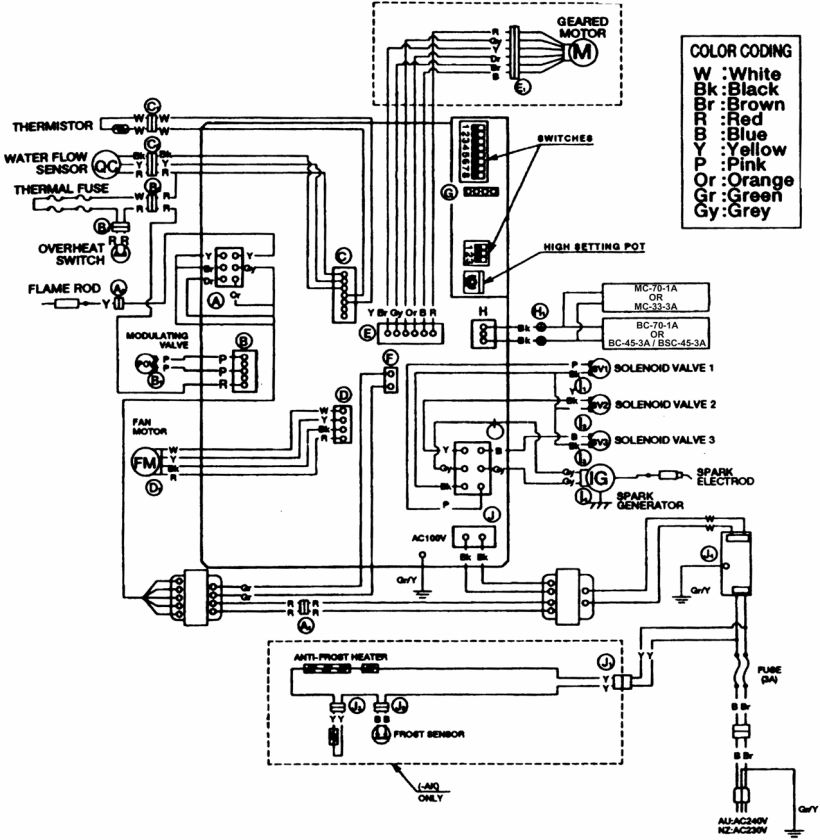
13. Set the Infinity to 'Forced High' combustion by setting both N°. 2 and N°. 3 dipswitches of the bottom (SW2) set to 'ON'. (fig 4) Ensure maximum water flow.
14. Check the burner test point pressure.
15. Adjust the high pressure Potentiometer (POT) on the Printed Circuit Board (PCB). As required to the pressure shown.
16. **IMPORTANT:** Set dip switches N°s 2 and 3 on the bottom (SW2) set of switches to 'OFF' to return the appliance to 'Normal' combustion.
17. Close hot water tap.
18. Turn OFF the gas supply and 240V power supply.
19. Remove pressure gauge, and replace sealing screw.
20. Turn 'ON' the gas supply and 240V power supply.
21. Operate unit and check for gas leaks at test point.
22. Replace the front cover of the appliance.



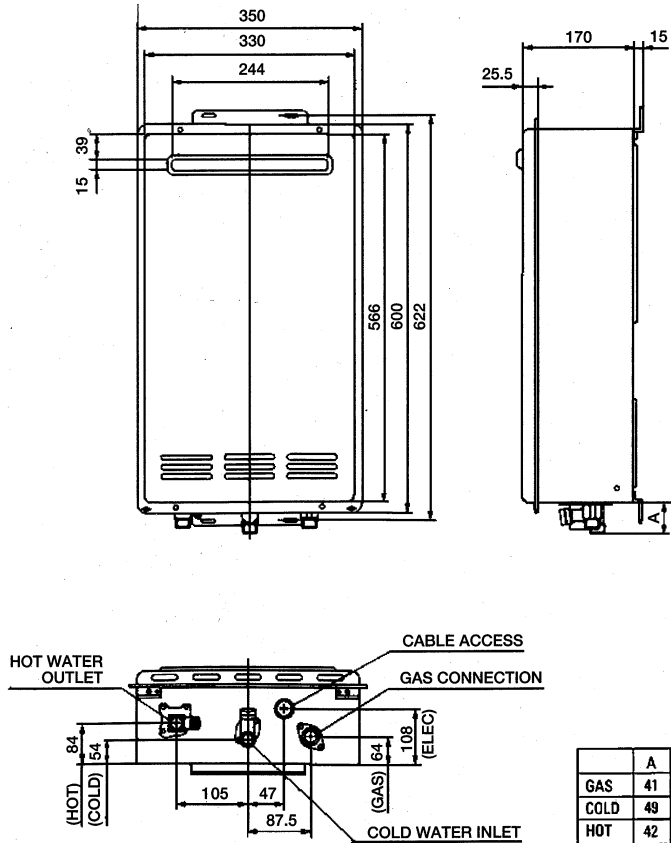
WARNING

DURING PRESSURE TESTING OF THE INSTALLATION ENSURE GAS COCK SITUATED BEFORE UNIT IS SHUT-OFF. FAILURE TO DO SO MAY RESULT IN SERIOUS DAMAGE TO THE APPLIANCE AND POSSIBLE INJURY

WIRING DIAGRAM



DIMENSIONS



	A
GAS	41
COLD	49
HOT	42

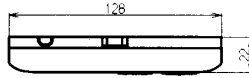
DIAGNOSTIC POINTS

FLOW CHART NO.	COMPONENT	MEASUREMENT POINT		NORMAL VALUE
		CN	WIRE COLOUR	
①	SURGE PROTECTOR	J4	B-Bk	AC207~264V
②	REMOTE CONTROL	H1	Bk-Bk	DC10~13V
③	WATER FLOW SENSOR	C2	R-Bk	DC11~13V
④	FAN MOTOR	D	Y-Bk	DC2~10V
⑤	FLAME ROD	G	W-Bk	DC2~9V
⑥	THERMISTOR	A2	Y-EARTH	60~350Hz
⑦	THERMAL FUSE	B2	W-W	AC100~160V ABOVE DC1μA
⑧	OVERHEAT SWITCH	B3	W-R	15°C11.4~14.0kΩ 30°C6.4~7.8kΩ 45°C3.6~4.5kΩ 60°C2.2~2.7kΩ 105°C0.6~0.8kΩ
⑨	SPARK GENERATOR	I4	Gy-Gy	BELOW 1Ω
⑩	SOLENOID VALVE 1	I1	P-Bk	AC90~110V
⑪	SOLENOID VALVE 2	I2	Y-Bk	15~21Ω
⑫	MODULATING VALVE	B1	P-P	AC16~20V 6~10Ω
⑬	SOLENOID VALVE 3	I3	B-Bk	AC13~30V 1.4~1.8Ω
⑭	GEARED MOTOR	E1	R-B Or-Gy	AC30~50V 6~10Ω AC180~220V 0.4~0.6kΩ

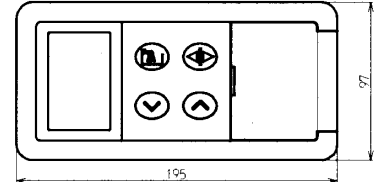
TRANSFORMER VOLTAGES AND RESISTANCE

CN	WIRE COLOUR	NORMAL VALUE
A1	R-R	AC90~110V
F	Gr-Gr	15~21Ω
A	Or-Or	AC16~20V
A	Br-Gy	6~10Ω
A	Y-Gy	AC13~30V
A	Y-Gy	1.4~1.8Ω
A	Y-Gy	AC30~50V
A	Y-Gy	6~10Ω
A	Y-Gy	AC180~220V
A	Y-Gy	0.4~0.6kΩ

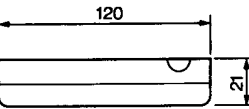
REMOTE CONTROLS



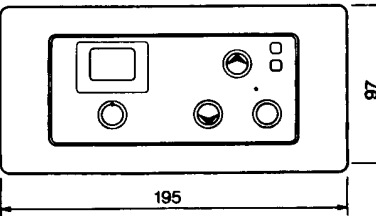
Kitchen Control MC-70-1A



Bath Control BC-70-1A



Kitchen Control MC-33-3A



Bath Control BC / BSC-45-3A