

1.5kW, 3kW & 6kW HVAC RANGE 1-PHASE BURST FIRE POWER CONTROLLER INSTALLATION INSTRUCTIONS

**PR1-E
SERIES**

X10591

FUNCTIONS

Over temperature protection

When heat sink temperature of above 90°C is detected by the sensor, the LED pulses rapidly. The power to the load will be disconnected and will not return until the temperature drops to 85°C.

Temperature sensor loss

LED status changes to ON/OFF (fast pulsing) if the sensor fails.

Photograph

Left to right – 1.5 & (3kW/6kW) models



CONNECTIONS

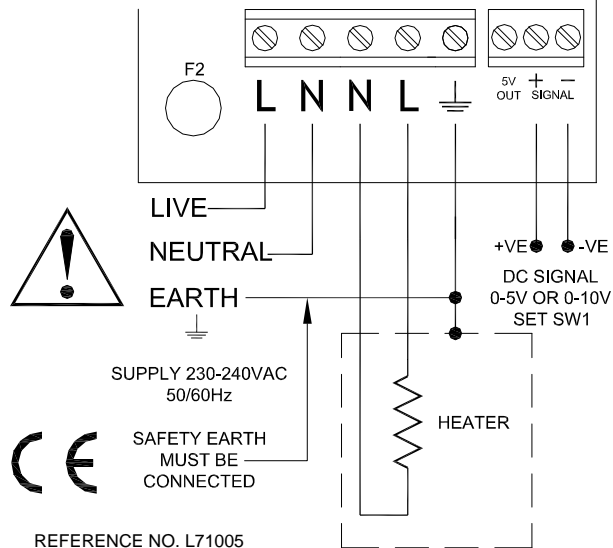
CAUTION:- DISCONNECT MAIN SUPPLY PRIOR TO ANY SERVICE WORK
MOUNT THE CONTROLLER WITH THE COOLING FINS IN A VERTICAL POSITION
ENSURE THERE IS ADEQUATE UNRESTRICTED AIR FLOW THROUGH THE FINS

STATUS LED CONDITIONS

1. VARIABLE BRIGHTNESS TRACKS CONTROL SIGNAL
2. PULSING AT 1 SEC. INTERVALS = SENSOR LOSS
3. PULSING AT 0.5 SEC INTERVALS = OVER TEMPERATURE

F1=POWER FUSE

F2=1 A TRANSFORMER FUSE



**RoHS Compliant
Directive
2002/95/EC**

WARNING

1. This unit is supplied with a fail-safe fuse for unit protection. See SPECIFICATION/INSTALLATION sections for further details.
2. The enclosure has HAZARDOUS LIVE parts and terminal connections – Isolate supply before commencing any installation work.
3. Unit must be secured using the appropriate fixing/mounting holes provided.

INSTALLATION

Cooling requirements

This robust stack assembly has an operational temperature of 65°C when naturally cooled and has a built in 90°C over temperature trip on the heatsink as a safety feature. The unit should be mounted vertically, with heatsink fins top to bottom, and with sufficient surrounding air space to maximise natural convection cooling. If the unit is mounted in an enclosure or cabinet, adequate ventilation and/or forced air-cooling should be fitted.

Load considerations

The PR-series of power controllers are designed for resistive type loads, e.g. Heaters. Unusual heating loads such as Molybdenum, Platinum or Tungsten have a typical, 10:1, hot to cold, resistance ratio and therefore, when cold, draw larger currents than normal.

Connections

This unit has simple clamp type terminal connectors for all auxiliary-wiring requirements.

Fastening

The unit is secured by four fixing holes, two of which have key-hole slots for quick installation/removal

Fusing

It is recommended that the specified type fuses (as supplied) be used as replacements for fail-safe protection. See SRA Data sheet X10255 for further information. Other external supplies should be fused accordingly.

CE Marking

This family carries a "CE" marking. These burst fire controllers do not normally require a remote filter. For more information contact our sales desk. A Declaration of Conformity available on request.

SPECIFICATIONS

Power/(current ratings):	1.5kW (6.3A), 3.0kW (12.5A), 6.0kW (25A) @ a typical supply of 240V RMS		
Input voltage:	230V RMS +/- 10%		
Frequency:	50/60Hz		
Control input - Signal:	0 to 10V dc (factory set) OR 0 to 5V (Selected by switch SW1)		
- Manual:	Manual control (using 5k potentiometer – NOT supplied)		
Status indicator:	(Tracking control signal) LED indicator changes intensity		
Over temperature:	Trip in temperature @ 90°C, +/- 1°C (LED indicator ' flashes ' continuous fast pulsing) Trip out temperature @ 85°C, +/- 1°C		
Sensor loss detection:	LED indicator ' flashes ' on/off fast pulsing.		
Cable terminations:	Power & earth	6.0kW	4.0mm ² maximum cable entry
	Power & earth	1.5 & 3.0kW	2.5mm ² maximum cable entry
	Control signal	all models	2.5mm ² maximum cable entry
Terminal torque settings:	0.5Nm for all power and earth terminals.		
Fusing 1.5kW	F10A (6mm Ø x 32mm) – ceramic quick blow type ferrule fuse		
3kW	F16A (6mm Ø x 32mm) – ceramic quick blow type ferrule fuse		
6kW	30A (10mm Ø x 38mm) - high-Speed Semiconductor type ferrule fuse		
Working temperature:	65°C (maximum operational)		
Dimensions (1.5kW):	140mm (L) x 99mm (W) x 45mm (H)		
Dimensions (3 & 6kW):	140mm (L) x 99mm (W) x 80mm (H)		
Fixing centres (all):	4 x 4.5mm clear holes on centres 75mm (W) x 120mm (L) – top two are key-hole slots		
Weight:	(1.5kW): 0.5kg (3 & 6kW): 1.1kg		

Note: SAFETY WARNING – Isolate supply before removing cover; Metal parts, in particular the heatsink, may get very hot when the unit is fully operational; DO NOT COVER enclosure ventilation slots.

RECOMMENDATIONS

Additional supporting documents addressing installation and safety, are available on request.

NOTE:- It is recommended that installation and maintenance of this equipment should be carried out by suitably qualified/trained personnel with reference to the current edition of the I.E.E. wiring regulations (BS7671 The regulations contain important requirements regarding the safety of electrical equipment. For International Standards refer to I.E.C/ Directive IEC 950.



UNITED AUTOMATION LIMITED

1 Southport Business Park
Kew
Southport, PR8 4HQ
ENGLAND

Tel: 0044 (0) 1704 – 516500 Main
Fax: 0044 (0) 1704 – 516501
Enquiry@united-automation.com

www.united-automation.com
Date 26/02/07

Page No. 2 of 2 Issue 8



015

1.5kW, 3kW & 6kW HVAC RANGE 1-PHASE BURST FIRE POWER CONTROLLER INSTALLATION INSTRUCTIONS

**PR1-E
SERIES**

X10591

FUNCTIONS

Over temperature protection

When heat sink temperature of above 90°C is detected by the sensor, the LED pulses rapidly. The power to the load will be disconnected and will not return until the temperature drops to 85°C.

Temperature sensor loss

LED status changes to ON/OFF (fast pulsing) if the sensor fails.

Photograph

Left to right – 1.5 & (3kW/6kW) models



CONNECTIONS

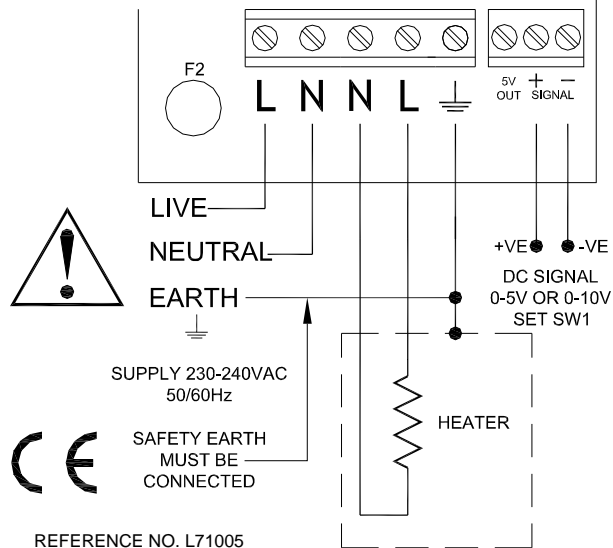
CAUTION:- DISCONNECT MAIN SUPPLY PRIOR TO ANY SERVICE WORK
MOUNT THE CONTROLLER WITH THE COOLING FINS IN A VERTICAL POSITION
ENSURE THERE IS ADEQUATE UNRESTRICTED AIR FLOW THROUGH THE FINS

STATUS LED CONDITIONS

1. VARIABLE BRIGHTNESS TRACKS CONTROL SIGNAL
2. PULSING AT 1 SEC. INTERVALS = SENSOR LOSS
3. PULSING AT 0.5 SEC INTERVALS = OVER TEMPERATURE

F1=POWER FUSE

F2=1 A TRANSFORMER FUSE



**RoHS Compliant
Directive
2002/95/EC**

WARNING

4. This unit is supplied with a fail-safe fuse for unit protection. See SPECIFICATION/INSTALLATION sections for further details.
5. The enclosure has HAZARDOUS LIVE parts and terminal connections – Isolate supply before commencing any installation work.
6. Unit must be secured using the appropriate fixing/mounting holes provided.

INSTALLATION

Cooling requirements

This robust stack assembly has an operational temperature of 65°C when naturally cooled and has a built in 90°C over temperature trip on the heatsink as a safety feature. The unit should be mounted vertically, with heatsink fins top to bottom, and with sufficient surrounding air space to maximise natural convection cooling. If the unit is mounted in an enclosure or cabinet, adequate ventilation and/or forced air-cooling should be fitted.

Load considerations

The PR-series of power controllers are designed for resistive type loads, e.g. Heaters. Unusual heating loads such as Molybdenum, Platinum or Tungsten have a typical, 10:1, hot to cold, resistance ratio and therefore, when cold, draw larger currents than normal.

Connections

This unit has simple clamp type terminal connectors for all auxiliary-wiring requirements.

Fastening

The unit is secured by four fixing holes, two of which have key-hole slots for quick installation/removal

Fusing

It is recommended that the specified type fuses (as supplied) be used as replacements for fail-safe protection. See SRA Data sheet X10255 for further information. Other external supplies should be fused accordingly.

CE Marking

This family carries a "CE" marking. These burst fire controllers do not normally require a remote filter. For more information contact our sales desk. A Declaration of Conformity available on request.

SPECIFICATIONS

Power/(current ratings):	1.5kW (6.3A), 3.0kW (12.5A), 6.0kW (25A) @ a typical supply of 240V RMS		
Input voltage:	230V RMS +/- 10%		
Frequency:	50/60Hz		
Control input - Signal:	0 to 10V dc (factory set) OR 0 to 5V (Selected by switch SW1)		
- Manual:	Manual control (using 5k potentiometer – NOT supplied)		
Status indicator:	(Tracking control signal) LED indicator changes intensity		
Over temperature:	Trip in temperature @ 90°C, +/- 1°C (LED indicator ' flashes ' continuous fast pulsing) Trip out temperature @ 85°C, +/- 1°C		
Sensor loss detection:	LED indicator ' flashes ' on/off fast pulsing.		
Cable terminations:	Power & earth	6.0kW	4.0mm ² maximum cable entry
	Power & earth	1.5 & 3.0kW	2.5mm ² maximum cable entry
	Control signal	all models	2.5mm ² maximum cable entry
Terminal torque settings:	0.5Nm for all power and earth terminals.		
Fusing 1.5kW	F10A (6mm Ø x 32mm) – ceramic quick blow type ferrule fuse		
3kW	F16A (6mm Ø x 32mm) – ceramic quick blow type ferrule fuse		
6kW	30A (10mm Ø x 38mm) - high-Speed Semiconductor type ferrule fuse		
Working temperature:	65°C (maximum operational)		
Dimensions (1.5kW):	140mm (L) x 99mm (W) x 45mm (H)		
Dimensions (3 & 6kW):	140mm (L) x 99mm (W) x 80mm (H)		
Fixing centres (all):	4 x 4.5mm clear holes on centres 75mm (W) x 120mm (L) – top two are key-hole slots		
Weight:	(1.5kW): 0.5kg (3 & 6kW): 1.1kg		

Note: SAFETY WARNING – Isolate supply before removing cover; Metal parts, in particular the heatsink, may get very hot when the unit is fully operational; DO NOT COVER enclosure ventilation slots.

RECOMMENDATIONS

Additional supporting documents addressing installation and safety, are available on request.

NOTE:- It is recommended that installation and maintenance of this equipment should be carried out by suitably qualified/trained personnel with reference to the current edition of the I.E.E. wiring regulations (BS7671 The regulations contain important requirements regarding the safety of electrical equipment. For International Standards refer to I.E.C/ Directive IEC 950.



UNITED AUTOMATION LIMITED

1 Southport Business Park
Kew
Southport, PR8 4HQ
ENGLAND

Tel: 0044 (0) 1704 – 516500 Main
Fax: 0044 (0) 1704 – 516501
Enquiry@united-automation.com

www.united-automation.com
Date 26/02/07

Page No. 2 of 2 Issue 8



015