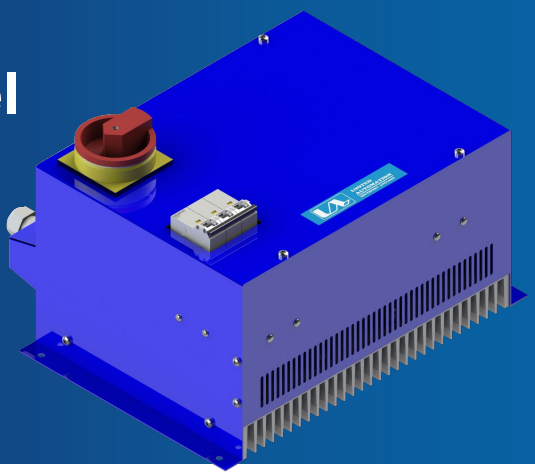
X10869

Infrared Heating | Heater Controller

Infresco 18kW 3-Channel

Up to 30A per channel, 230V
Up to 80A total, 415V



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KEY FEATURES:

- ✓ **Versatile Control:** Supports DC signal, 5KΩ potentiometer and D/A HMI
- ✓ **User-Friendly:** Easy access to terminals for simple installation
- ✓ **Robust Design & Performance:** Ideal for control of larger infrared lamps
- ✓ **Integral RC Snubber** for smooth inductive load control.
- ✓ Built-in **EMC filtering** for compliance with emission standards.
- ✓ Rugged, compact design with 4 mounting holes for easy installation.

APPLICATIONS:

These controllers are ideal for controlling larger scale **infrared lamp installations** whether it be 3 phase or single phase – there will be a suitable option for your application. Heater batteries are also ideal loads for these controllers.

The **Infresco 18kW controller** is available in 2 configurations. A 3 x 6kW channel configuration and a 1 x 18kW channel configuration. Both can use 3 phase input supplies with reference to neutral, but the 3 x 6kW version can also be used with 3 connections to a single phase.

Designed for use with our HMI and D/A units, these controllers can be used in tandem with each other for effortless control capability. Alternatively, a simple DC signal can be used too to control each phase.

With robust **input MCB protection**, **RC Snubber technology**, and **EMC compliance**, they handle high inrush currents while meeting modern standards for electrical noise suppression.

TECHNICAL SPECIFICATIONS

Power/Current Rating	30A per channel, 80A total	
Input Voltage	230V RMS ±10%, 415V RMS ±10%	
Frequency	50/60Hz	
Control Input Options	5KΩ pot., 0-25V signal (3 channel version only – range adjustable), 0-5V/0-10V signals, D/A HMI	
Soft Start	1-30s Adjustable	
Status Indicator	Mimics the output level per channel	
Over Temperature	90°C Trip Switch	
Cable Sizing	Phase power & Earth	4mm² Cable
	Neutral	6mm² Cable
Terminal Torque Specs	2.0Nm	
Fusing	30A MCB D-Curve	
Working Temperature	60°C (maximum)	
Dimensions	294 x 340 x 207 (L x W x H) (mm)	
Fixing Centres	200 x 324 (mm)	
Weight	15 kg.	

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INSTALLATION

Cooling Requirements

The **Infresco 18kW power controller** operates passively cooled up to a temperature of 50°C. Mounting the unit in a well-ventilated area is recommended. The unit must be mounted with the fins on the large heatsink oriented vertically whilst also ensuring that there are no obstructions to impact the air flow. When mounted within a cabinet or panel, ensure that proper precautions are taken with respect to the way that the air flow is managed. Forced air-cooling is recommended to keep the ambient air temperature within the cabinet/panel low.

Load Considerations

The Infresco 18kW power controller is available in 2 configurations.

1. 3 x 6kW channel. This configuration is designed to take either a 3 phase + neutral supply or 3x single phase + neutral supply, and control 3x 6kW channels independently of each other. Useful for controlling 3 single phase 230V loads up to 6kW each.
2. 1 x 18kW channel. This configuration is designed to take a 3 phase + neutral supply and control a single 18kW 3-phase load as one large channel. This configuration can be used to control either a 3-wire load – closed delta or floating star (a 4-wire supply must still be used) or a 4-wire load – star with neutral connection

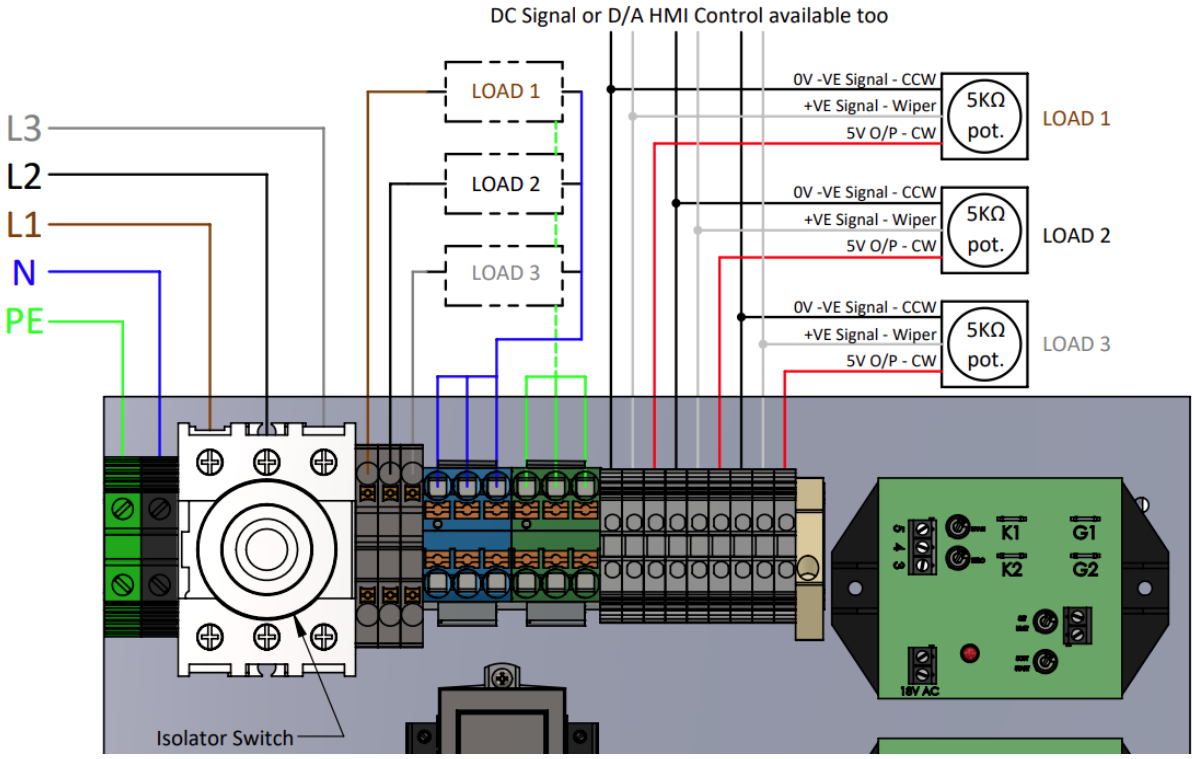
In either case, it is important to consider that unusual heating loads, such as those using materials like Molybdenum, Platinum, or Tungsten, may have a high hot-to-cold resistance ratio (up to 10:1), resulting in a significantly higher current draw when cold.

Fusing and Over-Temperature Protection

To ensure optimal protection, it is recommended to use fast-acting semiconductor fuses, supplied separately. For further details, refer to the SRA Datasheet X10255. Additionally, it is advisable to install a contact breaker in the load supply. The power supply to the contactor coil should be interrupted by an over-temperature thermostat located on the load and also upon detection of airflow loss.

Connections

The Infresco 18kW Controller features robust power terminals for all auxiliary wiring needs. The supply connections use a rising clamp style terminal block while the load connections use a 'toolless' push type terminal block – for ease of installation. The signal connections also feature a rising clamp style terminal block. By default, the unit is wired to be powered internally from the main input supply. This supply is wired through an over-temperature switch which allows the unit to power down in an overtemperature condition – preventing any further damage.



Safety Warning

Isolate the power supply before removing the cover. Be aware that metal parts, specifically the heatsink, may become extremely HOT when in operation. **Do not cover** the enclosure's ventilation slots.

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Functions

Function	Description
Over-Temperature Protection	When the temperature of the heatsink exceeds 90°C, the thermal switch opens and stops the power going to the firing circuits. Once the temperature drops back below approximately 85°C, the temperature switch will close again, allowing normal function of the unit.
Over-Current Protection	When the power draw of the unit exceeds 30A (or 80A total), the MCBs will trip, protecting the unit itself as well as the load/s and wiring. The MCBs fitted are 'D-curve' meaning that they will be able to withstand inrush current that is greater than the rating for a short period of time – enough to allow infrared lamps to warm up, for example.
Toolless Load Connection	The load can be wired in without the use of any specific tool – saving time and making it easier in those awkward places. The load connections make use of a 'push-style' locking mechanism, so all that is required is to push the button to add or remove a wiring connection.
IP20 Ingress Rating	The unit is built to IP20 standards by making use of cable glands and finely spaced ventilation vents. This will prevent the ingress of objects larger than 12mm in diameter.
Power Isolation	The unit features an 80A isolator switch to allow the user to safely disconnect the power when either not in use or when performing maintenance. The isolator switch will not allow the user to open the lid of the unit when in the ON position – the isolator must be in the OFF position to gain entry to the internal components.

Extras

D/A Signal controller & HMI

What is it? The HMI is an interface that allows the user to control up to 9 channels of controllers that use a 0-5V input signal. The D/A units can each control 3 channels and can be daisy chained together for a maximum of 9 channels (3x D/A units). Only 1 HMI unit is required to control all (up to) 3. The HMI can be used to control the percentage output of each channel from 0-100% - 100% being represented by "FF" on the display. The level can be increased in 1% increments (50mV).

Only 1 D/A unit needs to be powered – power is the daisy chained to the other units (if there are any others) as well as the HMI unit. If the thyristor controller is specified with the D/A unit, then it can be pre-configured to be internally wired, further saving the installer more time.

The HMI has an infrared sensor on it to make use of our remote handset that we have available. It can be used to remotely increase or decrease the output levels and change between the channels. It can also be used to simultaneously turn all channels ON or OFF. Upon turning all channels back ON, the previous output levels will be restored.

For more information, refer to: X20105.

5kΩ Potentiometer

A 5kΩ potentiometer can be used to control each channel directly with a wired connection. Simply turning clockwise will increase the output and the converse is true for when it is turned anti-clockwise. They are supplied with a knob and pre-wired leads.

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RECOMMENDATIONS

FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (Semiconductor - MCB) for unit protection. On initial 'switch on' some loads may need an increased Factor of Safety (F of S) for unit and/or device protection. (See the SRA Datasheet for further information).

DOCUMENTS

Other documents available on request, which may be appropriate for your application:

Code	Identity	Description
X10229	RFI	Filtering Recommendations: Addressing the EMC Directive
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
P01.1	COS	UAL Conditions of Sale

It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding the safety of electrical equipment. For International standards refer STANDARDS on D of C.

OPTIONAL EXTRAS

Product Code	Product Description
A403001	Manual (5K) Potentiometer Knob and Leads
A402190	Infresco – 9- Channel HMI Controller
A402191	Multi-Channel Controller HMI - D/A UNIT (for 9 Channel HMI)
A86357	Remote Handset
A-903671-15	9kW Industrial Heater
A-903671	12kW Industrial Heater
A-903672-15	13.5kW Industrial Heater
A-903672	18kW Industrial Heater

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A418307	INFRESCO 18kW (3x 6kW Phase to Neutral Channels)
A418308	INFRESCO 18kW (1x 18kW 3-phase ± Neutral Channel)

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