



FC11AL/2

From 25V to 230V

Universal Phase Angle Controller

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KEY FEATURES:

- ✓ **Integral 26A Triac:** Provides reliable and efficient power control with a robust 26A current rating.
- ✓ **Variable Phase Angle Control:** Enables precise adjustment of power delivery to the load through a wide range of control signal inputs, either voltage or current.
- ✓ **Selectable Soft-Start:** Includes a soft-start delay function to protect sensitive loads and ensure smooth operation.
- ✓ **Status LED Indicator**
- ✓ **Low Power Consumption:** Consumes less than 2 watts, making it an energy-efficient solution.
- ✓ **Wide Operational Voltage Range:** Supports AC line voltages from 25V to 230V at 50/60 Hz.

The **FC11AL/2** is a robust single-phase firing module designed with an integral 26A triac, delivering precise power control through variable phase angle modulation. This advanced controller is perfect for applications requiring smooth and adjustable power delivery, such as ovens, heat lamps, and various industrial processes. By controlling the AC supply, the FC11AL/2 effectively manages the power supplied to the load, ensuring optimal performance and energy efficiency.

The FC11AL/2 features a ramp and pedestal input circuit that allows for fine-tuned control of the firing phase angle via a DC signal, ensuring more power is delivered to the load as the angle increases. Its selectable soft-start function further enhances the control, making it suitable for a wide range of applications where gradual power ramp-up is critical.

TECHNICAL SPECIFICATIONS

Signal Span minimum	0-2V dc
Signal span maximum	0-25V dc
Signal zero offset	0-30% of span
Signal input resistance	5000 ohms ± 20%
Manual potentiometer	2K, 5K or 10K
I ² t for fusing (10m sec)	250 A ² s
Soft start time constant	0.06 sec/microfarad
Isolation voltage	2500 Vrms
Max. Working temperature	65°C operational
AC input power (1 & 2)	18 to 24V ac @ 65mA
Auxiliary output (5)	5Vdc @ 5mA protected
Triac limiting RMS current	26A
AC line voltage +/- 10% @ 50/60 Hz	25V to 230V
Peak single cycle surge current	250A
Power consumption	1.7W
Max. Peak voltage	600V
Current rating	25A
Storage temperature	-20°C to +85°C

APPLICATIONS:

Ideal for a wide range of industrial and commercial applications, including:

- Industrial Ovens
- Restaurant and Hospitality
- Quartz and Heat Lamps
- Moulders and Dryers
- Inductive Loads

YOU MUST READ THIS BEFORE INSTALLATION

ELECTRICAL SAFETY	INSTALLATION REQUIREMENTS	USER RESTRICTIONS	USAGE ENVIRONMENT	HOT SURFACE WARNING
WARNING: RISK OF ELECTRIC SHOCK Always consult the Installation & Maintenance Instructions before connecting this product to the power supply.	WARNING: Installation by Qualified Personnel Only This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.	WARNING: Not for Use by Vulnerable Individuals This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.	WARNING: Industrial Use Only This is an industrial-grade product and is not intended for household use.	WARNING: Hot Surfaces On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.
WARNING: Disconnect Power Before Servicing Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.				

More Info: <https://united-automation.com/general-product-safety-regulation-gpsr/>

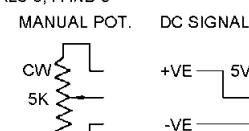
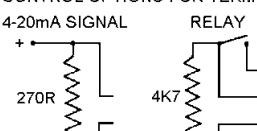
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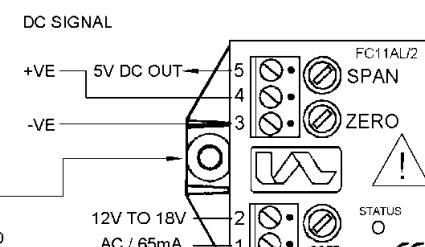
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INSTALLATION

CONTROL OPTIONS FOR TERMINALS 3,4 AND 5

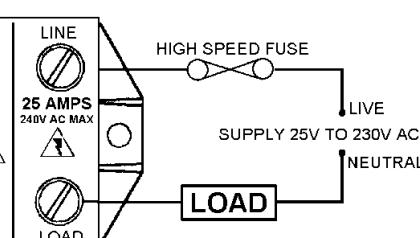


WARNING
THIS UNIT MUST BE EARTHED

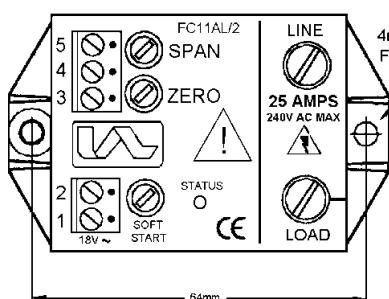


NOTE: AC INPUT MUST BE
ISOLATED FROM SIGNAL
AND BE IN PHASE WITH
LINE VOLTAGE.

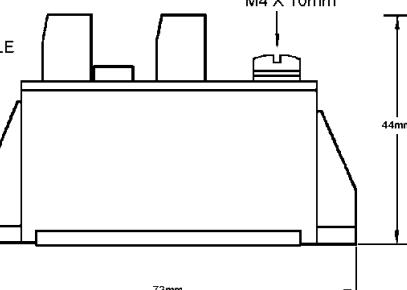
ADJUSTABLE
SOFT START



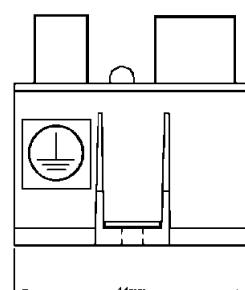
PLAN VIEW



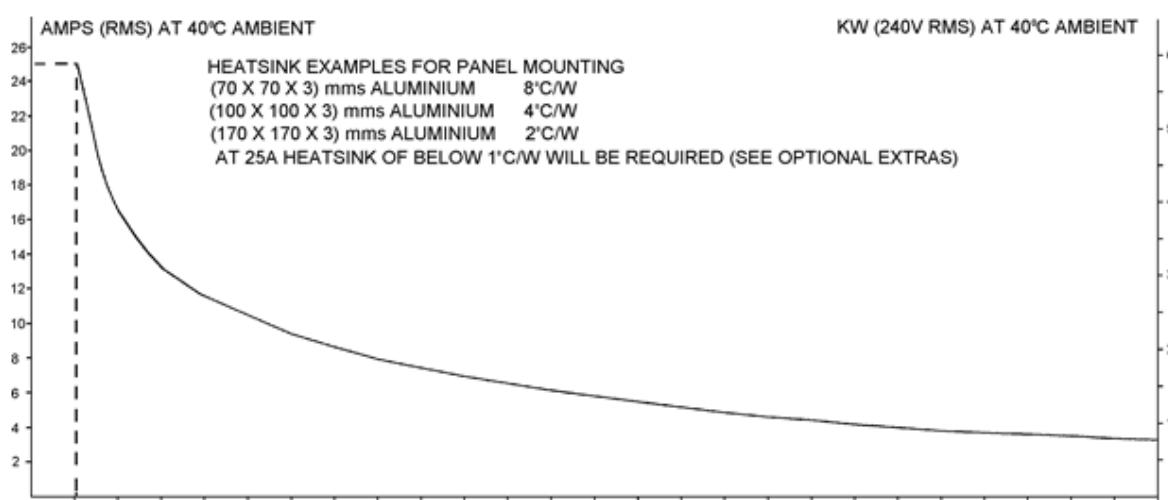
USE HEATSINK COMPOUND FOR EFFECTIVE THERMAL COUPLING
WARNING LIVE TERMINALS
SWITCH OFF MAINS SUPPLY BEFORE COMMENCING ANY SERVICE WORK

SIDE VIEW
POWER CONNECTIONS
M4 X 10mm

END VIEW



COOLING REQUIREMENTS



THERMAL DATA
WITH HEATSINK AS SPECIFIED, THE MAXIMUM LOAD CURRENT CAN BE DETERMINED. THIS
IS THE MAXIMUM LOAD CURRENT POSSIBLE WITHOUT EXCEEDING THE DEVICE RATINGS.

RECOMMENDATIONS

FUSING

It is recommended that semiconductor, fast-acting type fuses or circuit breakers (Semiconductor-MCB) be used for unit protection. On initial operation 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	Filter 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
A-EN2010-30-S	RFI Filter
T30201	Supply Transformer
Z01062	Heatsink Compound Syringe (Must be applied while fitting)
Note: When ordering a filter, the current at which the FC11AL/2 is to be used at will be required.	

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A31217	FC11AL/2 - Phase-Angle Firing Module