

X10221

TRIGGER MODULES | SINGLE PHASE | PHASE TO PHASE

AFM11

Up to 480V

Universal Phase Angle Trigger Module

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KEY FEATURES:

- ✓ **Wide Voltage Compatibility:** Can fire TRIACs or thyristors up to 480VAC, making it suitable for various industrial settings.
- ✓ **Adjustable Soft-Start Function:** Provides a smooth power ramp-up.
- ✓ **Current Limit Control:** Allows for precise feedback control of voltage or speed for both AC and DC loads.
- ✓ **Pulse-Train Firing:** Ensures reliable and efficient operation via an isolation transformer, increasing adaptability for different loads.
- ✓ **Energy Efficient:** Consumes less than 2W, offering a cost-effective solution for continuous use.
- ✓ Status LED Indicator
- ✓ Fully Enclosed Design

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

The **AFM11 Universal Phase Angle Trigger Module** is a versatile and robust solution for precise power control in a wide range of industrial applications. Designed to manage both single-phase and phase-to-phase AC or DC loads, this module offers advanced variable phase-angle control with features like adjustable signal matching, current limit input, and a customizable soft-start function. Its powerful pulse-train output ensures reliable performance for both resistive and inductive loads, making it an essential component in power assemblies, particularly for controlling thyristors, TRIACs, and hybrid diodes.

The **AFM11 Universal Phase Angle Trigger Module** is a reliable and flexible power control solution, designed to meet the demanding requirements of industrial applications. With its advanced features and robust design, it ensures optimal performance and efficiency, making it an indispensable tool for professionals in various fields.

TECHNICAL SPECIFICATIONS

Signal Span Minimum	0 – 2.5VDC (see X10390)
Signal Span Maximum	0 – 25VDC (see X10390)
Signal Zero Offset	0 – 50% of span (see X10390)
Signal Input Resistance	5kΩ ±20%
Trigger Pulse Height	8V open circuit
Trigger Pulse Rating	250mA in to 10Ω
Trigger Isolation Voltage	2500VAC RMS
Trigger Outputs (G & K)	Short circuit protected
AC Input Supply (nominal)	18 – 24VAC RMS @ 100mA
Auxiliary Output (nominal)	5VDC @ 20mA
Thyristor Line Voltage	12 – 480VAC RMS @ 50/60Hz
Manual Potentiometer	2kΩ, 5kΩ or 10kΩ
Limit Feedback Input	0.6 – 30VDC
Soft-start	1 – 30 seconds (adjustable)
Storage Temperature	0°C – 85°C
Operating Temperature	0°C – 75°C

Note: Limit feedback input – may be in the form of a current transformer used with a feedback PCB (details as shown in the installation section) or a shunt used with an amplifier PCB (details not given – for information contact the technical sales desk)

YOU MUST READ THIS BEFORE INSTALLATION

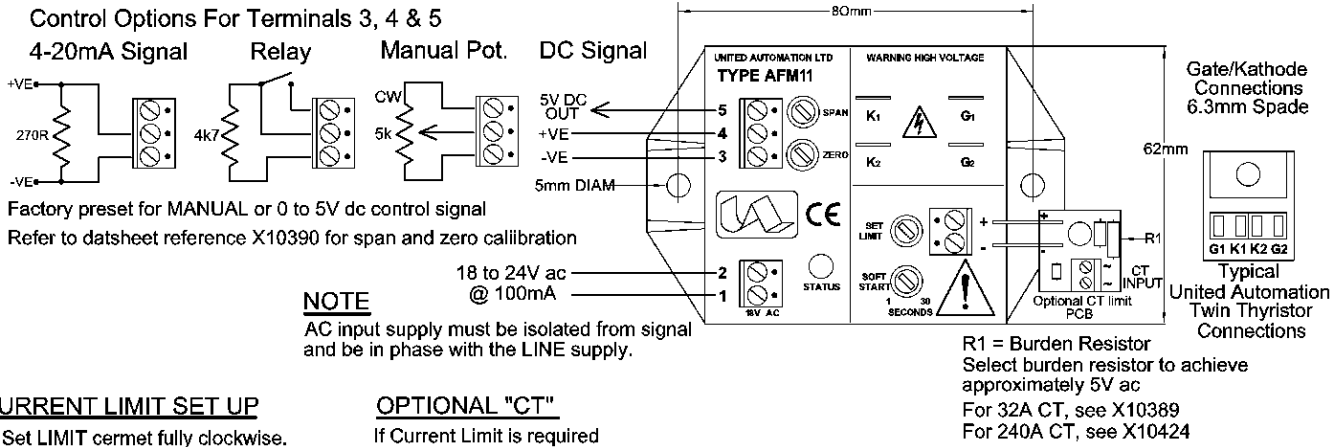
 ELECTRICAL SAFETY	 INSTALLATION REQUIREMENTS	 USER RESTRICTIONS	 USAGE ENVIRONMENT	 HOT SURFACE WARNING
WARNING: RISK OF ELECTRIC SHOCK Always consult the Installation & Maintenance Instructions before connecting this product to the power supply. WARNING: Disconnect Power Before Servicing Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.	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.

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INSTALLATION

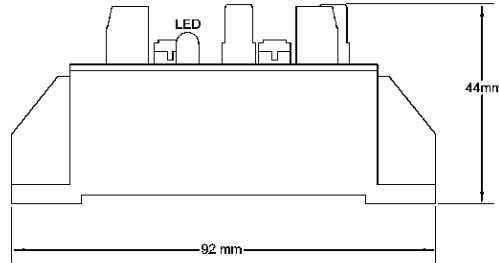
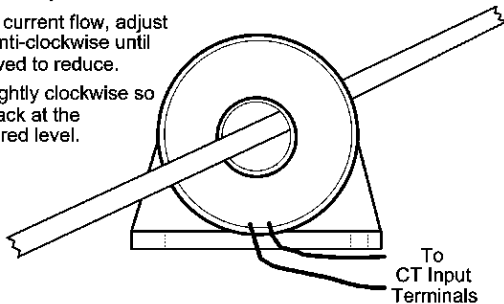


CURRENT LIMIT SET UP

1. Set LIMIT cermet fully clockwise.
2. With maximum current flow, adjust LIMIT cermet anti-clockwise until output is observed to reduce.
3. Turn cermet slightly clockwise so that output is back at the maximum required level.

OPTIONAL "CT"

If Current Limit is required

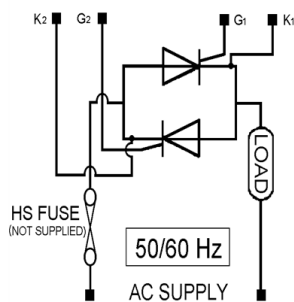


WARNING !

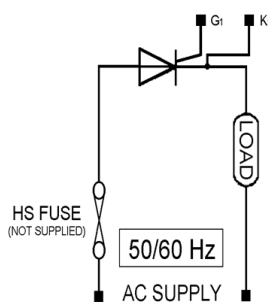
ENSURE SUPPLY IS OFF BEFORE COMMENCING ANY SERVICING WORK

CONNECTIONS

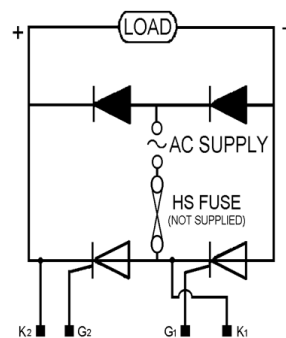
FULL WAVE THYRISTORS



HALF WAVE - THYRISTOR



DC CONTROLLED



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RECOMMENDATIONS

FUSING

It is recommended that this unit's AC supply should be fused for safety and unit protection. An appropriate 250VAC, fast-acting, glass-type fuse (typically F1A glass 20mm x 5mm Ø) should be used (see the SRA datasheet in the recommendations section 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
X10378	ILR	Inductive loads remedy sheet for use with phase angle controllers
X10390	ZSS	For signal zero and span calibration setup & adjustment
X10389, X10424		For Current Transformer (CT) performance graph – 32A & 240A respectively

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
T30201	Transformer 2VA Dual Primary, Dual Secondary
Note: Stack assembly (SCRs/transformers/fusing/heatsink), appropriate filter to match load, current transformers, current transformer feedback PCB	

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A31411	AFM11- Universal Phase Angle Trigger Module



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