



# UNIVERSAL PHASE ANGLE TRIGGER MODULE

## AFM-11

X10221

### INTRODUCTION

This single phase or phase to phase trigger module uses variable phase angle control with adjustable signal matching, selectable soft start and integral current limit input. The pulse train output is reliable, powerful and universally applicable to resistive or inductive loads. The power transformer is remote for increased reliability and wide operational voltage capability. Adjustable current limit allows feedback control and via a few external parts, this can also give voltage or speed control of AC or DC loads. The module is fully enclosed for safety and eligibility in industrial environments.

### APPLICATIONS

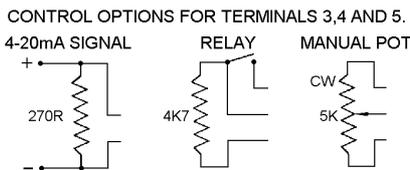
Applicable to most AC or DC, resistive or inductive loads via thyristor, triac or hybrid diode stacks on single phase to neutral or phase to phase supplies, within voltage limits.

### FEATURES

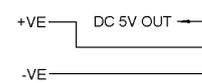
- Fires triacs or thyristors up to 480V, 50/60 Hz supplies.
- Selectable soft start function.
- Adjustable current limit control.
- Pulse train firing via isolation transformer.
- Consumes under 2 watts.



### INSTALLATION



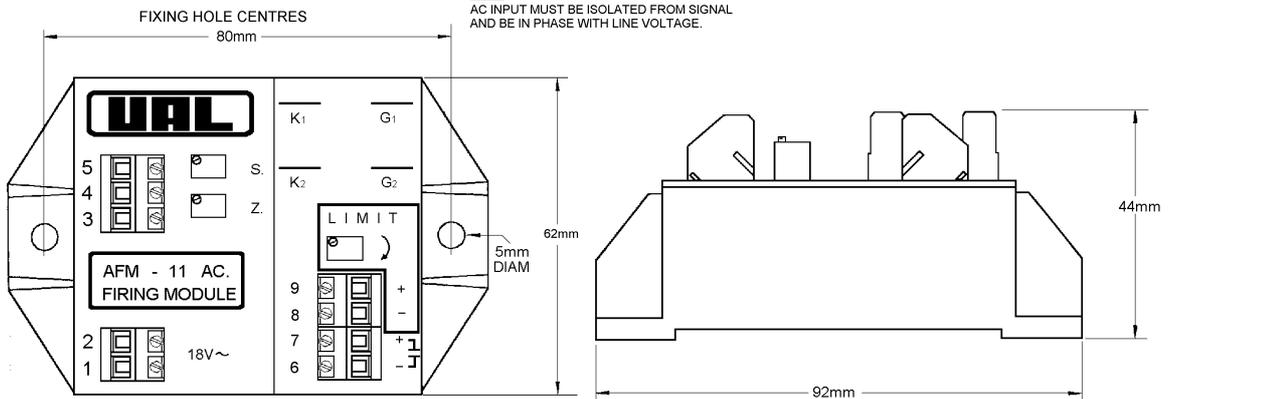
DC SIGNAL



#### **WARNING**

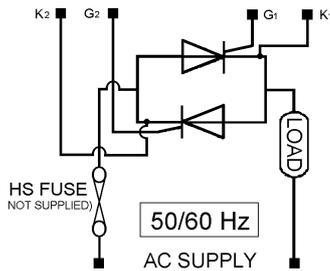
SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICE WORK.

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

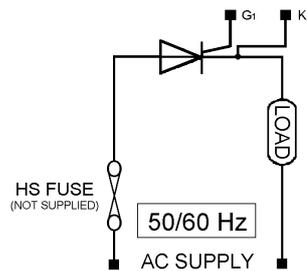


## POWER CONNECTIONS

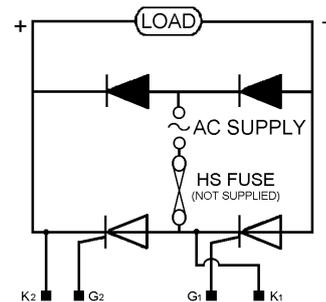
FULL WAVE THYRISTORS



HALF WAVE - THYRISTOR



DC CONTROLLED



## SPECIFICATIONS

Signal Span minimum	0 to 2V dc	AC input supply	18 to 24V rms @ 75mA
Signal Span maximum	0 to 25V dc	Auxiliary output	5V dc @ 5mA protected
Signal Zero offset	0 to 30% of span	Thyristor line voltage	110 to 480V rms @ 50/60 Hz
Signal input resistance	5000Ω ± 20%	Manual potentiometer	2KΩ, 5KΩ or 10KΩ
Trigger pulse height	8V open circuit	Limit feedback input	2V min, 20V max. into 5KΩ
Trigger pulse rating	250mA in to 10Ω	Soft start time constant	0.1 second per μF
Trigger isolation voltage	2500V rms	Storage temperature	-20°C to +85°C
Trigger shorted output	Protected	Operating temperature	0°C to 75°C

## FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (Semiconductor - MCB) for unit protection and an appropriate safety fuse for unit supply (F1A). On initial 'switch on' some loads may need an increased factor of safety (F of S) for unit and/or device protection. (See SRA Datasheet for further

## CE MARKING

This product family carries a "CE marking". These phase angle controllers need a suitable remote filter. For information see recommendation section and contact our sales desk. (See Declaration of Conformity).

## RECOMMENDATIONS

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

CODE	IDENTITY	DESCRIPTION
X10229	RFI	Filtering recommendations - addressing 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 & Earth requirements; Fusing recommendations.
AP02/4	COS	UAL Conditions of sale.

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

## ORDER CODE

State part number: AFM11

Optional extras include: potentiometer, soft start capacitor, supply transformer, complete assemblies, filter.

When ordering a filter the current of the load is required.



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