



# UNIVERSAL PHASE ANGLE

## TRIGGER MODULE

FC11AL

X10222

### INTRODUCTION

This single phase or phase-to-phase firing module uses variable phase-angle control with adjustable signal matching and adjustable **soft-start**. The power transformer is remote for increased reliability and wide operational voltage capacity. The unique **\*MONO-LINK** firing system is ideal for use with inductive loads and requires minimal wiring to the power devices. The module is fully enclosed for safety and eligibility in industrial environments.

### APPLICATIONS

This may be used on most AC resistive or inductive loads via a triac or thyristor. On single phase to neutral or phase to phase supplies, within voltage limits. This is also suitable for half-wave vibrator control (see POWER CONNECTIONS section).

RoHS Compliant  
Directive  
2002/95/EC

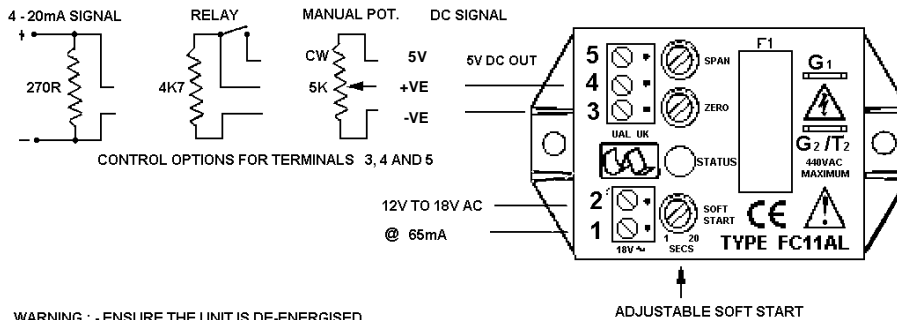
### FEATURES

- Fires triacs or thyristors up to 440 V AC
- **MONO-LINK™** Gate to Gate firing
- High Isolation opto-coupled output
- Status LED giving output level indication
- Adjustable 'Soft Start' function



### INSTALLATION

### Dimensions & control options



SEE  
POWER  
CONNECTIONS

#### ZERO & SPAN

For recalibration and adjustment refer to datasheet X10390 (See recommendations section)

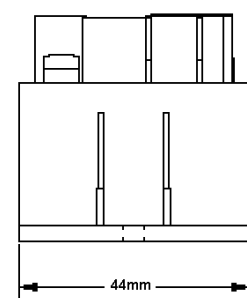
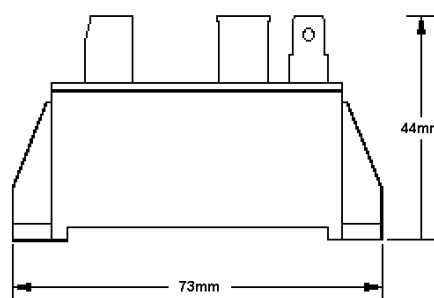
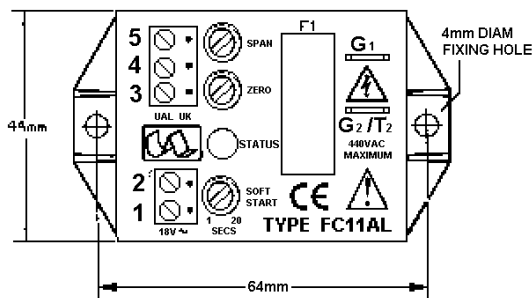
WARNING : - ENSURE THE UNIT IS DE-ENERGISED BEFORE REPLACING FUSES, OR WHEN NOT IN USE

NOTE:- 12V TO 18V AC INPUT MUST BE ISOLATED FROM SIGNAL AND BE IN PHASE WITH LINE VOLTAGE

PLAN VIEW

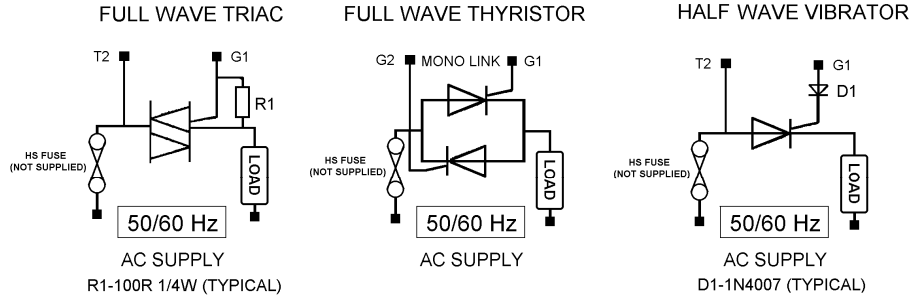
SIDE VIEW

END VIEW



\*MONO-LINK is a trademark of United Automation Ltd. U.K. Patent No. 2197997

**POWER CONNECTIONS (typical)**



**SPECIFICATION**

<b>Signal Span Min. (see X10390)</b>	1.5 to 5V dc	<b>AC input supply (Tmls. 1&amp;2)</b>	12 to 18V AC @ 65mA
<b>Signal Span Max. (see X10390)</b>	5 to 25V dc	<b>Auxiliary output (Tmls. 3&amp;4)</b>	5V DC
<b>Signal zero offset (see X10390)</b>	0 to 30% of span	<b>Line Frequency</b>	50/60 Hz
<b>Max. Gate/Line voltage</b>	440V AC (RMS)	<b>Adjustable soft start</b>	1-20 seconds
<b>Trigger isolation voltage</b>	4000V (RMS)	<b>Mono-link fuse</b>	F100mA (HRC type)
<b>Trigger output rating</b>	0.8A	<b>Manual potentiometer</b>	2K, 5K or 10K (@ 1W typical)
<b>Storage temperature range</b>	0 to + 65°C	<b>Operating temperature range</b>	0 to + 65°C
<b>Power connections (G1 &amp; G2/T2)</b>	6.3mm Amp tags		

**FUSING**

We recommend that semiconductor (fast acting) type fuses or circuit breakers (semiconductor- MCB) are used for unit protection and appropriate protection for unit supply (HRC F1A). On initial switch on, some loads need an increased Factor of Safety (F of S) for unit and/or device protection. See SRA Data sheet 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)

**RECOMMENDATION**

Other documents, which may be appropriate to your applications, are available on request.

CODE	IDENTITY	DESCRIPTION
X10229	RFI	Filtering recommendation - 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.
X10390	ZSS	For signal zero & span calibration setup and adjustment
AP02/4	COS	UAL Conditions of sale

**NOTE:** We recommend that suitably qualified/trained personnel should do installation and maintenance of this equipment with reference to the current edition of the I.E.E. regulations BS7671. The regulations contain important requirements regarding the safety of electrical equipment. For International standards, refer to I.E.C. Directive I.E.C. 950.

**ORDER CODE:**

State part number:  
Optional extras include

FC11AL + Signal option (Set for manual 5K pot. as std.).  
Potentiometer, and supply transformer.



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