



THREE PHASE THYRISTOR DRIVER

FC36M

X10248

INTRODUCTION

This three phase microprocessor based firing circuit is a populated printed circuit board primarily designed for incorporating into three phase power control assemblies for the control of thyristors (SCR's). The unit is available in various supply voltage capabilities (see specifications for details). Phase wiring installation is kept to a minimum, with simple gate/cathode outputs and no necessity for external phasing supply transformers. It has a wide range of selectable features, as listed below.

APPLICATIONS

Universally acceptable for AC, DC, resistive or most inductive loads via thyristor pairs on three phase assemblies. SCR Power handling gives smooth proportional control to all types of industrial processes which includes furnaces, electroplating, controlled rectifiers and transformers.

FEATURES

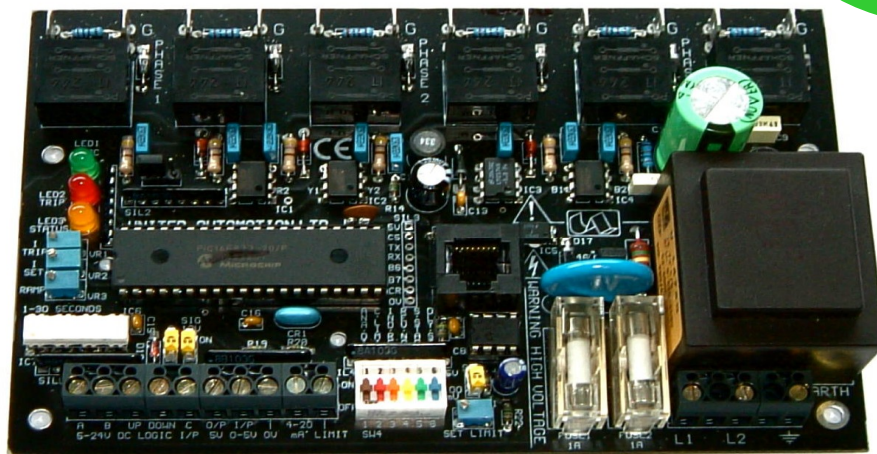
- Switch selectable phasing reversal.
- Control type: Phase angle, Burst fire, or Phase angle and Burst fire combination.
- Analogue or digital input signal control options (opto isolated).
- Load type selection switch, for resistive or inductive applications.
- Output status LED indication.
- Current limit facility, switch selectable with LED indication.
- Over current latching trip to 120% of maximum, with LED indication.
- Adjustable ramp control 0 to 30 seconds.
- RJ45 communications port for remote programming/display console.



Optional Extras

- DIN rail mounted enclosure.
- Commander module -remote keypad programmer with functional display console.

RoHS Compliant
Directive
2002/95/EC



SPECIFICATIONS

Nominal Supply voltages (+/-10%)	110V, 230V or 400V ac @ 50/60 Hz
Primary fusing	Two HRC-F1A (ceramic 20 x 5mm)
Current consumption	350mA (Full Conduction)
Initial short circuit gate current	500mA
Sustaining short circuit gate current	250mA
Initial pulse voltage	9V
Sustaining pulse voltage	5V
Pulse train frequency	25kHz
Trigger mode-selected by input	Burst Fire and Phase Angle
Voltage signal into 10K ohms / 20K ohms	0-5V dc / 0-10V dc
Current signal into 240 ohms	4 - 20mA
Opto-isolated inputs	5 - 24V dc
Adjustable ramp control from power up	0-30 seconds
Control limit or over-current trip	0-100 mV dc or 0-25V dc
Load type-Selected by switch (SW4)	Resistive or Inductive
Operating and storage temperature range	0 to +65°C

Overall Dimensions

Firing Circuit board (PCB) only	L 162mm x W 108mm x H 40mm
Hole size and Fixing centres of PCB	4x M3.5 clear holes, 150mm x 62mm
Firing Circuit with DIN-rail enclosure	L 166mm x W 128 mm x H 70 mm

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 SRA Datasheet for further information.

CE MARKING

This product family carries a "CE" marking. In phase angle mode the controller will need a suitable remote filter. For additional information see recommendation section and contact our sales desk.

RECOMMENDATION & SAFETY REQUIREMENTS

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

CODE	IDENTITY	DESCRIPTION
X10327	3-RFI	3 phase 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 Fuse recommendations.
X20004	FC36M	FC36M Operating Users Manual.
X10652	CM-FC36M/MV	Remote HMI programmer – Commander Module CM-(FC36M/MV)
AP02/4	COS	UAL Conditions of sale

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

ORDERING:

State part number: FC36M + (working supply voltage) – nominals of 110V, 230V or 400Vac.

Optional extras include: Remote programmer (CN-FC36M/MV); RJ45 leads – various lengths; FC36M DIN-rail mounting enclosure; Thyristor modules; Fuses and complete assemblies.

Please contact Technical Support for further information.



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