



# HIGH-POWER 3-PHASE THYRISTOR DRIVER

## FC36MV

X10622

### 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

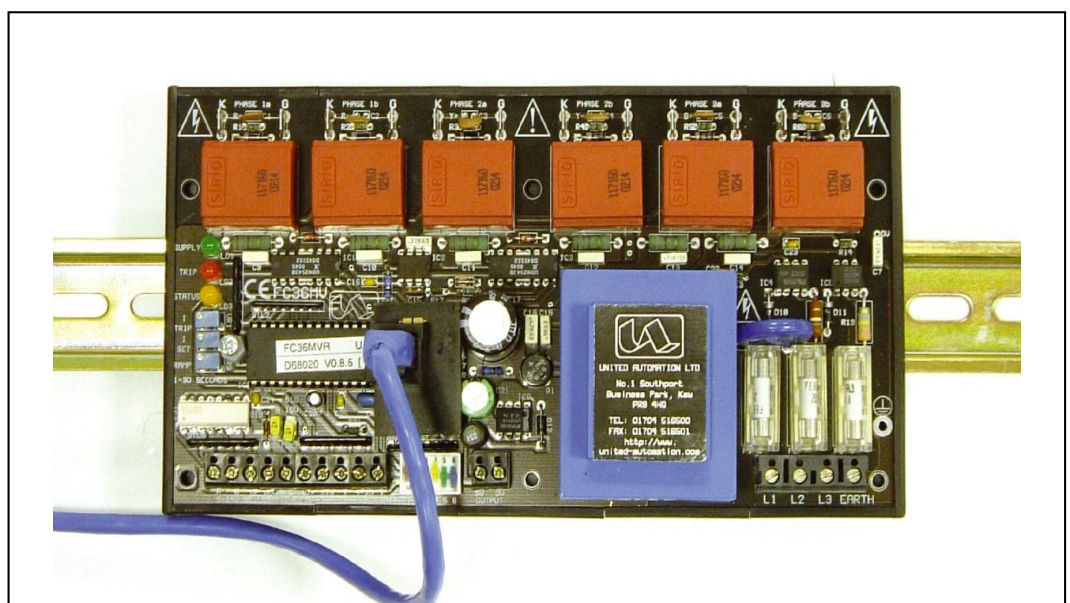
- Auto Phase Rotation correction & Phase-Loss detection.
- Switch selectable phasing reversal.
- Control type: Phase angle, Burst fire, or Phase angle and Burst fire combination.
- Analogue or digital input signal control options (opto isolated).
- Load type selection switch, for resistive or inductive 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.

#### **Optional Extras**

- RJ45 communications port (for remote programming/display console – Commander Module)
- DIN rail mounted enclosure.
- Commander module -remote keypad programmer with functional display console.

**Note :** Photograph Shows FC36MV in the optional DIN rail Mounting enclosure, fitted to a typical TS35 type DIN rail.

The photograph also Shows the optional RJ45 connection to the remote programmer/display console



## **SPECIFICATIONS**

Nominal Supply voltages (+/-10%)	110V, 230V, 400V or 440V ac @ 50/60 Hz
Primary fusing	Three HRC-F1A (ceramic 20 x 5mm)
Current consumption	650mA (Full Conduction)
Initial short circuit gate current	750mA
Sustaining short circuit gate current	400mA
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	0-5V 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 203mm x W 108mm x H 40mm
Fixing centres of PCB (6 x M3.5mm holes)	2 rows (75mm apart) of 3 holes (96.5mm between each)
Firing Circuit with DIN-rail enclosure	L 207mm 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.

<b>CODE</b>	<b>IDENTITY</b>	<b>DESCRIPTION</b>
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.
X10621	FC36MV	FC36MV 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:** FC36MV + (working supply voltage) – nominals of 110V, 230V, 400V or 440Vac.

**Optional extras include:** Remote programmer (CN-FC36M/MV); RJ45 leads – various lengths; FC36MV DIN-rail mounting enclosure; Thyristor modules; Fuses and complete assemblies.

*Please contact Technical Support for further information.*



## **UNITED AUTOMATION LIMITED**

1Southport Business Park  
Kew  
Southport, PR8 4HQ  
ENGLAND

Tel: 0044 (0) 1704 – 516500 Main  
Tel: 0044 (0) 1704 – 516516 Sales  
Fax: 0044 (0) 1704 – 516501  
Enquiry@united-automation.com



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