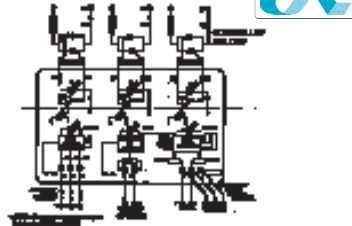
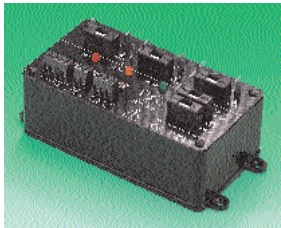


Trigger Modules — continued

Phase Angle, Three Phase



H = 65, W = 150, D = 80, Fixing centres = 160 48, M4D

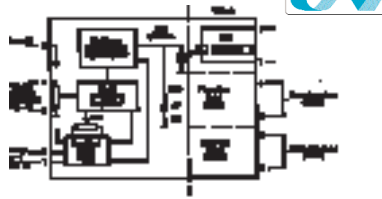
A compact, sealed, 3 phase trigger module designed for simplified wiring without the need for phasing transformers. The unit features phase rotation error and phase loss detection and shut down, built in variable soft-start, gate or fuse failure indication, a feedback with indication facility and unique MONO-LINK® failsafe hardfiring circuitry. Suitable for AC or DC, resistive or inductive loads, via thyristor or hybrid diode modules.

Signal span	0V to 2V dc min.	Thyristor line voltage	415V
2V to 30V dc max	Mono-link rating		3A cont.
Signal zero offset	30% of span	Gate trigger current	250mA cont.
Input impedance	5000Ω nom.	Off state dv/dt	200V/μs
Aux output	5V @ 5mA nom.	Operating temperature	10°C to 65°C
Signal/mains isolation	2.5kV	Power consumption	2W nom.

SD153

Mfrs. List No.	Order Code	1+	5+	10+
HFM36A	234-096			

Burst Firing Single and Three Phase



H (overall) = 43, W = 92, D = 60
Fixing centres = 80 (M5 clear)

Terminals 1-5 Screw clamp, wires 2.5mm² max
6-11 Push on tabs ¼

Burst firing trigger modules for regulating AC heater power stacks from 110V to 440V at 1, 2 or 3 phase into loads up to 2000 A. The varying switching ratio (nominal 1 second time base), is proportional to signal input, as is indicated by a flashing LED.

RFI free firing of thyristors, triacs or thyristor/diode modules, is due to zero voltage, time proportional switching. Opto-isolated output stages eliminate the need for phase timing or matching.

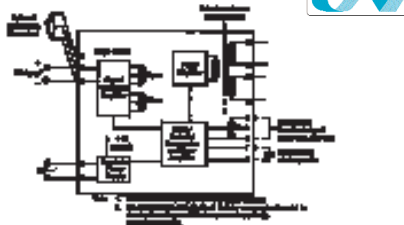
Input power @ 50mA	18V ac or 24V dc	Trigger o/p rating (cont.)	100mA max.
Signal voltage max	2V to 30V dc	Trigger level (typ.)	5V from zero crossover
Zero offset	0-30% of span	Auxiliary output (protected)	5V dc @ 5mA max
Signal input resistance	5KΩ ±20%	Isolation	2500V rms
Trigger/output channel	1A for 1mS (pk)	Line voltage	110V to 415V rms
Off state dv/dt	100V/μS	Operating Temp (ambient)	60°C max.

FOR SUGGESTED CONVERTER STACK CONFIGURATIONS SEE PAGE 445

SD54

Mfrs. List No.	Order Code	1+	10+	25+
Single phase	BM1	176-396		
Three phase	BM3	176-398		

Phase Angle, Single Phase



H = 43, W = 92, D = 60
Fixing centres = 80 (M5 clear)

A versatile, single phase universal trigger module for firing thyristors, triacs and thyristor-diode stacks from 1A to 1000A, of 100V to 1600V rating. The unit provides adjustable signal matching to voltage or current signals, selectable soft start delay and adjustable current limit control.

When used with a suitable transformer (not supplied), the module will trigger to 110V and 240V.

Signal span min	0 to 2V dc	Trigger isolation	2500V rms
Signal span max	0 to 25V dc	AC i/p voltage	18V rms ±15% @ 65mA
Signal zero offset	0 to 30% of span	Auxiliary o/p	5V dc @ 5mA protected
Signal i/p resistance	5000Ω ±20%	Manual potentiometer	2K, 4K7, 5K or 10K
Trigger pulse height	8V (open circuit)	Thyristor line voltage	110V to 550V rms 50/60Hz
Trigger pulse rating	250mA into 10Ω	Max. ambient temp	65°C operational
Trigger shorted o/p	Protected		

FOR SUITABLE TRANSFORMERS SEE BOOK 4, SECTION 24

FOR SUGGESTED CONVERTER STACK CONFIGURATIONS SEE PAGE 445

SD133

Mfrs. List No.	Order Code	1+	5+	10+
AFM-11	178-756			

Phase Angle and Burst Firing



- 110V to 550V single phase supplies
- Suitable for SCR pairs
- MONO-LINK® system eliminates extra cathode connections
- Universal span and zero matching, voltage or current controlled
- Flashing LED power indicator
- Zero-voltage, non-RFI emitting
- Isolated output
- Auxiliary 5V dc output
- Selectable soft-start on FC11-AL

Signal span min.	0 to 2V dc	Isolation voltage	5kV
Signal span max.	0 to 25V dc	AC input power	18V rms ±15% @ 65mA
Signal zero offset	0 to 30%	Aux. output	5V dc @ 5mA
Signal i/p resistance	5kΩ, ±20%	Manual potentiometer	2K, 4K7, 5K or 10K
Trigger output dv/dt	100V/μs	SCR/Triac line voltage	110V to 550V
		Cycle time	1s

SD300

Mfrs. List No.	Order Code	1+	5+	10+
Phase angle	FC11AL	.707-569		
Burst firing	FC11BL	.707-570		

Logic Driven Trigger Module



- Zero crossing, RFI-free switching
- Opto-isolated control
- Accepts TTL, CMOS, microprocessor or other digital inputs
- Compact
- Easy to use
- Solid state reliability
- MONO-LINK® gate-to-gate firing
- 230V and 415V versions

H = 26, W = 43, D = 56

SD465

Mfrs. List No.	Order Code	1+	10+	25+	50+
LTM-Z2	328-2752				
LTM-Z4	328-2764				

Low Cost, Manual Triac Trigger



- Low cost
- Simple, 3 screw terminal connection
- No heatsink required
- Panel mounted via the control potentiometer
- 110/240V, 50/60Hz operation, 1.5W

H = 42, W = 22, D = 22
Panel fixing 10mm hole dia.

SD164

Mfrs. List No.	Order Code	1+	10+	50+
MAT	273-806			

Zero Voltage, Single Phase



- Hard-fire SCR/triac triggering
- No external transformer required
- Standard package size – simple to connect
- Reverse polarity protected logic inputs
- Extended voltage and frequency ranges
- Conforms to UL94V-0, CSA and VDE specifications

H = 30, W = 92, D = 21, Fixing centres = 80 (M5 clear)

Supply voltage	352V to 484V ac	Zero voltage crossing inhibit voltage	70V max.
Supply frequency	45 to 450Hz	Off-state dv/dt	100V/μs min.
Logic input voltage	4 to 32V dc	Isolation voltage	2.5kV rms
Non-trigger voltage	2V dc max.	Operating temperature	-30°C to +100°C
Output current (per gate)	1.7A max.		

FOR SUGGESTED CONVERTER STACK CONFIGURATIONS SEE PAGE 445

SD148