Specification

Input supply (nominal)	18 to 24V ac or 24V dc @ 200mA
DC input supply	24V dc
Signal Span minimum	0-4V dc
Signal Span maximum	0-25V dc
Signal Zero offset	+60% and -40% of Span
Thyristor line voltage	See Order Details
Signal input resistance	5kΩ (“V” Signal), 240Ω (“mA” Signal) ±10%
Manual potentiometer	1KΩ, 5kΩ or 10kΩ
Trigger pulse height	8V open circuit
Limit feedback input	3 - 25V dc
Trigger isolation voltage	2500V ac (RMS)
Trigger pulse rating	250mA in to 10Ω
Soft start	0-30 seconds (adjustable)
Storage temperature	0°C to +65°C
Max unit operating temperature	70°C
Dimensions (Inc DIN Enclosure)	122mm (H) by 70mm (W) by 56mm (D)

INSTALLATION

For CT Information see Datasheets X10391 (32A) and X10424 (240A)

Connections
This unit has simple 2.5mm clamp type terminal connectors for all input wiring requirements and 6.3mm AMP Tags for the Gate/Kathode connections.

Fastening
The unit is secured by DIN-rail mounting feet for quick installation/removal

Fusing
See SRA Data sheet X10255 for further information. Other external supplies should be fused accordingly.

CE Marking
This family carries a “CE” marking. When using in phase angle option, a suitable remote filter will be required. For more information, contact our sales desk. A Declaration of Conformity is available on request.

ORDER DETAILS

DMFC12	A34537 - 110V ac RMS +/- 10% @ 4-400Hz
	A34534 - 230V ac RMS +/- 10% @ 4-400Hz
	A34535 - 400V ac RMS +/- 10% @ 4-400Hz

Other Line Voltages available on request: Please contact our sales desk.

UNITED AUTOMATION LIMITED

1Southport Business Park
Kew
Southport, PR8 4HQ
ENGLAND

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

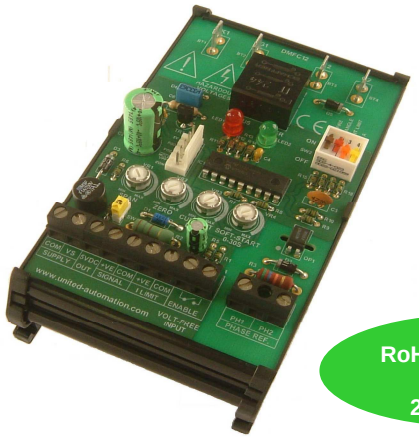
nqa. ISO 9001 Registered — UKAS QUALITY MANAGEMENT 015

DMFC12

DUAL MODE FIRING CIRCUIT C/W SOFT START AND CURRENT LIMIT

DMFC12

X20035



RoHS Compliant Directive 2002/95/EC

Dual-Mode Firing Circuit (DMFC12) Features

- Standard Din Rail mount
- Phase angle and burst fire modes of control
- Soft-start (0-30s)
- Current limit (using external CT/Hall-effect device or shunt with amplification)
- Enable input (volt-free)
- 0-5V/0-10V, 0-20mA/4-20mA or potentiometer input signal
- 24Vdc or 18-24Vac supply
- Output power span and zero adjustment
- Frequency tracking (4Hz – 400Hz)
- Pulse transformer output
- Power and status LEDs

Power Supply
The DMFC12 accepts an 18-24VAC or 24VDC supply. Observe the polarity when using a DC supply. The unit consumes 200mA MAX @ 24VDC.

Power Output Modes
These Modes must be set before power up.
The DMFC12 can be configured to operate in burst fire, phase angle or dual output modes. The burst fire time base is 1 second. The soft start feature only works in phase angle mode and can be set between 0 (disabled) and 30 seconds. In dual mode, the DMFC12 soft starts in phase angle mode then switches to burst fire mode. The output modes are selected via the 4-way switch SW2.

Burst Fire Only – BROWN switch set to 'ON',RED switch set to 'OFF'
Phase Angle Only – RED switch set to 'ON', BROWN switch set to 'OFF'
Dual Mode – Both BROWN and RED switches set to 'ON'

Input Signal
The DMFC12 supports input signals in the range of 0-30Vdc and 0-20mA. This includes industry-standard signals of 0-5V, 0-10V and 4-20mA. Also, a 5Vdc output is provided to allow a potentiometer to be connected directly to the DMFC12. The SPAN and ZERO cermets provide the facility to scale the input signal (See SPAN ands ZERO section). Switch SW1 sets the source of the input signal to voltage (V) or current (I).

Current Limit
The DMFC12 includes a current limit feature preventing the load current from exceeding a pre-defined value. The unit accepts a D.C. voltage feedback signal which can be scaled via the on-board multi-turn preset VR1. The feedback signal is continuously compared to a 2.5V internal reference: reducing the output voltage when the magnitude of the feedback signal rises above it.

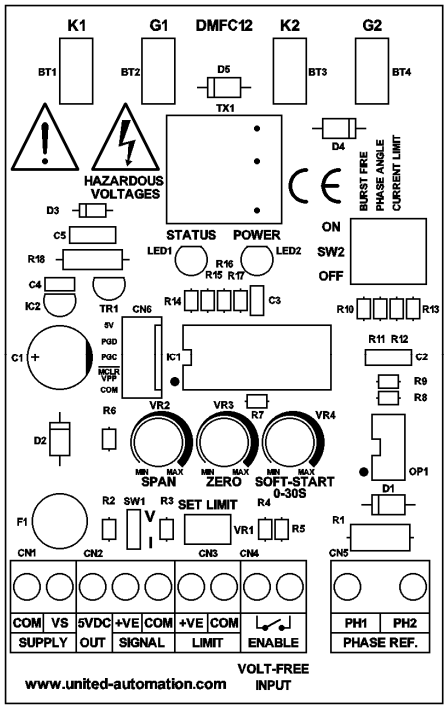
Enable Input
A volts free enable input allows the DMFC12 to be controlled externally. If configured, a soft start occurs each time the DMFC12 is enabled

Soft Start
Ramps up power to the signal setting over the same proportion of time period selected by VR4. Eg. If Soft Start is set for 30 seconds and the signal input is 50% then the output will ramp up to 50% in 15 seconds.

Span and Zero
The Span and Zero cermet allows the user to set the minimum and maximum output voltage in relation to the input signal range.

LED Indicators
The DMFC12 has two LED indicators. The green 'Power' LED is lit when power is supplied to the DMFC12. The red 'Status' LED represents the current output power and it's intensity will vary for phase angle mode and flash on a 1-second time-base for burst fire mode. The red 'Status 'LED also flashes rapidly when the phase reference signal is not present.

Variable frequency
The DMFC12 is capable of providing power control with line voltages of fixed or varying frequencies from 4Hz to 400Hz by continually measuring the duration of each a.c. half-cycle and adjusting the timing of the thyristor gate signals

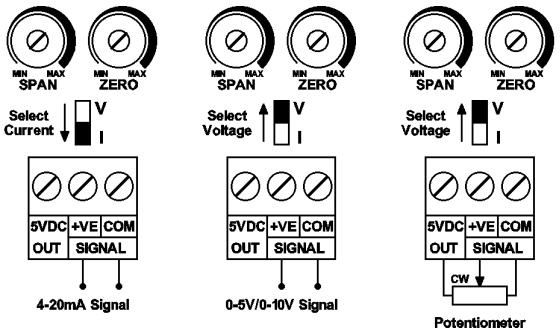


Warning

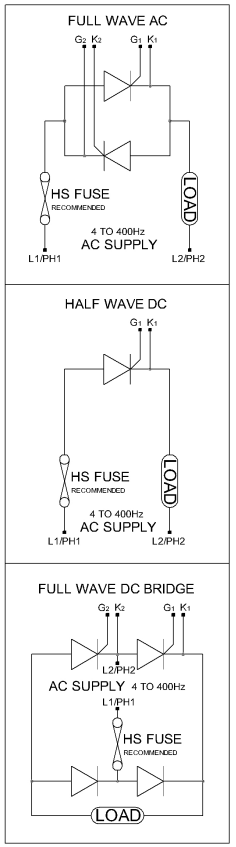
1. LIVE terminals – Isolate supply before commencing any installation work.
2. Unit must be secured on DIN rail using the DIN-Housing Supplied.

Typical Control Options

Adjust SPAN and ZERO to set the Maximum and Minimum Output Respectively



POWER CONNECTIONS



RECOMMENDATIONS

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. wiring regulations (BS7671 The regulations contain important requirements regarding the safety of electrical equipment. For International Standards refer to I.E.C/ Directive IEC 950.