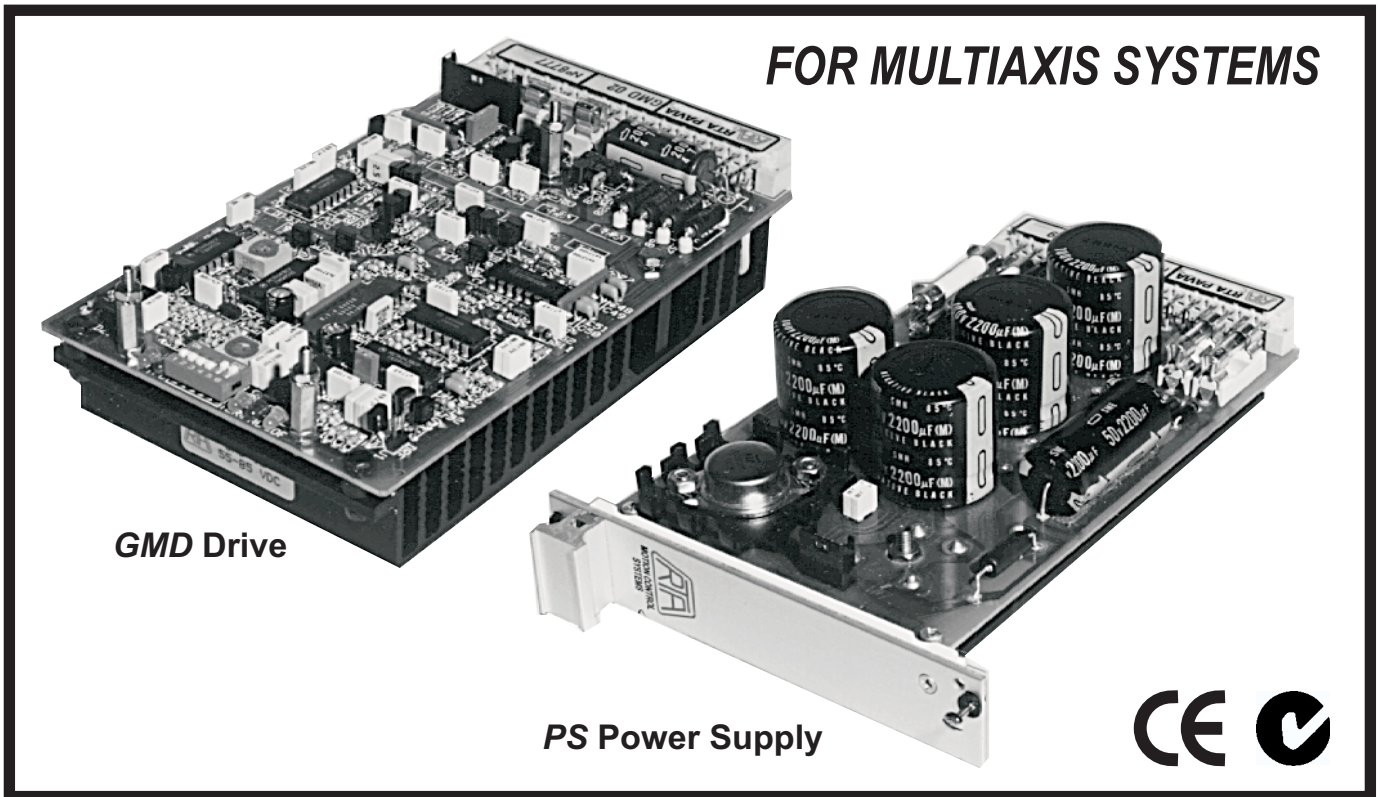




# GMD SERIES STEPPING MOTOR DRIVES



- High efficiency bipolar chopper circuit.
- Ideal for multi axis applications. 3U Eurorack mounting.
- Protection from motor short circuit, overtemperature and overvoltage.
- Full,  $\frac{1}{2}$  or  $\frac{1}{4}$  stepping for smooth running at low speeds.
- High power upto 12A @ 180V. Drives motors upto 6.5" frame.
- LEDs for phase, overtemperature, overvoltage and motor short.
- Adjustable motor current for a wide range of motors.
- Incorporated electronic damping reduces low speed resonance.
- Suitable for two phase motors, 4, 6 or 8 leads
- Optional plug on ramped oscillator cards also available.
- Automatic current reduction at standstill.

The GMD series of stepper motor drives are ideal for multi axis motion control applications. Power supply is unregulated DC, either from user supplied transformer, rectifier and filter capacitor or from the RTA rack mounting PS series power supply cards. Control inputs are with step and direction signals from a suitable controller. Ramped oscillator cards for simple manual control and indexing systems can also be attached to the drive card.

Three models are available to cover a large range of motor sizes while quarter step operation and electronic damping reduce resonance at low speeds. Protection against motor short circuit is also included. The GMD drives are ideally suited to OEMs for multi axis motion control applications such as positioning systems, pick and place machines, packaging machines, XY tables, testing machines and contouring systems.

## SPECIFICATIONS

**LOGIC INPUTS** (low = 0 -2V, high = 10 -12V or open)  
 Step  
 Direction  
 Current reduction  
 De energise

**LOGIC OUTPUTS** (30V @ 25mA sink open collector)  
 Drive fault  
 Synchronisation  
 Step out

**STEP ANGLE**  
 1.8°, 0.9°, 0.45°

**STANDBY CURRENT**  
 automatic at 65%

**MOTOR CURRENT**  
 8 settings by DIP switch

**RESONANCE DAMPING**  
 full, half, nil

**OPERATING TEMPERATURE**  
 0-50°C

**TRANSFORMER SIZING**  
 5% regulation  
 Power(VA) =  $V_{\text{supply}} [ I_{\text{drive}} + 1.0 ]$

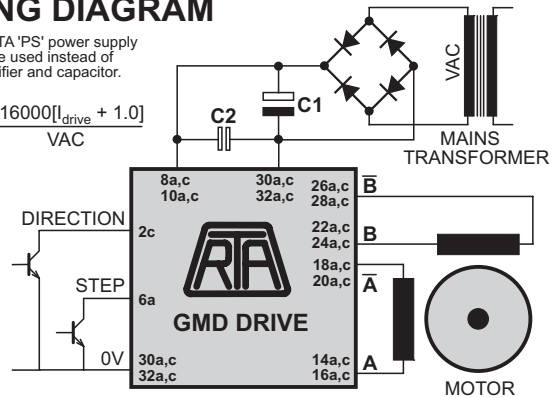
**WEIGHT**  
 0.6kg.

SPECIFICATIONS	GMD02	GMD03	GMD04	GMD06
POWER SUPPLY CARD	PS03	PS03	PS04	PS06
SUPPLY RANGE (VDC)	55 - 85	55 - 85	95 - 140	160 - 190
SUPPLY (VDC) (undervoltage protection)	43	43	75	125
SUPPLY (VDC) (overvoltage protection)	102	102	160	240
MOTOR CURRENT (A) (maximum)	6.0	10.0	12.0	12.0
MOTOR CURRENT (A) (minimum)	1.6	4.0	5.0	5.0
CURRENT STEPS	0.62	0.85	1.0	1.0

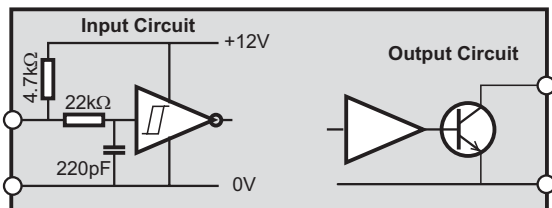
## WIRING DIAGRAM

Note: The RTA 'PS' power supply cards may be used instead of external rectifier and capacitor.

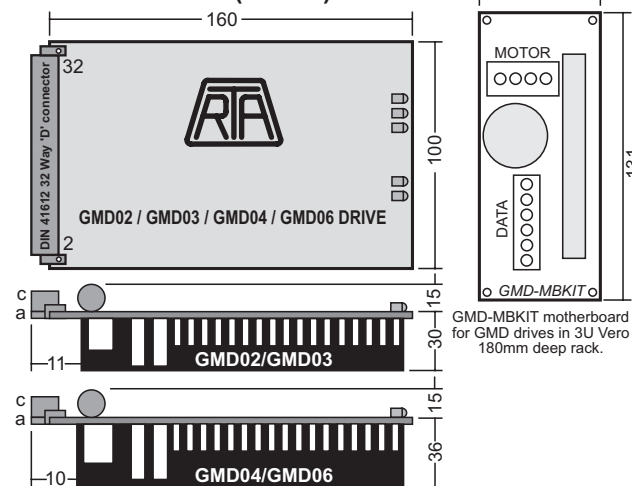
$$C1(\mu\text{F}) = \frac{16000 [ I_{\text{drive}} + 1.0 ]}{\text{VAC}}$$



## LOGIC SIGNALS



## DIMENSIONS (in mm)



## CONNECTIONS

28a,c 26a,c  
 22a,c 24a,c  
 18a,c 20a,c  
 14a,c 16a,c

Motor winding  $\bar{B}$  (2B or B+)  
 Motor winding B (2A or B-)  
 Motor winding A (1B or A-)  
 Motor winding A (1A or A+)

30a,c 32a,c  
 8a,c 10c

- DC Power from rectifier or PS supply  
 + DC Power from rectifier or PS supply

**10a Drive Fault** Normally low (to 0V), but becomes high when drive protection is active.

**4c Current** Forcing this signal low sets motor current to 65% of the set current.

**2c Direction** Forcing signal low (to 0V) will reverse motor direction. This signal must be on for at least 50μs before STEP input is received and must remain on for at least 50μs after the last step is received.

**6a Step Input** Forcing signal low (to 0V) will cause the motor to step once. Signal must be present for at least 30μs and should ideally be 50% duty cycle.

**4a De energise** Forcing this signal low (0V) switches off motor current. When open (no connection) motor current is on.

30a,c 32a,c 0V common for all logic signals.

**12a Reserved** For add on ramped oscillator cards only.

**12c Step Out** Only used when oscillator cards are installed.

Motors, transformers, controllers, motion control software and motor couplings also available on request.  
 Continuous development may necessitate changes in models and specifications without notice.

# AUTOMATED MOTION SYSTEMS PTY.LTD.

MAILING ADDRESS:  
 P.O.BOX 1240  
 WANGARA DC  
 W.A. 6947

PHONE: (08) 9309 1896  
 FAX: (08) 9309 5671  
 EMAIL: sales@automotsys.com.au  
 INTERNET: <http://www.automotsys.com.au>

OFFICE ADDRESS:  
 UNIT2, 7 BARETTA RD.  
 WANGARA, PERTH  
 WESTERN AUSTRALIA