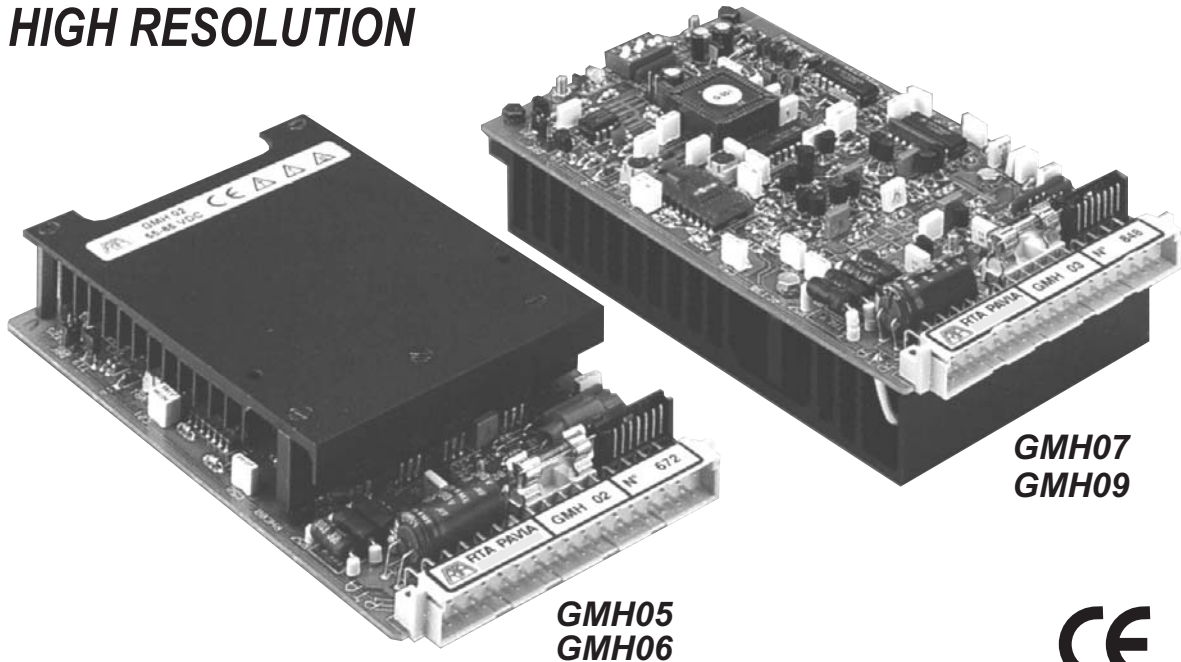




GMH SERIES MINISTEPPING DRIVES

**FOR SMOOTH RUNNING
& HIGH RESOLUTION**



- Upto 4000 steps/rev resolution.
- Ideal for multi axis applications. 3U Eurorack mounting.
- Protection from motor short circuit, overtemperature and overvoltage.
- 400, 500, 800, 1000, 1600, 2000, 3200 & 4000 steps/rev smooth running.
- High power upto 12A @ 180V.
- LEDs for phase, overtemperature, overvoltage and motor short.
- Adjustable motor current for a wide range of motors.
- Times 4 input pulse multiplier..
- Suitable for two phase motors, 4, 6 or 8 leads
- Automatic current reduction at standstill.

The GMH series of Eurorack mounting stepper motor drives has been designed with the same requirements as the standard GMD series except that they incorporate ministeping. Ministeping involves electronically dividing the basic 1.8° motor step into smaller increments, thereby producing very smooth resonance free motion at low speeds and a very high motor resolution (0.09°). Also, the control inputs are selectable to either 12V or 5V (current sink or voltage input), making them compatible with a wider range of controllers.

The maximum step input frequency is 100kHz which can limit the speed when using a high resolution like 4000 steps/rev. This problem has been solved by incorporating a X4 pulse multiplier in the drive so a low frequency from a PLC or similar controller can still produce a reasonable motor speed at high resolution. The GMH drives are ideally suited to OEMs for multi axis motion control applications such as precision positioning systems, pick and place machines, packaging machines, XY tables, testing machines and contouring systems.

SPECIFICATIONS

LOGIC INPUTS (5V/12V, pull up/pull down, max 30V)
 Step
 Direction
 Current reduction
 De energise

STEP INPUT

5µsec minimum pulse width
 100kHz maximum frequency

LOGIC OUTPUTS

 (50V @ 25mA sink open collector)

Drive fault
 Synchronisation
 Step out

RESOLUTION

400,500,800,1000,1600,2000,3200 & 4000 steps/rev

STANDBY CURRENT

automatic at 65%

RESONANCE DAMPING

low speed range

OPERATING TEMPERATURE

5 - 50°C

TRANSFORMER SIZING

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

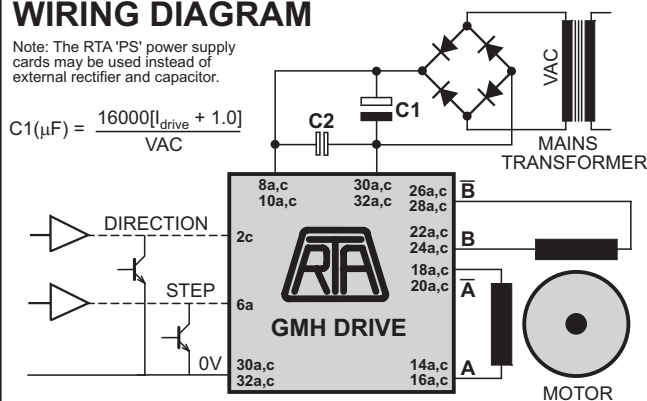
WEIGHT

0.5kg.

SPECIFICATIONS	GMH05	GMH06	GMH07	GMH09
POWER SUPPLY CARD	PS03	PS03	PS03	PS06
SUPPLY RANGE (VDC)	55 - 85	55 - 85	55 - 85	100 - 180
SUPPLY (VDC) (undervoltage protection)	43	43	43	76
SUPPLY (VDC) (overvoltage protection)	102	102	102	240
MOTOR CURRENT (A) (maximum)	3.0	6.0	12.0	12.0
MOTOR CURRENT (A) (minimum)	1.7	3.4	6.7	6.7
CURRENT STEPS	0.4	0.9	1.7	1.7

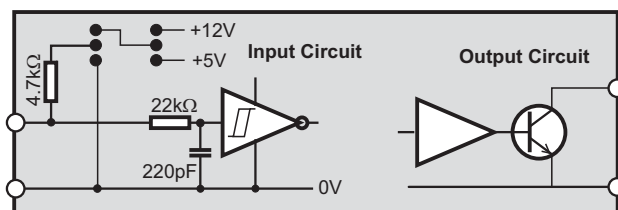
WIRING DIAGRAM

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

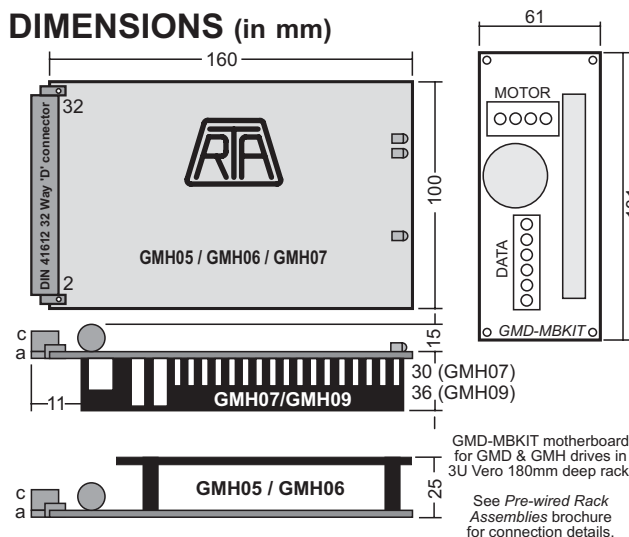


$$C1(\mu\text{F}) = \frac{16000[I_{\text{drive}} + 1.0]}{\text{VAC}}$$

LOGIC SIGNALS



DIMENSIONS (in mm)



GMD-MBKIT motherboard for GMD & GMH drives in 3U Vero 180mm deep rack.

See Pre-wired Rack Assemblies brochure for connection details.

CONNECTIONS

- 28a,c 26a,c Motor winding B (2B or B+)
- 22a,c 24a,c Motor winding B (2A or B-)
- 18a,c 20a,c Motor winding A (1B or A-)
- 14a,c 16a,c Motor winding A (1A or A+)
- 30a,c 32a,c - DC Power from rectifier or PS supply
- 8a,c 10c + DC Power from rectifier or PS supply
- 10a Drive Fault Normally low (to 0V), but becomes high when drive protection is active.
- 4c X4 Step Forcing this signal low multiplies the step input frequency by 4. This signal must be low for 2msec before the first clock pulse and must remain on at least 2msec after the last clock pulse.
- 2c Direction Changing this signal from HIGH to LOW will reverse motor direction. This signal must be on for at least 50µs before STEP input is received and must remain on at least 50µs after the last step is received.
- 6a Step Input Step is performed on HIGH to LOW transition of this signal, causing the motor to step once. Pulses 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.

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