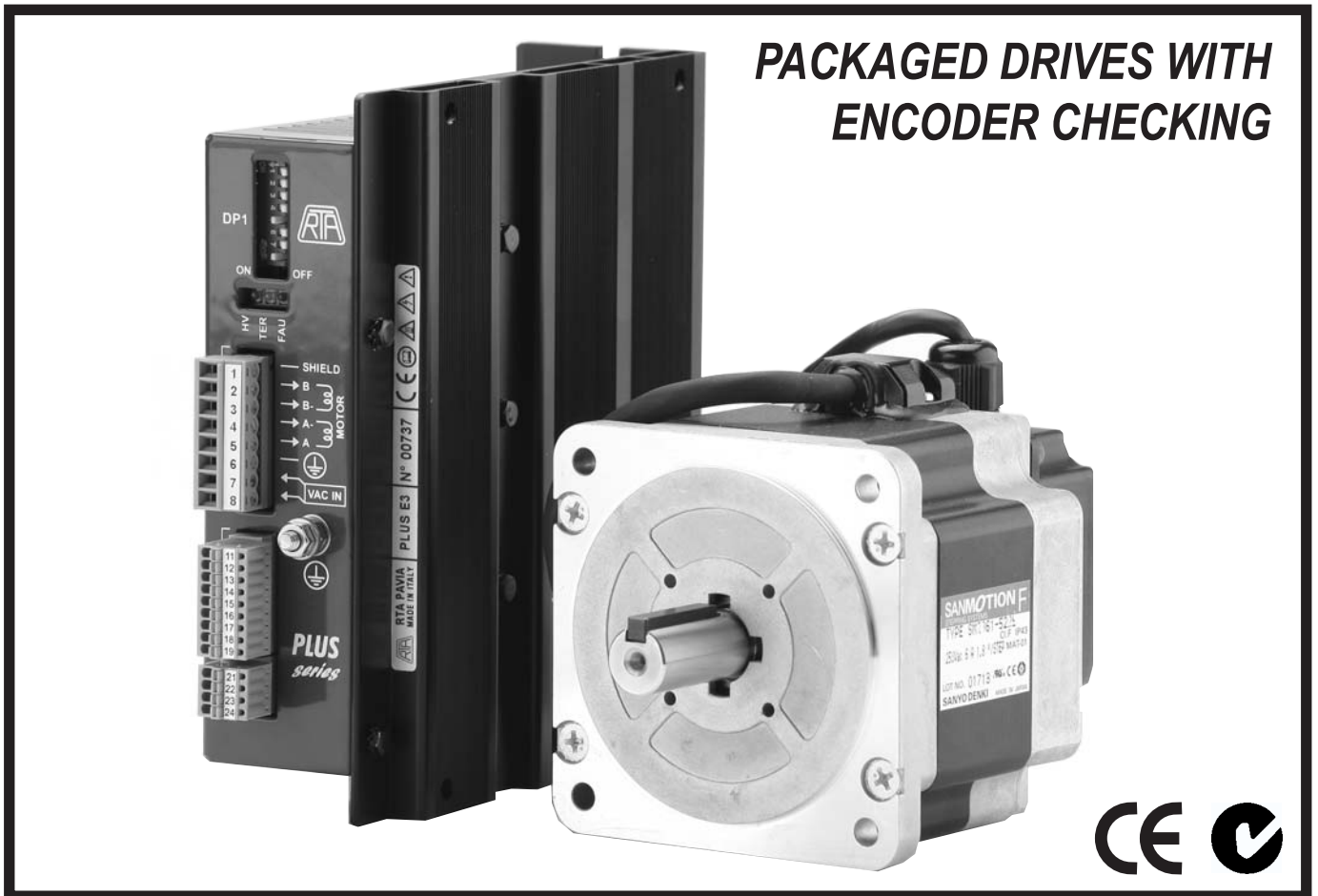




PLUS-E SERIES STEPPING MOTOR DRIVES



**PACKAGED DRIVES WITH
ENCODER CHECKING**



**Output for encoder position error.
Input for resetting this output.**

**AC power supply.
Just add mains transformer.**

85V @ 8 Amp or 140V @ 6 Amp.

**400 to 4000 step/rev resolution for
smooth running at low speeds.**

**Suitable for two phase motors,
4, 6 or 8 leads**

**LEDs for motor phase, overtemp,
overvoltage and motor short.**

**X 4 step input frequency
multiplication factor.**

**Simplified inputs, source or sink,
pull up or pull down.**

The PLUS-E series of stepper motor drives is based on the PLUS-B series but has encoder checking for loss of motor desynchronisation (difference between theoretical position and actual position). If the position error exceeds a selected amount, an alarm output is produced. After stopping the machine and fixing the problem, this output can be reset. This is very useful in critical stepper systems with unpredictable loads where a servo system is not justified. Input signals can be pull up or down, voltage source or current sink.

They are AC powered requiring only a mains transformer and a suitable controller with step and direction output signals. No DC supply components or separate encoder supply are required. Two models are available, the PLUS-E3 for lower voltage higher current applications and the PLUS-E4 for higher voltage to cover large motors or high speeds. The maximum input frequency is 60kHz so for rapid moves, there is a X4 input frequency multiplier built in. The encoder should be mounted on the back of the motor to avoid position sensing errors.

SPECIFICATIONS

LOGIC INPUTS

Voltage source 0 to 12V, pull-up/pull-down
Step
Direction
Current off (De-energise)
X4 step multiplier
Loss of motor synchronization error reset
Encoder sensitivity 1.8°

MAXIMUM STEP FREQUENCY

60kHz

LOGIC OUTPUTS

Opto isolated (45V @ 50mA sink open collector)
Drive fault
Loss of motor synchronisation error

RESOLUTION

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

ENCODER SENSITIVITY SETTINGS

0.9°, 1.8°, 3.6° and 5.4°

ENCODER TYPE

A, B output, Push-Pull, 5VDC supply

WEIGHT

0.7kg

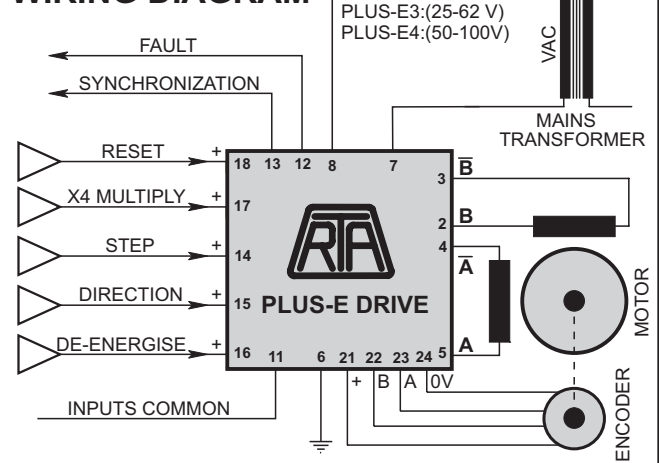
OPERATING TEMPERATURE

5-40°C
(Forced cooling may be required in cabinet)

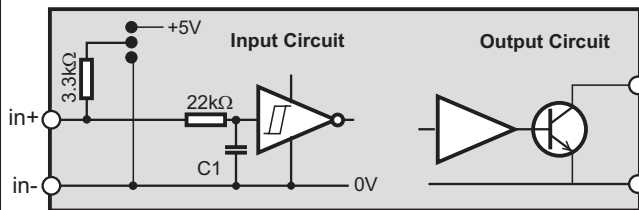
SPECIFICATIONS

SPECIFICATIONS	PLUS-E3	PLUS-E4
SUPPLY (VAC) (maximum)	62	100
SUPPLY (VAC) (minimum)	25	50
MOTOR INDUCTANCE (maximum)	12	12
MOTOR INDUCTANCE (minimum)	0.8	1.2
MOTOR CURRENT (A) (maximum)	8.0	6.0
MOTOR CURRENT (A) (minimum)	2.4	1.9

WIRING DIAGRAM

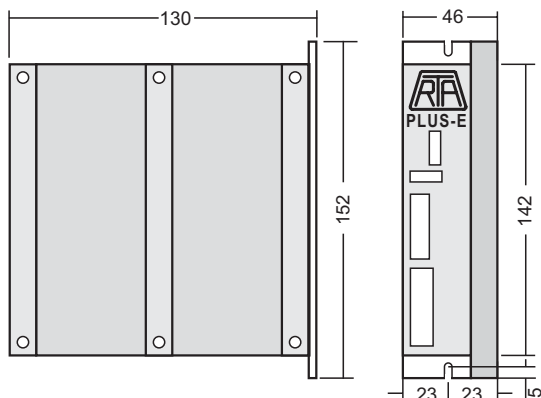


LOGIC SIGNALS



	STEP	DIRECTION	OTHERS
C1	100pF	2.2nF	47nF

DIMENSIONS (in mm)



CONNECTIONS

- | | |
|---------------------------|--|
| 1 Motor shield | Motor cable shield |
| 2 Motor | Motor winding B (2B or B-) |
| 3 Motor | Motor winding B (2A or B-) |
| 4 Motor | Motor winding A (1B or A-) |
| 5 Motor | Motor winding A (1A or A+) |
| 6 Earth | Drive Ground |
| 7 Supply | AC Power from transformer. |
| 8 Supply | AC Power from transformer. |
| 11 Common | Common for all logic signals. |
| 12 Drive Fault | Normally shorted when the drive is in working state but becomes open circuit when drive has shut down. |
| 13 Synchronization | Normally shorted when there is no synchronization error. Goes open circuit on encoder synchronization error. |
| 14 Step | The motor steps once for a transition of this signal. Ideal duty cycle 50%. |
| 15 Direction | When this signal is HIGH the motor direction is reversed. This signal must be on for at least 100ms before STEP input is received and must remain on at least 100ms after the last step is received. |
| 16 Current off | When this signal is ON the drive is active. When this signal is OFF the drive is inhibited so motor current is zero. |
| 17 X4 multiplier | When this signal is ON the step frequency input is multiplied by 4. This enables high motor speed with a low frequency controller. |
| 18 Encoder reset | On transition of this input, the synchronization output is reset. |
| 19 Logic ground | Internally connected to terminals 1, 6 & 24. |
| 21 Encoder supply | +5VDC encoder supply. |
| 22 Encoder B out | B channel encoder output. |
| 23 Encoder A out | A channel encoder output. |
| 24 Encoder COM | Encoder 0V supply and output common. |

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:
UNIT 2, 7 BARETTA RD.
WANGARA, PERTH
WESTERN AUSTRALIA