

### Features

- Phase quadrature
- 10 micron resolution
- 5 Volt DC supply

### Applications

- All ServoTube ranges
- Material Handling
- Automated Assembly



### The OEM advantage

- Increases the range of compatible amplifiers
- Plug and play
- No set-up or adjustment

### OVERVIEW

The ServoTube Interpolator takes any set of ServoTube analogue position signals and converts them into digital phase quadrature outputs. In addition, three digital Hall effect outputs are generated thereby allowing ServoTube to interface to many more industry standard drives and amplifiers.

### SPECIFICATIONS

#### ENVIRONMENT

Operating temperature: 0 to +40 °C  
Humidity (relative): 0 to 95% (Non-Condensing)

#### ELECTRICAL

Power requirement: 5 +/- 0.25Vd.c.  
Current consumption: 150mA

### CONNECTIONS

#### INPUT 1

15-way high density D female to connect to ServoTube products.

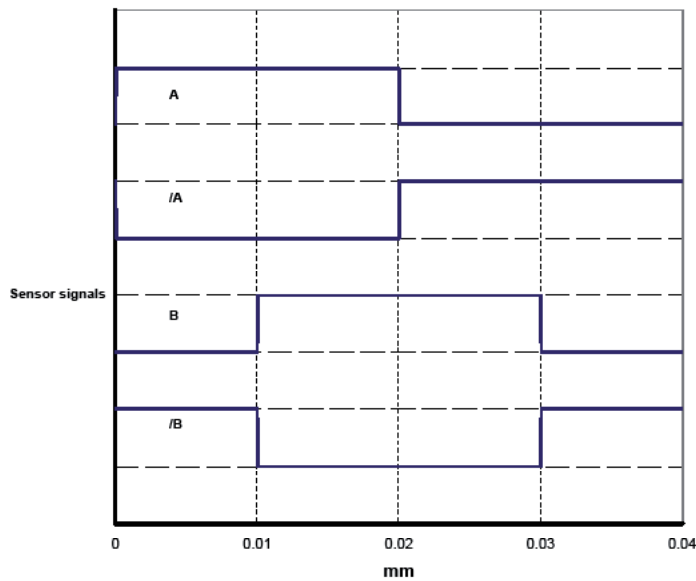
| Pin number | Function      | Pin number | Function      | Pin number | Function    |
|------------|---------------|------------|---------------|------------|-------------|
| 1          | no connection | 6          | no connection | 11         | -COS        |
| 2          | model detect  | 7          | no connection | 12         | +COS        |
| 3          | no connection | 8          | no connection | 13         | -SIN        |
| 4          | +5V           | 9          | no connection | 14         | +SIN        |
| 5          | OV            | 10         | +Thermistor   | 15         | -Thermistor |

OUTPUT

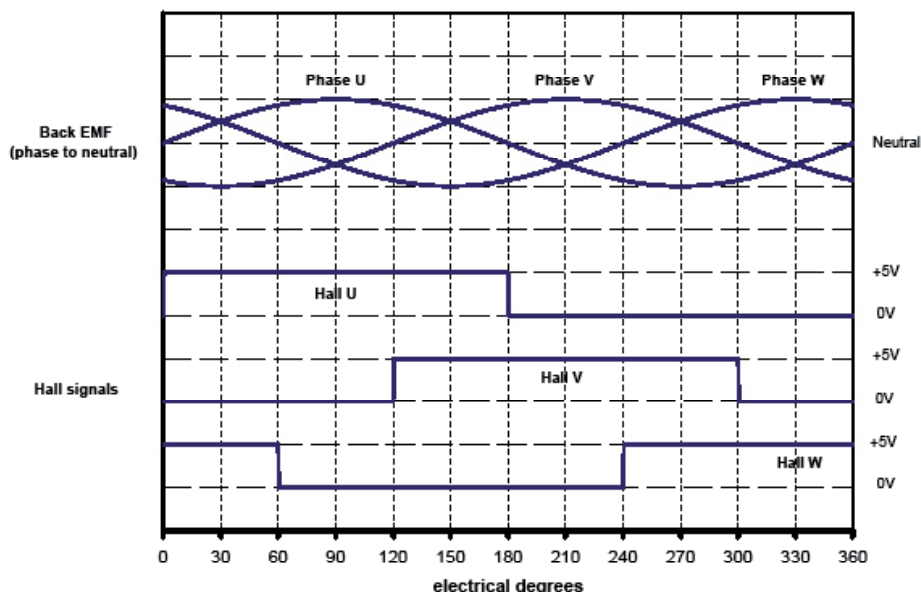
15-way high density D male

| Pin number | Function      | Pin number | Function     | Pin number | Function    |
|------------|---------------|------------|--------------|------------|-------------|
| 1          | no connection | 6          | Hall V       | 11         | /B          |
| 2          | no connection | 7          | Internal use | 12         | B           |
| 3          | Hall U        | 8          | Internal use | 13         | /A          |
| 4          | +5V           | 9          | Hall W       | 14         | A           |
| 5          | 0V            | 10         | +Thermistor  | 15         | -Thermistor |

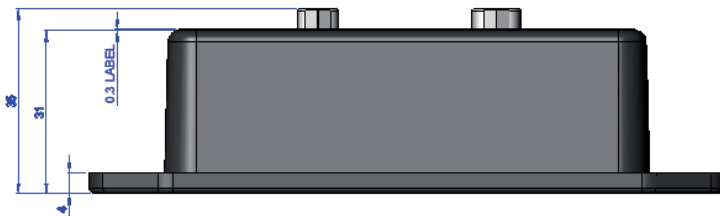
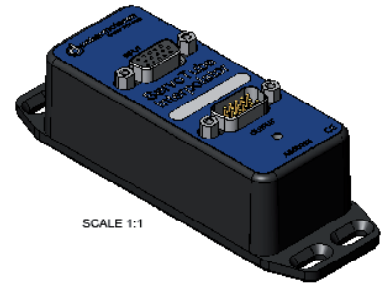
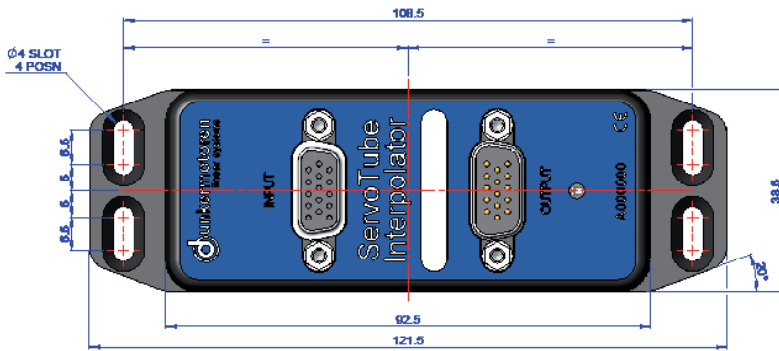
The interpolator signal outputs are in the form of phase quadrature as shown below. The outputs use RS422/485 compatible line drivers.



Shown below are the relationships between forcer phase back EMF and Hall sensor outputs for one direction of motion. It should be noted each Hall output is always in phase with its respective forcer phase back EMF for the motion shown. For motion in the opposing direction each Hall output is inverted with relation to its respective forcer phase back EMF. The Hall sensor outputs use 74AHCT125 line drivers.



## OUTLINE DRAWING



## ORDER CODES

SI-10

When ordering ServoTube 11, 25 or 38 forcers please specify cable termination **Option I** in the forcer order code