

# Townsend Bearings



## Inverters and Electric Motors



### Introduction

The 650 series is a family of AC drives that provide a no-fuss, cost effective solution for the simplest to the most complex open-loop AC motor control applications. The 650 has single key selectable pre-programmed applications so set-up is quick and easy without unnecessary complications.

Powers are available up to 1.5kW on Single Phase 230V supplies, and up to 110kW on Three Phase 400V supplies, and all units are available with integral EMC compliant filters.

### Technical Specification

**Power Supply:** Single Phase Units: 220 - 240Vac +/- 10%; 50 - 60Hz +/- 5%  
Three Phase Units: 380 - 460Vac +/- 10%; 50 - 60Hz +/-5%

**Ambient:** 0 - 40°C

**Overload:** 150% for 30 Seconds

**Output Frequency:** 0 - 240Hz

**Environmental Protection:** IP20

#### Inputs/Outputs

**Analogue Inputs:** 2; Speed control (0 - 10V, 4 - 20mA)

**Analogue Outputs:** 1; User configurable output frequency/load (0 - 10V)

**Digital Inputs:** 3 (650V 6); User configurable start/stop/direction/pre-set speeds (8)

**Digital Inputs/Outputs:** 1 (650V 2); User configurable as input or output

**Digital Relay Outputs:** 1; User configurable relay output (1A @ 240V)

All outputs configurable for : at (not at) speed / at (above) min speed / running (stopped) / healthy (tripped) / above (below) preset load.

#### Motor Thermistor Input

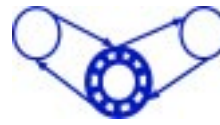
#### Integral Programming/Control Module

6 Button password protectable keypad giving control of:

- Start / Stop
- Direction
- Raise / Lower Speed
- Menu Navigation
- Parameter Setting

Backlit LCD giving 4-digit readout of:

- Output Current
- Setpoint Frequency
- Drive Rotating Warning
- Status Alarms (inc. Drive Ready; Overcurrent Trip; Overvoltage Trip; Heatsink Overtemp.; Motor Overtemp. + others)



**Single Phase Controllers (230V Nominal)**

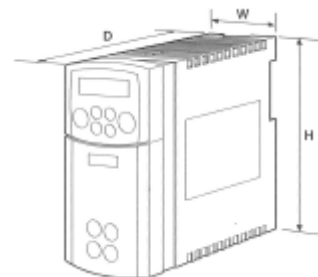
**Three Phase Controllers (400V Nominal)**

Type	Nominal Power (kW)	Output Current (A)	Package Size	Price (£)
650-002-230-F	0.25	1.5	1	116.10
650-003-230-F	0.37	2.2	1	125.10
650-005-230-F	0.55	3.0	1	136.80
650-007-230-F	0.75	4.0	1	160.20
650-011-230-F	1.1	5.5	2	216.00
650-015-230-F	1.5	7.0	2	229.50

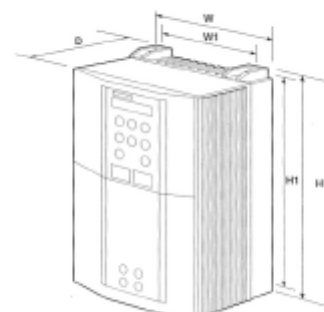
Type	Nominal Power (kW)	Output Current (A)	Package Size	Price (£)
650-003-400-F	0.37	1.5	2	229.50
650-005-400-F	0.55	2.0	2	242.10
650-007-400-F	0.75	2.5	2	255.60
650-011-400-F	1.1	3.5	2	265.50
650-015-400-F	1.5	4.5	2	292.50
650-022-400-F	2.2	5.5	2	355.50
650-030-400-F	3	6.8	3	442.80
650-040-400-F	4	9.0	3	468.90
650-055-400-F	5.5	12	3	560.70
650-075-400-F	7.5	16	3	742.50
650VC-0110-400	11 (15)	23 (31)	C	1030.50
650VC-0150-400	15 (18)	30 (37)	C	1435.50
650VD-0180-400	18 (22)	38 (45)	D	1818.00
650VD-0220-400	22 (30)	45 (59)	D	2119.50
650VD-0300-400	30 (37)	59 (73)	D	2443.50
650VE-0370-400	37 (45)	73 (87)	E	3064.50
650VE-0450-400	45 (55)	87 (105)	E	3501.00
650VE-0550-400	55 (75)	105 (145)	F	4261.50
650VE-0750-400	75 (90)	145 (165)	F	4590.00
650VE-0900-400	90 (110)	180 (205)	F	5476.50

**Unit Dimensions**

Package Size	Overall Dimensions			Fixing Centre		Weight (kg)
	H	W	D	H1	W1	
1	137	73	142	-	-	-
2	192	73	173	-	-	-
3	257	96	195	-	-	-
B	233	177	181	223	130	4.3
C	348	201	208	335	150	9.3
D	453	252	245	440	150	17.4
E	669	257	312	630	150	32.5
F	720	257	349	700	150	41.0



Package Size 1, 2 & 3



Package Size B, C, D, E & F