

# AC 650 Inverter Series

AC INVERTERS 0.37kW - 90kW



FANS ■ PUMPS ■ CONVEYORS ■ LIFTS ■ MECHANICAL HANDLING  
CENTRIFUGES ■ TEXTILES ■ HVAC ■ MIXERS ■ HOISTS

# 650 Series AC INVERTERS

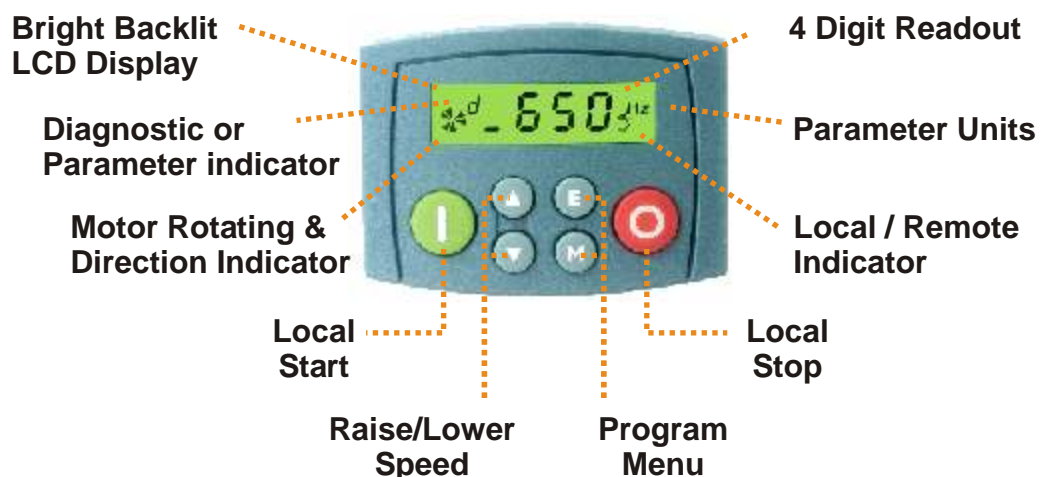
The 650 Series inverters have been specifically designed to provide simple, no-fuss speed control of standard three phase ac induction motors from 0.2 to 90kW. Standard features include pre-programmed applications, integral EMC filters (up to 7.5kW) and options for local or remote mountable operator controls - all designed to simplify set-up, installation and operation.

With the 650 series you are in control of your application immediately - no complicated set-up procedures, no confusing menu navigation; just quick and easy operation straight from the box.



## Easy to use Operator / Programming Controls

The Operator / Programming control Module can be locally mounted (and removable for non-tamper security) or as an option remotely mounted.



## POWER SUPPLY

### Single phase units;

220-240Vac±10%, 50-60Hz±5%

### Three phase units;

380-460Vac±10%, 50-60Hz±5%

## AMBIENT

0-40°C (derate to 50°C)

Up to 1000m ASL (derate >1000m)

IP20 protected

## OVERLOAD

150% Constant torque ratings

115% Quadratic "fan torque" ratings

## OUTPUT FREQUENCY

0-240Hz

## INPUTS/OUTPUTS

### Analogue Inputs

2; Speed Control, 0-10V, 0-10V/4-20mA (summing)

### Analogue Outputs

1; User configurable output

Frequency / load. 0-10V

### Digital Inputs

2; User configurable start/stop/direction / preset speeds (8)

### Digital Input / Outputs

2; User Configurable as inputs or outputs.

### Digital Relay Outputs

1; Relay output 1A @ 240V

All digital outputs configurable for; at (not at) speed/ at (above) min speed / running (stopped) / healthy (tripped) / above (below) pre-set load.

### Motor Thermistor Input

### Power Supply Outputs

24V dc (50mA) - Digital I/O supply

10V dc (10mA) - Analogue reference supply

## Flexible Inputs & Outputs



### 1 option 2 features

Remote-mount keypad plus P3 comms port

Optional on standard 650 Frames 1, 2 & 3  
Standard on all Sensorless Vector Models

### CONTROL

Volt-free relay contacts

### Digital I/O

- 8 preset speeds  
- 2 programmable I/O

### Analogue I/O

- 0-10V / 4-20mA input  
- 1 programmable load or speed output

## STANDARDS

The 650 Series meets the following standards when installed in accordance with the relevant product manual.

CE marked to BS EN50178  
(Safety, Low Voltage Directive)

UL and UL listed N1981

BS EN50081-1 (1992)  
(EMC Emissions 230V units with filter)

BS EN50081-2 (1992)  
(EMC Emissions 400V units with filter)

BS EN50082-2 (1995) (EMC Immunity)

BS EN61800-3 (EMC Drive Specific Standard)

## 230V SINGLE PHASE CONTROLLERS

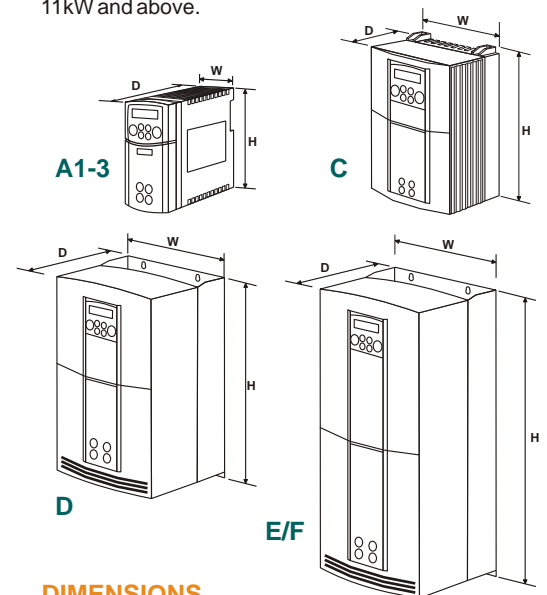
Type	Nominal Power (KW)	Output Current (A)	Package Size
650(V)/002/230	0.25	1.5	A1
650(V)/003/230	0.37	2.2	A1
650(V)/005/230	0.55	3.0	A1
650(V)/007/230	0.75	4.0	A1
650(V)/011/230	1.1	5.5	A2
650(V)/015/230	1.5	7.0	A2

## 400V THREE PHASE CONTROLLERS

Type	Nominal Power (KW)	Output Current (A)	Package Size
650(V)/003/400	0.37	1.5	A2
650(V)/005/400	0.55	2.0	A2
650(V)/007/400	0.75	2.5	A2
650(V)/011/400	1.1	3.5	A2
650(V)/015/400	1.5	4.5	A2
650(V)/022/400	2.2	5.5	A2
650(V)/030/400	3.0	6.8	A3
650(V)/040/400	4.0	9	A3
650(V)/055/400	5.5	12	A3
650(V)/075/400	7.5	16	A3
650VC/0110/400	11(15)	23(31)	C
650VD/0150/400	15(18.5)	31(38)	C
650VD/0180/400	18.5(22)	38(45)	D
650VD/0220/400	22(30)	45(59)	D
650VD/0300/400	30(37)	59(73)	D
650VE/0370/400	37(45)	73(87)	E
650VE/0450/400	45(55)	87(105)	E
650VF/0550/400	55(75)	105(145)	F
650VF/0750/400	75(90)	145(165)	F
650VF/0900/400	90(110)	180(205)	F

Powers and currents in parentheses () are user quadratic "fan" torque ratings.

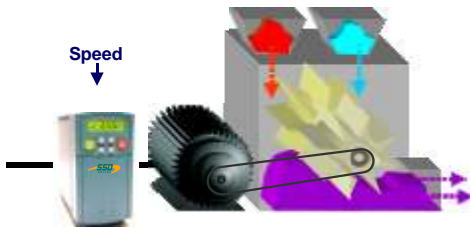
"V" suffix drives denote high torque sensorless vector unit. This is optional from 0.2 to 7.5kW and standard at 11kW and above.



## DIMENSIONS

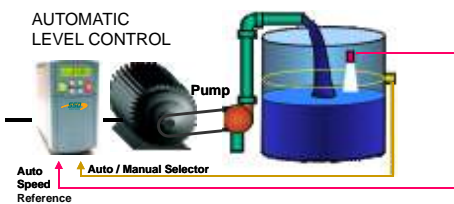
Model	H	W	D
Frame A1	137mm	73mm	142mm
Frame A2	192mm	73mm	173mm
Frame A3	257mm	96mm	195mm
Frame C	348mm	201mm	208mm
Frame D	453mm	252mm	245mm
Frame E	669mm	257mm	312mm
Frame F	720mm	257mm	355mm

# USER SELECTABLE PRE-PROGRAMMED APPLICATIONS



## Select application - **1** FOR **BASIC SPEED CONTROL**

IDEAL FOR GENERAL PURPOSE APPLICATION,  
CONSTANT TORQUE AND VARIABLE TORQUE.



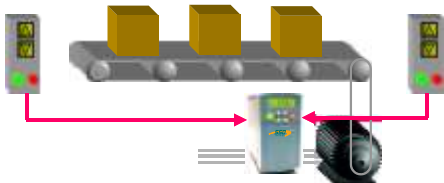
## Select application - **2** FOR **AUTO / MANUAL CONTROL**

IDEAL FOR AUTOMATIC CONTROL APPLICATIONS WITH  
LIMIT SWITCHES OR PROXIMITY TRANSDUCERS.



## Select application - **3** FOR **PRESET SPEEDS**

IDEAL FOR APPLICATIONS WHERE MULTIPLE DISCRETE  
SPEED LEVELS ARE REQUIRED.



## Select application - **4** FOR **RAISE / LOWER CONTROL**

IDEAL FOR APPLICATIONS WHICH REQUIRE SPEED  
CONTROL FROM MULTIPLE SOURCES.



## Select application - **5** FOR **PID CONTROL**

EASY TUNING FOR SETPOINT / FEEDBACK CONTROL  
APPLICATIONS, REGULATING VOLUME OR PRESSURE,  
SUCH AS AIR HANDLING OR PUMPING.

**With the 650 series you are in control of your application immediately**  
**- no complicated set-up or menu structure**  
**- just quick and easy operation straight from the box.**

**EUROTHERM PTY. LTD.**

Sydney: Ph: (02) 9838 0099 Fax: (02) 9838 9288

Melbourne: Ph: (03) 9589 9220 Fax: (03) 9548 8930

ssddrives@eurotherm.com.au

<http://www.eurotherm.com.au>

Distributed by:

**DPS** DRIVES AND  
POWER  
SYSTEMS

Tel: 03 9764 1961

alan@dps.com.au

Fax: 03 9764 1199

<http://www.dps.com.au>



formerly  
EUROTHERM DRIVES