



UNLEASHING POWER

UNLOCKING VALUE



RADICON POWERBUILD Variable Frequency Drives

POWERBUILD AC DRIVES

High Quality :

The hardware design and components selection are more optimized and reasonable;

High Power Density :

The structure design layout is more compact;

High Performance :

The software upgrade is more compatible with the end user, industrial control is more flexible, accurate, and the performance is stronger, and it is more suitable for precision control occasions with higher requirements for torque, control accuracy, and response speed;

Optimize Products User Experience

Easy operation, maintainability, environmental protection, scalability and convenience of Internet of Things access.

Voltage & : 1 ϕ - 220~240 VAC ($\pm 15\%$): From 0.4 KW up to 4.0 KW

Power Rating 3 ϕ - 380~460 VAC ($\pm 15\%$): From 0.4 KW up to 400 KW



PBL - CD1, CD3 & CDE Series

TECHNICAL SPECIFICATION

Input & Output

Input voltage ($\pm 15\%$)	Output voltage
1 ϕ 230 VAC	3 ϕ 230 VAC
3 ϕ 230 VAC	3 ϕ 415 VAC
3 ϕ 415 VAC	
Input Frequency	Output Frequency
50/60 Hz (± 5 Hz)	0 - 600 Hz
	0 - 400 Hz ¹

Featured Functions

Featured functions	Input & Output delay Flexible parameters display AVR (Automatic Voltage Regulation) Timing control, fixed length control, etc. 16-steps speed control Programming Torque control build-in ² S curve acceleration/deceleration Multi-functional programmable keypad V/f separated control
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Control Characteristics

Control mode	v/f control Sensor-less vector control ² Torque control ²
Speed accuracy	$\pm 0.5\%$ (V/f) $\pm 0.2\%$ (SVC) ²
Speed fluctuation	$\pm 0.3\%$ (SVC) ²
torque response	< 10ms (SVC) ²
Starting torque	0.5Hz: 150% (V/f) 0.25Hz: 180% (SVC) ²
Multi-step speed Programming	Up to 16 speed Operation External digital signal control
PID function	Standard build-in
Communication	Modbus
Input Terminals	Upto 2 AI ³ Upto 8 DI
Output Terminals	1 nos AO ³ Upto 4 DO

Environment Limitation

Installation location	Without direct sunlight, free from dust, corrosive gases, oil mist, flammable gases, water vapor, water drop and salt, etc.
Altitude	0~2000m Derated 1% for every 100m when the altitude is above 1000 meters
Ambient temperature	-10°C~50°C (Output derated by 1% for every 1°C change above 40°C)
Storage temperature	-20°C~+70°C
Relative Humidity	5-95% no condensation

Overload Capability

150% Rated current -60s (120% for CDE)
180% Rated current -10s (140% for CDE)
200% Rated current -0.5s (150% for CDE)

1: Applicable for CDE Model 2: Not Available in CDE Model 3: Not Available in CD3L Model

ADVANCED DESIGN



EMC Filter

C3 Level Filter Build-In Standardly
Better EMC Performance



IGBT Selection

Selection Of Large Margin
Current > 2 Times of VFD Current



Overload Capacity

120% long time running without trip.
150% for 60 seconds
180% for 10 seconds

*For CD1 & CD3 Model



Voltage Range

Compatible with $\pm 15\%$ input voltage fluctuation, output voltage stable.



S Curve

S Curve Acceleration/Deceleration
Better Start/Stop Performance



Flying Start Function

Restart The Running Motor Smoothly
No Current Surge
High Accuracy



Protection

Over current, Over voltage, PID feedback failure, Over heat, Under voltage, Main Contactor Abnormality, Motor overload, Fast protection, Unbalanced output, Frequency conversion overload, System abnormal, Motor detection abnormal Output phase loss, Input phase loss, Short circuit protection of control board power supply.

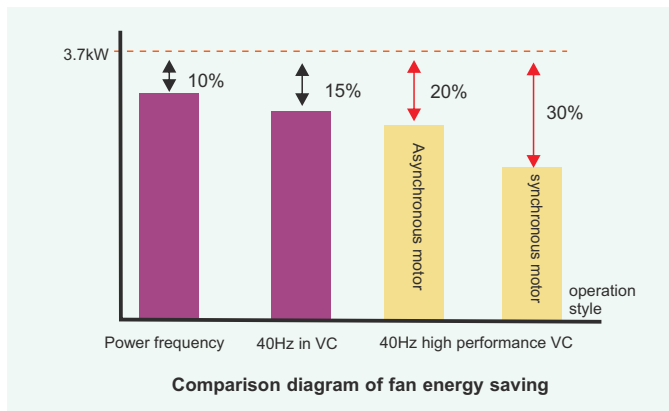
★ HIGH PERFORMANCE

ADVANCED DRIVE TECHNOLOGY

- ★ Capable of driving different types of motor. PBL-CD series runs not only induction motors, but also synchronous motors like IPM*1 and SPM*2 motors with high performance open and closed loop vector control.
- ★ Minimize equipment needed for your business by using the same drive to run induction and synchronous motors.
 - 1 Interior Permanent Magnet Motor (Motors with permanent magnets inserted into the rotor)
 - 2 Surface Mounted Permanent Magnet Motor (Motors with permanent magnets mounted on the surface of the rotor)

EXCELLENT ENERGY SAVING FUNCTIONS

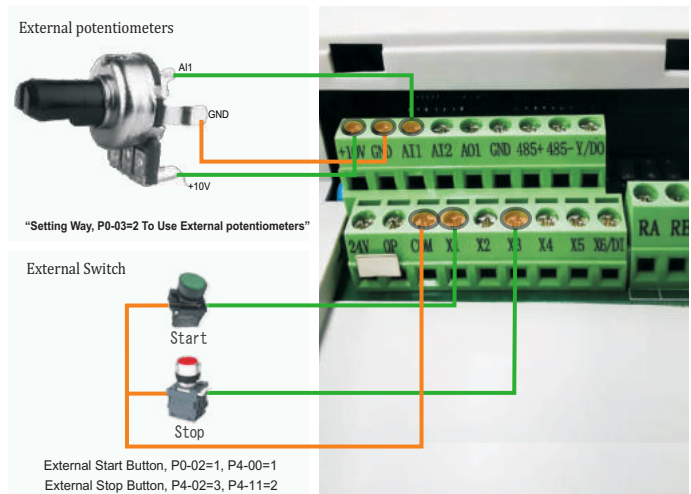
Adopt the new generation of energy-saving control technology to realize the high-efficiency operation of induction motor; reduce the excitation current according to the load current and automatically adjust according to the loading condition; improve the motor efficiency at most; reduce the motor consumption and energy consumption. 30% of AM&PMSM adopt the VC mode to drive PMSM and the energy utilization could increased by more than 10%.



PBL - CD Series

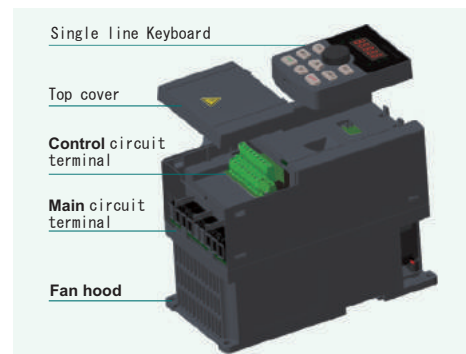
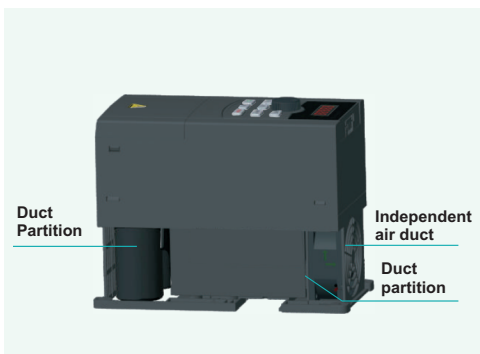


★ EASY MANUAL CONTROLS



★ INDEPENDENT AIR DUCT & LAYERED STRUCTURE DESIGN

- ★ High protection: completely independent air duct, scientific layout inside the machine, taking into account the heat dissipation of high-power devices.
- ★ The machine has the characteristics of high temperature resistance: scientific air duct design, rapid heat dissipation, low temperature rise of the machine, and no need to reduce the capacity under the ambient temperature of 50 °C.
- ★ The electrical part is separated from the cooling air duct layer by layer, and each part is independent, which can effectively deal with the dust problem of circuit boards and sensitive devices.





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2. RADICON TRANSMISSION FZE (UAE)

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