

# PACMotion™ VFD

## Flexible AC Drive Solution

### Key Benefits

- Standard PROFINET integration and built-in auto-tuning feature make setup and commissioning new drives quick and easy
- High-performance drives support up to 200% overcurrent and 200% starting torque allowing smaller drives to be utilized reliably for applications with variable loads
- Conformally coated electronics and available IP55 and IP66 enclosures allow drives to be mounted without a control cabinet
- Built-in safe torque off (STO) support saves development and commissioning time by allowing integrated safety and standard applications

### Flexibility to Meet Your Needs

Emerson's PACMotion VFDs are integrated, rugged and modular AC variable frequency drives designed for a range of industries, including water/wastewater, metro, automotive, mining, food and beverage, packaging, oil and gas, discrete manufacturing and modular machine designs.

PACMotion VFDs seamlessly integrate with Emerson's PAC, PLC and Edge Controllers. Leveraging the total system architecture provides continuous feedback that can improve your process and profitability.

The flexible design offers power ranges from 0.75 to 250kW (1 to 350HP) for input voltages from 200 to 600 volts. Options, such as braking resistors, external keypads, encoder option cards, as well as multiple communications protocols, let you customize PACMotion VFDs to your specific application requirements.



### Fully Integrated for System Simplicity

PACMotion VFDs easily and seamlessly integrate with PACSystems RX3i applications for quick and cost-effective installation. With drive configuration tools incorporated directly within PAC Machine Edition and a built-in auto-tuning feature for automatically adjusting the drive based on attached motors and loads, PACMotion VFDs offer plug-and-play startup and simplified programming.

### Rugged Design for Demanding Applications

PACMotion VFDs are built to perform in harsh environments. Conformally coated circuit boards can withstand the most demanding environmental conditions. For applications with variable loading, PACMotion VFDs also provide a high current overload capacity: rated up to 150% for up to 60 seconds at a time and 200% for short durations. With operating temperatures up to 40°C for IP55 and IP66 enclosures and up to 50°C for IP20, PACMotion VFDs can meet your toughest challenges. Built-in support for Safe Torque Off (STO) allows PACMotion VFDs to integrate seamlessly into applications requiring safety as well.

## Compact, Modular Design

The compact footprint of PACMotion VFDs minimize control cabinet space, or with IP55 or IP66 enclosures, you can skip the control cabinet entirely. The built-in keypad and display allow operators to validate parameters locally, providing instant feed-back during troubleshooting.

The modular design even allows multiple individual units to be connected and controlled with a single keypad.

## Specifications

- 1 and 3 Phase 200-240VAC +/- 10%
- 3 Phase 380-480VAC +/- 10%
- 3 Phase 500-600VAC +/- 10%
- 0.75 up to 250kW (1 up to 350 HP)
- Integrated with PAC Machine Edition
- Integrated control for multiple motor types:
  - AC Induction
  - Permanent Magnet AC
  - Brushless DC
  - Synchronous Reluctance
- Integrated Safe Torque Off (STO)

### Temperature Range

- -10°C to 40°C for IP55 and IP66
- -10°C to 50°C for IP20
- -40°C to 60°C in storage (not in operation)
- Cold-plate technology allowing heat dissipation interface via external heat sink or machine components

### Overload Ratings

- Current overload up to 150% for up to 60 seconds
- Current overload up to 200% for 4 seconds
- Breakaway torque up to 200% for 2 seconds

### Display

- LED for local status

### Integrated Drive I/O

- Inputs: 3 digital + 2 configurable digital/analog
- Outputs: 2 configurable digital/analog + 2 relays
- Optional expansion I/O cards available

## Connects and Optimizes

Connecting PACMotion VFDs with other Emerson products lets you monitor, record, and optimize performance in real time. Use real-time data from Edge Connectivity to automatically optimize VFD output to minimize energy consumption while keeping the application in tolerance. Monitor drive attributes like current consumption and temperature in real-time to predict component failure, eliminating unplanned downtime.

### Motor Cable Length

- 100m+ shielded
- 150m+ unshielded

### Protocols

- Modbus/RTU (standard)
- PROFINET RT (standard on \*-xP models)
- Modbus/TCP (optional)

### Housings

- IP20 Standard
- IP55/NEMA-12K Housing
- IP66/NEMA-4X Housing

### Filters

- Integrated EMC filter (up to 11Kw)
  - 1PH class A/B limit
  - 3PH class A limit (EN 55011 and EN 50014 meets EN 61800-3)

### Certifications

- CE
- cUL
- UL 61010
- C-Tick
- EU RoHS
- EU Reach
- China RoHS
- TUV – SIL / PLd

500-600V ± 10% - 3 Phase Input				
Drive Model Number	kW	HP	Output Current (A)	Frame Size
IC866-0150-603-5#	15	20	22	4
IC866-0185-603-5#	18.5	25	28	4
IC866-0220-603-5#	22	30	34	4
IC866-0300-603-5#	30	40	43	4
IC866-0370-603-5#	37	50	54	5
IC866-0450-603-5#	45	60	65	5
IC866-0550-603-5#	55	75	78	6
IC866-0750-603-5#	75	100	105	6
IC866-0900-603-5#	90	125	130	6
IC866-1100-603-5#	110	150	150	6

**IP66 Drives**

200-240V ± 10% - 1 Phase Input				
Drive Model Number	kW	HP	Output Current (A)	Frame Size
IC866-0008-2B1-6#	0.75	1	4.3	2
IC866-0015-2B1-6#	1.5	2	7	2
IC866-0022-2B1-6#	2.2	3	10.5	2

200-240V ± 10% - 3 Phase Input				
Drive Model Number	kW	HP	Output Current (A)	Frame Size
IC866-0008-2A3-6#	0.75	1	4.3	2
IC866-0015-2A3-6#	1.5	2	7	2
IC866-0022-2A3-6#	2.2	3	10.5	2
IC866-0040-2A3-6#	4	5	18	3

380-480V ± 10% - 3 Phase Input				
Drive Model Number	kW	HP	Output Current (A)	Frame Size
IC866-0008-4A3-6#	0.75	1	2.2	2
IC866-0015-4A3-6#	1.5	2	4.1	2
IC866-0022-4A3-6#	2.2	3	5.8	2
IC866-0040-4A3-6#	4	5	9.5	2
IC866-0055-4A3-6#	5.5	7.5	14	3
IC866-0075-4A3-6#	7.5	10	18	3

500-600V ± 10% - 3 Phase Input				
Drive Model Number	kW	HP	Output Current (A)	Frame Size
IC866-0008-603-6#	0.75	1	2.1	2
IC866-0015-603-6#	1.5	2	3.1	2
IC866-0022-603-6#	2.2	3	4.1	2
IC866-0040-603-6#	4	5	6.5	2
IC866-0055-603-6#	5.5	7.5	9	2
IC866-0075-603-6#	7.5	10	12	3
IC866-0110-603-6#	11	15	17	3

NOTE: Replace # with:  
 0 = No Profinet Module included  
 P = Profinet Module Included

\*HP calculated at 460V, KW at 400V (according to standard set in NEC Table 430-150)  
 \*\*No UL on these units and these require use of an input choke (1% - 4%)