

### CANopen

espAC™ comes standard with CANopen. This allows easy inter-connection of controllers to each other and with other devices, such as displays and driver controls. CANopen also allows the user to wire the vehicle to best suit him since inputs such as the throttle can be connected to any of the controllers on the vehicle and the demand value will be passed over the CANopen bus to the relevant motor control. Sevcon Drive Wizard provides the user with an intuitive and graphical method of configuring the data paths within the vehicle.

### Enhanced Integral I/O

espAC comes with a cost-effective, fully-integrated set of inputs and outputs (I/O) designed to handle a wide range of vehicle requirements. This eliminates the need for additional external I/O modules and connectors. All inputs and outputs have the highest level of thermal and electric protection dramatically improving system reliability.

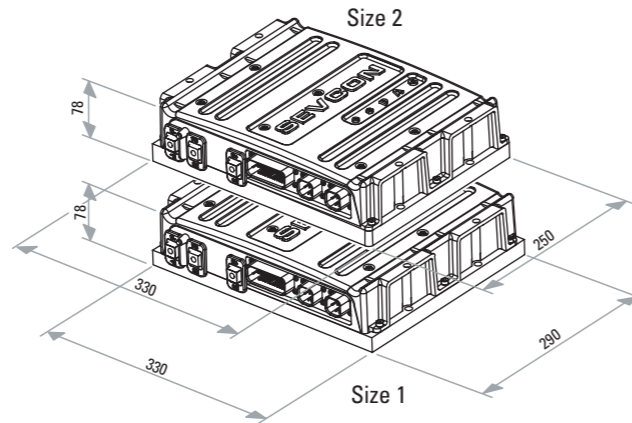
- Protected I/O
- Wire Off Detection
- Robust 3A Contactor Drivers
- Hydraulic Valve Control
- Sealed AMPseal Connectors

### The Family of espAC™ Controllers

Voltage (Vdc)	Function	Peak Current* (A rms)	Cont. Current (A rms)	Size
48	Single Traction	450	180	2
	Single Traction	700	280	1
	Dual Traction	2x350	2x140	1
	Dual Traction	2x225	2x90	2
	Pump	700	280	1
	Pump	450	180	2
	Pump+Traction	2x350	2x140	1
	Pump+Traction	2x225	2x90	2
80	Single Traction	600	240	1
	Single Traction	350	140	2
	Dual Traction	2x150	2x60	2
	Dual Traction	2x250	2x100	1
	Pump	600	240	1
	Pump	350	140	2
	Pump+Traction	2x150	2x60	2
	Pump+Traction	2x250	2x100	1

\*1 min. rating

### Dimensions



### AC Motor Controller

For Motors from 5 to 30kW  
48 to 80V, 225 to 700A

- Rugged cast aluminum enclosure
- Sealed to IP66
- Designed for highest reliability
- Enhanced EMC performance
- Wide temperature range -40 to 85°C
- Cooldrive™ technology
- Integrated cooling for max. performance
- Fully compliant with CANopen
- Self characterization of motor
- Advanced flux vector control
- Sensorless control for select applications
- Autocheck - system diagnostics



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## A Different AC Controller

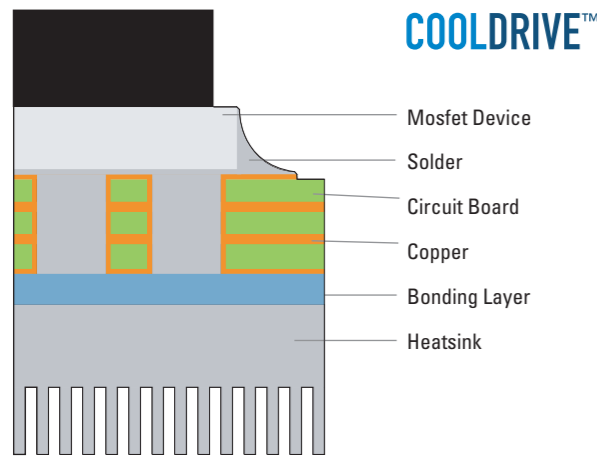
The espAC™ line of AC motor controllers is designed for a wide variety of mobile applications including material handling, airport ground support, industrial, utility and other applications.

With espAC™, we are setting a new standard of product versatility and reliability far exceeding other products on the market. This design combines rugged durability and functionality unequaled in the industry.

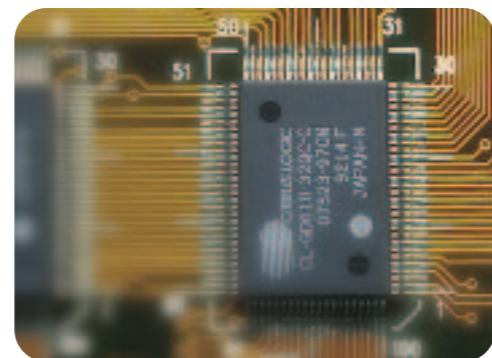


### An Industry First

The Sevcon Cooldrive™ technology provides heat dissipation that is at least twice as effective as conventional packaging techniques, radically improving lifetime by reducing component operating temperatures.



Unlike conventional IMS technology, the Cooldrive™ concept mounts power devices and high current conductors directly to the external heatsink using thermally conductive materials and a special bonding technique. By eliminating intermediate substrates and potential insulation barriers in the assembly, the espAC™ dissipates heat at least twice as efficiently as other AC controllers. This also permits espAC™ to deliver high performance in operating temperatures ranging from -40 to 85C.



### Lowest Cost of Ownership

Combining Cooldrive™ technology with rugged packaging and resistance to environmental impact provides the customer with unparalleled reliability and operating lifetime and at significantly lower warranty costs.

### Sensorless or Sensor Feedback Control Algorithms

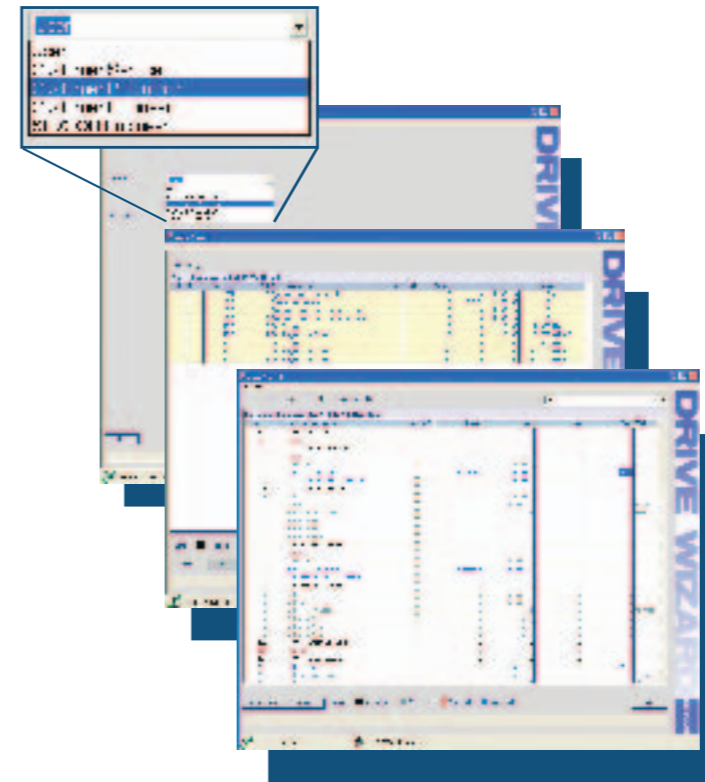
The espAC™ uses state-of-the-art motor control technology. An advanced sensorless control algorithm permits use of motors without feedback sensors in torque controlled applications.

### Setting a New Class of Endurance

The toughest AC controllers in the industry, espAC™ products are protected to withstand severe environmental conditions. The rugged cast aluminum enclosure is sealed to meet protection class IP66. The integrity of the packaging combined with the internal rigidity allow for sustained repetitive shock to 50G.

### Self Characterization (Optimizes Motor Parameters)

Another industry first, Sevcon's unique Self Characterization capability enables espAC™ to automatically define and optimize all parameters for the connected AC motor. This feature provides quick set-up and allows customers to select motor suppliers of their choice without worrying about compatibility between controller and motor.



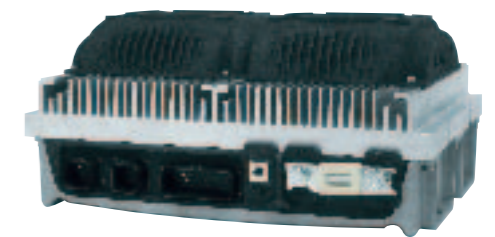
### Customization with Comprehensive PC-Based Tools

Customization and system integration for different applications is made simple using Sevcon's new PC and PDA based Drive Wizard. With the Drive Wizard, development engineers and users can easily set up and optimize the system. Graphic programming and on-screen adjustment are combined with simple tools to set functionality, as well as the tuning of motion profiles to get the desired "driving feel" of the vehicle. Versatility is further enhanced by the espAC's ability to drive different motor technologies such as AC Induction, PMAC, etc.



### Packaging Flexibility

espAC™ controllers come in integral fan-cooled or basic conduction cooling package configurations to match a variety of applications. Regardless of the model, espAC™ meets its published power ratings.



Fan cooled models represent a quick out-of-the-box solution. Ready to be installed and provides the rated currents without additional cooling requirements.



espAC™ without fan cooling can be used in applications where proper integration of cooling is provided by the user.