



# **ADVANCED** MOTION CONTROLS



Everything's possible.

# ADVANCED Motion Controls Servo Drive Overview

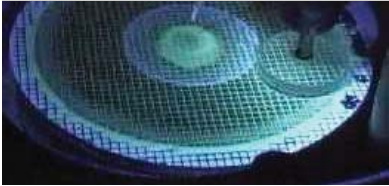


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For Company Information, Product Datasheets, Installation Manuals and Downloads visit [www.a-m-c.com](http://www.a-m-c.com)



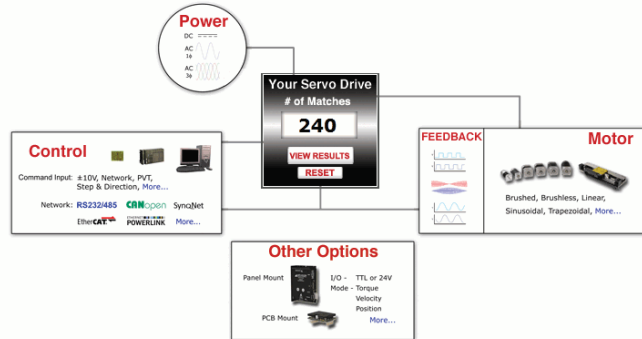


## About **ADVANCED** Motion Controls

**ADVANCED** Motion Controls has earned a reputation for being a flexible and affordable manufacturer of quality high performance and high power density servo drives. Camarillo California is home to our state of the art 80,000 square foot facility that integrates Engineering, Manufacturing, Testing and Support in a single location. Using our standard product line as a starting point our customers know they can specify modifications and custom solutions to solve their specific problems. This frees our customers to design systems without the constraints imposed by other servo drive manufacturers.

### Any Motor, Any Controller, Any Feedback!

Our core business is servo drives. We offer over 250 standard models, and if we don't have what you need we can work with you to create a custom solution that does. Our servo drives can be found all over the world in the highest performance applications, the harshest environments as well as working reliably in day to day operations throughout the world.



Finding the right **ADVANCED** Motion Controls' servo drive for your application is easy. Enter key parameters into the Automated Servo Drive Selection Tool at [www.a-m-c.com](http://www.a-m-c.com), and automatically receive a list of servo drives that meet your requirements. You can also browse through our Servo Drive Family Product Tables, or if you already know the model number, simply enter it into the Product Resource Center to find the appropriate datasheet, installation manual, and product drawing.

**Product Resource Center**  
(Datasheets & Support)

Enter the **base part number only**  
example: 12A8 - Not 12A8M

100A20  
100A25  
100A40  
100A6  
100A8

Select

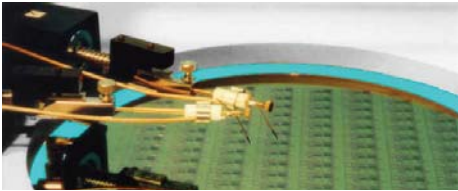
Family Description		Power	Mode of Operation	Command	Feedback
<b>Top Level Features and Attributes:</b>					
<b>Plug In Mount 'Z-Drives'</b>	<b>Series</b>	<b>Description</b>	<b>Motor Type</b>	<b>Power</b>	
				<b>Voltage (V)</b>	<b>Current (A)</b>
				<b>DC</b>	<b>Peak</b> <b>Cont.</b>
	AZ	Analog Brushed (1Ø motors/loads)	Brushed	10 - 175	8 - 40 3 - 20
	AZB	Analog Brushless (2Ø motors/loads)	✓	10 - 175	8 - 40 3 - 20
	AZK	Analog Extended Environment	✓	10 - 80	8 - 25 4 - 12.5
	DZC	DigiFlex® Performance™ - CANopen	✓	10 - 175	12 - 60 6 - 30
	DZK / DZKX	DigiFlex® Performance™ - EtherCAT	✓	10 - 80	20 - 10
	DZK	DigiFlex® Performance™ - RS-485/232	✓	10 - 175	12 - 60 6 - 30
	DZKX	DigiFlex® Performance™ - Ethernet	✓	10 - 175	8 - 40 4 - 20
<b>Panel Mount</b>	<b>S, SD, SE, SX</b>	Analog Brushed & Brushless (1Ø & 2Ø)	✓	120 - 230	20 - 400 15 - 100 7.5 - 50
	Brushed	Analog Brushed (1Ø motors/loads)	✓	120 - 230	20 - 400 12 - 230 8 - 60
	DPC	DigiFlex® Performance™ - CANopen	✓	230 - 400	20 - 800 15 - 100 7.5 - 50
	DPE	DigiFlex® Performance™ - EtherCAT	✓	100 - 240	127 - 373 15 7.5
	DPQ	DigiFlex® Performance™ - SynoNet®	✓	230 - 400	20 - 800 15 - 100 7.5 - 50
	DPR	DigiFlex® Performance™ - RS-485/232	✓	230 - 400	20 - 800 15 - 100 7.5 - 50
	S, SX	External Size Commutation	✓	120 - 230	20 - 400 16 - 100 8 - 50
<b>Vehicle Mount</b>					
	AV	General Industrial	✓	20 - 175	125 - 250 80 - 150
	AVB	Electric Mobility and Vehicle	✓	20 - 175	125 - 250 80 - 150



**DriveWare®**

DriveWare® is the software used to commission and troubleshoot all **ADVANCED** Motion Controls DigiFlex® Performance™ digital servo drives. All drive limits, control loops (current, velocity, and position), and event handling can be configured in DriveWare. Notable features include a fully functional multi-channel oscilloscope, function generator and user friendly layout and interface.





## Networks

ADVANCED Motion Controls offers a variety of network options for connecting servo drives in a multi-axis configuration. Choosing the right network depends on a variety of factors such as required bandwidth, update rate, performance, and cost. Currently supported network options are: CANopen, EtherCAT®, RS232, RS485 and SynqNet®.

**EtherCAT®**  **CANopen**  **RS-485/232 SERIAL**  **SynqNet®** 

**EtherCAT®** - EtherCAT is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. The ADVANCED Motion Controls EtherCAT interface follows the ETG.1000.6 EtherCAT Application Layer protocol specification and the ETG.6010 Implementation guideline for CiA402 drive profile.

**CANopen** - An open standard embedded machine control protocol developed for the CAN physical layer, following the CiA (CAN in Automation) DS301 communications profile and the CiA DSP402 device profile

**RS485/232** - ADVANCED Motion Controls' proprietary serial protocol, a byte-based, binary, master-slave standard to access drive commands

**SynqNet®** - An all digital motion control interface built on IEEE 802.3 standards for 100BT, the physical layer of Ethernet.

We also have the ability to quickly produce custom DigiFlex® drives utilizing Ethernet TCP/IP, Ethernet Powerlink, or many other common types of network communication.

## Motors

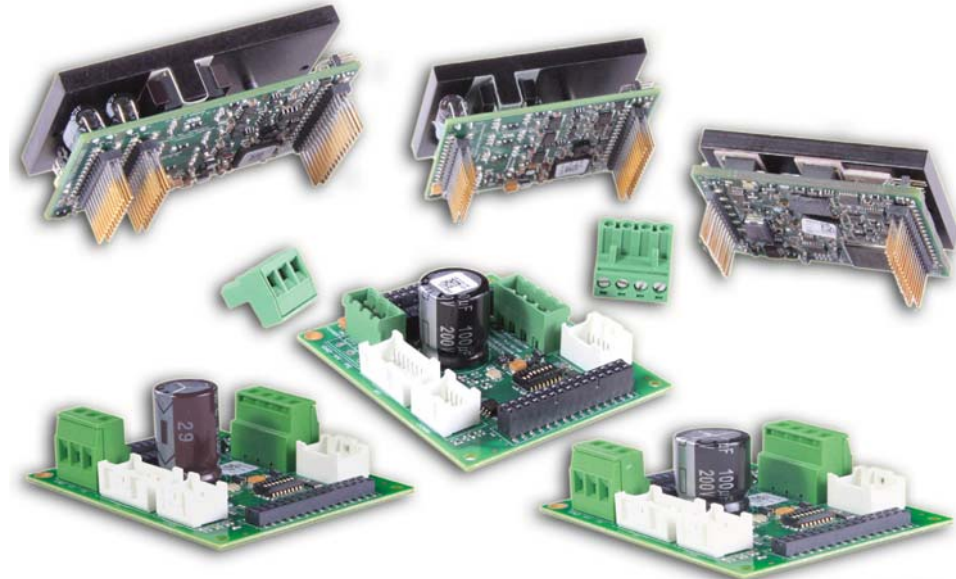
As a company whose core business is servo drives we have to be compatible with as many motors and motor technologies as possible. We have servo drives that work with: Brushed DC, Brushless: AC & DC, Linear & Rotary, AC Induction, Voice Coil, Trapezoidal & Sinusoidal commutation. Many of our drives can work with all of the above with only a few minor configuration settings.

## Feedback

To give our customers the greatest flexibility we offer a wide variety of motor feedback options. Standard feedback options include: Halls, Incremental Encoder, Resolver, 1Vp-p Sine/Cosine Encoder, Stegmann Hiperface®, Heidenhain EnDat® and Tachometer. On our DigiFlex® Performance™ drives we also have the option for auxiliary feedback for dual loop control.

## Accessories

As a convenience to our customers we offer power supplies, filter cards, shunt regulators and mounting cards to complement our servo drives.





## Technology and Solutions to Problems

Combining cutting-edge technology and creative engineering, *ADVANCED* Motion Controls is able to design and manufacture high quality servo drives capable of delivering high power at a low cost. As the demands of the motion control industry have increasingly asked for better performance, more features, and simplified integration, *ADVANCED* Motion Controls has responded by finding resourceful solutions to the problems faced by OEMs and servo system designers. Whether by implementing innovative design techniques throughout our line of standard products, or by directly solving a specific customer's application with a brand-new custom product, *ADVANCED* Motion Controls has the drive expertise to take on your servo system challenge.

## Applications and Industries

*ADVANCED* Motion Controls is able to utilize our extensive experience in providing high performance servo drives to support motion control applications in numerous industries. With an ever-expanding customer base across new and emerging fields, and having been established as a top supplier for traditional servo solutions, *ADVANCED* Motion Controls brings our wealth of diverse motion control knowledge to a wide variety of industries, including but not limited to:

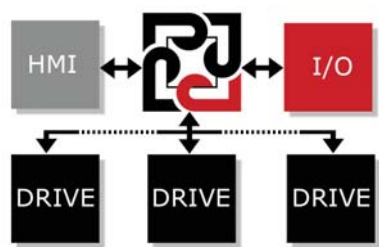
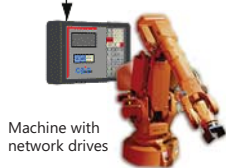
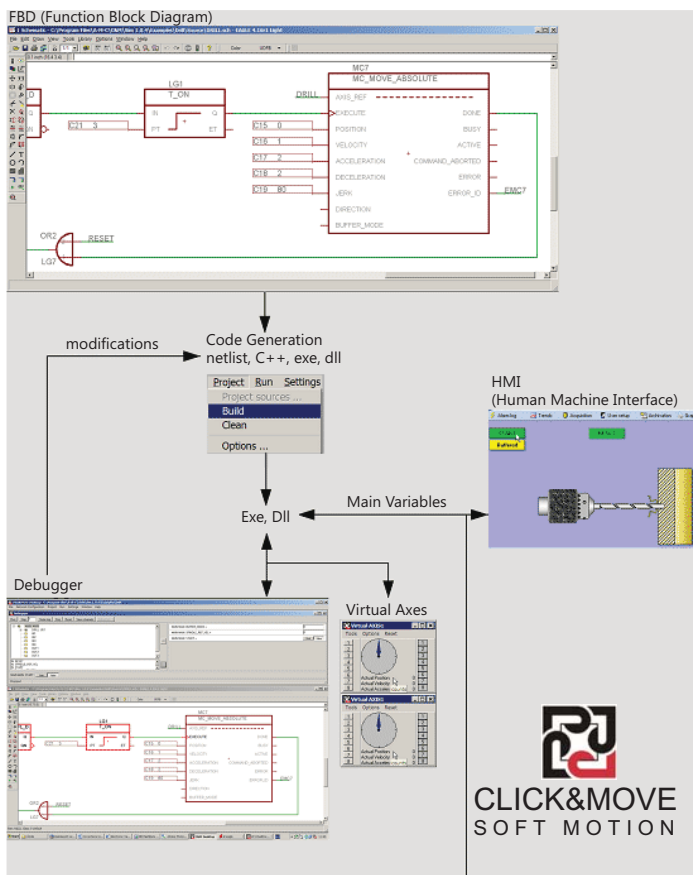
-  **Assembly Automation and General Factory Machinery**
-  **Communications Control**
-  **Electric Mobility and Mobile Robotics**
-  **Entertainment**
-  **Homeland Security and Defense**
-  **Inspection Testing and Rapid Prototyping**
-  **Lab Automation**
-  **Medical**
-  **Packaging**
-  **Power Generation and Alternative Energy Sources**
-  **Robotics (fixed)**
-  **Semiconductor**
-  **Simulators**





**Click&Move® (C&M®) Software**

Click&Move® is a Windows-based soft motion and automation solution that uses function blocks described under IEC 61131-3 as the programming method. Function block programming allows non-programmers to fully develop and implement motion control and automation programs in a GUI environment. Click&Move also includes a built in graphical HMI that displays the machine operation on screen.



- Standard PLCOpen Function Blocks library for Motion Control is included
- New Function Blocks can also be created with an encapsulated user C++ program.

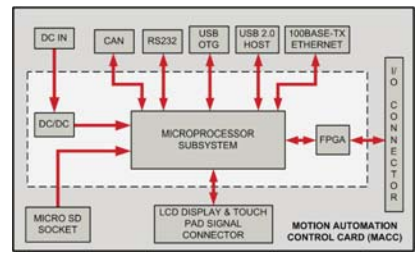
Click&Move® programs can run on Windows based PC's, Motion Automation Control Cards (MACC), or on embedded *ADVANCED* Motion Controls' servo drives, all at low cost to solve a variety of applications. Using the PC based approach provides for servo drive and I/O command update rates in the millisecond range.

[Visit the Click&Move® Product Website](#)

**Motion Automation Control Card (MACC)**

*ADVANCED* Motion Controls has designed a dedicated MACC with embedded Click&Move® programming capability. Key highlights are:

- Based on an ARM microprocessor operating with real-time Linux
- Stand-alone card with network connections, and can be optionally packaged in a standard DIN rail plastic case
- External I/O module connectivity



The MACC serves as a general purpose motion/automation controller:

- Controlling a network of digital drives and I/Os
- Controlling servo drives with +/-10V torque or velocity command inputs for lower cost/higher update rate solution
- Fully functional PLC utilizing C&M programmability and I/O modules

The C&M user program can be developed, compiled and tested on a PC and simply recompiled for the MACC platform. Once downloaded into the MACC, it can also be debugged via Ethernet UDP/IP. The program may also be controlled/monitored in real time via the UDP/IP connection by a PC with a client C&M application.

C&M user programs can also be distributed between the PC and the MACC; the fast, time critical portion of the application can run in the MACC while C&M's HMI and slower portions run in the PC. Connections made via Ethernet.

The number of motion axes is only limited by the axis update rate. This axis update rate is influenced by the size and complexity of the C&M application program.

Optional PC with Windows®  
(w/ or w/out keyboard)

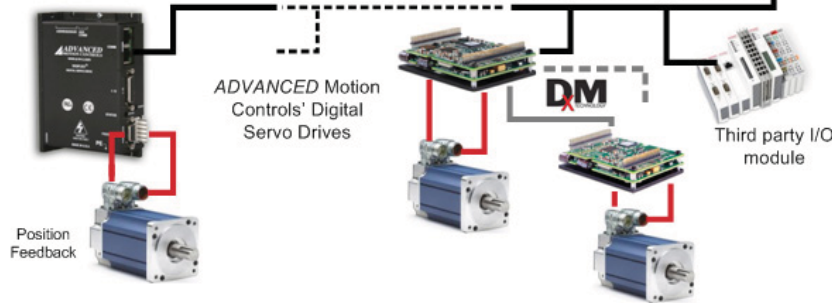


Ethernet Connection

MACC with Linux



Field-bus: CAN, Ethernet (EPL, EtherCAT®)



### MACC with Network Drives and I/O Modules

This solution can meet demands for drive and I/O command update rates in the few hundred microseconds range. The MACC integrates field bus masters, such as EtherCAT® or Ethernet Powerlink (EPL), directly or they can be installed into an external PC.

To lower drive system costs, *ADVANCED* Motion Controls' exclusive 'DxM' Technology can be utilized. Using only one EtherCAT® drive, other sub-nodes could be readily connected.

# & MOVE® SOLUTION

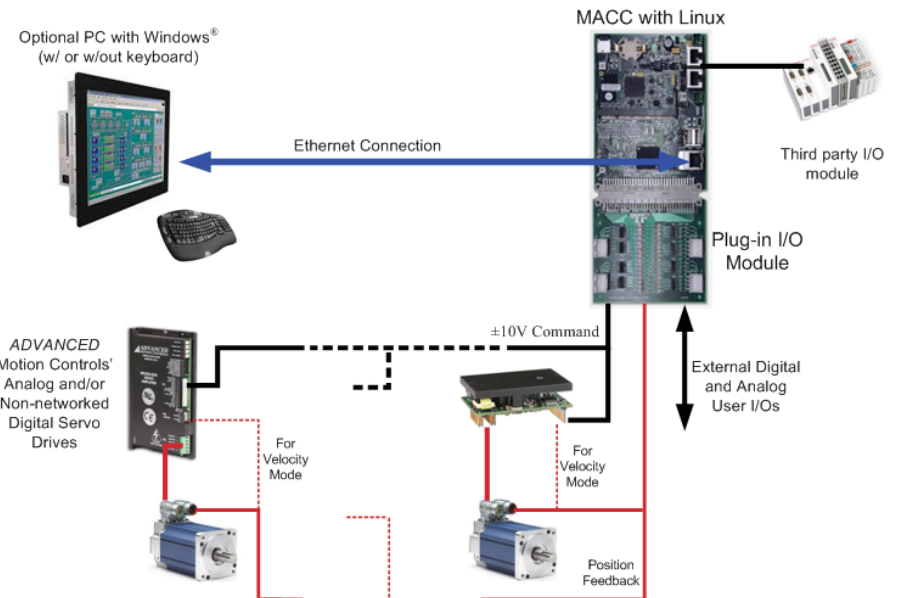
# CLICK AUTOMATION

### MACC with Torque or Velocity Mode Drives

The analog outputs of the plug-in I/O module of the MACC are connected to the +/-10V input of torque or velocity mode drives. Non-networked servo drives, combined with the MACC, provide a system with the lowest overall cost.

This solution can meet demands for drive and I/O command update rates in the 50 microsecond range. However, due to noise and wiring considerations, cable length between the drives/motors and the controller is limited to within a few meters. In this case, motor feedback connections are made to the external I/O module's dedicated inputs.

To provide additional I/Os, pins of the MACC's FPGA are buffered and brought out to an optional connector which can be used by a plug-in I/O expansion card with an SSI (synchronous serial interface).

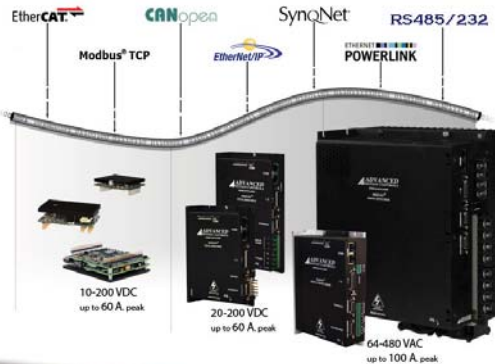


## DigiFlex® Performance™ Digital Servo Drives

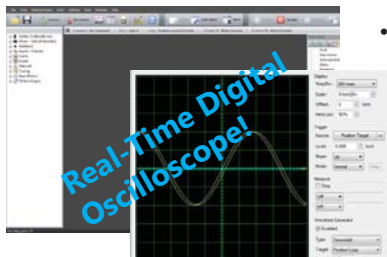


The family of DigiFlex® Performance™ digital servo drives provide a wide range of options for servo system solutions. DigiFlex® Performance™ (DP) drives deliver peak power output from 1.5 to 27.4kW, and support an array of feedback options. Driving single phase, three phase, and closed loop vector motors with the ability to interface with both digital network commands and traditional +/-10V analog commands, DP drives offer a versatile blend of cutting edge technology and proven results.

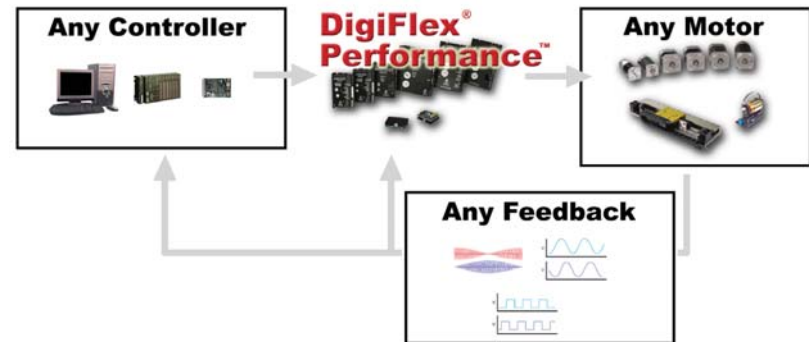
DigiFlex® Performance™ servo drives can be controlled over the network using the following standard communication protocols: EtherCAT®, CANopen, SynqNet, RS485/232, Modbus® TCP, and EtherNet/IP®.



DigiFlex® drives are set up and commissioned using DriveWare®, ADVANCED Motion Controls' powerful servo drive tuning and configuration software.



- **Universal servo motor capability by means of automatic commutation adjustment**
- **Variety of feedback options - Absolute Encoder, Sin/Cos Encoder, Incremental Encoder, Hall Sensors, Resolver, Tachometer**
- **Full tuning control of Position, Velocity, and Torque Loops**
- **Real-time oscilloscope for high-performance tuning**
- **Status panel for drive and system diagnostics**
- **I/O configuration for over 60 events and signals**
- **Dual loop feedback and control - increases stability and accuracy**
- **Stand-alone or network configuration**
- **Standard models in both Panel Mount and PCB Mount (Z-Drives) form factor**
- **Employs Space Vector Modulation, resulting in higher bus voltage utilization and reduced heat dissipation**
- **Extended Environment versions available (DZX series Z-Drives)**





## DPC series - CANopen panel mount



### Panel Mount Drives

DPC drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Communication

- CANopen Networking
- RS485/232 Drive Commissioning

### Command Types

- Over the Network
- +/-10V Analog
- PWM and Direction
- Encoder Following

### Power Range

- 1.5 - 27.4 kW Peak Power Output
- 0.8 - 13.7 kW Cont. Power Output

### Primary Feedback

- Absolute Sin/Cos Encoder (Heidenhain EnDat® or Stegmann Hiperface®)
- 1Vp-p Sin/Cos Encoder
- Incremental Encoder
- Resolver

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

To build a model number, select a control module by feedback type, then combine with a power module that suits your system's requirements. 24 VDC I/O Control Modules combine with AC Power Modules, and 5VTTL I/O Control Modules combine with DC Power Modules.

CANopen



Datasheets and Additional Product Info



Combine to form model number

	24 VDC I/O Control Modules						
	DPCANIA-	DPCANIE-	DPCANIR-	DPCANIS-			
Feedback	Absolute Encoder	Incremental Encoder	Resolver	Sin/Cos Encoder			
	<b>AC Power Modules</b>						
<b>Example:</b> DPCANIS-060A400	<b>015S400</b>	<b>015A400</b>	<b>030A400</b>	<b>060A400</b>	<b>100A400</b>	<b>030A800</b>	<b>060A800</b>
Supply (VAC)	100-240*	100-240	100-240	100-240	200-240	200-480	200-480
Peak Current (A)	15	15	30	60	100	30	60
Cont. Current (A)	7.5	7.5	15	30	50	15	30
Dimensions (mm)	177 x 123 x 44	177 x 140 x 56	202 x 157 x 70	235 x 162 x 151	273 x 230 x 149	301 x 232 x 92	301 x 232 x 139

\*Single Phase AC Only

Combine to form model number

	5VTTL I/O Control Modules				
	DPCANTE-	DPCANTR-			
Feedback	Incremental Encoder	Resolver			
	<b>DC Power Modules</b>				
<b>Example:</b> DPCANTR-015B200	<b>020B080</b>	<b>040B080</b>	<b>060B080</b>	<b>015B200</b>	<b>025B200</b>
Supply (VDC)	20-80	20-80	20-80	40-190	20-190
Peak Current (A)	20	40	60	15	25
Cont. Current (A)	10	20	30	7.5	12.5
Dimensions (mm)	133 x 90 x 36	191 x 112 x 36	191 x 112 x 36	133 x 90 x 36	191 x 112 x 36

ISO9001 CERTIFIED

cULus CE RoHS

## DZC series - CANopen pcb mount



### Z-Drives Plug-In Integration

DZC drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Command Types

- Over the Network
- +/-10V Analog
- PWM and Direction
- Encoder Following

### Primary Feedback

- Incremental Encoder

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

### Power Range

- 0.9 - 4.6 kW Peak Power Output
- 0.5 - 2.3 kW Cont. Power Output

### Communication

- CANopen Networking
- RS485/232 Drive Commissioning

To build a model number, combine a power module to meet your system's requirements with the DZCANTE control module.

CANopen



Datasheets and Additional Product Info

Combine to form model number

### Control Module

DZCANTE-

Feedback

Incremental Encoder

### DC Power Modules

Example: DZCANTE-040L080	012L080	020L080	040L080	060L080	010L200	025L200
Supply (VDC)	20-80	10-80	10-80	10-80	40-175	40-175
Peak Current (A)	12	20	40	60	10	25
Cont. Current (A)	6	12	20	30	5	12.5
Dimensions (mm)	64 x 51 x 18	64 x 51 x 23	76 x 51 x 23	76 x 51 x 23	64 x 51 x 23	76 x 51 x 23

ADVANCED Motion Controls offers mounting cards and mating connector kits to simplify the connections between DZC drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
MC1XDZC02	1	Side-entry screw terminal	175	40
MC1XDZC02-QD	1	Vertical-entry quick-disconnect	175	25
MC1XDZC02-HP1	1	Side-entry screw terminal	80	60

### Mating Connector Kit

Mating connector housing and socket contacts can be ordered as a kit using ADVANCED Motion Controls part number **KC-MC1XDZ02**.



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## DPE series - EtherCAT® panel mount



### Panel Mount Drives

DPE drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Communication

- EtherCAT® Networking
- USB Drive Commissioning

### Command Types

- Over the Network
- +/-10V Analog
- Encoder Following

### Power Range

- 3.4 kW Peak Power Output
- 1.7 kW Cont. Power Output

### Firmware Selectable

#### Primary Feedback

- Absolute Sin/Cos Encoder (Heidenhain EnDat® or Stegmann Hiperface®)
- 1Vp-p Sin/Cos Encoder
- Incremental Encoder

#### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

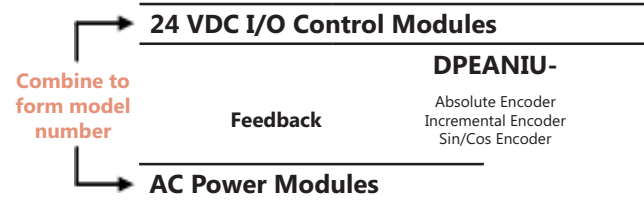
EtherCAT®



Datasheets  
and Additional  
Product Info



To build a model number, combine the DPEANIU control module with the 015S400 power module.



Model Number:  
DPEANIU-015S400

Supply (VAC)	100-240*
Peak Current (A)	15
Cont. Current (A)	7.5
Dimensions (mm)	177 x 123 x 44

\*Single Phase AC Only

### Universal Feedback

DPE drives support all the listed feedback devices simply by changing the drive firmware. The appropriate firmware can be uploaded to the drive through DriveWare® and is included with the software download.

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cRU<sup>®</sup> US

CE

RoHS

## DZE/DZS series - EtherCAT® pcb mount



### Z-Drives Plug-In Integration

DZE/DZS drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Communication

- EtherCAT® Networking
- 'DxM' Technology
- USB Drive Commissioning

### Command Types

- Over the Network
- +/-10V Analog
- Encoder Following

### Power Range

- 1.5kW Peak Power Output
- 0.8kW Cont. Power Output

### Firmware Selectable Feedback

- Absolute Sin/Cos Encoder (Heidenhain EnDat® or Stegmann Hiperface®)
- 1Vp-p Sin/Cos Encoder
- Incremental Encoder

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

To build a model number, select a control module based on the EtherCAT® node type and combine with the 020B080 power module.

EtherCAT®



Datasheets and Additional Product Info

Combine to form model number

### Control Modules

	DZEANTU-	DZSANTU-
<b>Node Type</b>	Node	Sub-Node
<b>Feedback</b>	Absolute Encoder Incremental Encoder Sin/Cos Encoder	Absolute Encoder Incremental Encoder Sin/Cos Encoder

### DC Power Module

Model Numbers:	020B080
DZEANTU-020B080	
DZSANTU-020B080	
<b>Supply (VDC)</b>	20-80
<b>Peak Current (A)</b>	20
<b>Cont. Current (A)</b>	12
<b>Dimensions (mm)</b>	90 x 64 x 20



ADVANCED Motion Controls exclusive 'DxM' (Demultiplexed Motion) Technology allows connectivity of up to 3 DZS drives (sub-nodes) to a single DZE (node) on an EtherCAT® network, allowing control of up to 4 axes of servo motion at a reduced cost. DZE drives can also be used as a stand-alone EtherCAT® node in a single-axis setup or as part of a larger multi-axis EtherCAT® network. DZS drives must be used as sub-nodes in a 'DxM' configuration with a DZE node.

ADVANCED Motion Controls offers mounting cards to simplify the connections between DZE/DZS drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design. The MC1XDZPE01 is designed to mount a DZE drive, while the MC4XDZP01 mounts one DZE drive and three DZS drives in a 'DxM' configuration.

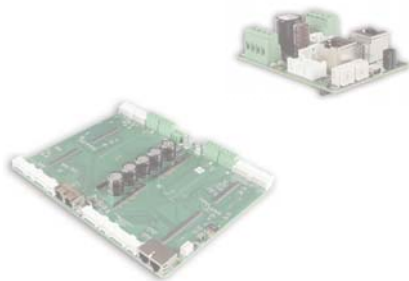
### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current*
MC1XDZPE01	1	Side-entry screw terminal	80	20
MC4XDZP01	4	Side-entry screw terminal	80	20

\*Per Axis

### Mating Connector Kit

Mating connector housing and socket contacts can be ordered as a kit using ADVANCED Motion Controls part numbers **KC-MC1XDZP01** for the MC1XDZPE01 and **KC-MC4XDZP01** for the MC4XDZP01.



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## DPR series - RS485/232 panel mount



### Panel Mount Drives

DPR drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Communication

- RS485/232 Networking and Drive Commissioning

### Command Types

- Over the Network (All)
- +/-10V Analog (DPRxIx)
- 24V Step and Direction (DPRxIx)
- 5V Step and Direction (DPRxLxx)
- PWM and Direction (All)
- Encoder Following (All)

### Power Range

- 1.5 - 27.4 kW Peak Power Output
- 0.8 - 13.7 kW Cont. Power Output

### Primary Feedback

- Absolute Sin/Cos Encoder (Heidenhain EnDat® or Stegmann Hiperface®)
- 1Vp-p Sin/Cos Encoder
- Incremental Encoder
- Resolver

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

**RS-485/232**  
SERIAL



Datasheets  
and Additional  
Product Info



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To build a model number, select a control module by command (see Command Types above) and feedback type, then combine with a power module that suits your system's requirements. 24 VDC I/O Control Modules combine with AC Power Modules, and 5VTTL Control Modules combine with DC Power Modules.

	24 VDC I/O Control Modules							
	Feedback	DPRAHIA- Absolute Encoder	DPRAHIE- Incremental Encoder	DPRAHIR- Resolver	DPRAHIS- Sin/Cos Encoder	DPRANIE- Incremental Encoder	DPRANIR- Resolver	DPRNLIE- Incremental Encoder
<b>Example:</b> DPRAHIE-060A400		<b>015A400</b>	<b>015A400</b>	<b>030A400</b>	<b>060A400</b>	<b>100A400</b>	<b>030A800</b>	<b>060A800</b>
Supply (VAC)		100-240*	100-240	100-240	100-240	200-240	200-480	200-480
Peak Current (A)		15	15	30	60	100	30	60
Cont. Current (A)		7.5	7.5	15	30	50	15	30
Dimensions (mm)		177 x 123 x 44	177 x 140 x 56	202 x 157 x 70	235 x 162 x 151	273 x 230 x 149	301 x 232 x 92	301 x 232 x 139

\*Single Phase AC Only

	5VTTL I/O Control Modules				
	Feedback	DPRALTE- Incremental Encoder	DPRALTR- Resolver		
<b>Example:</b> DPRALTR-040B080		<b>020B080</b>	<b>040B080</b>	<b>060B080</b>	<b>015B200</b> <b>025B200</b>
Supply (VDC)		20-80	20-80	20-80	40-190   20-190
Peak Current (A)		20	40	60	15   25
Cont. Current (A)		10	20	30	7.5   12.5
Dimensions (mm)		133 x 90 x 36	191 x 112 x 36	191 x 112 x 36	133 x 90 x 36   191 x 112 x 36

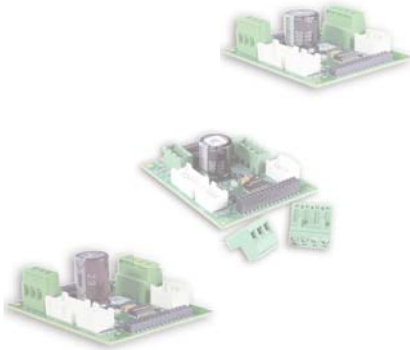
## DZR series - RS485/232 pcb mount



### RS-485/232 SERIAL



**Datasheets  
and Additional  
Product Info**



### Z-Drives Plug-In Integration

DZR drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Communication

- RS485/232 Networking and Drive Commissioning

### Command Types

- Over the Network
- +/-10V Analog
- 5V Step and Direction
- PWM and Direction
- Encoder Following

### Power Range

- 0.9 - 4.6 kW Peak Power Output
- 0.5 - 2.3 kW Cont. Power Output

### Primary Feedback

- Incremental Encoder

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

To build a model number, combine a power module to meet your system's requirements with the DZRALTE control module.

Combine to  
form model  
number

### Control Module

#### DZRALTE-

Feedback

Incremental  
Encoder

### DC Power Modules

Example:  
DZRALTE-040L080

	012L080	020L080	040L080	060L080	010L200	025L200
Supply (VDC)	20-80	10-80	10-80	10-80	40-175	40-175
Peak Current (A)	12	20	40	60	10	25
Cont. Current (A)	6	12	20	30	5	12.5
Dimensions (mm)	64 x 51 x 18	64 x 51 x 23	76 x 51 x 23	76 x 51 x 23	64 x 51 x 23	76 x 51 x 23

ADVANCED Motion Controls offers mounting cards and mating connector kits to simplify the connections between DZR drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
MC1XDZR02	1	Side-entry screw terminal	175	40
MC1XDZR02-QD	1	Vertical-entry quick-disconnect	175	25
MC1XDZR02-HP1	1	Side-entry screw terminal	80	60

### Mating Connector Kit

Mating connector housing and socket contacts can be ordered as a kit using ADVANCED Motion Controls part number **KC-MC1XDZ02**.



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## DPQ series - SynqNet® panel mount



### Panel Mount Drives

DPQ drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Communication

- SynqNet® Networking
- RS485/232 Drive Commissioning

### Command Types

- Over the Network

### Power Range

- 1.5 - 27.4 kW Peak Power Output
- 0.8 - 13.7 kW Cont. Power Output

### Primary Feedback

- Incremental Encoder

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

SynqNet®



Datasheets  
and Additional  
Product Info



To build a model number, combine a power module to meet your system's requirements with the DPQNNIE control module.

Combine to form model number	24 VDC I/O Control Module							
	Feedback	Incremental Encoder	DPQNNIE-					
or	AC Power Modules							
		015S400	015A400	030A400	060A400	100A400	030A800	060A800
	Supply (VAC)	100-240*	100-240	100-240	100-240	200-240	200-480	200-480
	Peak Current (A)	15	15	30	60	100	30	60
	Cont. Current (A)	7.5	7.5	15	30	50	15	30
	Dimensions (mm)	177 x 123 x 44	177 x 140 x 56	202 x 157 x 70	235 x 162 x 151	273 x 230 x 149	301 x 232 x 92	301 x 232 x 139
	*Single Phase AC Only							
	DC Power Modules							
		020B080	040B080	060B080	015B200	025B200		
	Supply (VDC)	20-80	20-80	20-80	40-190	20-190		
	Peak Current (A)	20	40	60	15	25		
	Cont. Current (A)	10	20	30	7.5	12.5		
	Dimensions (mm)	133 x 90 x 36	191 x 112 x 36	191 x 112 x 36	133 x 90 x 36	191 x 112 x 36		

Examples:  
DPQNNIE-030A800  
DPQNNIE-040B080

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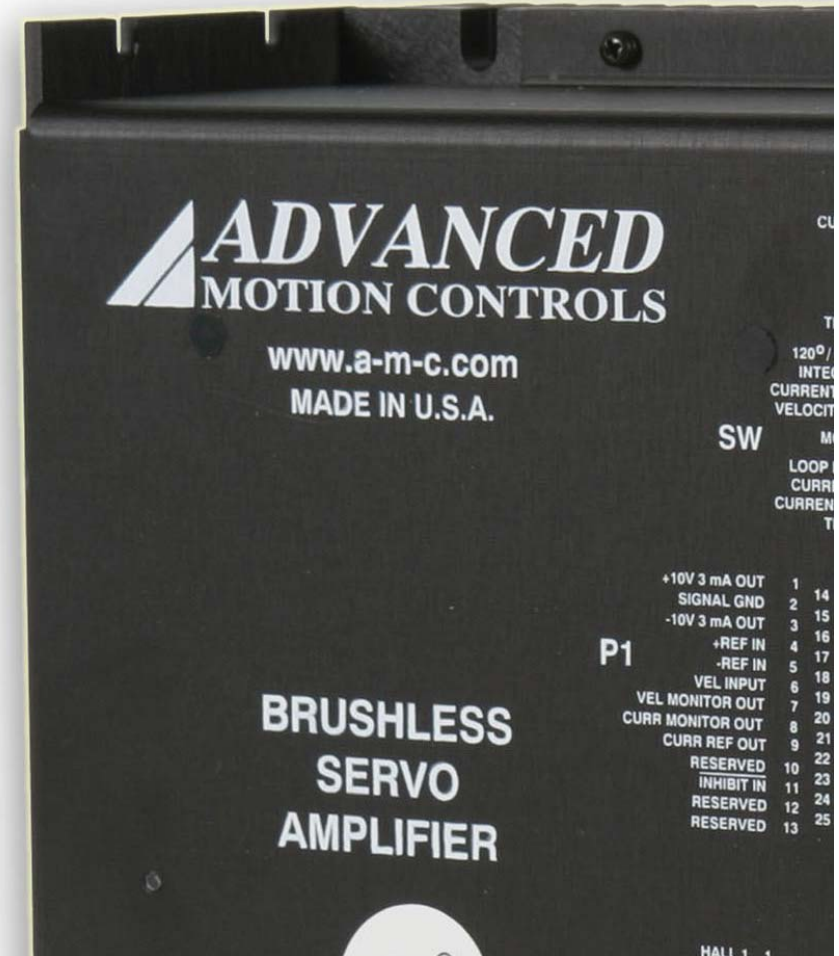
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## Analog Servo Drives



ADVANCED Motion Controls family of Analog Servo Drives provide unparalleled benefits in both simplicity and performance. Drive setup and operation is more straightforward than digital drives, while achieving higher bandwidth and faster response times at a lower cost. Analog drive technology has been a staple of servo system solutions since day one, and our years of experience in building the highest quality products has created a solid and continuously improving selection of analog drives. A variety of command options, including +/-10V analog, PWM and Direction, dual Sine wave, and specialized electric vehicle commands make the ADVANCED Motion Controls family of analog drives your best choice for proven servo solutions.

- **Built-in hardware protection - Over Current, Over Voltage, Over Temperature, Short Circuit**
- **DIP Switches and Potentiometers for loop tuning, current limit adjustments, and drive configuration**
- **Standard models for both brushed and brushless motor varieties**
- **Velocity feedback provided by incremental encoder, Hall Sensors, or tachometer**
- **Analog Position Loop control available**
- **Optical Isolation between high and low power signals standard on most models**
- **Current, Velocity, and Fault Monitor analog output signals**
- **Status LEDs for power and drive status**
- **Standard models in both Panel Mount, PCB Mount (Z-Drives), and Vehicle Mount (M/V™ Series Motor Controllers)**
- **Four quadrant regenerative operation**
- **Extended Environment versions available (AZX series Z-Drives)**





## Brushless panel mount



### Panel Mount Drives

These analog brushless drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Command Types

- +/-10V Analog
- Direct PWM and Direction ('BD' Drives)
- Torque Mode PWM and Direction ('BDC' Drives)

### Potentiometers

- Loop Gain
- Current Limit
- Reference Gain
- Offset/Test Signal

### Primary Feedback

- Hall Sensors
- Incremental Encoder
- Tachometer

### Modes of Operation

- 'B' Drives - Current, Hall Velocity, Encoder Velocity
- 'BE' Drives - Encoder Velocity
- 'BX' Drives - Current, Hall Velocity, Encoder Velocity
- 'BD' and 'BDC' Drives - Torque Mode PWM, Direct PWM

### Power Range

- 1.1 - 15.2kW Peak Power Output
- 0.6 - 7.6kW Cont. Power Output

To select a model number, choose a series based on the mode of operation, then find a model that matches your system's power requirements. Note that not all listed modes of operation are included on every drive in the series. Consult the drive datasheet for specific modes.



**Datasheets and Additional Product Info**



#### 'B' Series Models - Current, Hall Velocity, Encoder Velocity

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>B15A8</b>	-	20-80	15	7.5	129 x 76 x 25
<b>BE15A8-H</b>	-	20-80	15	7.5	129 x 76 x 25
<b>B30A8</b>	-	20-80	30	15	187 x 112 x 25
<b>B25A20AC</b>	30-125	40-190	25	12.5	187 x 107 x 62
<b>B25A20I</b>	-	40-190	25	12.5	187 x 112 x 25
<b>B40A20I</b>	-	40-190	40	20	187 x 112 x 25
<b>B30A40</b>	-	60-400	30	15	203 x 143 x 41
<b>B30A40AC</b>	45-265	60-400	30	15	203 x 166 x 103
<b>B40A40AC</b>	45-265	60-400	40	20	235 x 164 x 114
<b>B40A40</b>	-	60-400	40	20	235 x 159 x 64

#### 'BE' Series Models - Encoder Velocity

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>BE15A8</b>	-	20-80	15	7.5	129 x 76 x 25
<b>BE30A8</b>	-	20-80	30	15	187 x 112 x 25
<b>BE25A20AC</b>	30-125	40-190	25	12.5	187 x 107 x 62
<b>BE25A20I</b>	-	40-190	25	12.5	187 x 112 x 25
<b>BE40A20I</b>	-	40-190	40	20	187 x 112 x 25

#### 'BX' Series Models - Current, Hall Velocity, Encoder Velocity

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>BX30A8</b>	-	20-80	30	15	187 x 112 x 37
<b>BX25A20AC</b>	45-125	60-200	25	12.5	187 x 107 x 62
<b>BX25A20</b>	-	60-200	25	12.5	187 x 112 x 37

#### 'BD' Series Models - Direct PWM

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>BD15A8</b>	-	20-80	15	7.5	129 x 76 x 25
<b>BD30A8</b>	-	20-80	30	15	187 x 112 x 25
<b>BD25A20AC</b>	30-125	40-190	25	12.5	187 x 107 x 62
<b>BD25A20I</b>	-	40-190	25	12.5	187 x 112 x 25

#### 'BDC' Series Models - Torque Mode PWM

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>BDC30A8</b>	-	20-80	30	15	187 x 112 x 37
<b>BDC40A20</b>	-	60-190	40	20	187 x 112 x 37

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## AZB series - Brushless pcb mount



**Datasheets and Additional Product Info**



### Z-Drives Plug-In Integration

AZB drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Command Types

- +/-10V Analog
- PWM and Direction (Torque Mode)

### Modes of Operation

- Current
- Encoder Velocity
- Hall Velocity
- Duty Cycle (Open Loop)
- Torque Mode PWM

### Power Range

- 0.5 - 4.2kW Peak Power Output
- 0.2 - 2.1kW Cont. Power Output

### Primary Feedback

- Hall Sensors
- Incremental Encoder
- Tachometer

### Potentiometers

- Loop Gain
- Offset

To build a model number, select a control module based on the desired mode of operation, then combine with a power module to meet your system's requirements.

Combine to form model number

### AZB Control Modules

	AZB	AZBE	AZBH	AZBDC
<b>Operating Mode</b>	Current	Encoder Velocity Duty Cycle	Hall Velocity Duty Cycle	Torque Mode PWM

### DC Power Modules

	6A8	12A8	20A8	40A8	10A20	25A20
<b>Supply (VDC)</b>	20-80	20-80	10-80	10-80	40-175	40-175
<b>Peak Current (A)</b>	6	12	20	40	10	25
<b>Cont. Current (A)</b>	3	6	12	20	6	12.5
<b>Dimensions (mm)</b>	64 x 51 x 17	64 x 51 x 17	64 x 51 x 23	76 x 51 x 23	64 x 51 x 23	76 x 51 x 23

**Examples:**  
AZB20A8  
AZBE40A8  
AZBDC6A8

ADVANCED Motion Controls offers mounting cards to simplify the connections between AZB drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
<b>MC1XAZ01</b>	1	Vertical-entry quick-disconnect	175	25
<b>MC1XAZ01-HR</b>	1	Side-entry screw terminal	175	40

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## Brushed panel mount



### Panel Mount Drives

These analog brushed drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Command Types

- +/-10V Analog
- Direct PWM and Direction

### Potentiometers

- Loop Gain
- Current Limit
- Reference Gain
- Offset/Test Signal

### Power Range

- 0.6 - 1.9kW Peak Power Output
- 0.3 - 1.0kW Cont. Power Output

### Primary Feedback

- Tachometer

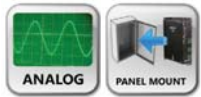
### Modes of Operation (+/-10V Analog)

- Current
- Voltage
- IR Compensation
- Velocity

### Modes of Operation (PWM and Dir)

- Direct PWM Current Mode

To select a model number, choose a series based on the command type, then find a model that matches your system's power requirements.



Datasheets  
and Additional  
Product Info



#### Brushed +/-10V Analog Command Models

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>12A8</b>	-	20-80	12	6	129 x 76 x 25
<b>25A8</b>	-	20-80	25	12.5	129 x 76 x 25
<b>30A8</b>	-	20-80	30	15	187 x 112 x 25
<b>50A8</b>	-	20-80	50	25	187 x 112 x 25
<b>120A10</b>	-	20-80	120	60	254 x 130 x 49
<b>16A20AC</b>	30-125	40-190	16	8	187 x 107 x 62
<b>20A20</b>	-	40-190	20	10	129 x 76 x 25
<b>25A20I</b>	-	40-190	25	12.5	187 x 112 x 25
<b>30A20AC</b>	30-125	40-190	30	15	187 x 107 x 62
<b>50A20I</b>	-	40-190	50	25	187 x 112 x 25
<b>100A40</b>	-	80-400	100	50	235 x 183 x 92

#### Brushed PWM and Direction Command Models

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>30A8DD</b>	-	20-80	30	15	187 x 112 x 25
<b>50A8DD</b>	-	20-80	50	25	187 x 112 x 25
<b>25A20DD</b>	-	40-190	25	12.5	187 x 112 x 25
<b>50A20DD</b>	-	40-190	50	25	187 x 112 x 25

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## AZ series - Brushed pcb mount



### Z-Drives Plug-In Integration

AZ drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Command Types

- +/-10V Analog
- PWM and Direction (Torque Mode)

### Modes of Operation

- Current
- Torque Mode PWM

### Power Range

- 0.5 - 4.2kW Peak Power Output
- 0.2 - 2.1kW Cont. Power Output

To build a model number, select a control module based on the desired mode of operation, then combine with a power module to meet your system's requirements.



Combine to form model number

### AZB Control Modules

	AZ	AZ ... DDC
Operating Mode	Current	Torque Mode PWM

### DC Power Modules

Examples:  
AZ20A8  
AZ40A8DDC

	6A8	12A8	20A8	40A8	10A20	25A20
Supply (VDC)	20-80	20-80	10-80	10-80	40-175	40-175
Peak Current (A)	6	12	20	40	10	25
Cont. Current (A)	3	6	12	20	6	12.5
Dimensions (mm)	64 x 51 x 17	64 x 51 x 17	64 x 51 x 23	76 x 51 x 23	64 x 51 x 23	76 x 51 x 23

ADVANCED Motion Controls offers mounting cards to simplify the connections between AZ drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
MC1XAZ01	1	Vertical-entry quick-disconnect	175	25
MC1XAZ01-HR	1	Side-entry screw terminal	175	40

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## M/V™ series vehicle mount motor controllers



### Vehicle Mount Drives

M/V™ drives are packaged in an IP65 ruggedized enclosure designed for mounting in electric vehicles.

### Command Types

- +/-10V Analog
- 0-5kΩ Potentiometer
- 0-5V Analog

### Power Range

- 12.8 - 20.8 kW Peak Power Output
- 7.7 - 13.3 kW Cont. Power Output

### Potentiometers

- Loop Gain
- Current Limit
- Reference Gain
- Offset/Test Signal
- Ramp Time
- Deadband

### Electric Mobility and Vehicle I/O

- Electromagnetic Holding Brake Output
- Forward and Reverse Inputs
- Push Brake Release Inputs
- Speed Limit Pot Input
- KeySwitch Master Input

### Primary Feedback

- Hall Sensors
- Incremental Encoder
- Tachometer

### Modes of Operation

- Current
- Voltage
- Duty Cycle (Open Loop)
- IR Compensation
- Velocity
- Hall Velocity



To build a model number, select a control module based on the application category, then combine with a power module to meet your system's requirements.

### M/V™ series Electric Vehicle Motor Controls



Datasheets  
and Additional  
Product Info

Combine to  
form model  
number

### M/V™ Control Modules

	AVB	AB
Applications	Electric Mobility and Vehicle	General Industrial

### DC Power Modules

Examples:  
AVB250A060  
AB125A200

	250A060	125A200
Supply (VAC)	20-54	40-175
Peak Current (A)	250	125
Cont. Current (A)	150	80
Dimensions (mm)	203 x 140 x 60	203 x 140 x 60

### Vehicle Commands

On AVB models, DIP switches are used to select the command input type:

- Wigwag/Single-Ended Command Input
- 3-Wire / 2-Wire External Potentiometer Command Source
- Standard / Inverted Inputs
- Half Speed Reverse

### Mating Connector Kit

Mating connector housing, socket contacts, and seal plugs can be ordered as a kit using *ADVANCED* Motion Controls part number **KC-23AMPSEAL01**.



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## S series - Sinusoidal commutation drives



### Panel Mount Drives

These sinusoidal drives are enclosed by a metal cover and can be mounted on their spine or flat against the base.

### Power Range

- 1.2 - 38kW Peak Power Output
- 0.6 - 19kW Cont. Power Output

### Mode of Operation

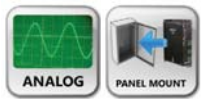
- Current

### Command Types

- 120° Sine

S series drives are the only analog drives offered by *ADVANCED* Motion Controls with sinusoidal commutation (all digital DigiFlex® Performance™ models use sinusoidal commutation). S series drives require two specialized sinusoidal command signals from an external controller that correspond to the motor phase currents and control the commutation and torque to the motor.

To select a model number, choose a model that matches your system's power requirements.



Datasheets  
and Additional  
Product Info

### 'S' Series Models

	Supply (VAC)	Supply (VDC)	Peak Current (A)	Cont. Current (A)	Dimensions (mm)
<b>S16A8</b>	-	20-80	16	8	129 x 78 x 39
<b>SX30A8</b>	-	20-80	30	15	187 x 112 x 37
<b>S60A8</b>	-	20-80	60	30	235 x 160 x 89
<b>S100A8</b>	-	20-80	100	50	271 x 234 x 92
<b>SX25A20</b>	-	60-190	25	12.5	187 x 112 x 37
<b>S30A40</b>	-	60-400	30	15	203 x 143 x 41
<b>S30A40AC</b>	45-270	60-380	30	15	203 x 166 x 103
<b>S60A40</b>	-	60-400	60	30	235 x 160 x 89
<b>S60A40AC</b>	45-270	60-380	60	30	235 x 162 x 155
<b>S100A40</b>	-	60-400	100	50	271 x 234 x 92
<b>S100A40AC</b>	45-270	60-380	100	50	271 x 234 x 161

All motor feedback is returned to the controller, which tracks the motor rotor position and outputs the correct signals to the drive in order to maintain the proper phase angle.

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## Extended Environment Servo Drives



ADVANCED Motion Controls' Extended Environment products are designed to operate under harsh thermal and mechanical extremes. An expanded thermal operating range allows these drives to function in both hot and cold ambient environments, and enhanced protection against shock and vibration provides additional system ruggedness. Extended Environment drives also afford benefits for applications in more docile conditions. The superior thermal capabilities reduce or eliminate the need for cooling systems such as external heat sinks and fans, enabling system designs to be more compact and to improve overall reliability.

# Extended Environment

# HOT



- Ambient operating temperatures ranging from -40°C to 85°C (-45°F to 185°F)
- Over Temperature heat sink protection up to 105°C (221°F)
- Thermal rise cycling in about 2 minutes
- Shock up to 15g's at 11ms
- Vibration up to 30grms on all 3 axes
- Standard models in PCB Mount (Z-Drives) form factor - Panel Mount models available as custom designs
- Designed to assist system compliance toward:
  - » MIL-STD-810F: temperature, thermal shock, humidity, altitude, shock & vibration
  - » MIL-STD-1275D: characterization of 28VDC systems
  - » MIL-STD-461E: control of electromagnetic interference
  - » MIL-STD-704F: aircraft power characteristics
  - » MIL-HDBK-217: reliability predictions
- Tested to meet above standards upon customer request

# Shock & Vibration



# COLD

## DZX series - Extended Environment Digital pcb mount



**CANopen**  
RS-485/232  
SERIAL



**Datasheets  
and Additional  
Product Info**



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### Z-Drives Plug-In Integration

DZX drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Communication

- CANopen or RS485/232 Networking
- RS485/232 Drive Commissioning

### Command Types

- Over the Network
- +/-10V Analog
- 5V Step and Direction
- PWM and Direction
- Encoder Following

### Extended Environment

- -40°C to +75°C Ambient Operating Range
- Shock up to 15g's
- Designed to Environmental Engineering Considerations as defined in MIL-STD-810F

### Primary Feedback

- Incremental Encoder

### Auxiliary Feedback

- Hall Sensors
- Aux. Incremental Encoder
- Tachometer

### Power Range

- 0.6 - 3kW Peak Power Output
- 0.3 - 1.5kW Cont. Power Output

To build a model number, select a control module based on network communication type, then combine with a power module to meet your system's requirements.

	DZX Control Modules			
	Network	DZXCANTE- CANopen	DZXRALTE- RS485/232	
<b>Example:</b> DZXCANTE-040L080	DC Power Modules			
		008L080	015L080	040L080
	Supply (VDC)	10-80	10-80	10-80
	Peak Current (A)	8	15	40
	Cont. Current (A)	4	7.5	20
Dimensions (mm)	64 x 51 x 24	64 x 51 x 24	76 x 51 x 23	

ADVANCED Motion Controls offers mounting cards to simplify the connections between DZX drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

### Mounting Cards\*

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
MC1XDZx02	1	Side-entry screw terminal	175	40
MC1XDZx02-QD	1	Vertical-entry quick-disconnect	175	25
MC1XDZx02-HP1	1	Side-entry screw terminal	80	60

\*Replace "x" in the model number with "C" for DZXCANTE drives or "R" for DZXRALTE drives

### Mating Connector Kit

Mating connector housing and socket contacts can be ordered as a kit using ADVANCED Motion Controls part number **KC-MC1XDZ02**.





## AZX series - Extended Environment Analog pcb mount



**Datasheets  
and Additional  
Product Info**



### Z-Drives Plug-In Integration

AZX drives are packaged in a lightweight and compact form factor designed to be embedded directly into a PCB - no wires required! Inverted baseplate mounting also allows for direct wired connector access. A common footprint is used for the different power modules in the series to simplify prototyping.

### Command Types

- +/-10V Analog
- PWM and Direction (Torque Mode)

### Modes of Operation

- Current
- Encoder Velocity
- Hall Velocity
- Duty Cycle (Open Loop)
- Torque Mode PWM

### Extended Environment

- -40°C to +85°C Ambient Operating Range
- Shock up to 15g's
- Designed to Environmental Engineering Considerations as defined in MIL-STD-810F

### Primary Feedback

- Hall Sensors
- Incremental Encoder
- Tachometer

### Potentiometers

- Loop Gain
- Offset

### Power Range

- 0.6 - 1.9kW Peak Power Output
- 0.3 - 1.0kW Cont. Power Output

To build a model number, select a control module based on the desired mode of operation, then combine with a power module to meet your system's requirements.

Combine to  
form model  
number

### AZX Control Modules

	AZXB	AZXBE	AZXBH	AZXBDC
<b>Operating Mode</b>	Current	Encoder Velocity Duty Cycle	Hall Velocity Duty Cycle	Torque Mode PWM

### DC Power Modules

	8A8	15A8	25A8*
<b>Supply (VDC)</b>	10-80	10-80	10-80
<b>Peak Current (A)</b>	8	15	25
<b>Cont. Current (A)</b>	4	7.5	12.5
<b>Dimensions (mm)</b>	64 x 51 x 23	64 x 51 x 23	76 x 51 x 23

**Examples:**  
AZXB8A8  
AZXBDC15A8

\*AZXBE25A8 and AZXBH25A8 planned for future release

ADVANCED Motion Controls offers mounting cards to simplify the connections between AZX drives and external system hardware (motors, feedback devices, controllers). These mounting cards are ideal for the prototyping and development stages as well as implementation into the final system design.

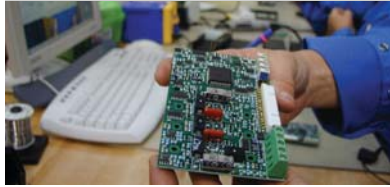
### Mounting Cards

	Axes	Motor/Power Connector	Max Voltage	Max Peak Current
MC1XAZ01	1	Vertical-entry quick-disconnect	175	25
MC1XAZ01-HR	1	Side-entry screw terminal	175	40

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## Custom Servo Drive Capabilities



An ISO 9001:2008 certified online documentation workflow insures accuracy and consistency throughout design, manufacturing, testing, and support of all products.

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Custom Solutions Information



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ADVANCED Motion Controls has the capability to promptly develop and deliver specified products for OEMs with volume requests. Our Applications and Engineering Departments will work closely with your design team through all stages of development in order to provide the best servo drive solution for your system.

Equipped with on-site engineering and manufacturing for quick-turn customs capabilities, ADVANCED Motion Controls utilizes our years of expertise to decrease your costs and time-to-market while increasing system quality and reliability.

Custom products are built on the same equipment and with the same people as if they were production units, enabling rapid development and fast delivery, as well as making it easy to make changes before the product is released to production.



Two on-site full SMT production lines, and four on-site engineering labs will design and support OEM solutions as if they were standard products!



ADVANCED Motion Controls has extensive experience in designing affordable custom products optimized for OEM's specific needs. Whether a simple modification to a standard product or a completely custom design, we can support and sell custom solutions as if they were standard products.



### Examples of Customized Products and Options

- Optimized Footprint
- Private Label Software
- OEM Specified Connectors
- No Outer Case
- Increased Current Resolution
- Increased Temperature Range
- Custom Control Interface
- Integrated System I/O
- Tailored Project File
- Silkscreen Branding
- Optimized Base Plate
- Increased Current Limits
- Increased Voltage Range
- Conformal Coating
- Multi-Axis Configurations
- Reduced Profile Size and Weight

- Reduce project development time and cost
- Simplify integration of motor, controller, power supply, feedback
- Precisely matched sizing requirements



Feel free to contact our Applications Engineering department for more information on custom solutions!

