

Variateur courant continu série DZ

DigiFlex Performance Servo Drive

Advanced Motion Control

www.rosier.fr

2.1 DZ Drive Family Overview

The family of DZ digital drives is designed to offer the same high performance and accuracy of larger drives, but in a space-saving PCB-mount architecture. By utilizing high density power devices, dual-sided PCB boards, and creative design DZ drives are ideal for applications with limited size and weight constraints.

The DZ drive family can power single phase (brushed), three phase (brushless), and closed loop vector motors. DZ drives are powered off a single isolated DC power supply, and provide a variety of control and feedback options. A digital controller can be used to command and interact with DZ drives, and a number of dedicated and programmable digital and analog input/output pins are available for parameter observation and drive configuration. DZ drives are capable of operating in Current (Torque), Velocity, or Position Mode, and utilize Space Vector Modulation, which results in higher bus voltage utilization and reduced heat dissipation compared to traditional PWM.

DZ drives feature a serial communication interface for drive configuration and setup as well as offering either CANopen or RS-485 communication protocol for drive networking applications. Drive commissioning is accomplished using DriveWare, the setup software from *ADVANCED* Motion Controls, available for download at www.a-m-c.com.

TABLE 2.1 Standard DZ Drive Family Part Numbers

	Voltage Peak Current	10-80V				40-175V	
		12A	20A	40A	60A	10A	25A
Network	CANopen	DZCANTE-012L080	DZCANTE-020L080	DZCANTE-040L080	DZCANTE-060L080	DZCANTE-010L200	DZCANTE-025L200
Communication	RS485/232	DZRALTE-012L080	DZRALTE-020L080	DZRALTE-040L080	DZRALTE-060L080	DZRALTE-010L200	DZRALTE-025L200

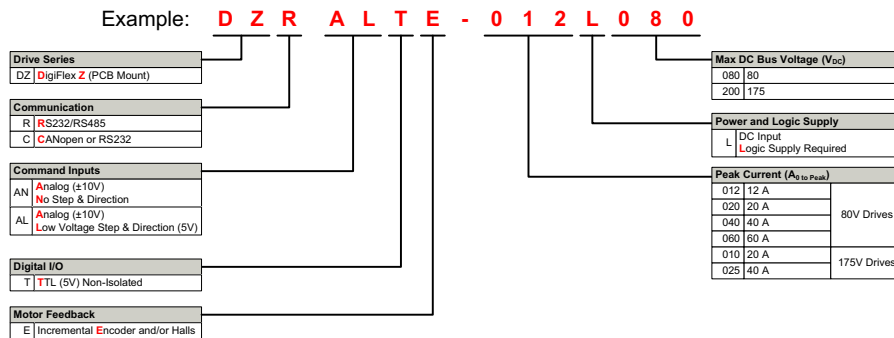
2.1.1 Drive Datasheet

Each DZ digital drive has a separate datasheet that contains important information on the options and product-specific features available with that particular drive. The datasheet is to be used in conjunction with this manual for system design and installation.

2.2 Products Covered

The products covered in this manual adhere to the following part numbering structure. However, additional features and/or options are readily available for OEM's with sufficient ordering volume. Feel free to contact *ADVANCED* Motion Controls for further information.

FIGURE 2.1 DZ Part Numbering Structure



In general, the DZ family of digital drives can be categorized either by the drive communication control method, or by the drive power rating. Drives that use the CANopen protocol are referred to herein as DZC drives, while drives that use RS-485 communication are referred to as DZR drives.

TABLE 2.2 Power Specifications

Description	Units	DZ-012L080	DZ-020L080	DZ-040L080	DZ-060L080	DZ-010L200	DZ-025L200
DC Supply Voltage Range ¹	VDC	20-80	10-80			40-175	
DC Bus Over Voltage Limit	VDC	88			195		
DC Bus Under Voltage Limit	VDC	17	8			32	
Logic Supply Voltage	VDC	5 (±5%)					
Maximum Peak Output Current ²	A (A _{rms})	12 (8.5)	20 (14.1)	40 (28.3)	60 (42.4)	10 (7.1)	25 (17.7)
Maximum Continuous Output Current	A (A _{rms})	6 (4.2)	12 (8.5)	20 (14.1)	30 (21.2)	6 (4.2)	12.5 (8.8)
Maximum Power Dissipation at Continuous Current	W	24	48	80	120	53	109
Internal Bus Capacitance ¹	µF	33	94	141	30	20	
Minimum Load Inductance ³	µH	250					
Switching Frequency	kHz	20					
Maximum Output PWM Duty Cycle	%	85					

- For DZ-040L080 drives, if the drive is operated at a supply voltage over 60 VDC, an external 33µF, 100V electrolytic capacitor is required between High Voltage and Power Ground. For DZ-060L080 drives, an external 470µF, 100V electrolytic capacitor is required between High Voltage and Power Ground. For DZ-010L200/DZ-025L200 drives, an external 100µF, 200V electrolytic capacitor is required between High Voltage and Power Ground.
- Capable of supplying drive rated peak current for 2 seconds with 10 second foldback to continuous value. Longer times are possible with lower current limits.
- Lower inductance is acceptable for bus voltages well below minimum. Use external inductance to meet requirements.

TABLE 2.3 Control Specifications

Description	DZR	DZC
Network Communication	RS485/232	CANopen (RS-232 for Configuration)
Command Sources	±10V Analog, Over the Network, Encoder Following, PWM & Direction, 5V Step & Direction	±10V Analog, Over the Network, Encoder Following, PWM & Direction
Commutation Methods	Sinusoidal, Trapezoidal	Sinusoidal, Trapezoidal
Control Modes	Current, Hall Velocity, Position, Velocity	Current, Position, Velocity
Motors Supported	Three Phase, Single Phase, Closed Loop Vector	Three Phase, Single Phase, Closed Loop Vector
Hardware Protection	40+ Configurable Functions, Over Current, Over Temperature (Drive & Motor), Over Voltage, Short Circuit (Phase-Phase & Phase-Ground), Under Voltage	40+ Configurable Functions, Over Current, Over Temperature (Drive & Motor), Over Voltage, Short Circuit (Phase-Phase & Phase-Ground), Under Voltage
Programmable Digital I/O	5 Inputs, 3 Outputs	5 Inputs, 3 Outputs
Programmable Analog I/O	1 Input	1 Input
Feedback Supported	Hall Sensors, Differential Incremental Encoder, Aux. Incremental Encoder, ±10 VDC Position	Hall Sensors, Differential Incremental Encoder, Aux. Incremental Encoder

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