

The DigiFlex Performance (DP) Series digital servo drives are designed to drive brushed and brushless servomotors. These fully digital drives operate in torque, velocity, or position mode and employ Space
Vector Modulation (SVM), which results in higher bus
voltage utilization and reduced heat dissipation
compared to traditional PWM. The command source
can be generated internally or can be supplied
externally. In addition to motor control, these drives
feature dedicated and programmable digital and
analog inputs and outputs to enhance interfacing with
external controllers and devices.

Description

This DP Series drive features a CANopen interface for networking and a RS232 interface for drive configuration and setup. Drive commissioning is accomplished using DriveWare, available at www.a-m-c.com.

All drive and motor parameters are stored in non-volatile memory.

Power Ran	ige
Peak Current	25 A (17.7 A _{RMS})
Continuous Current	12.5 A (8.8 A _{RMS})
Supply Voltage	40 - 190 VDC



Features

- ▲ Four quadrant regenerative operation
- ▲ Space vector modulation (SVM) technology
- ✓ Fully digital state-of-the-art design

- Fully configurable current, voltage, velocity and position limits
- ▲ PIDF velocity loop
- ▲ PID + FF position loop
- Compact size, high power density

MODES OF OPERATION

- Current
- Position
- Velocity

COMMAND SOURCE

- ±10 V Analog
- 5V Step & Direction
- Communication Interface

FEEDBACK SUPPORTED

- Resolver
- ±10 V Analog
- Auxiliary Incremental Encoder

INPUTS/OUTPUTS

- 3 High Speed Captures
- 4 Programmable Analog Inputs
- 1 Programmable Analog Output
- 3 Programmable Digital Inputs (Differential)
- 7 Programmable Digital Inputs (Single-Ended)
- 4 Programmable Digital Outputs

COMPLIANCES & AGENCY APPROVALS

- RoHS
- UL/cUL Pending
- CE Pending



SPECIFICATIONS

Power Stage Specifications					
Description	Units	Value			
DC Supply Voltage	VDC	40 - 190			
Over Voltage Limit	VDC	198			
Under Voltage Limit	VDC	35			
Peak Output Current	Α	25			
Maximum Continuous Output Current	Α	12.5			
Maximum Continuous Output Power	W	2375			
Maximum Power Dissipation at Continuous Current	W	118.8			
Minimum Load Inductance (Line-To-Line) ¹	μH	250			
Switching Frequency	kHz	20			
Control Specifications					

Control Specifications					
Description	Units	Value			
Communication Interfaces	-	CANopen (ISO 11898-2), RS-232			
Command Sources	-	±10 V Analog, 5V Step & Direction, Communication Interface			
Feedback Supported	-	±10 V Analog, Auxiliary Incremental Encoder, Resolver			
Commutation Methods	-	Sinusoidal			
Modes of Operation	-	Current, Position, Velocity			
Motors Supported	-	Brushed, Brushless, Induction, Voice Coil			
Hardware Protection	-	40+ Configurable Functions, Over Current, Over Temperature (Drive & Motor), Over Voltage, Short Circuit (Phase-Phase & Phase-Ground), Under Voltage			
Programmable Digital Inputs/Outputs (PDIs/PDOs)	-	10/4			
Programmable Analog Inputs/Outputs (PAIs/PAOs)	-	4/1			
Current Loop Sample Time	μs	50			
Velocity Loop Sample Time	μs	100			
Position Loop Sample Time	μs	100			
Resolver Reference/Excitation Signal	Vrms	4 Vrms @ 5 kHz			
Expected Resolver Transformation Ratio	Vrms	0.5			
Mechanical Specifications					

Notes

1. Low inductance motors, such as 'pancake' and 'basket-wound', require external inductors. The Minimum Load Inductance provided assumes the highest allowed bus voltage. Lower inductances are acceptable for lower bus voltages.

To Be Determined



HARDWARE SETTINGS

Switch Functions

Switch	Switch Description	Setting	
50000 ption	On	Off	
1	Bit 0 of binary value of drive address/ID.	1	0
2	Bit 1 of binary value of drive address/ID.	1	0
3	Bit 2 of binary value of drive address/ID.	1	0
4	Bit 3 of binary value of drive address/ID.	1	0
5	Bit 4 of binary value of drive address/ID.	1	0
6	Bit 5 of binary value of drive address/ID.	1	0
7	Bit 0 of binary value of drive bit rate setting.	1	0
8	Bit 1 of binary value of drive bit rate setting.	1	0

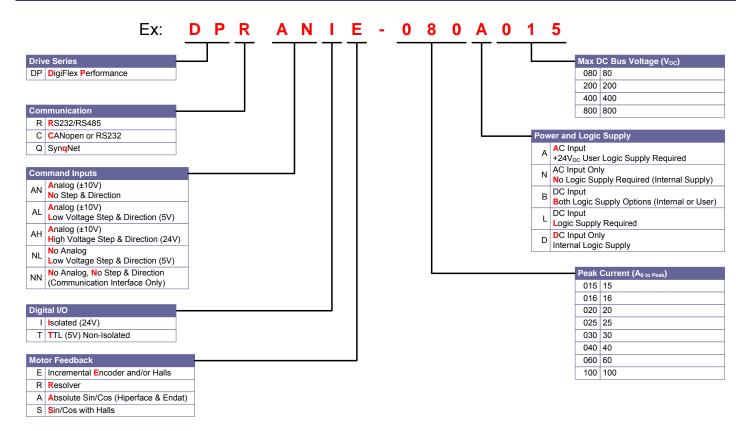
Additional Details

The drive can be configured to use the address and/or bit rate stored in non-volatile memory by setting the address and/or bit rate value to 0. Use the table below to map actual bit rates to a bit rate setting.

Bit Rate (I	Value For Bit Rate Setting		
CANopen	RS-485	value For Bit Rate Setting	
Load from non-volatile memory	Load from non-volatile memory	0	
500	9.6	1	
250	38.4	2	
125	115.2	3	



PART NUMBERING INFORMATION



Disclaimer

All specifications in this document are subject to change without written notice. Actual product may differ from pictures provided in this document.