

external controllers and devices.

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
analog inputs and outputs to enhance interracing with

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 Range	
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
- Programmable gain settings

- 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

- Halls
- Incremental Encoder
- ±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	А	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				
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, Halls, Incremental Encoder		
Commutation Methods	-	Sinusoidal, Trapezoidal		
Modes of Operation	-	Current, Position, Velocity		

	MHz	4
ı	Mechanica	I Specifications

To Be Determined

Voltage

10/4

4/1 50

100

100

μs

μs

μs

Brushed, Brushless, Induction, Voice Coil

40+ Configurable Functions, Over Current, Over Temperature (Drive &

Motor), Over Voltage, Short Circuit (Phase-Phase & Phase-Ground), Under

Notes

Motors Supported

Hardware Protection

Current Loop Sample Time

Velocity Loop Sample Time

Position Loop Sample Time

Max Encoder Line Frequency²

- 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.
- Pre-quadrature frequency.

Programmable Digital Inputs/Outputs (PDIs/PDOs)

Programmable Analog Inputs/Outputs (PAIs/PAOs)



HARDWARE SETTINGS

Switch Functions

Switch	Description	Setting	
o miton	Description	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	8 Bit 1 of binary value of drive bit rate setting.		0

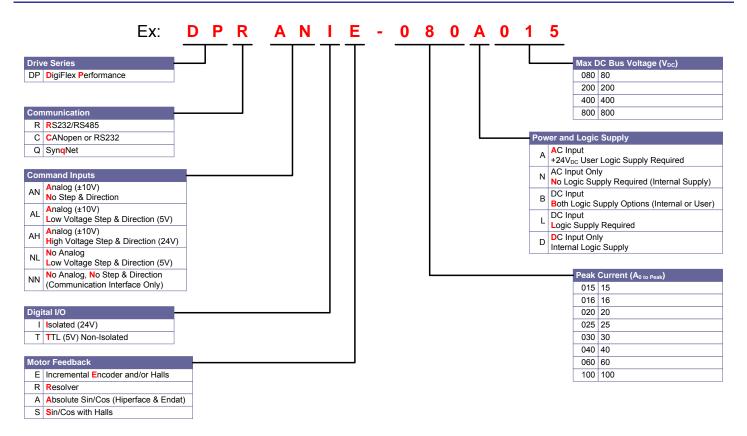
Additional Details

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.