

Simple, Cost-Effective Solution for DC Applications



Bulletin 1397 Digital DC Drive

Horsepower Range

The Bulletin 1397 Digital DC drive is available in frame sizes capable of delivering between 2.2 and 224 kW (3 - 300 HP) at 460 Volts and 1.2 to 112 kW (1.5 -150 HP) at 230 Volts.

Product Highlights

- Optional Human Interface Module (HIM) provides on-board programming, local control and diagnostic information
- Multiple communication options for easy and flexible integration
- Extensive diagnostics
- Auto-tuning of speed and current loops
- 10 digital inputs, 3 digital outputs, 2 reference inputs, 2 analog outputs
- Regenerative and Non-regenerative configurations
- Semiconductor fuse protection standard
- Phase-insensitive AC line connections
- User selectable reference inputs
- I/O expansion option for increased I/O flexibility
- Modular construction and strategically located components allow for fast, easy maintenance
- Programmable stop modes
- Economical dynamic brake options

Communications

With increased factory automation, network connections have become increasingly important. SCANport™ capability, means the 1397 Digital DC drive is designed with communications in mind. The following externally mounted interfaces for the Bulletin 1397, support the Allen-Bradley communication strategy:

- The Bulletin 1203-GD2 Serial to SCANport™ Module provides connectivity to RS-232/422 and 485 devices using DF1 protocol. This module is widely used to provide an interface to a PC running the DriveTools™ programming software.
- The Bulletin 1203-GD1 Remote I/O to SCANport Module allows an Allen-Bradley PLC® to perform both control and messaging functions to and from the drive.
- DeviceNet™ is designed to provide low cost control and diagnostic capabilities for field I/O devices. The Bulletin 1203-GK5 provides this functionality while also allowing the ability to configure drive parameters.
- The Bulletin 1203-FB1 base and 1203-FM1 module used together, allow SCANport compatible products the ability to interface to the wide variety of Flex™ I/O network adapters, for accomplishing control and diagnostics.
- The Bulletin 1203-SM1 communication module offers a high speed, full-featured direct connection for all SCANport compatible products to the SLC 500™ family of programmable controllers.



1397 Digital DC Drive

The 1397 Digital DC drive is designed to integrate easily into automation systems. It shares human interface and communication modules used with many other Allen-Bradley drive products. The 1397 Digital DC drive uses the latest technology in high density power devices and manufacturing techniques to provide a compact, reliable package. The standard 1397 Digital DC drive delivers the “out of the box” start-up required for simple installations, with available options to add flexibility as required by more demanding applications.

Performance Features

- (10) Digital Inputs - 24V DC
- (3) Contact Outputs
- (2) Analog Reference Inputs
- Additional I/O Capability (with optional I/O expansion board):
 - (5) Digital Inputs
 - (2) Logic Outputs
 - (2) Analog Inputs
 - (2) Analog Outputs
 - (1) Pulse Train Input
 - (1) Pulse Train Output
- Separately Adjustable Accel/Decel Times
- Programmable Set-Up and Adjustment
- 2 External Speed References
- Outer Control Loop for Process Trim
- Programmable Setpoints
- Programmable Stop Modes
- Full torque at zero speed
- Regenerative or non-regenerative configurations
- User selectable reference inputs
- Above base speed operation with field current regulator (option)

Operator Interface

- Human Interface Module (HIM)
- Full SCANPort Support

Standards

- UL Listed
- CSA Certified
- CE-Emissions, Immunity, Low Voltage
- Designed to Meet International Standards

Nominal Ratings

2.2-224 kW (3-300 HP) at 460V AC, 1.2-112 kW (1.5-150 HP) at 230V AC

Input Specifications

Nominal Line Voltage	207-253/414-506V AC
Frequency	50 or 60 Hz
Line Frequency Variation	±2 Hz

Output Specifications

230V AC Line	Armature Voltage: 240V DC
	Field Voltage: 150V DC
460V AC Line	Armature Voltage: 500V DC
	Field Voltage: 300V DC

Drive Adjustments

Accel/Decel	0.0-600 Seconds in 0.01 Sec Increments, Linear or S-Curve
Stop Mode	Coast/Ramp with Adaptive Adjustment; Zero Speed Regulation 20 to 160%
Adjustable Current Limit	20 to 115%
Motor Control	Prop & Int. Gains, Output Limits, Preloads
Speed Regulation Mode	Open Loop, Encoder Feedback, IR, Compensation
Process PI Loop	Process PI

Ambient Operating Temperatures

Without Enclosure (IP00; Open Style)	0 to 55°C
With Enclosure (IP20; NEMA Type 1)	0 to 40°C

Dimensions - mm (inches)

	Height	Width	Depth
1.2-22 kW (1.5-30 HP)	477.5 (18.80)	254.5 (10.03)	300.0 (11.81)
2.2-45 kW (3-60 HP)	477.6 (18.80)	254.6 (10.03)	300.1 (11.81)
30-56 kW (40-75 HP)	491.8 (19.36)	461.6 (18.17)	334.3 (13.16)
56-112 kW (75-150 HP)	491.9 (19.36)	461.7 (18.17)	334.4 (13.16)
224 kW (300 HP)	850.0 (33.46)	599.0 (23.58)	424.7 (16.72)

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DeviceNet is a trademark of the Open DeviceNet Vendor Association.



Allen-Bradley, a Rockwell Automation Business, has been helping its customers improve productivity and quality for more than 90 years. We design, manufacture and support a broad range of automation products worldwide. They include logic processors, power and motion control devices, operator interfaces, sensors and a variety of software. Rockwell is one of the world's leading technology companies.

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