

# 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.



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Allen-Bradley Headquarters, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414 382-2000 Fax: (1) 414 382-4444

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