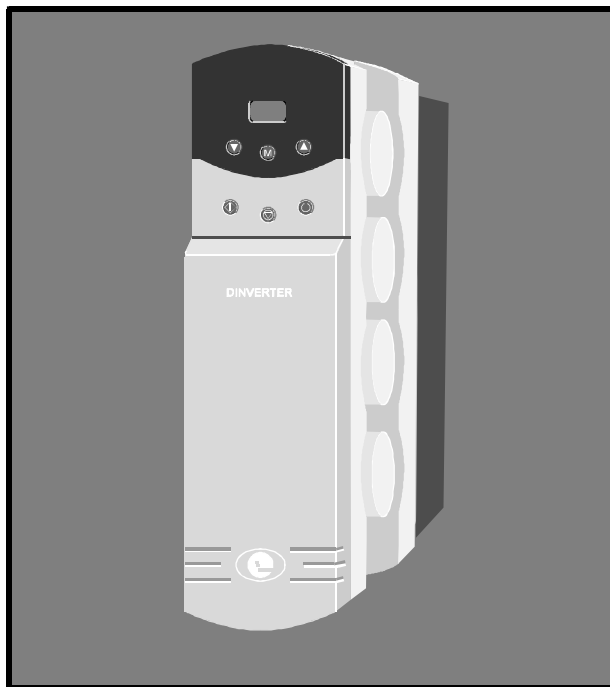


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# 1 Introduction

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**Figure 1–1 The Dinverter B Drive**

## 1.1 Features

- For use with single-phase, three-phase low-voltage, and three-phase high-voltage AC supplies
- Motor power range: 0.75kW (1HP) to 4.0kW (5.3HP)
- Fully EMC compliant with optional external RFI filter
- DIN-rail, surface mounting or through-panel mounting
- Plug-in signal connectors
- Full digital control
- Seven preset speeds
- Automatic reset
- Skip frequencies to avoid mechanical resonances in the machine
- Synchronization to a spinning motor
- Coast to stop, deceleration ramp, DC injection braking or dynamic braking
- Analog output signals as voltage or current
- Display of output frequency or load
- Terminal or keypad control
- Voltage or current-loop speed reference signal
- Adjustable PWM switching frequency

## 1.2 Method of operation

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### Power circuits

The AC supply is rectified and smoothed to apply a constant voltage to a DC bus. This DC bus supplies an IGBT power stage that delivers AC power at variable frequency and voltage to the motor.

The AC power output of the Drive is synthesized by a pattern of on–off switching applied to the gates of the IGBT bridge. This method of producing an alternating output from a DC source is Pulse Width Modulation (PWM). The pulsed switching pattern is generated by an Application Specific Integrated Circuit (ASIC) which is controlled by a microprocessor.

Enhanced braking can be obtained using DC injection braking or using an external braking resistor.

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### Controlling and monitoring the Drive

Operation of the Drive is controlled by programming software parameters. These parameters have default values that enable the Drive to be run without initial programming.

The parameters can be programmed in two ways, as follows:

- Using the keypad on the Drive
- Using a host PC connected by serial communications

The operation of the Drive can be monitored by reading values of parameters using the display on the Drive or a host PC.

## 1.3 How to use this User Guide

This User Guide is arranged logically: reading from beginning to end will take you in the correct order through the basic steps of installing the Drive and getting it running with a motor.

To make subsequent adjustments to the parameters, refer to Chapter 10 *List of Parameters*.

