

What is the DC3?

The DC3 is a compact, low-priced variable speed DC drive for control of single-phase DC motors ranging from ¼ to 2 HP at 115 VAC or 230 VAC input. It comes in a wide variety of enclosures and control options. DC3 drives come in three basic types. DC3N drives are non-regenerative. DC3R drives are regenerative. The DC3N is also available as an enhanced non-regenerative drive.

What features do all the DC3 drives have in common?

- All models have a similar set of adjustments: min and max speed, accel/decel rate, overload of 150% for 1 minute, IR drop compensation.
- All the drives, with the exception of the chassis DC3N, have AC line input fusing.
- The NEMA 4X/12 drives include a heatsink for greater output capability.

What are the differentiating features of each drive type?

Model Number	Enclosure	Key Features
DC3N-...-AN	Plate Chassis	Simple low cost analog control for simple applications
	NEMA 1	
	NEMA 4X/12	
DC3N-...-AI	Plate Chassis	Tachometer feedback, on-board isolation, AC line fusing, cage-clamp terminals
	NEMA 4X/12	On-board isolation, AC line fusing, speed pot, AUTO/MAN and ON/OFF door-mounted operator controls
DC3R-...-AN	Plate Chassis	Regenerative, tachometer feedback, cage-clamp terminals, AC line fusing
	NEMA 4X/12	
DC3R-...-AI	Plate Chassis	DC3R features the addition of an isolation board. This board allows the drive to follow a current or voltage signal from an external source.
DC3R-...-DN	NEMA 4X/12	DC3R features the addition of an integral membrane keypad and corresponding LEDs.

What are the target applications and industries for the DC3?

The DC3 plate style chassis is designed for OEM usage. Its compact size and control options make it a good fit for OEMs to mount in pre-engineered enclosures. The plate-style chassis are ideal for packaging machines, feeders, pumps, and conveyors. Enclosed models (NEMA 1 and NEMA 4X/12) are best suited for applications in which the drive is mounted on a panel or otherwise exposed. NEMA 4X/12 drives are typically used in food processing, pumps, and specialty machinery. Regenerative drives are particularly useful in applications requiring forward and reverse motor operation or four quadrant torque control. Applications in which the drive is controlled by an external signal are a good fit for the DC3E or DC3R with the isolation option board.

What does the regenerative drive do?

Regeneration allows the drive and motor to act as a generator and put power back on the AC line in cases of overhauling loads. An overhauling load occurs when the load rotates the motor faster than the drive command speed. This is common in control of hoists and inclined conveyors where gravitational forces tend to move the load down. Regenerative drives can apply torque in the opposite direction of motor rotation to correct for this effect. Regenerative drives allow forward and reverse motor operation, as well as controlled braking, but do not act as a holding brake. The regenerative model allows selectable speed regulation via armature voltage feedback or tachometer feedback. Closed loop speed regulation (with tachometer feedback) can provide 0.1% accuracy.

What's the "Enhanced" Model DC3N?

The enhanced version of the DC3N has the following enhancements:

- On-board isolation which allows the drive to follow a 0-10 VDC or 4-20 mA signal from an external source.
- Tachometer feedback for precise speed regulation.
- On-board fusing to protect the drive from high AC line current transients.
- Cage-clamp terminals for simple wiring.
- 10-turn minimum and maximum speed trim potentiometers for precise drive set up.
- The enclosed unit is rated NEMA 4X/12 and has operator controls mounted on the door.

What options are available for the DC3?

Two options are available, a heatsink and a CE filter. CE filters are built to order.

When should a heatsink be specified for the DC3?

The DC3N plate style chassis and NEMA 1 products require a heatsink when operating above 5 amps DC. The DC3R plate style chassis requires a heatsink when operating above 7 amps DC.

What kind of motor should be used with the DC3?

All models can control permanent magnet DC motors. Some of the DC3N models and all of the DC3R models can supply wound field motors.

What standards does the DC3 comply with?

The DC3 is UL Listed, cUL listed, and CE marked.

What features should we emphasize against competition?

- Reliance Electric delivers more than just product. Our breadth of line and service, as well as pre-sale and post-sale application support are an important part of our drive line-up.
- Surface-mount assembly ensuring high quality and reliability.
- All DC3 drives can be PowerMatched to Reliance Electric DC motors for reliable running and peak torque production. No motor oversizing is required to obtain wide speed ranges.
- Most competitors have product that is UL recognized, not listed, putting the customer or installer in the position of filing with UL, an expensive and time-consuming effort.

How does our net distributor price for the DC3 compare with that of our competitors?

Our pricing falls midway in the very competitive range between the low and high-price suppliers. We are not going to be the pricing leaders in this market, but we will be very competitive with the price leaders in this market. The competition sells their products based on volume, whereas our products are competitively priced at purchase quantities of 1. Our pricing is equal to if not better than the competition at purchase quantities of 50 or less.

What will happen to the existing DC2 product?

The DC2 has always been a reliable low horsepower DC drive. The competitive price of the DC3 will result in the displacement of some DC2 sales. However, because of the large number of installed drives and large customer base that continues to specify the DC2, we will continue to sell the DC2 until volumes no longer allow economical manufacturing efficiencies.

Where should I sell DC3 Vs. other Reliance DC drives?

The DC3 should be promoted when the user needs a well-priced reliable low HP drive with simple controls and flexible mounting options.

What are future plans for this product line in terms of extensions or options?

Based on feedback from sales and our distribution channel, we may provide extensions to this product line where there is a demand for the requested extensions or options. In fact, since product introduction we have expanded the offering by adding an enclosed drive with isolated inputs and operator controls. This new model has features requested by several pump OEMs.

What should I do if I need a different feature set than what is currently available in the DC3 family?

Each sales and marketing person has a qualification questionnaire that should be completed. Based on sound business practice we may add a model to meet your exact needs.

What commercial sales tools are available and how can I obtain them?

The following tools are available:

Sales Tool	Part/Publication Number
Brochure	D-2973-1
Data Sheet	D-2971-2
Q & A	D-193-1
Price Pages	D-406, D4-15 through D4-28
PowerPoint Presentation	D-4580-1
Qualification Questionnaire	D-212 Electronic D-213 Printable

Is product training available?

Yes. DC3 training is part of all Reliance Electric drive training courses. Contact product marketing.

Is there a demo unit available and how can I get one?

We have demo units available. Contact product marketing on the availability of a sample DC3.

When will the product be available from stock?

The product is available for immediate delivery from stock.

Should distributors stock the DC3?

Yes. Many OEMs want immediate delivery from local stock, so we recommend that our distributors stock a representative set of DC3 models to meet the needs of local OEM customers.

Who do I contact for pre-sale application support?

Contact Ray Hemeyer or Brian Macomber at 1-888-Drives0 (1-888-374-8370).

Who do I contact for post-sale tech support?

Our free drives technical support line is 1-800-726-8112.

What spare parts are available?

The DC3 is not field-repairable. Failed units under warranty should be sent back to Reliance Electric via the normal procedure.

What is the warranty, return, and repair policy?

DC3 drives are covered under the standard Reliance Electric warranty policy.

Reach us now at www.rockwellautomation.com

Wherever you need us, Rockwell Automation brings together leading brands in industrial automation including Allen-Bradley controls, Reliance Electric power transmission products, Dodge mechanical power transmission components, and Rockwell Software. Rockwell Automation's unique, flexible approach to helping customers achieve a competitive advantage is supported by thousands of authorized partners, distributors and system integrators around the world.

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

European Headquarters SA/NV, Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Reliance Electric Standard Drives Business, 24800 Tungsten Road, Cleveland, Ohio 44117, USA, Tel: (1) 888 374 8370, Fax: (216) 266 7095



**Rockwell
Automation**