

# Commutrol™ Series DC Brushless Drives

For over 25 years, Dart Controls has been producing standard off-the-shelf, field-proven DC brushless drives for many industries, including medical equipment, conveyor ovens and solar applications. Whether quiet operation, brush maintenance or long life is a critical application requirement, Dart has the right drive - right now.

While brushless DC (BLDC) technology has been around for decades, the most significant change has been the reduced cost of both motors and drives, driven by increased volume. This makes BLDC a viable consideration for the OEM designer as the benefits of BLDC outweigh the (now) minimal cost premium in many cases.

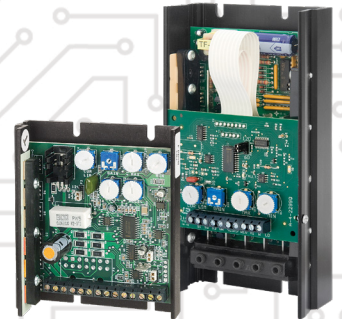
The benefits of BLDC technology include:

- Quiet motor operation
- Contactor-less motor reversing and braking
- Long life expectancy for drive and motor
- High efficiency operation - low power loss
- Proven design - first choice for tough applications

The Commutrol Series is offered in a variety of supply voltage and current (Watt) ratings - some models as high as 1000W. The 700BDC/710ADC/730BDC Series come in both chassis (standard), NEMA 4/4X enclosed styles. The BLM Series is a panel mount design similar to our Digital DC drives. All models include the choice of open or closed loop regulation (no separate speed sensor required!)

All Commutrol Series models are designed for motors with Hall sensors included.

## RoHS



*700BDC / 710ADC  
Series*



*730 BDC Series*



*BLM Series*

# Commutrol™ Series Features + Specifications

- 12-48VDC voltage supply
  - Open or closed loop models
  - Quiet operation - high frequency switching
  - No encoder required for closed loop models
  - $\pm 1/2\%$  base speed regulation (closed loop models)
  - Barrier terminal strip
  - For 'sensored' brushless DC motors (60° or 120°)
  - Contactor-less reversing
  - Some models include dynamic brake\*
  - Motor Hall sensor voltage supply included
  - Ships with 5K $\Omega$  speed pot kit
  - Low power Inhibit circuit for motor start/stop
  - Run/stop output\*, Supply Voltage and Fault LED's\*
  - -10° to +45°C ambient temperature
  - Overload capacity: 150-200% for one minute\*
  - Inhibit circuit—permits low power start & stop
- \* Model dependent - see Operator Manual for details

Model	Width	Length	Depth	Weight
700BDC/ 730BDC	3.62 in [9.19 cm]	4.25 in [10.80 cm]	1.30 in [3.30 cm]	6 oz [170 gm]
731BDC/ 733BDC	3.62 in [9.19 cm]	4.25 in [10.80 cm]	1.30 in [3.30 cm]	6 oz [170 gm]
710ADC/ 711ADC	3.62 in [9.19 cm]	7.00 in [17.78 cm]	2.00 in [5.08 cm]	16 oz [453 gm]
BLM <sup>1</sup>	3.62 in [9.19 cm]	4.63 in [11.76 cm]	1.66 in [4.22 cm]	20 oz [567 gm]

1- Front bezel is 4.54 x 2.29 in.

Base Model							Options			
Model	Supply Voltage	Motor Voltage	Current	Closed Loop	Isolation*	Body	-CL	BLMKIT1	OPT420	-HSK
700BDC	12-36 VDC	12-36 VDC	5 ADC	No	No	C	N/A	N/A	N/A	✓
730BDC	12-48 VDC	12-48 VDC	7.5 ADC	No	No	C	N/A	N/A	N/A	✓
731BDC	12-48 VDC	12-48 VDC	7.5 ADC	Yes	No	C	N/A	N/A	N/A	✓
733BDC	12-48 VDC	12-48 VDC	7.5 ADC	Yes	No	C	F	N/A	N/A	✓
710ADC	12-48 VDC	12-48 VDC	20 ADC	No	No	C	N/A	N/A	N/A	N/A
711ADC	12-48 VDC	12-48 VDC	20 ADC	Yes	No	C	N/A	N/A	N/A	N/A
BLM701P	12-48 VDC	12-48 VDC	8 ADC	Yes	No	P	✓	✓	✓	N/A

C – Chassis

P - Panel Mount

✓ - Option is available N/A – Option Not available

E – NEMA 4 enclosed

\* Non-isolated follower voltage may be used

F – Option is available as Factory Installed only

## Option Description:

-CL: Current Limit shutdown

BLMKIT1: Mating connector and pigtail leads (BLM has plug-style connector only)

OPT420: 4-20mA isolated input/output card. Factory or field installed (as OPT420).

Does NOT supply current loop power

-HSK: Auxiliary heat sink - increases 700BDC to 7ADC continuous and 730BDC Series to 9ADC continuous