

500 Series Variable Speed DC Control

NEMA 4/12



"RC" Chassis



Washdown Duty



Speed Potentiometer
Kit Included

Dart's most fully featured analog DC speed control is reliable, versatile, and economical. Rated to 3 horsepower, it provides many standard features typically offered as options.

The Dart 500 Series control combines advanced engineering design, quality component selection and rigorous quality control to deliver an excellent off-the-shelf SCR control.

Dependable, time-proven circuitry offers performance characteristics previously available only in more costly controls.

While providing a wide range of standard features, many options quickly and easily extend the 500 Series' capabilities to meet specific application requirements.

An integral part of a distinguished line of quality products, the 500 Series is representative of Dart's continuing effort to provide reliable, versatile controls to the OEM, distributor, and the industrial markets.

500 SERIES STANDARD FEATURES

- Dual 120/240 VAC, 50/60Hz via slide selector switch
- Adjustable horsepower settings
- Barrier terminal strip
- Packaged bridge supply (fullwave)
- 1% speed regulation with armature voltage feedback; $\pm 1/2\%$ with tach feedback
- Adjustable Minimum speed (0-30% of max)
- Adjustable Maximum speed (60-120% of base)
- Adjustable IR Compensation
- Adjustable Linear Acceleration (0.3-12 sec.)
- Adjustable Linear Deceleration (0.6-12 sec.)
- Adjustable Current Limit
- Line voltage compensation
- 5K ohm speed potentiometer with 8" leads, dial and knob included
- Power on/off switch and indicator lamp (RE version)
- Power interrupt relays (RC and RE versions). Permits local and/or remote switching of AC power with low current momentary contacts. Prevents automatic restart after interruption of AC power.
- 50:1 speed range
- Overload capacity: 200% for one minute
- Transient voltage protection
- Voltage following mode or DC tachometer follower by supplying ungrounded analog input signal (0-12 VDC)
- DC tachometer feedback (jumper selectable 3V or 7V per 1000 RPM)
- Inhibit circuit - permits start and stop without breaking AC lines
- Shunt field supply provided (1 Amp max; 100V for 120 VAC; 200V for 240 VAC input)
- 2 AC line fuses
- +12 VDC, 12mA power supply, user accessible
- Enclosed models rated NEMA 4/12

500 SERIES SELECTION GUIDE

H.P. CHASSIS ENCLOSED CHASSIS WITH
RANGE "C" "RE" RELAY "RC"

115 VAC Single Phase Input, 0-90 VDC Output ¹

1/8 - 1.0	530BC	530BRE	530BRC
1.5	533BC	Available in chassis only, limited options available.	

230 VAC Single Phase Input, 0-180 VDC Output

1/4 - 2.0	530BC	530BRE	530BRC
3.0	533BC	Available in chassis only, limited options available.	

Horsepower settings are adjustable, see installation manual. Control is tested and calibrated for maximum horsepower in its category.

1 - Regulated output voltage adjustable to 130 VDC, dependent upon motor horsepower rating.

DIMENSIONAL SPECIFICATIONS

MODEL WIDTH LENGTH DEPTH WEIGHT

English (inches)

Chassis	6.70	9.00	2.00	40 oz.
Enclosed	6.70	10.00	4.75	56 oz.

Metric (centimeters)

Chassis	17.02	22.86	5.08	1134 gm.
Enclosed	17.02	25.40	12.07	1422 gm.

OPERATING CONDITIONS

Temperature.....-10° to +45° C.
AC Input Voltage..... $\pm 10\%$ Rated Line Voltage
Input Frequency..... 50/60 Hz.

ELECTRICAL SPECIFICATIONS AC INPUT 50/60 HZ

115 VAC Single Phase Input, 0-90 VDC Output

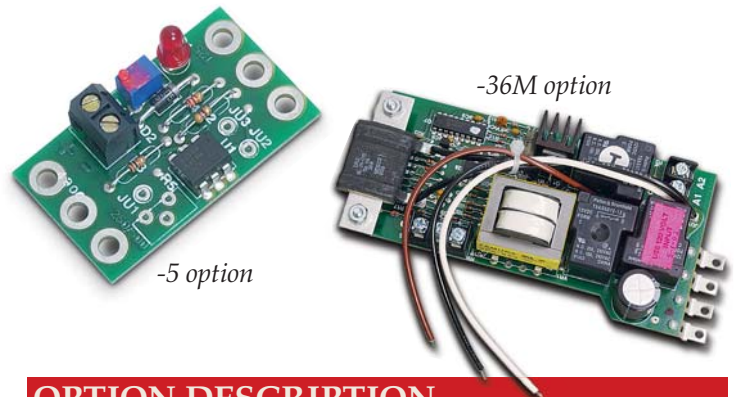
H.P.	MAX. AC AMPS	KVA	MAX. ARM* AMPS DC
1/8	1.8	0.22	1.4
1/6	2.6	0.31	2.1
1/4	3.5	0.42	2.7
1/3	4.4	0.53	3.4
1/2	6.5	0.78	5.0
3/4	9.3	1.12	7.2
1.0	13.2	1.58	10.2
1.5	21.5	2.57	14.7

230 VAC Single Phase Input, 0-180 VDC Output

H.P.	MAX. AC AMPS	KVA	MAX. ARM* AMPS DC
1/4	1.8	0.42	1.4
1/3	2.2	0.53	1.7
1/2	3.3	0.78	2.5
3/4	4.8	1.15	3.7
1.0	6.5	1.56	5.0
1.5	9.7	2.33	7.5
2.0	12.9	3.10	9.9
3.0	22.0	5.30	15.0

* Minimum Armature Amps: 150mA D.C.

POPULAR OPTIONS



OPTION DESCRIPTION

OPTION	SUFFIX
Jog (enclosed only).....	-4
4-20mA isolated signal follower (chassis only).....	-5*
-5 option with Auto/Manual function.....	-7*
Ten turn speed pot and dial plate (chassis only).....	-11*
Extended linear Accel/Decel range (to 30 sec.).....	-15A
NEMA 4/12 Enclosure.....	Standard
Forward/Reverse with Dynamic brake and zero speed detect. Direction controlled with SPDT switch, relay contact (dry contact switching), or NPN open collector. Once direction change is initiated, cannot be aborted until motor stops; prevents relay contact welding (available through 2 H.P.)	
120 VAC.....	-36M*/MA ¹
240 VAC.....	-38M*/MA ¹

Other options are available, please consult factory for your requirement.

* Field installable on chassis version only.

1-"A" version dynamic brake resistor rating - 50W (factory installable only).