

# 65 Series Battery Operated DC Motor Speed Control

65E10E

65E60



65E10

65E40/65E20



Speed Potentiometer  
Kit Included

The 65 Series controls are high performance PWM controls for 12 to 48 volt battery/solar powered equipment providing smooth control with high efficiency operation. The advanced design permits a substantial increase in the equipment running time between charges over conventional techniques. Features include adjustable maximum speed, minimum speed, current limit, I.R. compensation, and acceleration. The adjustable current limit feature protects the control, battery, and motor from sustained overloads. The higher capacity models also provide thermal protection.

Dart's 65 Series controls are designed for heavy duty low voltage PM motor applications, such as: floor scrubbers, small personnel carriers, AGV's, agricultural sprayers and a vast variety of portable equipment.

The newest addition to the 65 Series is the 65E10E: a NEMA 4X enclosed model rated 10 amps continuous for 12 to 36 volt applications.

Watch for news on our website for a 20A model now under development.

All the 65 Series controls come standard with a speed pot, knob, and dial plate.

## 65 SERIES STANDARD FEATURES

- Provides smooth variable speed capability for mobile equipment
- Increases range or running time of battery operated equipment through high efficiency
- Allows reduction in battery size w/out loss of operating range
- Automatic compensation to allow for declining battery voltage
- Speed regulation is  $\pm 1\%$  of base speed
- Adjustable maximum speed
- Adjustable minimum speed
- Adjustable I.R. compensation
- Adjustable current limit
- Adjustable acceleration speed
- Maintains variable speed control as batteries discharge
- 5K ohm speedpot with leads, knob and dial included
- Speed adjustment using 5K ohm speedpot or 0-10 VDC analog input signal
- Inhibit terminal permits optional start-stop without breaking battery line

## 65 SERIES SELECTION GUIDE

MODEL NUMBER	CONTINUOUS CURRENT
<i>12 VDC Input, 0-12 VDC Output</i>	
65E10-12	10 Amps
65E20-12	20 Amps
65E40-12	40 Amps
65E60-12	60 Amps
<i>24/36 VDC Input, 0-24/0-36 VDC Output</i>	
65E10	10 Amps
65E20	20 Amps
65E40	40 Amps
65E60	60 Amps
<i>Enclosed Models</i>	
65E10E12 12VDC Input, 0-12VDC output	10 Amps
65E10E36 24-36VDC Input, 0-(source) Output	10 Amps

## 65 SERIES SPECIFICATIONS

	65E10E	65E10	65E20	65E40	65E60
Load Current (continuous)	10 Amps	10 Amps	20 Amps	40 Amps	60 Amps
Speed Adjustment	5K ohm potentiometer or 0 to +10V DC input signal				
Overload Capacity	200% for 10 seconds; 150% for 1 minute				
Speed Range	30:1				
Current Limit	Adjustable to 200% motor full-load Amps (up to continuous drive rating above)				
Acceleration	Adjustable - 0 to 10 sec.				
Deceleration	Non-adjustable - 0.5 sec.				
Maximum Speed	Adjustable - 50 to 100% of base speed				
Minimum Speed	Adjustable - 30% of max speed				
Input/Output Connections	Barrier terminal block / Accepts 12 to 6 AWG				
Speed Regulation	1% of base speed				
Package Configuration	NEMA 4X	Black anodized aluminum extrusion			
Internal Operating Frequency	18K Hz.	Approximately 800 Hz.			
Thermal Protection		Not Available	Current foldback at 80°C. heatsink temp		

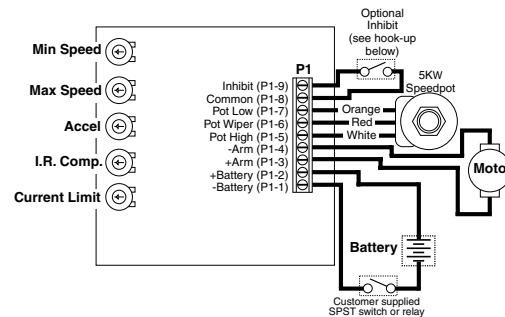
## OPERATING CONDITIONS

Operating Temperature..... -10° C to +45° C (14°F to 113°F)

## DIMENSIONAL SPECIFICATIONS

MODEL	WIDTH	LENGTH	DEPTH	WEIGHT
	English (inches)	Metric (centimeters)		
65E10	3.625 (9.21)	4.25 (10.76)	1.30 (3.30)	6.0 oz. (170 gm.)
65E20	3.70 (9.40)	7.00 (17.78)	1.70 (4.32)	10.5 oz. (297 gm.)
65E40	3.70 (9.40)	7.00 (17.78)	1.70 (4.32)	13.4 oz. (297 gm.)
65E60	6.70 (17.02)	9.00 (22.86)	2.27 (5.77)	34.0 oz. (962 gm.)
65E10E	5.53 (14.05)	7.30 (18.54)	4.78 (12.14)	37 oz. (1049 gm.)

## 65E10 HOOK-UP DIAGRAM



## 65E20/40/60 HOOK-UP DIAGRAM

