

AC / DC Controls

DC Adjustable Speed Drives SCR Thyristor Controls



LEESON Speedmaster DC Control information

PWM and SCR Controls

General Specifications:

- General purpose for permanent magnet or shunt wound DC motors
- NEMA 4X and 4/12 suitable for washdown applications
- Dual voltage capable on most designs – see HP range
- 115 / 230 volt single-phase input voltage – DC 90 volt or 180 volt output
- Adjustable minimum and maximum speed
- Speed pot included on chassis controls
- Adjustable IR compensation
- Heat sinks required as noted
- PWM controls provide quieter operation, lower motor temperature and greater motor overload capacity

Regenerative Controls

General Specifications:

- Four quadrant controls for precise motion control
- NEMA 4X or chassis style
- Motoring and braking torque regulation ¼ HP through 2 HP

For NEMA Frame Motors & Gearmotors

SCR Controls - Enclosed - Single Phase Input 50/60 Hz

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
NEMA 1 General Purpose						
—Non-Reversing	174307.00	447	10	1/8 to 1 [Ⓜ]	1/4 to 2 [Ⓜ]	5
—Reversing with dynamic braking	174308.00	611	10	1/8 to 1 [Ⓜ]	1/4 to 2 [Ⓜ]	5
—Heat Sink H	174316.00	100	—	—	—	1
NEMA 4X Washdown—Dust-Tight						
—Non-Reversing, Plastic Enclosure	174102.00	608	10	1/8 to 1	1/4 to 2	6
—Non-Reversing, Plastic Enclosure with Signal Follower	174103.00	885	10	1/8 to 1	1/4 to 2	7
—Reversing, Plastic Enclosure*	174107.00	826	10	1/8 to 1	1/4 to 2	7
NEMA 4						
—Non-Reversing 3HP	174709.00	1169	15	—	3	8

See footnotes on page 357

Specifications are subject to change without notice

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SCR Controls - Open Chassis

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
Chassis with Speed Pot-Non Reversing	174311.00	248	10	1/8 to 1 ①	1/4 to 2 ①	1
Chassis Heat Sink ①	174314.00	74	—	—	—	1

Specifications are subject to change without notice

Regenerative SCR Drives - Four Quadrant - Full Wave

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
NEMA 4X Washdown □	175720.00	1276	10	1/4 to 1 ②	1/2 to 2 ②	8
Open Chassis with Speed Pot □	175721.00	823	10	1/4 to 1 ②	1/2 to 2 ②	2
Chassis Heat Sink ②	175722.00	143	—	—	—	2

Specifications are subject to change without notice



For Subfractional HP Motors & Gearmotors

PWM & SCR Controls - Enclosed - Single Phase Input 50/60 Hz

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
NEMA 1 General Purpose						
—SCR Non-Reversing	M1740005.00	429	3	1/40 to 1/8	1/40 to 1/4	5
—SCR Reversing With Dynamic Braking	M1740006.00	579	3	1/40 to 1/8	1/40 to 1/4	5
—PWM Non-Reversing	M1740008.00	372	3	1/40 to 1/8	1/40 to 1/4	2

Specifications are subject to change without notice

PWM & SCR Controls - Open Chassis

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
Open Chassis SCR Type						
—Chassis with Speed Pot-Non Reversing	M1740007.00	238	1.5	1/40 to 1/8	1/40 to 1/4	1
Open Chassis PWM Type						
—Chassis with Speed Pot-Non Reversing	M1740009.00	277	2	1/40 to 1/8	—	1

* Drive does not have dynamic braking. Motor shaft must be at zero speed before reversing.

① Heat sink #174316.00 is required for NEMA 1 type 3/4 and 1HP 115V and 11/2 and 2HP 230V when the amp draw of the motor exceeds 5 amps.

② Chassis Heat Sink #174314.00 required for 3/4 and 1HP 115V and 11/2 and 2HP 230V when the amp draw of the motor exceeds 5 amps.

③ Chassis Heat sink #175722.00 required for 1HP and above when the amp draw of the motor exceeds 5 amps.

□ Regenerative drives are reversible and have regenerative braking.

Specifications are subject to change without notice



IEC Motors

DC Motors

Gearmotors

AC / DC Controls

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Tech Information

Terms / Warnings

AC / DC Controls

DC Adjustable Speed Drives - SCR Controls

15 Series

General Specifications:

- 0-90 / 0-180 volts DC
- Adjustable min. and max. speed
- Adjustable IR compensation
- Fixed acceleration - 5 seconds
- 5K ohm speed potentiometer included
- 25:1 speed range and 1% speed regulation



NEMA 4/12
Non-Reversing



Figure 1



Figure 2

Description	Catalog Number	List Price	Output Amps	HP Range		App. Wgt. (lbs.)
				115V	230V	
NEMA 4/12 Non-Reversing	174696.00	289	3	1/3	2/3	1
Chassis - Figure 1	174695.00	166	2	1/6	1/6	1
Chassis - Figure 2	174694.00	166	2	1/6	1/6	1

Specifications are subject to change without notice

Low Voltage Adjustable Speed Controllers

General Specifications:

- Chassis type design
- DC input / DC output
- Speed potentiometer shipped loose
- High efficient designs increase battery life



Features:

- 40 : 1 speed range
- Holds speed control as battery discharges
- Adjustable min. and max. speeds
- IR compensation
- 200% current limit overload protection
- Inhibit pins provide optional start-stop
- Power on LED indicator

Input Voltage	Catalog Number	List Price	Output Amps	Dimensions (inches)			App. Wgt. (lbs.)
				Length	Width	Height	
12/24	175290.00	535	16	6.90	4.44	2.19	2
12/24	175291.00	652	60	7.78	6.90	3.25	4
36/48	175292.00	652	60	7.78	6.90	3.25	4

Specifications are subject to change without notice

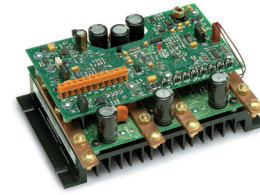


General Specifications:

- Chassis type design
- DC input / DC output
- Speed potentiometer shipped loose
- High efficient designs increase battery life

Features:

- Sleep mode feature
- Accepts switch closure for reversing and braking
- Built-in short circuit protection
- 1.01 Form factor
- Built-in temperature sensor
- On board trim pots for calibration, speed and forward and reverse settings

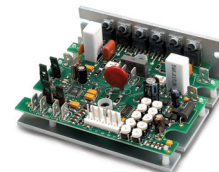
**Four Quadrant Control**

Input Voltage	Catalog Number	List Price	Output Amps	Dimensions (inches)			App. Wgt. (lbs.)
				Length	Width	Height	
12/24	174298.00	1157	120	6.90	5.00	2.50	3
36/48	174299.00	1157	100	6.90	5.00	2.50	3

Specifications are subject to change without notice

Dual Mode - Dual Speed Controllers

- SCR Control designed to run two DC motors at the same time in either Independent mode or Slave/ Master mode
- Open chassis design
- Dual voltage, 115-230 VAC input with jumper
- Selectable 90/180 VDC output
- Jumper selectable speed and torque mode
- Two trim pots each for the minimum speed, maximum speed, IR compensation, current limit and acceleration/deceleration
- Comes standard with two potentiometers



HP	Input Voltage	Output Amps	Output Voltage	Catalog Number	List Price	App. Wgt. (lbs)
1 HP @ 90 VDC	115/230	10*	0-90/0-180	174422.00	385	3
2 HP @ 180 VDC						

Specifications are subject to change without notice

* Heat sink 174314.00 is required if one side provides more than 5A or the output on both sides is more than 6.5A.

Control Accessories

Description	Catalog Number	List Price
Inhibit Plug	900282.01	51
Speed Pot (10k/5w pot, washers & nut)	006708.01	64

Specifications are subject to change without notice

