

# S1CC SERIES

Chassis Mount Variable Speed DC Motor Control  
for Shunt Wound and PM Motors thru 3 Hp

SABINA Motors & Controls

Patented Overload Circuit

## TYPICAL APPLICATIONS

Transfer Pumps - Door Openers - Feeders  
Indexers - Tapping Machines - Conveyors  
Robotics - Screen Presses  
Exercise Equipment



**S1CC**  
Unidirectional



**S1CC - R**  
Instant Reversing  
Solid-State Dynamic Braking

## STANDARD FEATURES All Models

Tachometer or Armature Feedback  
Plug-in Horsepower Resistor  
Built-in AC Line and Armature Fuses  
MOV Transient Protection  
Trimpots: MIN, MAX, IR, CL, ACCEL, DECEL  
Rugged Aluminum Heatsink  
Voltage Following  
Auto Inhibit, Inhibit and Enable  
CL LED Indicator

## SPECIAL FUNCTIONS "R" Suffix Only

Forward-Brake-Reverse  
Anti-plug Instant Reverse  
Run-Brake-Jog  
Auxiliary Trimpot for Speed Adjustment  
Rapid Cycling

\* Armature Fuse and Plug-in Horsepower® are supplied separately.

## SPECIFICATIONS

Speed Range (Ratio) ..... 50:1  
Load Regulation  
(0 - Full Load, 50:1 Speed Range)(% Base Speed)..... 1\*  
Line Voltage Regulation  
(At Full Load, ±15% Line Variation) (% Base Speed).... 1/2\*  
Control Linearity  
(% Speed vs. Dial Rotation) ..... 2  
CL Torque Range  
(% Full Load)..... 0 - 200  
ACCEL/DECEL Time Range (Secs.)..... 2 - 10  
MIN Speed Trimpot Range  
(% Full Speed)..... 0 - 30\*  
MAX Speed Trimpot Range  
(% Full Speed)..... 50 - 120\*  
Maximum Allowable Ambient Temperature  
(At Full Rating °C/°F) ..... 45/113  
Maximum Number of Starts/Stops or Reversals  
(Operations/Minute)..... 30\*\*

\* Performance is for 90V PM motors on 115 VAC and 180V PM motors on 230 VAC.

\*\* Based on a brake time of one (1) second. For increased operations per minute and longer brake time, contact factory.

\* CE Compliance Requires S1RF-200A RFI Filter

## DESCRIPTION

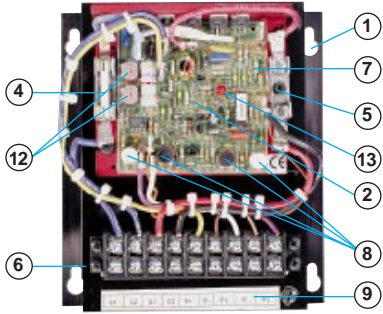
The S1CC chassis control utilizes the S1MM modular control to provide a low-cost, reliable, variable speed SCR drive for PM and Shunt Wound DC motors. Models with the "R" suffix contain the KB APRM®\* which provides anti-plug instantaneous reverse and solid state DB. All models are equipped w/ Sabina's exclusive Plug-in Horsepower Resistor®. It eliminates the need for recalibrating IR Comp and Current Limit when the control is used on various horsepower motors. The controls also contain Inhibit which allows for electronic switching of the armature voltage and Auto Inhibit® which provides rapid safe switching of the AC line.

The S1CC controls are built on a rugged aluminum heatsink and contain AC line and armature fusing, a 5K ohm remote potentiometer, and a barrier terminal block. In lieu of the potentiometer, the control can be operated in a voltage following mode by supplying an *isolated* analog signal (0-9VDC) to the input terminals P2 (+) and F-. Adjustment trimpots are provided for MIN, MAX, IR COMP, CL, ACCEL and DECEL.

\* Patented.

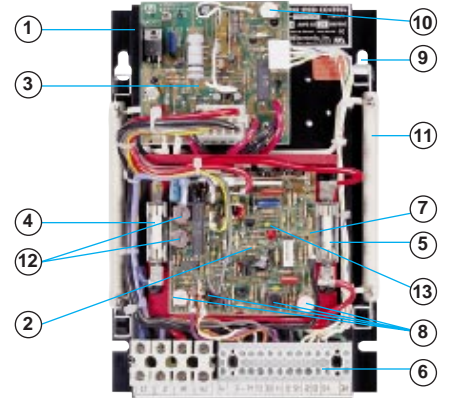
## PLUG-IN HORSEPOWER RESISTOR® CHART

Motor Horsepower Range		Plug-in-Horsepower Resistor® Resistance Value (ohms)
Armature Voltage 90 - 130 VDC	Armature Voltage 180 VDC	
1/100 - 1/50	1/50 - 1/251.0	
1/50 - 1/30	1/25 - 1/15.51	
1/30 - 1/20	1/15 - 1/10.35	
1/20 - 1/12	1/10 - 1/6.25	
1/12 - 1/8	1/6 - 1/4.18	
1/8 - 1/5	1/4 - 1/3.1	
1/4	1/2	.05
1/3	3/4	.035
1/2	1	.025
3/4	1½	.015
1	2	.01
1½	3	.006



### FEATURES & FUNCTIONS

- (1) Rugged Aluminum Heatsink
- (2) S1MM™ Speed Control
- (3) APRM® Reversing Module
- (4) AC Line Fuse included
- (5) Armature Fuse (Customer supplied)
- (6) Barrier Terminal Block
- (7) Plug-in Horsepower Resistor®
- (8) Trimpots: MIN, MAX, IR and CL
- (9) Keyhole slots facilitate mounting
- (10) Aux. Trimpots for Speed Adjustment
- (11) Dynamic Brake Resistor
- (12) Trimpots: ACCEL, DECEL
- (13) CL LED Indicator

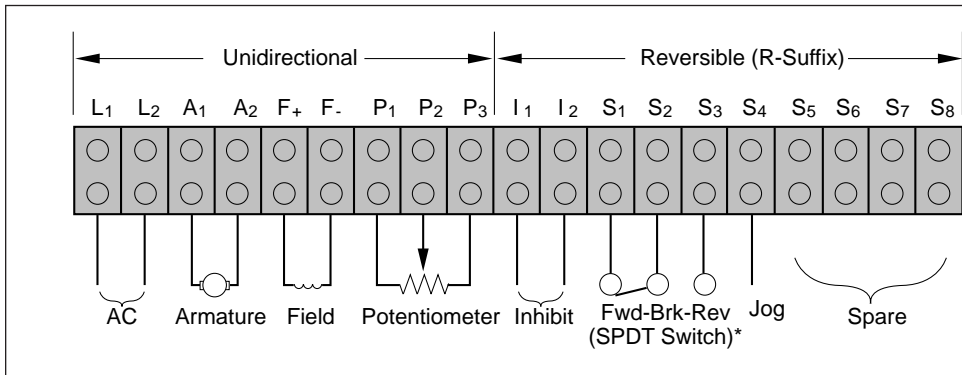
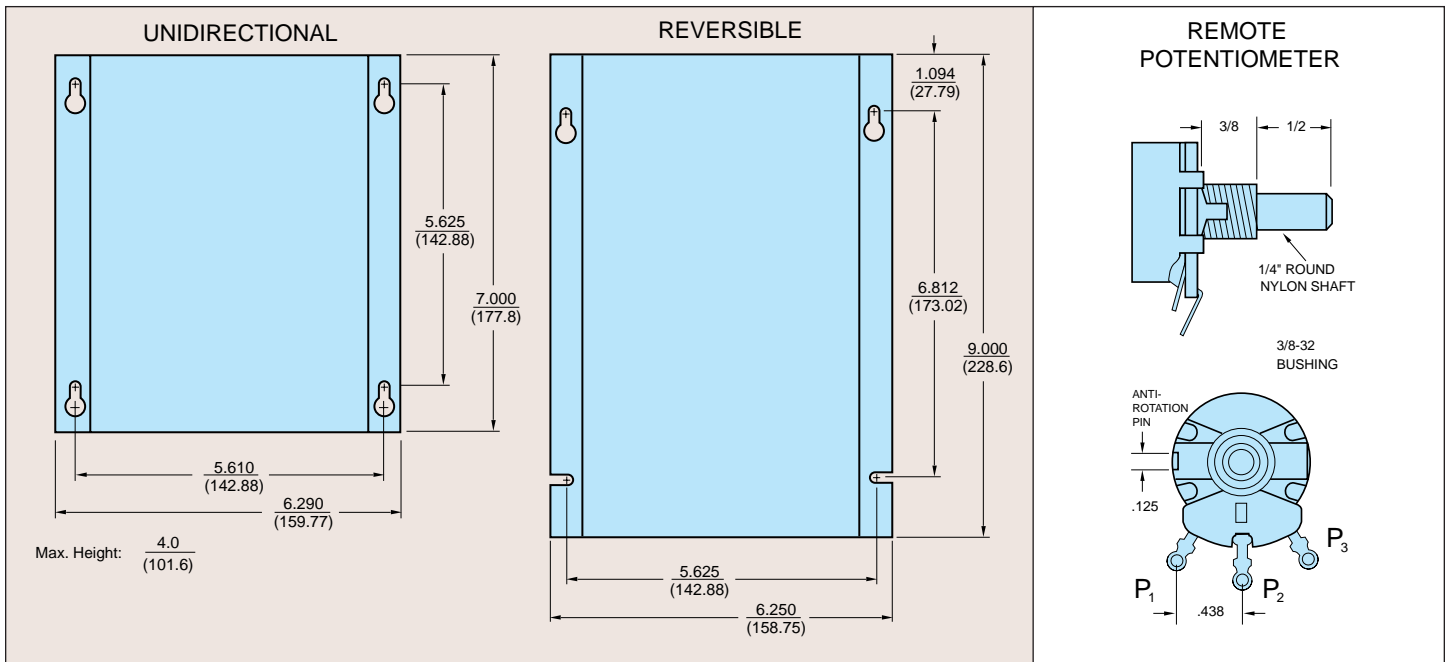


### ELECTRICAL RATINGS

Unidirectional		Reversing		AC Line Voltage (VAC) ±15% 50/60 Hz	Max AC Load Current (RMS Amps)	Max DC Load Current (Avg. Amps)	Maximum Horsepower [Hp, (KW)]	AC Line Fuse Rating (A)
Model Number	KB Part Number	Model Number	KB Part Number					
S1CC-125	3529336	S1CC-125R	9933527	115	24.0	16.0	1.5, (1)	25
S1CC-225	3529338	S1CC-225R	3529924	230	24.0	16.0	3, (2)	25

### MECHANICAL SPECIFICATIONS

INCHES  
[mm]



### WIRING

R-suffix models are equipped with the KB APRM®. For detailed connection diagram see "S1CC-R Connection Diagrams."

**Note:** \*Only 10 mA of current is switched. Any switch or relay may be used except a solid state type.