

The RAM

DBS

Digital Bypass Solid State Starter



Description

The RAM DBS digital bypass solid state reduced voltage starter is a microprocessor controlled motor starting device which utilizes six SCRs (silicon controlled rectifiers) to electronically control the current supplied to an AC induction motor. The DBS accelerates the motor in a smooth stepless motion reducing current and mechanical shock on the driven equipment. The unit automatically adjusts to any input voltage between 200 and 600 volts and to any frequency between 45 and 65 hertz.

The RAM DBS can be programmed to provide a gradual build up of torque from zero to almost full motor locked rotor torque. This method provides a gentle, jolt-free method of starting any AC induction motor. In addition, the starter can be programmed to limit starting currents to a constant value, therefore preventing excessive voltage drops during motor starting.

Specifications

AC Power Supply	200V to 600V RMS																				
HP Ratings	300HP @ 208V; 350HP @ 230V; 700HP @ 460V; 900HP @ 575V																				
Current Capacity	69 Amps - 900 Amps																				
Control Voltage	115 VAC, +/-15%																				
Line Frequency	45 to 65 HZ																				
Thermal Overload Capacity	300% FLA @ 40 Seconds 600% FLA @ 10 Seconds																				
Operating Temperature	0 to 40 Degrees C																				
Storage Temperature	-40 to 65 Degrees C																				
Standard Starting Modes	Constant Current - 200% to 425% FLA Step Ramp - 200% to 425%, Ramp up to 500% Max																				
User Accessible Relays	Run Relay: (2) SPST Normally Open Contacts - 10 Amps @ 250 Volt AC, Inductive Rating Shunt Trip Relay: (1) SPST Normally Open Contact - 10 Amps @ 250 Volt AC, Inductive Rating Alarm Relay: (1) SPDT 1-Normally Open, 1-Normally Closed Contact - 10 Amps @ 250 Volt AC, Inductive Rating																				
Communication Ports	Display Port - RS232, 9600 Baud Network Port - RS485, 19,200 Baud																				
Minimum Enclosure Size (H x W x D)	<table border="0"> <tr> <td></td> <td>H</td> <td>W</td> <td>D</td> </tr> <tr> <td>B Sizes</td> <td>30"</td> <td>24"</td> <td>12"</td> </tr> <tr> <td>C Sizes</td> <td>36"</td> <td>30"</td> <td>12"</td> </tr> <tr> <td>D Sizes</td> <td>48"</td> <td>36"</td> <td>16"</td> </tr> <tr> <td>E Sizes</td> <td>48"</td> <td>36"</td> <td>16"</td> </tr> </table>		H	W	D	B Sizes	30"	24"	12"	C Sizes	36"	30"	12"	D Sizes	48"	36"	16"	E Sizes	48"	36"	16"
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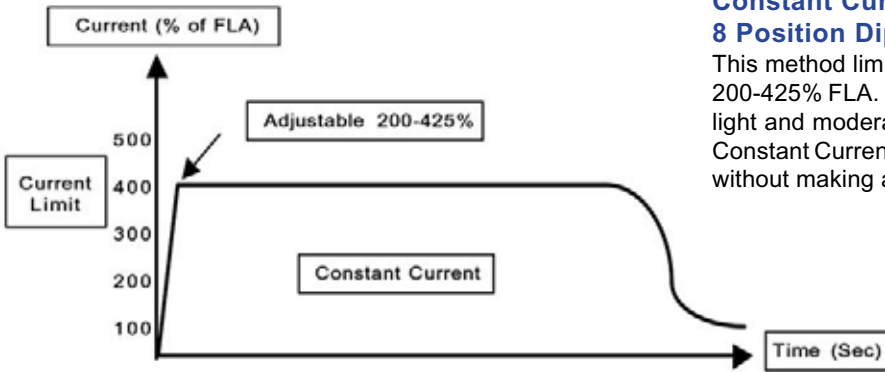


UL Short Circuit Capacity Ratings

of RAM DBS Starters per UL 508 Standard

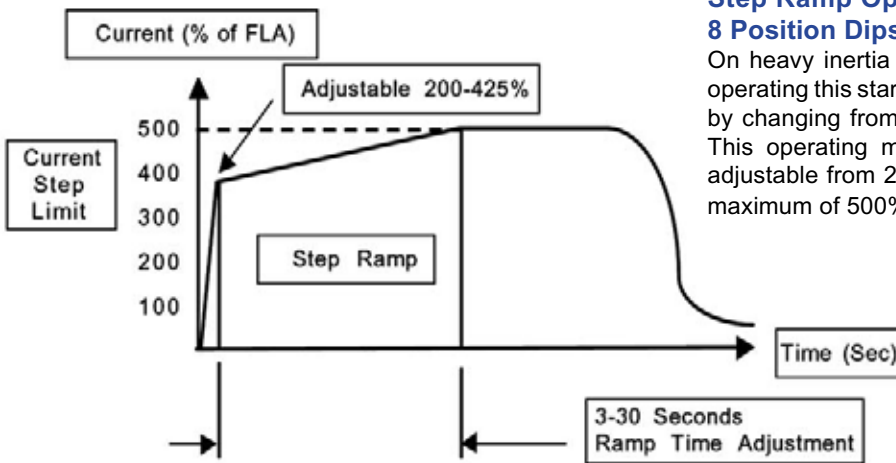
STARTER SIZES	WITH MAIN CIRCUIT BREAKER @ 480 VOLTS	WITH MAIN CIRCUIT BREAKER @ 600 VOLTS	WITH MAIN FUSED DISCONNECT @ 600 VOLTS
B	65 KA	18 KA	100 KA
C	65 KA	30 KA	100 KA
D	65 KA	42 KA	100 KA
E	65 KA	42 KA	100 KA

Dual Operating Modes



Constant Current Standard Setting 8 Position Dipswitch

This method limits the starting current to a value adjustable from 200-425% FLA. The Constant Current mode is recommended for light and moderate inertial type loads. At rated horsepower, the Constant Current mode is capable of smoothly starting most loads without making any adjustments.



Step Ramp Optional Setting 8 Position Dipswitch

On heavy inertia and friction type loads, an optional method of operating this starter at its rated horsepower can be accomplished by changing from Constant Current mode to Step Ramp mode. This operating mode limits the initial step current to a value adjustable from 200-425% FLA and then ramps the current to a maximum of 500% FLA.

HP Ratings

208 V	230 V	460 V	575 V	DBS CHASSIS SIZE
30	40	75	100	B1
50	50	100	150	B2
60	60	125	150	B3
60	75	150	200	C1
75	100	200	250	C2
100	125	250	300	C3
150	200	400	500	D1
200	250	500	600	D3
250	300	600	800	E1
300	350	700	900	E3

Options

- Fault History Menu

This menu is used to display the fault history of the system. The information stored here can be of great value in troubleshooting.

- Monitor Menu

This menu is used to display the current system conditions as seen by the DBS.

- Set Point Menu

This menu displays the set point values programmed into the DBS. Changes to any system set point must be made from this menu in the edit mode.

Digital Bypass Solid State Starter

Benefits

- Reduced Energy Costs
- Smooth Controlled Acceleration
- Compact Size
- Operates with Standard Motors
- Extends Motor and Equipment Life

Applications

- HVAC
- Industrial Refrigeration
- Aggregate
- Food
- Forest
- Chemical

Optional Features

- Main Circuit Breaker with Shunt Trip
- Main Non-Fused or Fused Disconnect
- Two Optional Operating Control Modes
 - Door Mounted Display Mode
 - Network Mode
- Special Service Enclosures
 - NEMA 12, 3R, or 4
- Main Inline Isolation Contactor



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