

# Medium Voltage Solid State Starters

2300 - 4160 VAC +/-10%  
100 - 2250 HP



## Features

- Heavy Duty Design:
  - 500% for 30 seconds
  - 300% for 40 seconds
- NEMA 1 Enclosure
- 1.5 kVA Control Transformer
- Fused Fixed Vacuum Contactor
- Overcurrent Protection
- Current Imbalance Protection
- Phase Loss Protection
- Shorted SCR Detection and Shutdown
- Current Limit Control 200-500% FLA
- 400 Amp Load-Break Fused Disconnect (grounded in off position) with Viewing Window
- High Voltage Section Isolated from Low Voltage Compartment
- Mechanical and Electrical Interlocks
- Digital Microprocessor Control with Non-Volatile Memory
- LCD Display with Programming Keypad and Status LEDs
- Built-in Run / Test Circuit
- Modbus Communications
- UL & cUL Listed
- Fiber Optically Controlled SCRs for Noise Immunity

Engineered & Built by

# RAM INDUSTRIES

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# Specifications

## Input Voltages

2300VAC to 4160VAC +/-10%  
50 or 60 Hz

## HP Range

100 to 2250 HP

## Ambient Temperature

0 to 50°C (32-122°F)

## Maximum Altitude

0 - 3300 ft (1000m)  
(can be derated for higher altitudes)

## Overload Capacity

500% for 30 sec  
300% for 40 sec

## Control Type

Microprocessor based  
Door-mounted keypad with back-lit LCD display  
Non-volatile memory

## Transient Protection

MOV RC snubber dv/dt network

## Control Input

2 or 3 wire control, 120VAC dry contacts

## SCR Peak Inverse Voltage

SCR modules capable of a peak incoming line transient equal to 2.5 times RMS line voltage

## Adjustable Features

FLA  
Current Step or Current Ramp Mode  
Controlled Deceleration  
Acceleration Time  
Modbus RTU/ASCII or Local Control  
Stall Time  
Jam Current Level  
Jam Current Delay  
Service Factor  
Current Unbalance Level  
Current Unbalance Delay  
Locked Rotor Current

## Protective Features

Electronic Overload  
Phase Loss  
Phase Reversal  
Short Circuit Detection  
Shorted SCR  
Starter Over Temp  
Anti-Recycle Timer

## Monitoring Capability

Average Current  
Phase Current  
Elapsed Run Time  
Alarms  
Trips  
Fault History  
Starter Temperature

# Electrical

## Electrical Features

Vacuum bypass contactor-full horsepower rated  
Vacuum input contactor

VOLTS	AMPS	HP	KW	MODEL	DIMENSIONS		
					H	W	D
2300	270	1250	900	MVSA-S-1250-23	90	31	31
3300	270	1750	1300	MVSA-S-1750-33	90	31	31
4160	270	2250	1700	MVSA-S-2250-41	90	31	31

# Mechanical

## Mechanical Construction

Free-standing NEMA 1 enclosure  
with ASA #61 gray paint

Door interlocks

Isolated Low Voltage compartment

Custom Package available

