

# MVC PLUS SPECIFICATIONS



## Type of Load

3-phase medium voltage AC induction or synchronous motors

## AC Supply Voltage

2300, 3300, 4160, 6000/7200V, 11-15kV  
VAC +10% to -15%, 50/60 Hz line voltages

## HP Ratings

Up to 10,000 HP @ 7.2kV (800 Amps)

Up to 20,000 HP @ 15kV (800 Amps)

Contact factory for higher rating requirements

## Overload Rating

AC53b 600-30-60m

## Power Circuits

Series strings of SCR power modules (1, 2 or 3 matched pairs of SCRs per phase depending on voltage rating)

## SCR Peak Inverse Voltage

Line Voltage	PIV Rating	Line Voltage	PIV Rating
2300	6500	6500	19500
3300	9000	6900-7200	26000
4160	13000	11000	27000
6000	18000	13-15kV	39500

## BIL Rating

2300V - 7200V 60kV

11000 - 15000V (110kV)

## Transient Voltage Protection

dv/dt circuits (1 per SCR pair)

## Vacuum Bypass Contactor

Standard on all models, line start rated

## Ambient Operating Conditions

0 - 50°C (82° F to 122° F) (Optional -20° to 50° C with heaters)

5 - 95% relative humidity

0 - 3300 ft (1000m above sea level without derating)

## Digital Control Unit (DCU)

Programmable keypad/operator with 2 lines x 20 character backlit LCD display. Status/Alarm

LEDs (indicate: Power, Run, Alarm, Trip, Aux 1 - 8)

## Auxiliary Contacts

Multiple Form C contacts rated 5A @ 250VAC max.

6 fully programmable relays (including fail-safe operation)

5 dedicated relays (fault, at-speed, etc.)

## Programmable Features

Motor FLA, service factor, insulation class

Dual Ramp Adjustments - Two independent settings for:

- Initial Torque 0 - 100% of nominal torque, voltage or current

- Current Limit 200 - 600% of motor FLA

- Acceleration Time 1 - 120 seconds

Power Ramp Function

Three Custom Curves Via plotted torque/time axis points

Pump-Flex™ Decel 1 - 60 seconds with begin & end torque adj

Kick Start 0.1 - 2.0 seconds (10 - 100% voltage)

Tach Feedback (option) Closed loop speed ramp

## Motor and Starter Protection

Electronic Overload

Phase Loss

Phase Imbalance

Phase Reversal

Short Circuit Detection

Over / Under Current

Over / Under Voltage

Shorted SCR / Shunt Trip

Starter Over-Temp

Coast Down Lockout

Starts per Hour Lockout

Time between starts

RTD Input (Option)

Ground Fault (Option)

## Statistical Data

Elapsed run time, last start time, average starting current, stores

history of up to 60 events (data includes date & time, phase &

ground fault current). Also displays time-to-trip, remaining inhibit time

and starts/hour values.

## Metering (Voltage & Current)

Percent of FLA, phase currents, kVAR, kVA, kW, power factor, demand,

avg. start current, remaining thermal register, thermal capacity to

start, measured capacity to start, time since last start, line frequency,

phase order, RTD values (optional)

## Enclosure

NEMA 12 with 3R optional (not for direct sun applications), top and

bottom entrance plates, 11 gauge steel, ASA #61 gray powder coated

paint.

## Communications

RS485 with Modbus RTU protocol or RS232 with windows interface.



**3 YEAR WARRANTY**  
*with factory startup*

