

MVC4 Medium Voltage Soft Starter

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AC Supply Voltage

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

HP Ratings

Up to 10,000HP @ 7.2kV (800 Amps max)
Up to 20,000HP @ 15kV (800 Amps max)
Contact factory for higher rating requirements

SCR Overload Ratings

500% - 60 seconds, 600% - 30 seconds

Power Circuits

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

SCR Peak Inverse Voltage

Line Voltage 2,300V, PIV Rating 6,500V
Line Voltage 3,300V - 4,160V, PIV Rating 13,000V
Line Voltage 6,000V - 7,200V, PIV Rating 19,500V
Line Voltage 11,000V - 15,000V, PIV Rating 39,000V

BIL Rating

2,300V - 7,200V: 60kV
11,000 - 15,000V: 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 FormC contacts rated 5A @ 250VACmax. 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
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 Tri
p Starter Over-Temp, Coast Down Lockout
Starts per Hour Lockout, Time between starts
RTD Input (Option), Ground Fault (Option)g

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

Available Communications Options: Ethernet/IP, Modbus TCP,
DeviceNet Profibus DP, PROFINET

