



SAF OPAL Pro MS6 Series Soft Starter

1.0 Quick Start

WARNING!
ONLY A QUALIFIED ELECTRICIAN SHOULD PERFORM THE FOLLOWING PROCEDURES

Contact Your Distributor If No Electrical Schematics Were Provided with Panel

1. Verify NAE Serial on Electrical Schematics matches the serial number posted inside of enclosure
2. Connect Motor Leads to U,V,W terminals on Soft Start, Torque to specification on schematic
3. Connect incoming power to line side of disconnect, torque to specifications on Electrical Schematics.
Ensure Proper grounding per NEC and Local Code
4. Configure any phase or voltage protection devices to the appropriate settings for your incoming power.
For MotorSaver, see instructions posted inside the enclosure.

Before power up, ensure all persons and equipment are safe and clear. Inform persons that power is being applied to the panel.

5. Power the panel on by moving the disconnect into the “**ON**” position
6. Once Powered, verify any phase or voltage protection devices are not faulted.
i.e. MotorSaver-460 status light is green. If not, refer to instructions posted in enclosure
7. Configure Soft Start parameters for Application, using the parameters outlined on the back of this document.
8. To enable AUTO mode Operation, wire NO contact across terminals indicated on Electrical Schematic
9. The panel is now ready for operation.

2.0 Configuration

Soft Start must be appropriately configured to application demands with the Characteristic Parameters before operation or operation-inhibiting faults will occur.

NAE is not responsible for damage caused by incorrect parameterization

Using the keypad for the Opal MS6 Softstart, press the “Menu” button to access the parameter list, then use the arrow keys to select the parameter you would like to edit. Once highlighted, press the “Enter” key to make a change to the parameter with the arrow keys. Once the correct value is entered, press the “Enter” key once more to save the value.

Below is a list of pertinent parameters that will likely cause faults to occur if not entered correctly.

Parameter	Description	Range	Actual
1301	Motor Amps -this should be the name plate full load amperage of your motor	5-1100 Amps	
1302	Motor Volts -this should be the name plate rated voltage of your motor	240-600V	
1303	Service Factor -this should be the name place service factor of your motor	1.00-1.30	
1002	Ramp -this is the time that it will take for the current reference to increase from the Step value (parameter 1003) to 500% of the motor name plate current (entered in parameter 1301)	0-60 seconds	

3.0 Troubleshooting

If faults occur during operation, a status message will be displayed on the keypad with indicating the active fault. If you are still unable to start the Opal MS6 after a fault has been cleared, or the “Ready” light on the keypad is not illuminated green when in “RVSS” mode, perform the following steps.

1. Verify Motorsaver is not faulted. (Status light should be green.)
2. Verify external Overload is not in a tripped state. This can be done by pressing the “Reset” button on the motor overload.
3. Check that the MS6 is receiving its enable signal and start command. This can be done by switching the panel selector switches into “RVSS” and “HAND” respectively, then measuring the voltage on terminals 3 and 8 of the MS6 panel. There should be 120VAC between each terminal and electrical ground. If 120VAC is not detected, check all control wire connections for loose wires or bad connections.

For a brief overview of common faults and their remedies, refer to the table on pg.3.

Fault (Display)	Description
MTR OVRLD	<p>Motor Thermal Overload (calculated)</p> <ul style="list-style-type: none"> - motor has been drawing over 100% of motor nameplate current for a specified amount of time based on the class of overload selected in group 15 parameter 2 - after this fault has occurred the Opal Pro will not allow a reset for approx. 6 minutes (this is to allow the motor to cool down) - this fault can be disabled in group 15 parameter 2
IOC	<p>Instantaneous Over Current</p> <ul style="list-style-type: none"> - Current has reached a value of 1000% of stack size - Usually a short circuit on the output or misfiring of SCR's - This fault cannot be disabled
HEAT SINK OT	<p>Heat Sink Over Temperature</p> <ul style="list-style-type: none"> - One of three temperature switches mounted on the heat sink has been triggered - These switches trigger at approx. 85 degrees Celsius - The switches are only mounted on units which include fans - This fault cannot be disabled
PHASE LOSS	<p>Incoming Phase Loss</p> <ul style="list-style-type: none"> - one of the incoming phases is missing or abnormally low - phase voltages can be read in group 1 parameters 2, 3, and 4 - this fault will not be triggered until the motor is commanded to start - this fault cannot be disabled
SHEAR PIN	<p>Excessive Motor Current While Running</p> <ul style="list-style-type: none"> - if the Opal Pro is phased fully on and the motor is up to speed this fault will be triggered if the current goes above 300% - this fault can be disabled in group 15 parameter 1

CONTACT INFORMATION:

North American Electric, Inc.

Phone: 662-429-8049 Toll Free (800) 884-0404 Fax: (662) 429-8546
350 Vaiden Dr., Hernando, MS 38632 www.naemotors.com

