

How to configure the S811+ reduced voltage soft starter to disable overload on start

Application

The S811+ soft starter may be used to accomplish motor starting by employing the reduced voltage method for many applications. The overload curve in the S811+ firmware is modeled on a NEMA® B type motor application, which is the most common. In some cases, this overload curve is not appropriate for achieving a successful start ramp profile, due to significant differences in starting current and/or longer ramp times necessary to achieve synchronous speed. As an example, centrifuges that have a high rotating mass typically require extended ramp times well in excess of 60 seconds. As such, a NEMA B motor profile is not appropriate for the current level vs. time experienced by this type of application during the start process. It is undesirable to disable any overload protections that provide motor protection during normal run operations.

Overview

The S811+ can be configured in a manner that will disable overload protection during the start ramp only. When the motor achieves synchronous speed and the internal bypass contactors are closed, overload protection is re-established. This is accomplished by setting the *Ovld On Start* parameter located in the Overload Config Menu to "Disabled." The soft starter will retain this change until such time as the parameter is changed by editing the parameter via the menu structure or a factory reset is performed.

The S811+ soft starter may also be configured to disable overload protection during the start ramp only, but the procedure is slightly different from what's done with the S811. When comparing the configurations of an S811+ to an S811, two (2) changes occurred to the above parameter. The first is that the *Ovld On Start* parameter is now located in the Protections menu of the S811+. The second is that when 24 Vdc control voltage is removed for any reason after this parameter is set to "Disable," the parameter will revert back to the default value of "Enable." For applications requiring the parameter to be disabled permanently (even in the event of loss of 24 Vdc control voltage), an alternate method is available. This method uses an input parameter to be programmed for this purpose, and a 24 Vdc signal to be provided continuously.



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S811+ disable overload on start

24 Vdc control voltage—maintained

This process will disable *Ovld on Start* as long as 24 Vdc control voltage is applied to the soft starter. If 24 Vdc control voltage is removed or is lost for any reason, this parameter will revert back to the default setting of “Enabled” when the unit is re-energized with 24 Vdc control voltage.

Procedure

Step 1. With 24 Vdc control voltage applied to the soft starter (mains voltage is not required), navigate to the *Ovld on Start* parameter located in the Protection Setup Menu.

Step 2. Press the ENTER key to enter the parameter list.

Step 3. Press the NEXT key as required to select the *Ovld on Start* parameter.

Step 4. Press the EDIT key to select this parameter for editing.

Step 5. Press the INC key to select “Disabled.”

Step 6. Press the SAVE key to store the value. (Press the ESC key to exit the parameter without saving the new value.)

Step 7. Press the ESC key as necessary to navigate back to the desired display screen.

24 Vdc control voltage—not maintained

This process will disable *Ovld on Start* as long as 24 Vdc control voltage is applied to Terminal 2 of the control terminal block. If 24 Vdc control voltage is removed or is lost for any reason, this parameter will retain the *Ovld on Start—Disabled* configuration as long as a 24 Vdc signal is applied to Terminal 2 of the control terminal block when a START command is received. Parameters in these menus will also have a selection number in addition to a text message.

Procedure

Step 1. With 24 Vdc control voltage applied to the soft starter (mains voltage is not required), navigate to the *Input Config* parameter located in the Advanced I/O Setup Menu.

Step 2. Press the ENTER key to enter the parameter list.

Step 3. Press the MORE key to enter the *Input Config* sub menu.

Step 4. Press the NEXT key to navigate to the *Entry 1* (default is *3 Jog*) parameter.

Step 5. Press the EDIT key to edit the selection. Note that the number “3” is now highlighted.

Step 6. Press the INC key to navigate to the *10 Dis Ovld on Start* parameter.

Step 7. Press the SAVE key to store this selection.

Step 8. Press the ESC key as necessary to navigate back to the desired display screen.

Note: Other terminals may be used for this purpose, but Terminal 2 is normally selected as most applications do not require a *JOG* function (Terminal 2 default assignment) after commissioning is completed.

Supporting documentation

Manuals	Reference Number
S811+ User Manual	MN03900001E
S811 User Manual	MN03902002E

Additional help

In the event that additional help is needed, please contact the Technical Resource Center at 1-877-ETN-CARE, option 2, sub-option 2.

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