Overview
The ACS250 allows all speed related parameters to be displayed and entered in rpm instead of Hz. By default, the ACS250 displays the operational speed and all speed related parameters in Hz, with the option to display amps. By setting the value of the ‘motor rated speed parameter’ to the motor rated speed in rpm, the ACS250 will add the ability to display the motor speed and the speed related parameters in rpm.

Parameters
Motor rated speed parameter
Motor rated speed parameter is 9908.

When this parameter is set to zero, the speed of the motor and associated speed parameters will be displayed in Hz with the option to display amps. The display can be changed from Hz to amps (but not rpm) during normal operation using the navigation button on the keypad.

When the rated speed of the motor has been entered in parameter 9908, all speed related parameters can be displayed in rpm. The LCD display can now be toggled between rpm, Hz or amps during normal operation using the navigation button on the keypad.

When operating in V/F speed control mode and with the motor nominal speed set in rpm (in 9908) the slip compensation will be activated automatically, giving improved shaft speed regulation.

When operating in sensorless vector mode, the motor shaft speed is accurately controlled to match the displayed speed in Hz or rpm. In this case, 9908 does not change the speed control performance.
The minimum available none-zero value for the motor rated speed parameter is the synchronous speed of a 24-pole motor (250 rpm).

**Example**
(For a 2-pole 50 Hz motor)

If the operating speed and all speed related parameters should be displayed in Hz then 9908 should be set to 0 (factory default value). Displayed speed then represents the electrical frequency of the rotor in Hz. The actual speed of the motor will depend on the number of poles of the motor and the load applied. The display can be changed to show amps by pressing the navigation button with the drive in normal operation.

If the operating speed and all speed related parameters should be displayed in rpm then 9908 should be set to the motor rated speed (as found on the motor nameplate). The displayed speed will then represent the shaft speed of the motor in rpm with some automatic compensation of load. The user will need to change the display from Hz to rpm (or amps) using the navigation button on the keypad when the drive is in normal operation.

**Speed related parameters shown/entered in rpm (when value entered in 9908)**

<table>
<thead>
<tr>
<th>Parameter numbers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008, 2007</td>
<td>Maximum speed, minimum speed</td>
</tr>
<tr>
<td>1202 thru 1205</td>
<td>Preset speed 1 thru 4</td>
</tr>
<tr>
<td>2501, 2500</td>
<td>Skip frequency, skip frequency band</td>
</tr>
</tbody>
</table>

Motor data plate example for motor rated speed
Motor rated speed is typically displayed on the motor nameplate or is available from the motor manufacturer.

For more information please contact your local ABB representative or visit:

www.abb.com/drives

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