

Application Note

AN-ODP-05

Displaying motor speed in RPM

Author: Ning Xu, Invertek Drives Ltd

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- ***General***

The Optidrive Plus allows all speed related parameters to be displayed in RPM instead of Hertz. By default, the drive displays the operational speed and all speed related parameters in Hertz.

By setting the value of P1-10 to the motor rated speed in RPM, drive will display the motor speed and the speed related parameters in RPM.

- ***Parameters:***

- P1-10 Motor rated speed**

When this parameter is set to zero, the speed of the motor will be given in Hz.

When P1-10 > 0, the speed related parameters will be displayed in RPM.

When the rated speed has been set, all speed-related parameters (P1-01, P1-02, P1-11, and P2-02 to P2-10) will be displayed in RPM. Also, the drive will show the running speed in RPM during normal operation.

Additionally, when operating in V/F speed control mode, slip compensation will be activated automatically, giving improved shaft speed regulation.

In vector mode, the shaft speed is accurately controlled to represent the displayed speed in Hz or RPM. In this case, P1-10 does not change the speed control performance.

The minimum available none-zero value for P1-10 is the synchronous speed of a 20-pole motor.

- ***Examples: (for a 2-pole 50Hz motor)***

- If the operating speed and all speed related parameters should be displayed in Hz, P1-10 should be set to 0 (factory default value). This then represents the electrical frequency of the rotor. The RPM speed will depend on the number of poles of the motor.
- If the operating speed and all speed related parameters should be displayed in RPM, set P1-10 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.

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