Technical instruction
ACS250 micro drives, 110-480 V
Using the display scaling function

Overview

In some applications, it can be desirable to scale the output display of the ACS250 to show different units that are more useful or applicable to the application being performed. E.g. where the motor drives a load via a gearbox, the user may wish to display the output speed of the gearbox rather than that of the motor shaft. This can be done by using the display scaling function.

The custom display value is always scaled from the output motor speed.

Parameters

3400 Display speed scaling factor

If this parameter is zero (0.000), the display scaling function is disabled.

If this parameter is >0, the custom display scalingZ function is enabled, and operates as detailed in the following table.

Display scaling value	Motor rated speed 9908	Scaled display
Motor speed (Hz)	=0	Output frequency (Hz) x 3400
Motor speed (rpm)	>0	Motor rpm x 3400

Showing custom units on the drive display

The scaled display value can be viewed as one of the main real-time values of the drive display whenever the drive is running. The menu/enter key is used to scroll through the available display values. Provided a value has been entered in 3400 then the custom user units display will form one of the options scrolled to using the menu/enter key. A lower case character 'c' will be displayed on the display to distinguish the scaled value from the other real-time values. The sequence when scrolling through the drive display is shown below.
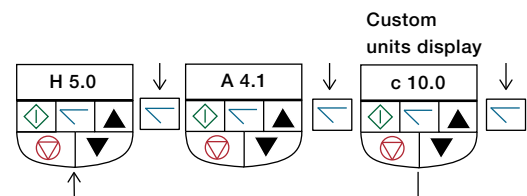
Example shows scaling (3400) set to 2.000

When the drive is turned on it will power up with the same display units as shown on the display when the unit was powered off. Hence if custom units are shown on the drive display at power off, then they will be retained on the display at power on.

Example

Displaying gearbox output rpm

If the controlled motor is connected to a gearbox and it is desired to display the gearbox output shaft speed rather than the motor shaft speed, this can be achieved in the following way.

– Enter the motor nameplate speed into 9908.
– Calculate the value of 3400=1/rgearbox ratio.
– E.g. gearbox ratio=10:1, 3400=1/10=0.1
– Set 3400=0.1.

The scaled display will now show the gearbox output rpm.

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