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APPLICATION NOTE

Drive Applications Support Library

Application Note	AN-P2-004
Title	Locking Parameters to Prevent Changes
Related Products	P2 Series AC Drives
Level: 1	1 - Fundamental - No previous experience necessary. 2 - Basic - Some basic drives knowledge recommended. 3 - Advanced - Some basic drives knowledge required. 4 - Expert - Good experience in topic of subject matter recommended.

Overview:

P2 Series drives incorporate a feature that, when activated, effectively "locks" the settings of the drive. Parameters within the drive can then only be viewed but not changed. This is useful in cases where the commissioning engineer wishes to ensure that unauthorized changes are prevented.

For complete security, this function can also be used in conjunction with the parameter access code to prevent unauthorized access to the locking parameter (unauthorized unlocking of the drive parameters).

Procedure:

Entering the access code for Extended Parameter Access

Parameter for entering access code: P1-14
The access code in P2 Series drives is a pre-defined number between 1 and 30,000 that has to be entered into the access parameter before access to 'extended' parameters and groups is permitted.

P2 has three levels of parameter access that are restricted by the code entered into parameter P1-14.

By default these access levels are defined as follows:

  P1-14 = 0   Level 1: Access to parameter group 1 only

  P1-14 = 101   Level 2: Access to extended menu groups 0-5

P1-14 = 201   Level 3: Access to all menu groups 0-9

To gain access to extended parameters, this value (101 or 201) must be entered into the access parameter P1-14. The user can change the access codes for level 1 or level 2 access to any value between 1 and 30,000.

Changing the access code for Extended Parameter Access

Level 1 Extended Menu Access code is set in parameter P2-40
Access to extended parameters will only be permitted if the value in P1-14 equals the value set in P2-40.

Level 2 Advanced Menu Access code is set in parameter P6-30
Access to advanced (all) parameters will only be permitted if the value in P1-14 equals the value set in P6-30.

⚠	**NOTE:** When either of the menu access codes (P2-40 or P6-30) is changed then it must be retained in a safe location for further reference to allow further configuration or service. Forgotten access codes can be cleared by returning the drive back to default settings. A default is performed by pressing STOP, UP and DOWN buttons simultaneously for more than 2 seconds. This will clear **all drive parameters**, including the security codes back to default values.

Write protecting the parameters

Parameter for setting the 'Parameter Access Lock' is P2-39

By default the Parameter Access Lock parameter is set to 0. This means that parameters can be changed, and they are automatically saved on exit. The Parameter Access Lock parameter can be set to the following values:

0 – Parameters can be changed, they are saved on parameter exit (default state).

1 – Parameters values are locked and can be viewed but cannot be changed.

Example 1: Preventing access to extended menus

Assuming that the drive is in factory default settings:

Change the value of P1-14 to 101; the extended parameter group access is now available.

Change the value of P2-40 from 101 to 1234, the "Access Code" is now 1234.

Now if the user wants to access the extended parameter groups (any menu other than menu 1) then value 1234 must be entered into parameter P1-14

The only way to reset the access code defined in P2-40 without knowing the correct value and entering it into P1-14 is to carry out a default operation.

Example 2: Locking parameters to prevent editing

Enter to parameter access code into parameter P1-14 to access extended parameters (default – 101)

Change P2-39 to 1, so that all the parameters are locked (except P1-14).

Change P1-14 to 0 so that all parameter groups except the basic parameter group (group 1) cannot be accessed.

The parameters of the drive are now locked, and cannot be unlocked without changing P2-39 to 0. If P2-40 has also been changed to the user's preferred access code then parameter access can only be unlocked if the extended menu access code is known (which allows access to P2-39).

Example 2: Locking parameters to prevent editing

If there is a Remote keypad module connected with the drive, setting P2-39 to 1 prevents all parameter access through the remote keypad. To allow parameter access via the keypad, set P2-39 back to zero using the drive keypad.

Appendix:

Revision History			
Version	**Comments**	**Author**	**Date**
1	Application Note Creation / Release	JP	02/09/12
2	Revised to new format	KB	06/15/15
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