Welcome to the CoDeSys User Parameters training module for the DCS800, ABB DC Drives. If you need help navigating this module, please click the Help button in the top right-hand corner. To view the presenter notes as text, please click the Notes button in the bottom right corner.
After completing this module, you will be able to

- Create new parameters
These are the function blocks, which are important for parameter handling.

- Function block PARSET, means parameter set, writes cyclic to a parameter in internal scaling.
- Function block PARWRITE, means parameter write, writes to a parameter in physical scaling.
- Function block PARGET, means parameter get, reads cyclic from a parameter in internal scaling.
- Function block PARREAD, means parameter read, reads from a parameter in physical scaling.
- Function block PARPROTECT, means parameter protection, protects parameters in case of changing or hide a parameter group.
With CoDeSys there are the possibility to define new user parameters. Parameter group 60 until 69 are reserved for user defined parameters. It is possible to create texts for the user defined parameters and set their range and units. The user defined parameters are shown in DriveWindow (DW), DriveWindow Light (DWL) and on the DCS800 panel.
Let's do a little exercise!
The actual speed should be scaled by a gear ratio and written to the new user defined parameter 61.05. For this exercise we need function block DriveState, MulDiv and ParWrite.
Follow the next steps to create your program!

Start CoDeSys and create a new project. Select CFC as programming language in the main program. Insert the boxes DriveState, MulDiv and ParWrite.
Arrange the function blocks like in the picture and connect the in- and outputs. For this application it is necessary to put in further input boxes. Function block “MulDiv” scales the actual speed.
The parameters which are connected with parameters must be global ones. In this application the variable “gear” is from type integer and is a global one. Change to resources window to see all declared global variables.
User defined parameters can be defined in the parameter manager. The Parameter manager can be found in resources window.
Click to menu “Insert” and select “List”. Then a new window opens. Select “Variables” and type in a name for this list. Note, it’s not possible to choose Parameters, Template, Instance or System parameters.
Now the list is generated and several lines for new parameters can be added. In Standard the parameter number will be shown in Hex-format. If you will see a decimal number, change the format in menu extras.
In the parameter manager there is the possibility to select several settings for the new parameters. The list shows the fields and their function.
The next step is to build the project. Before download, configure your communication setting. Define also the task configuration. Download the program and test it, please.
Now open DriveWindow light and look to parameter 61.05. There you can see the new parameter in the list.
The key point of this module is how new user parameters can be created.
Additional information

- Links to related information
  - 3S-software.com
  - DC-Drive-News (Intranet)

- Additional references
  - Application Manual (3ADW000 199)
  - Firmware Manual (3ADW000 193)
  - Hardware Manual (3ADW000 194)
  - Training Material
Glossary

- **CoDeSys**
  Controller Development System (software tool)

- **Memory Card**
  Flash memory

- **DriveWindow Light**
  Software Tool for commissioning and maintenance using AC/DC

- **Target**
  Interface between Drive and CoDeSys tool

- **Control Builder**
  Whole system with software and hardware

- **PLC_PRG**
  Main program which is used in all applications

- **POU**
  Program Organization Unit

- **Library**
  It includes function blocks which are given or designed by other users
Thank you for your attention. You may now go ahead and move on to the next unit.