CTVUE Application Note

Number:CTVUE-1009, Revision 1, 12/18/2007
Subject: Data Formatting

Introduction

The integrated Control Technique drivers attempt to make it as easy as possible to access drive data.

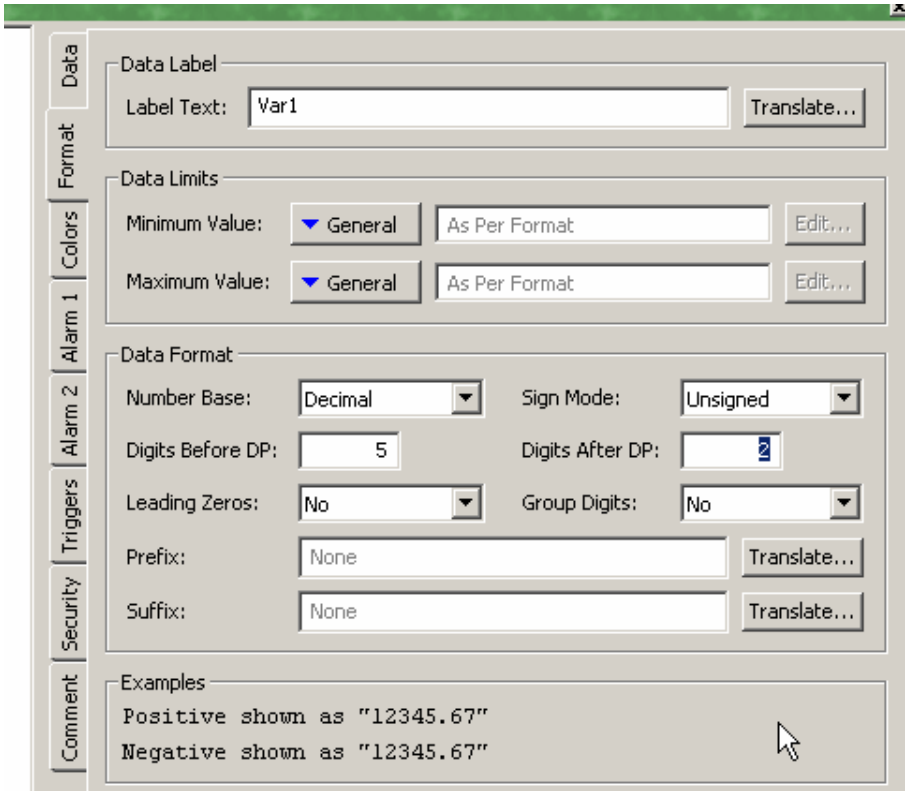
However, there are still a few steps that need to be taken to ensure your data is properly displayed in a readable format. These tasks include the following:

1) Number of Decimal Place Format
2) Unsigned or Signed Integer type data
3) Menu18-19 Double Word Swap

Number of Decimal Place Format

One of the reasons it is always suggested you use tags is because you can define how the data will look once and it will be used in that format throughout your entire application.

Once you define a tag and link it to your drive you will need to go under the format tab and set-up the number of decimal places you want before and after the decimal and also any +/- signage you may want. The below example, you will see 5 digits before and 2 digits after and it even shows you an example.



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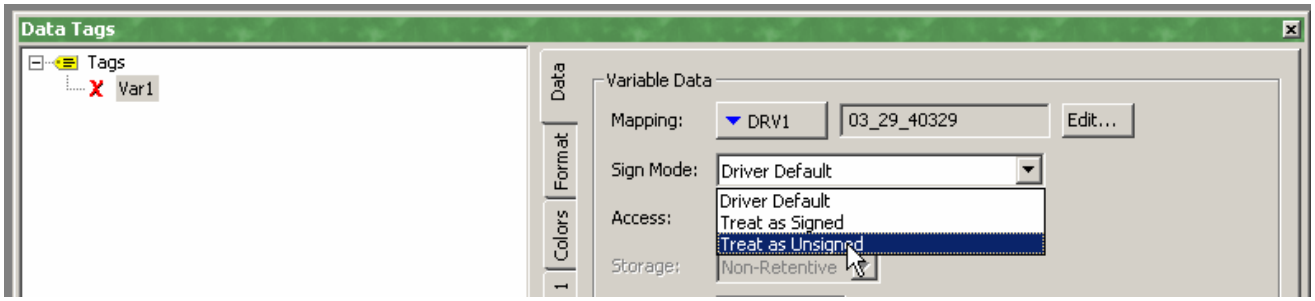
Unsigned Integer or Signed Integer

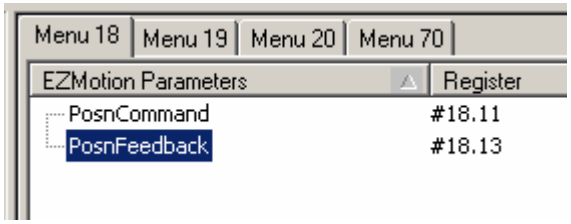
Certain kinds of data being read from the drive could be a signed integer or unsigned integer value. For example, say you are reading encoder position Menu 3 parameter 29 on the Unidrive SP. The default would be to read a 16 bit signed integer which would give you a value of -32767 to + 32767. However, you may want this to be an unsigned integer value of 0 to 65535. Therefore, to get this to display correctly, you need to select Sign Mode “Treat as Unsigned”.



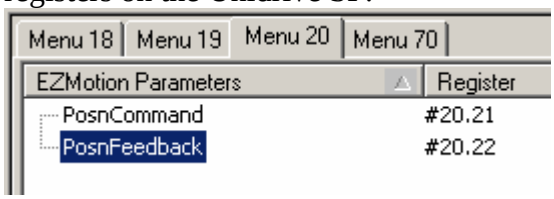
Menu18-20 Double Word Swap

You will mostly run into this problem when you are using the drag and drop Menu18-20 in the SM-EZ motion module. Since the EZ motion values are 32 bit, the drag and drop will occupy 2 x 16 bit Menu 18-20 registers. Unless you use the Menu20 32 bit registers in which case it will only use 1 x 32 bit register. See the below examples from PowerTools:

PositionCommand is menu 18.11 and menu 18.12 while PosnFeedback is 18.13 and 18.14



PositionCommand is Menu 20.21 and Position Feedback is Menu 20.22 because these are 32 bit registers on the Unidrive SP.



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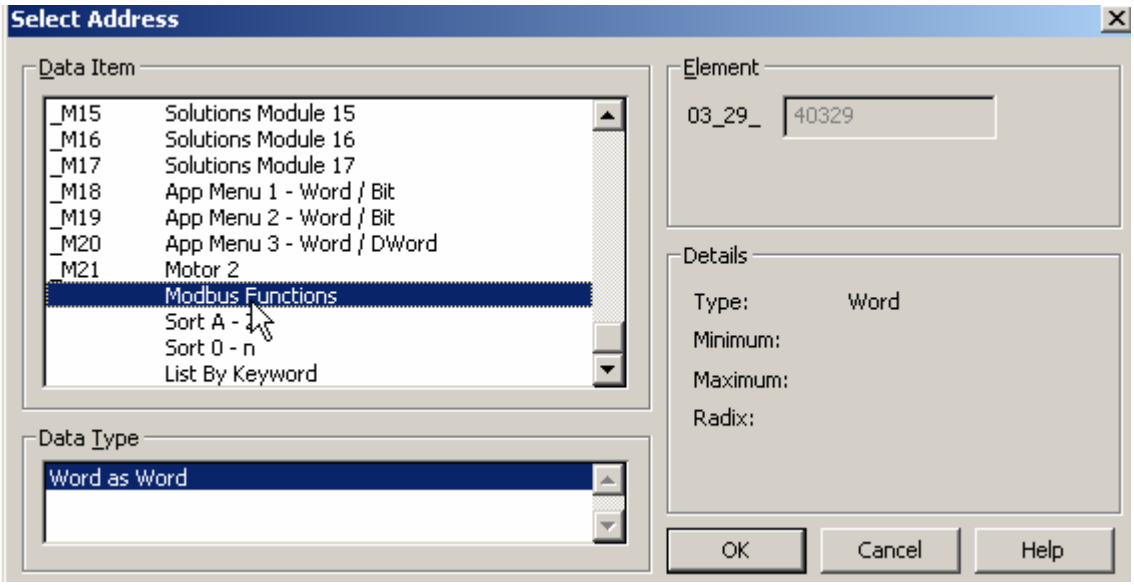
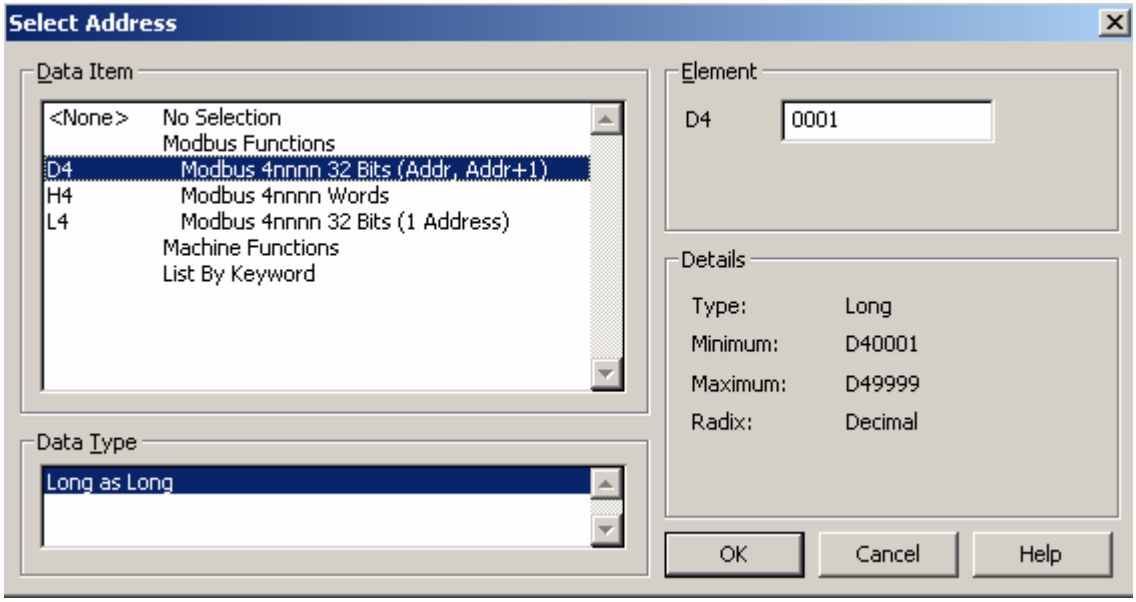
In the case where you need to set-up the CTVue to access 2 x Menu18-20 parameters, you will need to use the “Modbus Functions” and then select type D4 and then you will have to select “Swap Words” from the Transform option.

Select Modbus Functions from SP selection



Select Type D4



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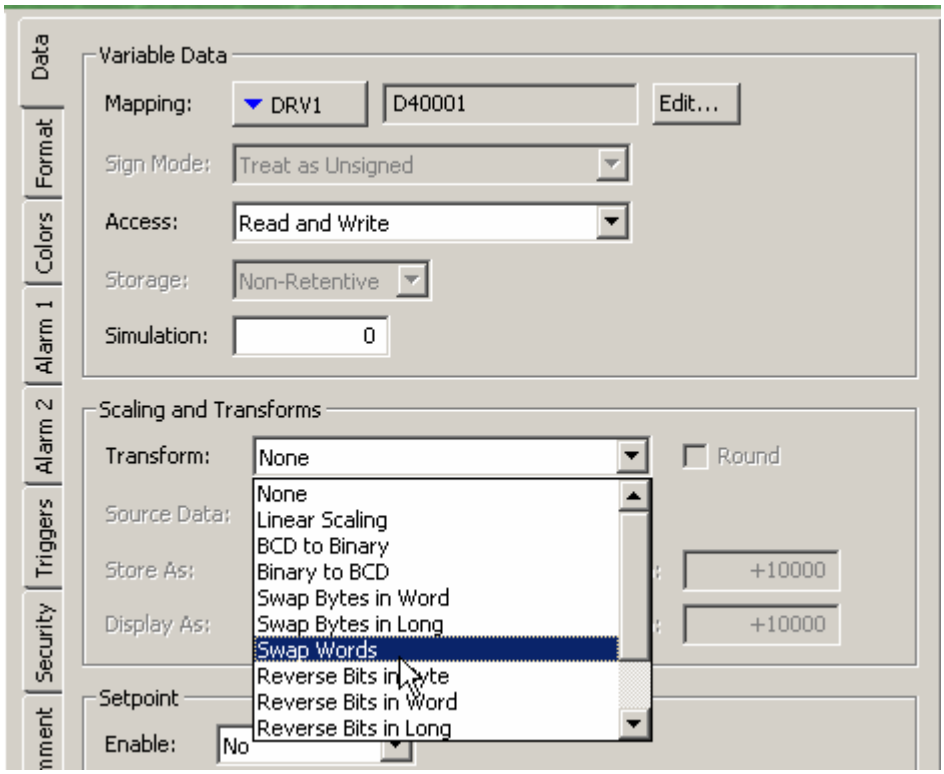
Select Transform and Select Swap Words



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