EXOR
Tech-note

Connecting UniOP Using the USS Protocol

This Technical Note contains the information needed to connect UniOP to drives using the USS communication protocol.

Contents

1 Introduction

D32UPLC139.DLL is the file containing the driver for USS protocol. The USS protocol can be used to connect UniOP to Siemens drives and to any device using the same communication protocol respecting the setup configuration.

2 Setting-up UniOP for Communication

To configure UniOP for operation with the drive, follow the steps listed in this chapter.

1) Select the communication driver "USS" from the list of available drivers

2) Set the drive communication parameters (Controller Comm. in Designer Controller Setup) according to the drive settings.

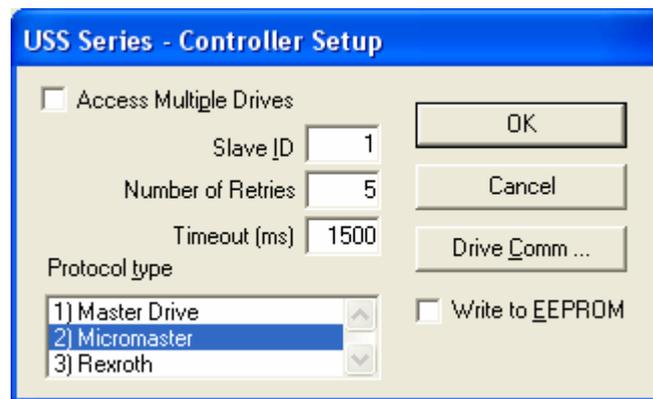3) Set the Slave ID according to the node ID assigned to the drive.

Figure 1

The Controller Setup allows specifying several parameters to customize the communication set-up.

Slave ID	specifies the node address assigned to the drive
Number of Retries	defines the number of communication retries when encountering an error
Timeout	specifies the interval of time in milliseconds the communication protocol wait for a reply from the device
Write to EEPROM	specifies if the parameters have to be written to the EEPROM instead of RAM memory; this is supported at the moment only for the Micromaster model

Note: *Depending on the model selection the PKW and PZD area length into the drive must be properly configured.*
Micromaster model requires fixed length of the PKW/PZD areas set to 4/4.
Rexroth model requires fixed length of the PKW/PZD area set to 6/6.

The communication protocols supports multiple point connection to many devices.

When the "Access Multiple Drives" is enabled, the dialog changes according and allows configuring the Network as shown in the following picture.
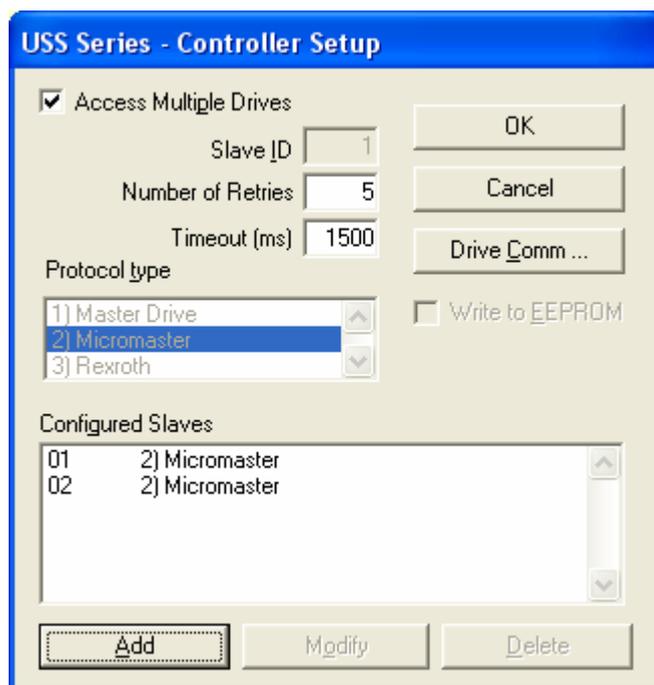
Figure 2

3   Configuring Data Access in UniOP
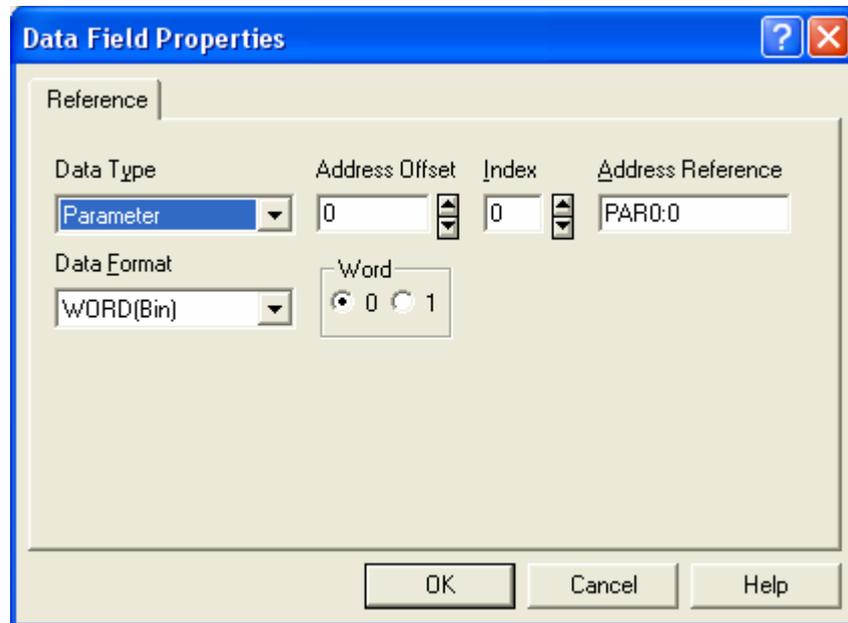
The "Define Field" dialog box is shown in Figure 3.

Figure 3

The available data types are:

Parameter	allows to access to the drive's parameters using the PKW area
Internal Work Buffer	it is an internal panel Memory area that can be used for RDA Mailbox or Data Transfer
Slave ID Override	allows to change at run time the Slave ID of the target device; each device configured in the network shown in Figure 2 has it own "Salve ID Override"; when different from -1 is interpreted like new Node ID for the slave; when reverted to -1, the Slave ID is restored back to the original project value. The Slave ID Override function can be used for a maximum number of 32 slaves configured into the project.
PZD Commands	it an array of n words, where n is the number of PZD words available; the number of available words is model dependant; this array is received by the drive and contains the commands data sent by the panel
PZD Status	it an array of n words, where n is the number of PZD words available; the number of available words is model dependant; this array is received by the panel and contains the status information returned by the drive according with its PZD word configuration
Node Control	it is an internal protocol variable available as data type in the Define Field dialog box only in multi point configuration; each defined node has its own variable; when set to "1" means the node is enabled; when reset to "0" no queries are sent to the involved node and it can be for instance physically removed from the network without affecting the rest of the panel operation

Note: Salve ID Override and Node Control information are store in battery backed RAM; the feature is then supported only on units equipped with battery

Appendix A. Communication Error Codes

Current communication status is displayed in the System Menu of the UniOP.
The message reports the current communication status. The number shows the code of the current communication error or, if the communication is correct, the code of the last error encountered. When the error code 0 is shown, it means there have been no communication errors since this system start-up.

Code	Description	Notes
0	No error	There are no communication errors and there have been no errors since start-up.
1	Not accepted	Incorrect reply for the request
5	Time-out	A request was sent without the reply
6	Response error	Wrong response frame
11	Line error	UART framing error