APPLICATION NOTE

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Product Family: GS Drives

Number: AN-GS-006

Date Issued: 6/18/03

Revision: Original

Subject: An Automation Direct GS-EDRV (GS series AC drive Ethernet Interface) is to be used to gain access to drive parameters for monitoring and control via the Modbus TCP/IP protocol inside KepServerEx from http://www.kepware.com/

Specifications:

Drive network:	1 x GS2-XXXX 1 x GS-EDRV
PC's:	standard network pc
Software:	KepServerEx V4.0 from Kepware

KepServerEx V4.0 can be purchased directly from Kepware. This Server has the unique ability to communicate to the GS-EDRV card via Modbus TCP/IP. The user must purchase the Modbus driver from Kepware to enable this communication feature.

This application will allow the user to interface the GS series of drives over the Ethernet to any type of HMI or SCADA system that is OPC/DDE compliant. This is very important if the application has mixed plc's and controls from various manufacturers. Kepware has the majority of drivers that can work off a single server in addition to the Modbus required for the GS-EDRV's to accomplish your connectivity needs.

Basic Drive Communication parameter setting:

GS2-43P0	DEFAULT	NEW	COMMENTS
P3.00	0	3	RS485 operation control enabled
P4.00	0	5	RS485 speed reference control
P9.00	1	X(1)	Communication address
P9.01	1	1	9600 Baud rate
P9.02	0	5	MODBUS RTU 8 data bits, odd parity, 1 stop bit

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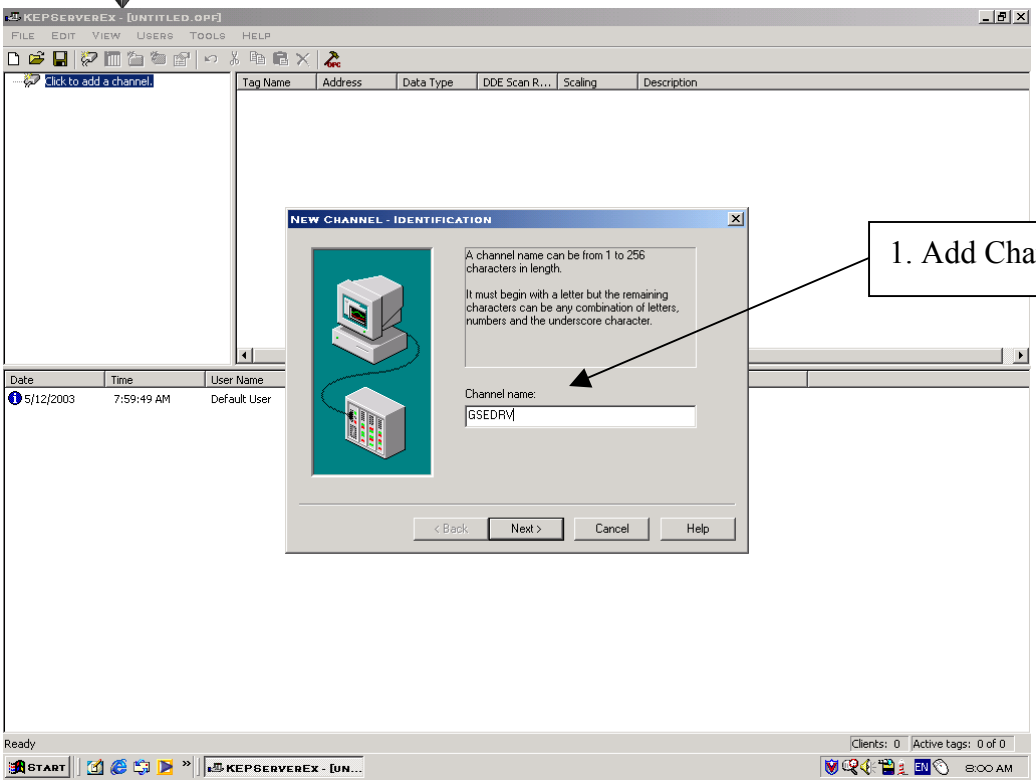
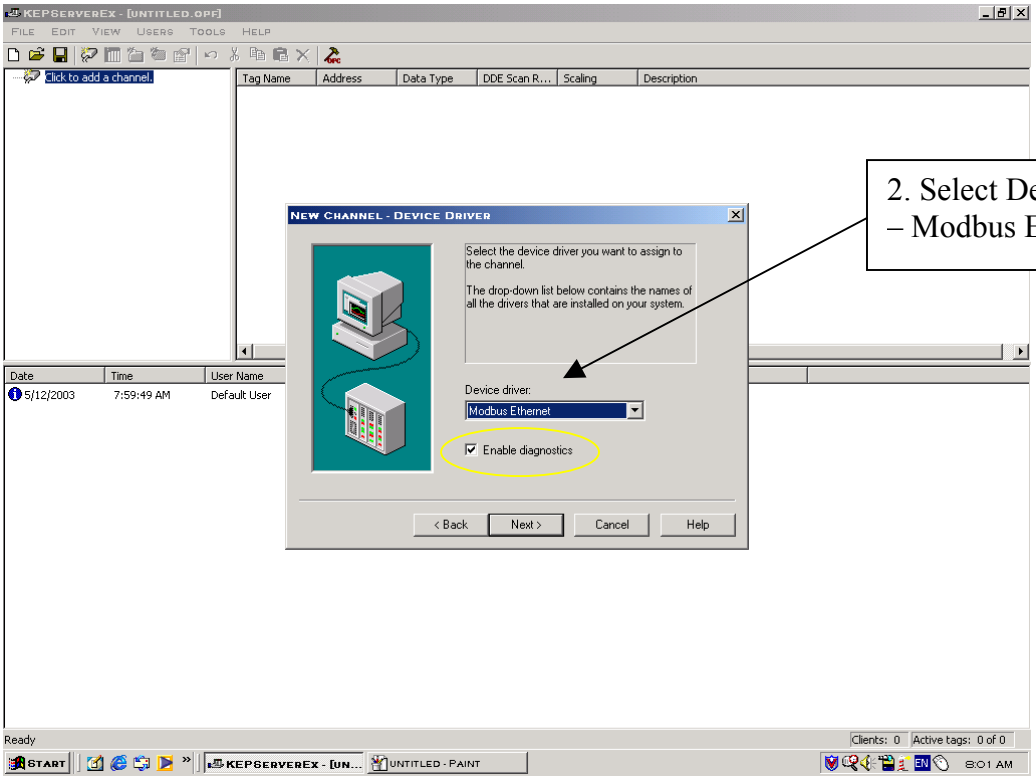


1. Add Channel Name.



2. Select Device Driver – Modbus Ethernet.

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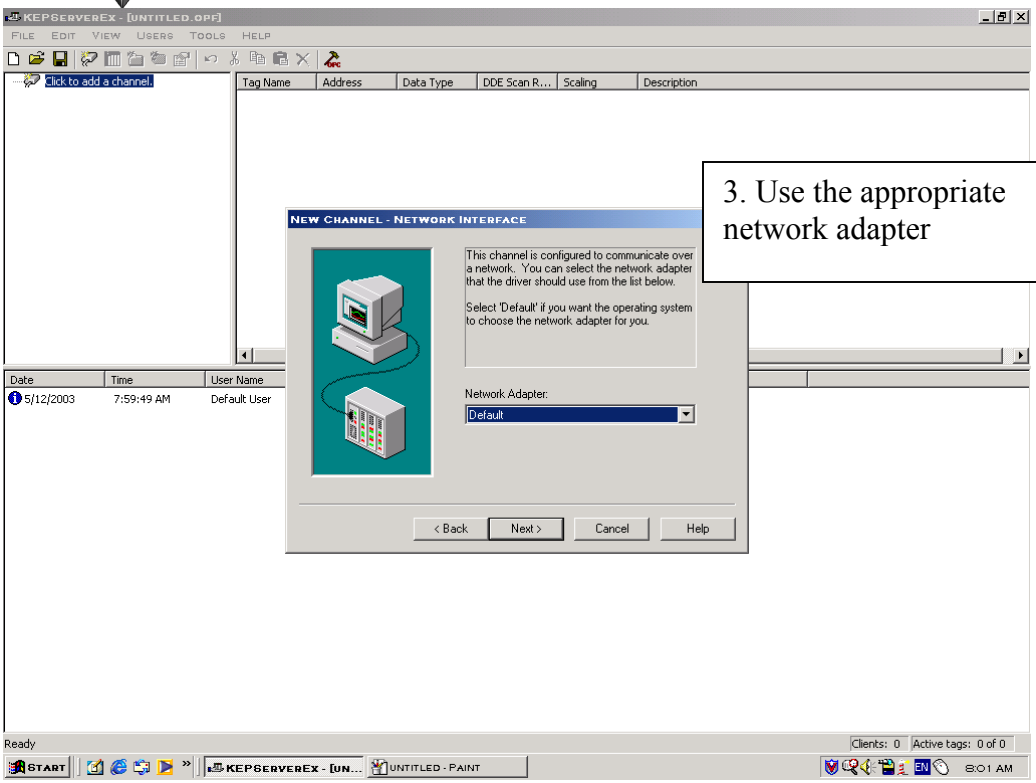
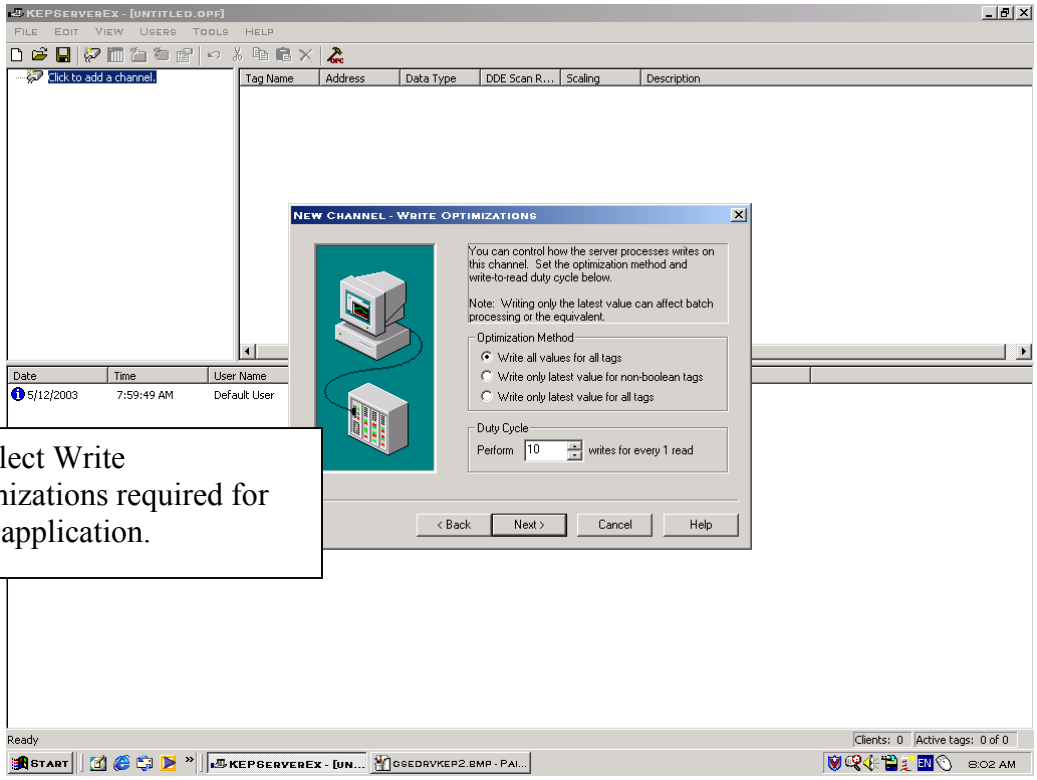


3. Use the appropriate network adapter



4. Select Write optimizations required for your application.

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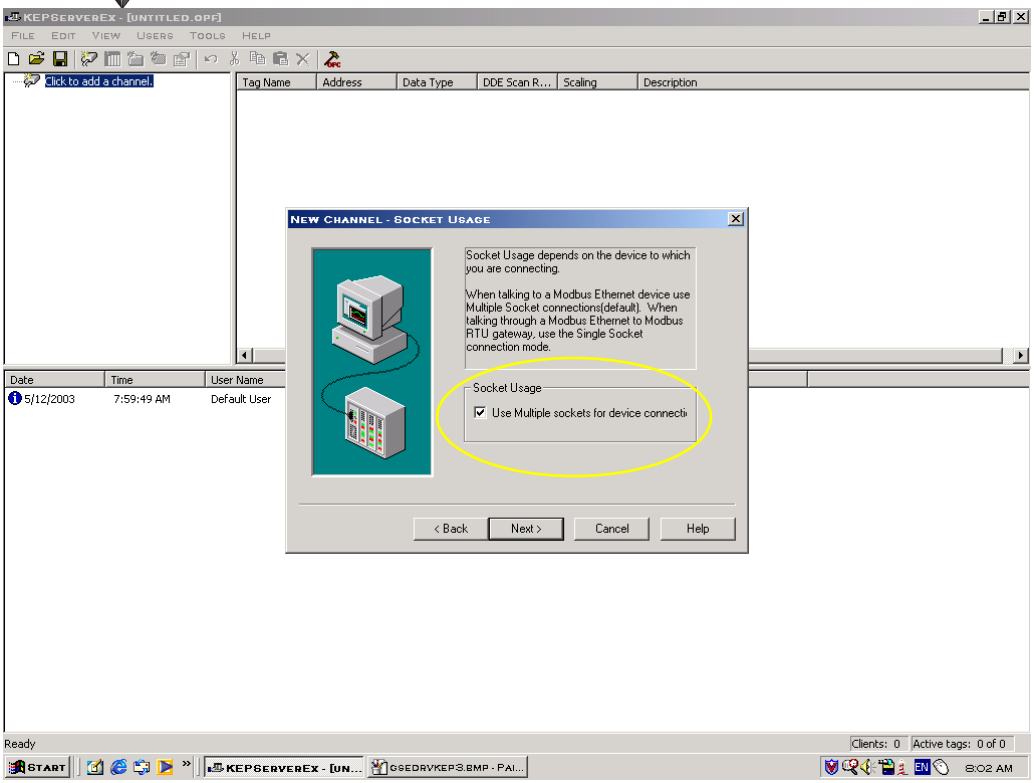

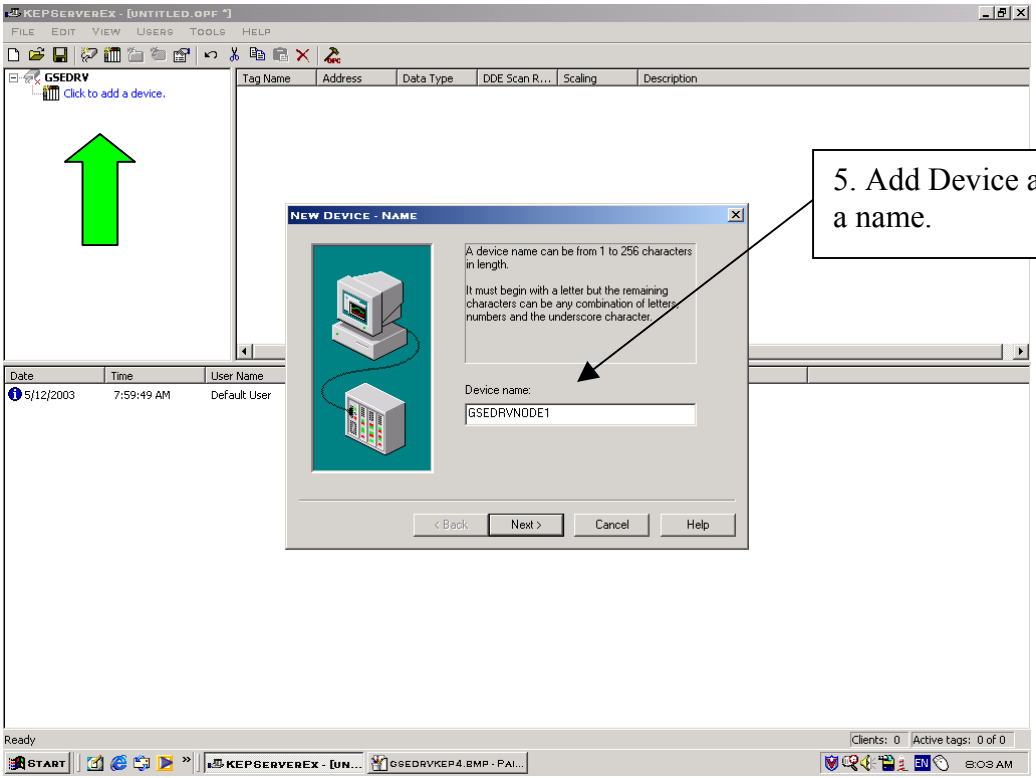

5. Add Device and Give it a name.

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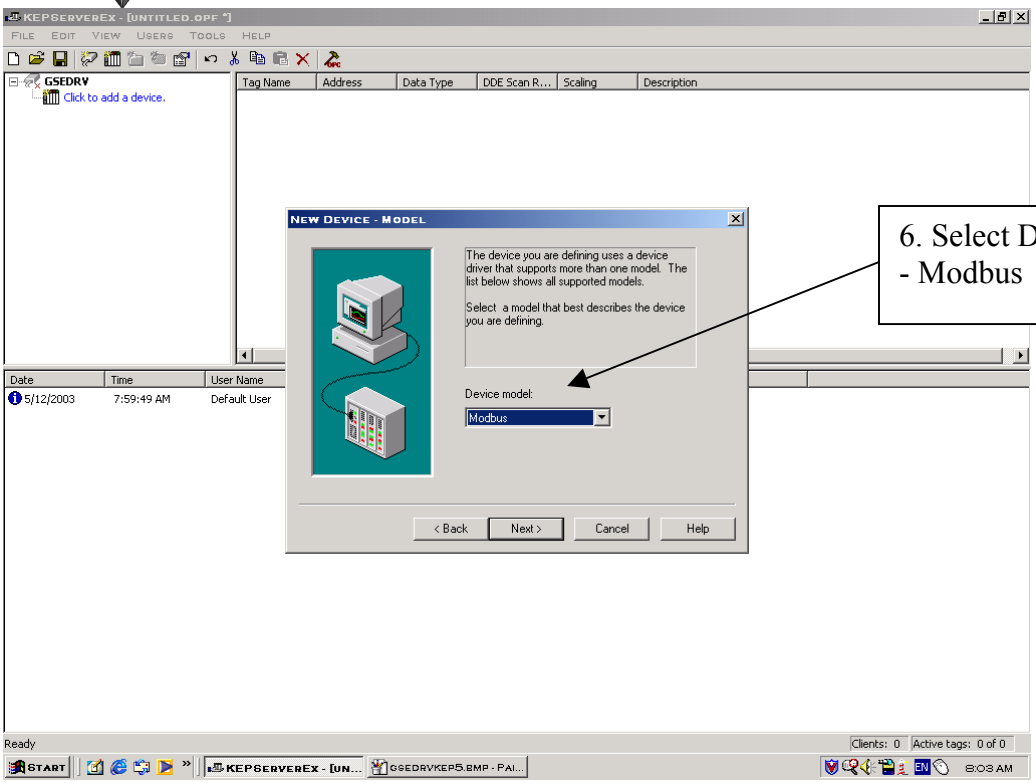
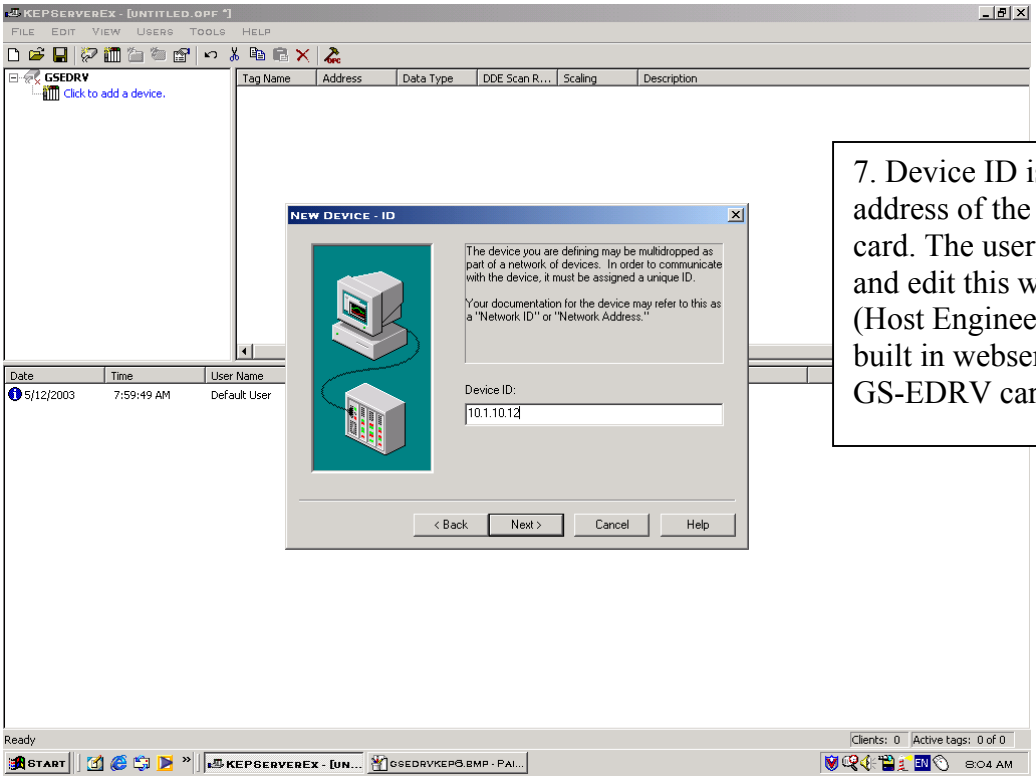


6. Select Device Model -- Modbus



7. Device ID is the IP address of the GS-EDRV card. The user can obtain and edit this with NetEdit (Host Engineering) or the built in webserver on the GS-EDRV card itself.

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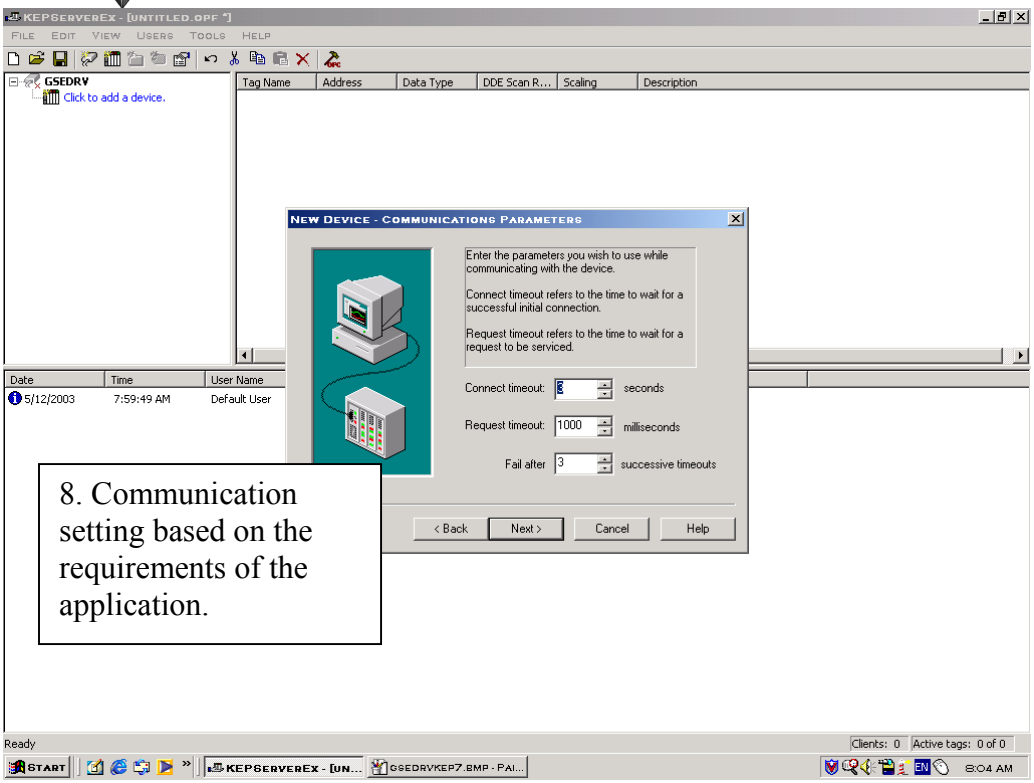
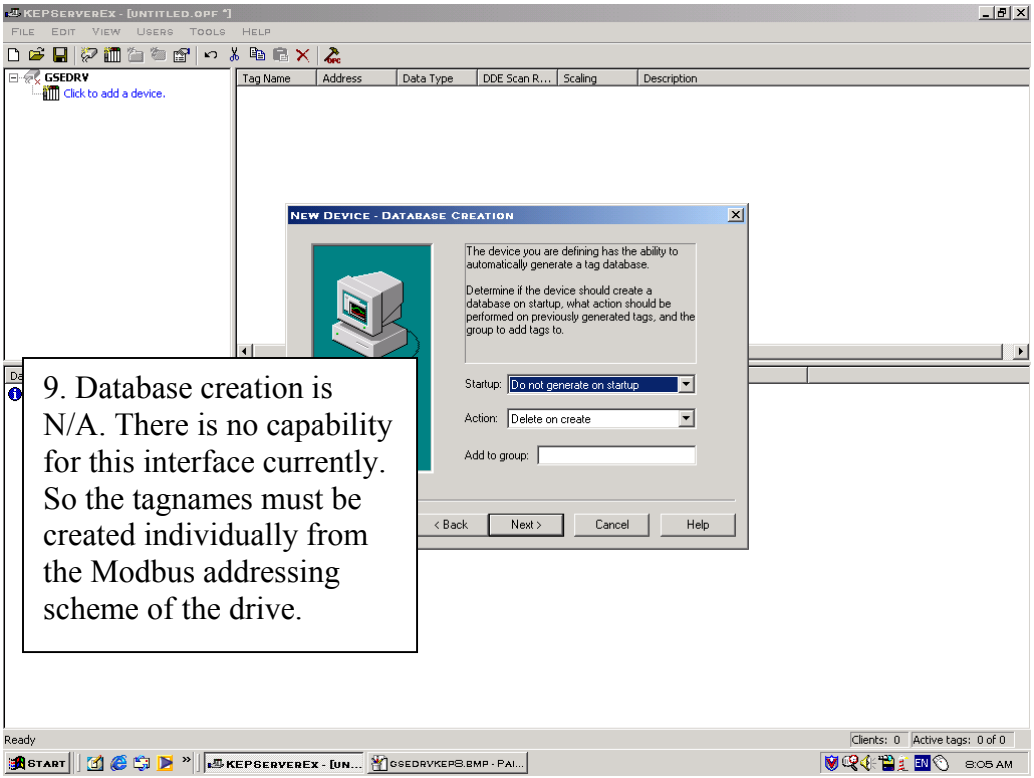


8. Communication setting based on the requirements of the application.



9. Database creation is N/A. There is no capability for this interface currently. So the tagnames must be created individually from the Modbus addressing scheme of the drive.

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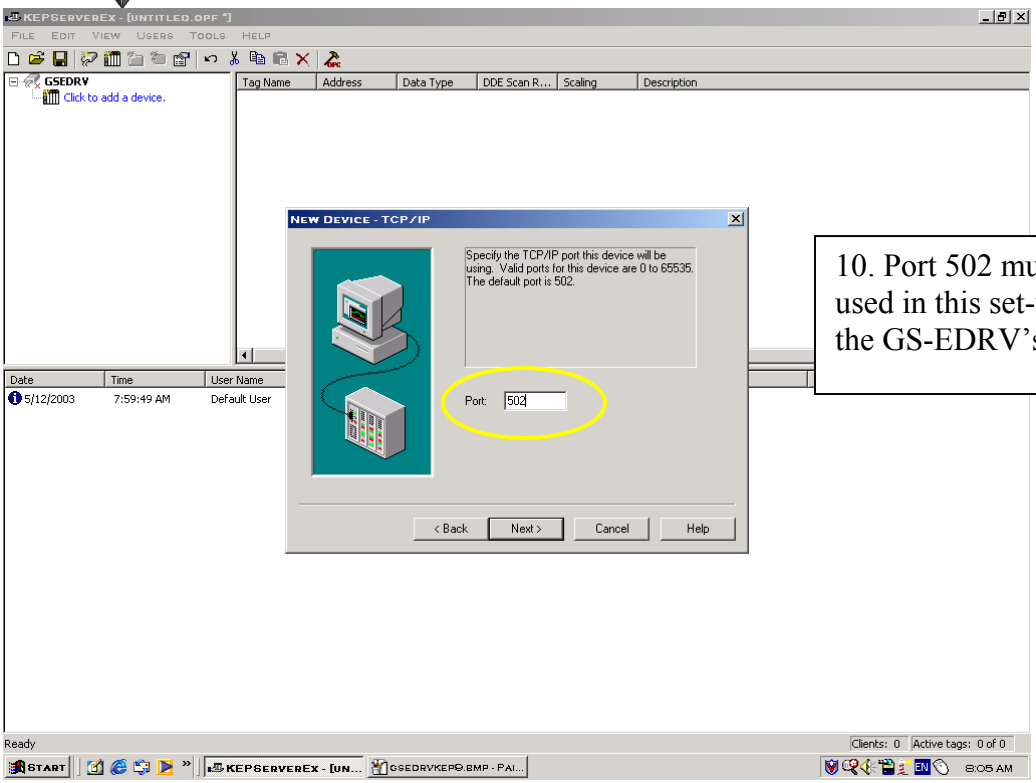
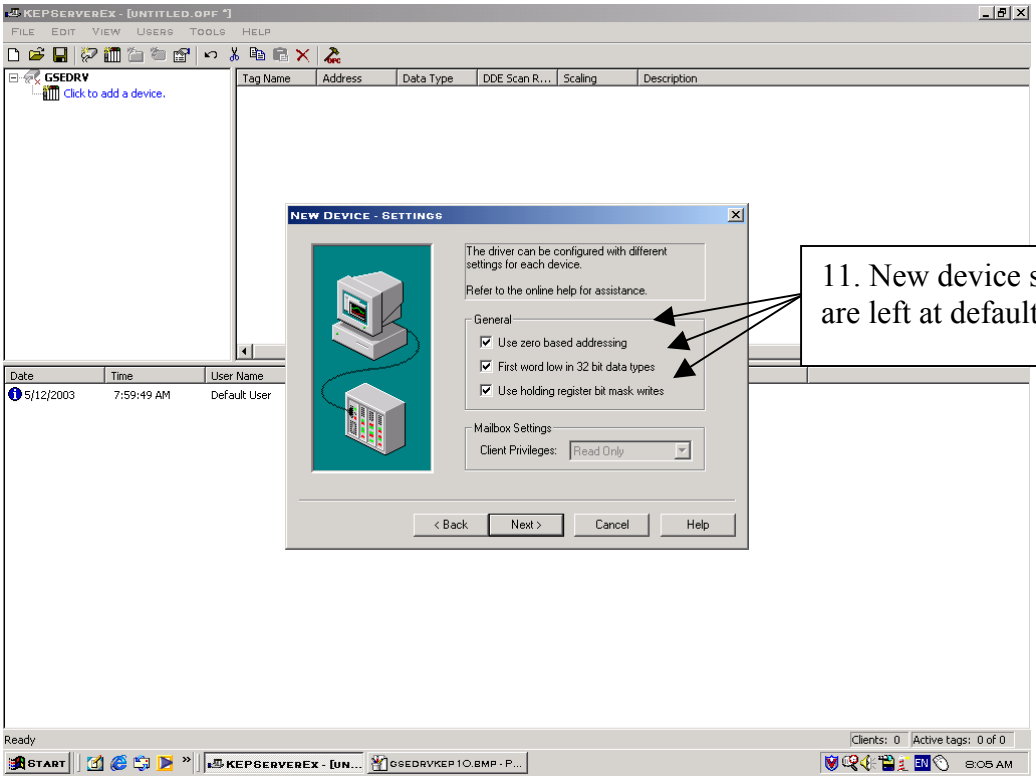


10. Port 502 must be used in this set-up for the GS-EDRV's.



11. New device settings are left at default

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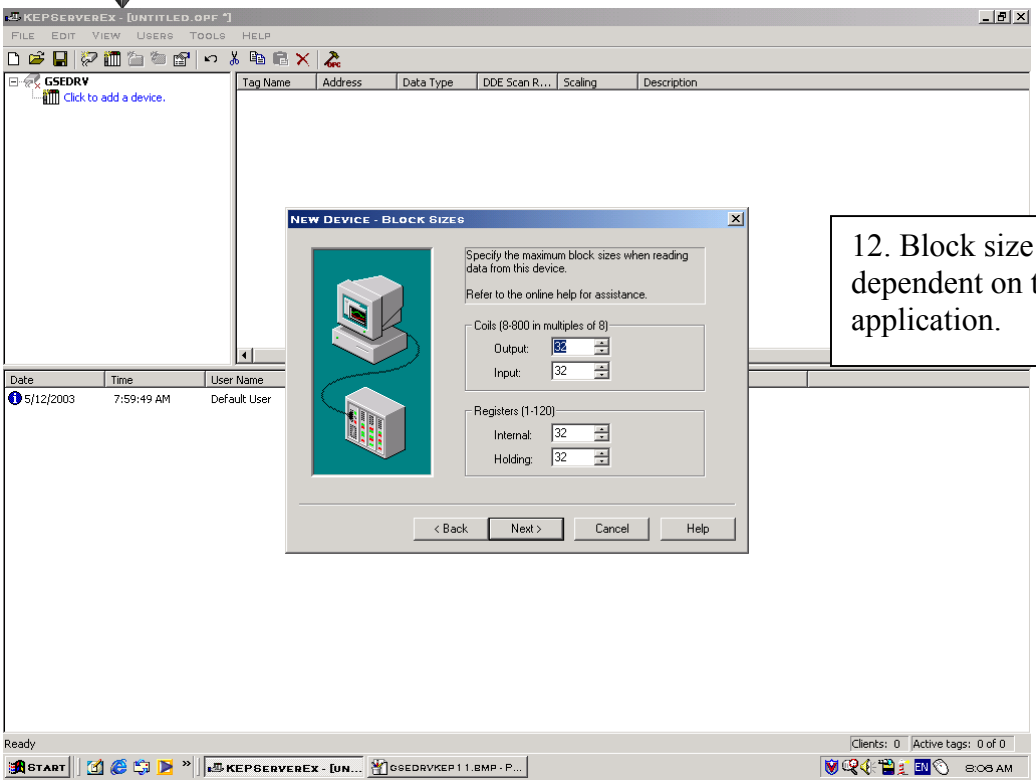
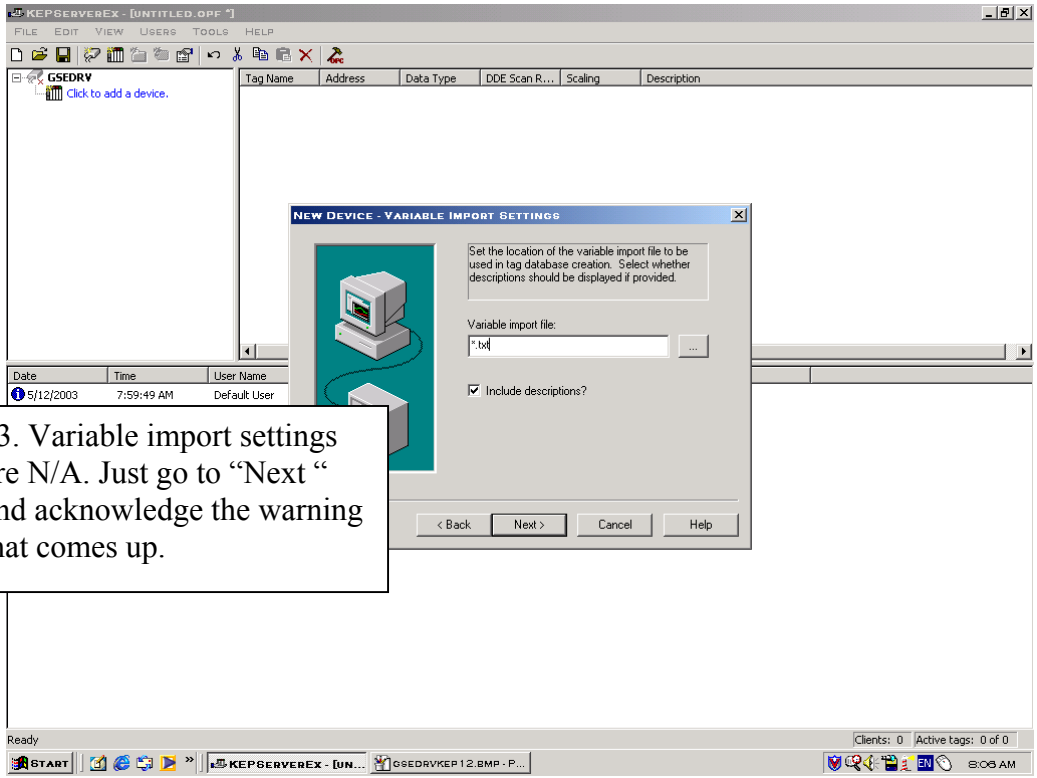


12. Block size is dependent on the application.



13. Variable import settings are N/A. Just go to "Next " and acknowledge the warning that comes up.

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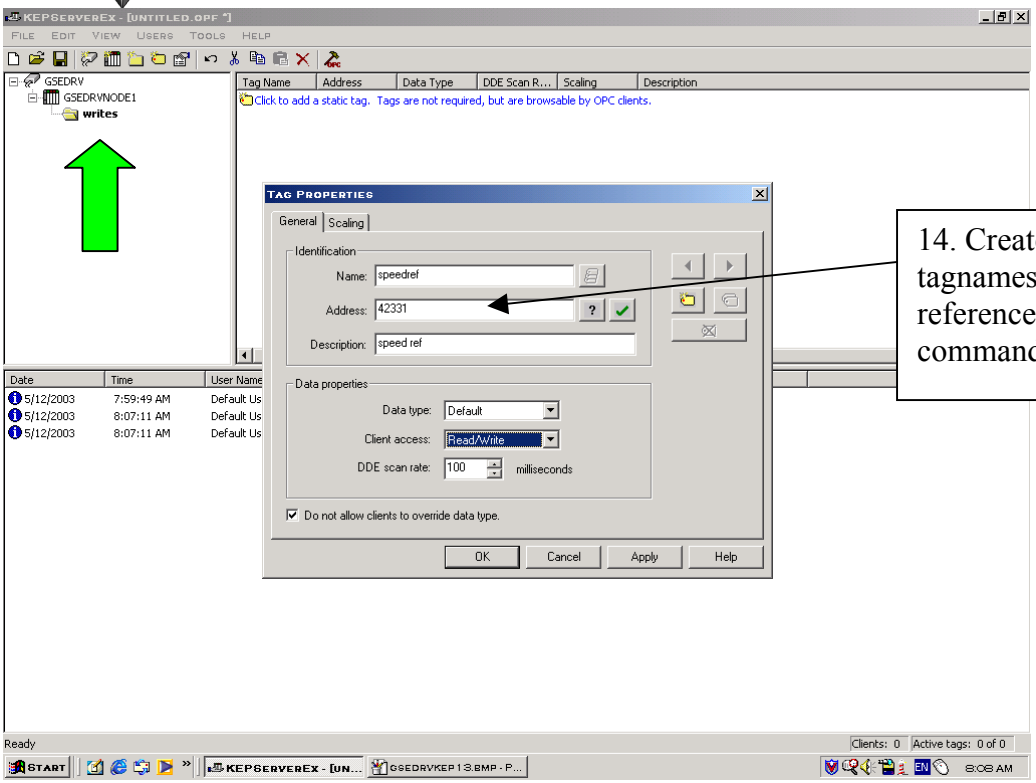
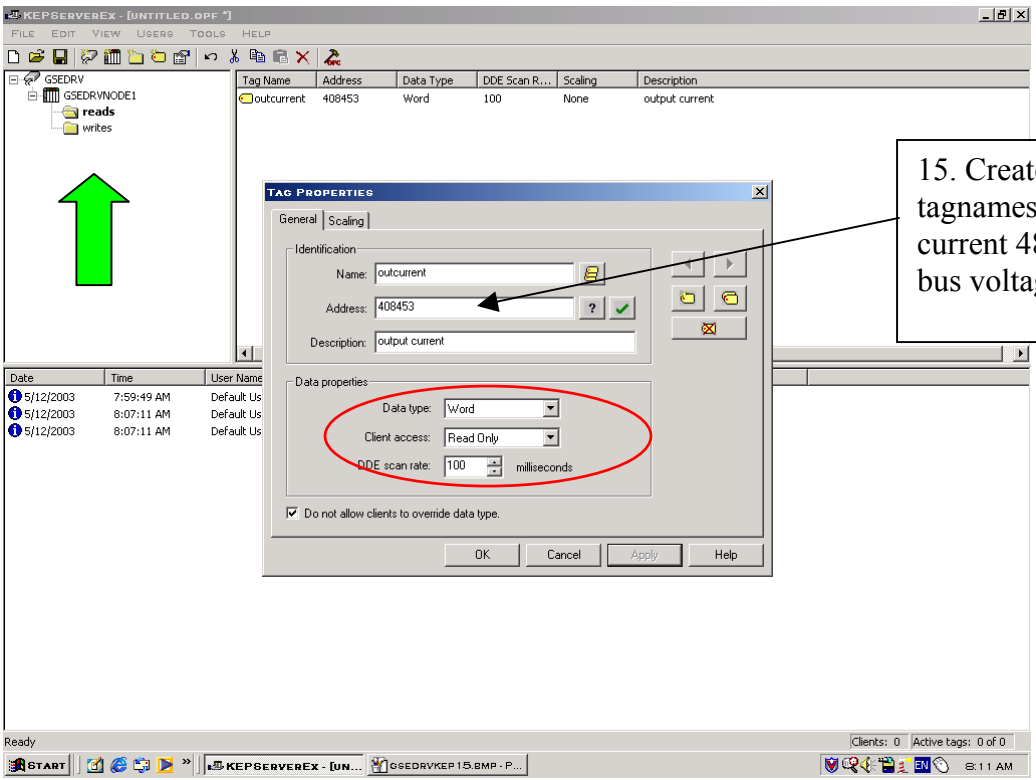


14. Create write tagnames for speed reference 42331 and run command 42332.



15. Create read tagnames for output current 48453 and dc bus voltage 48452.

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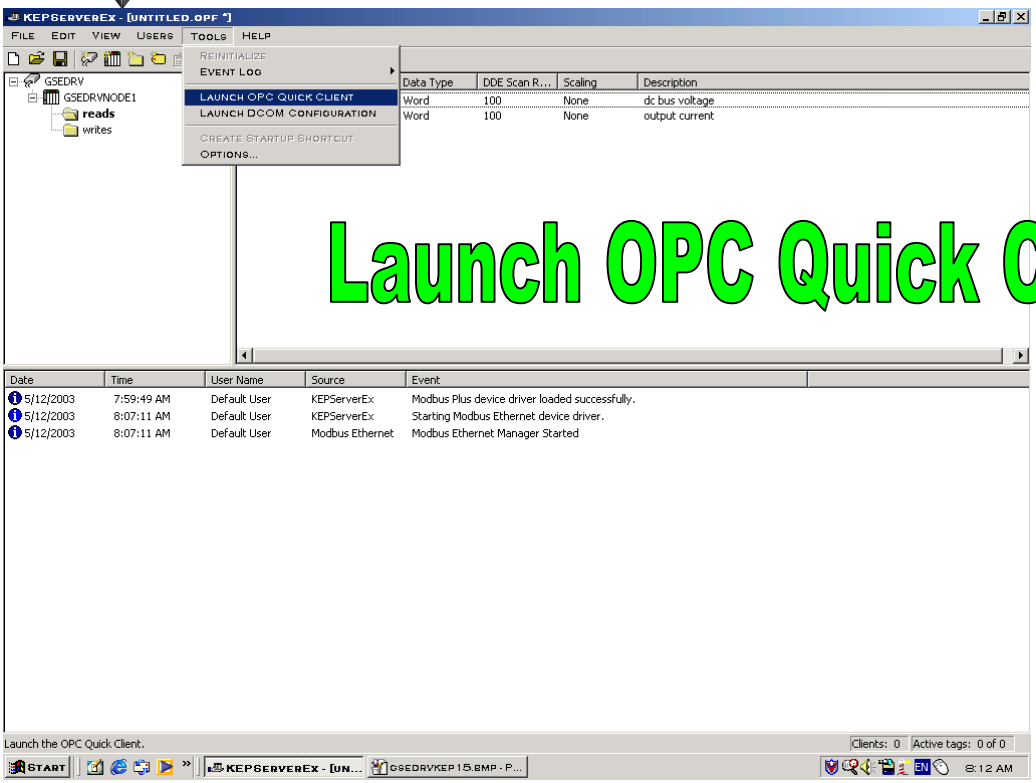

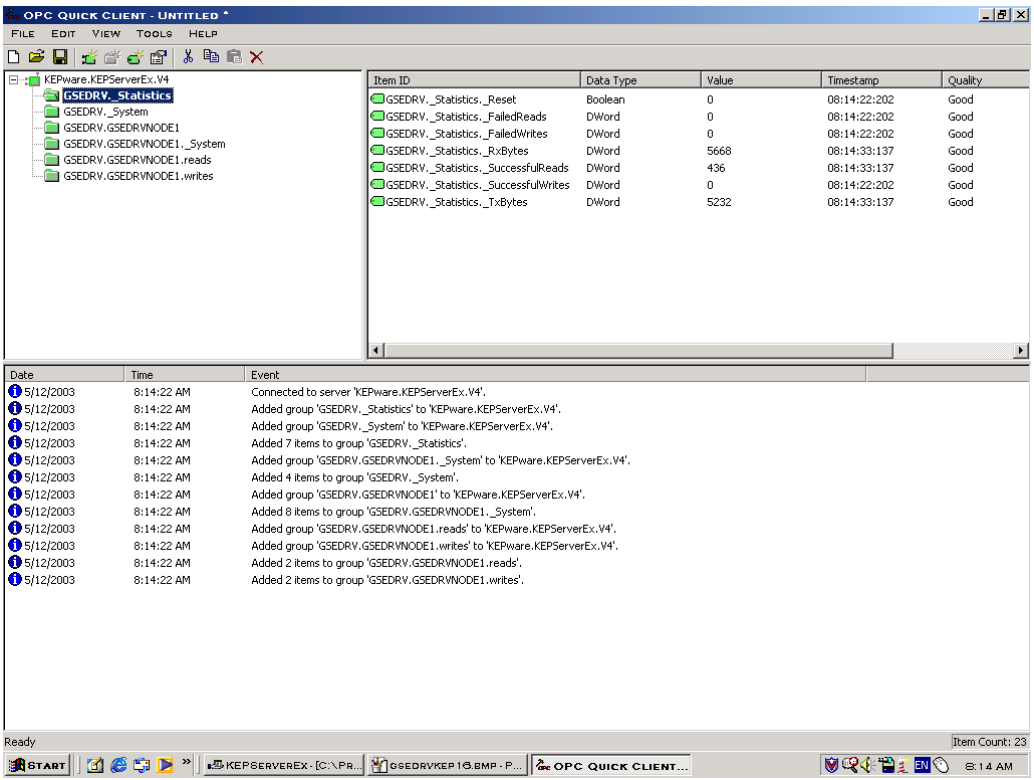

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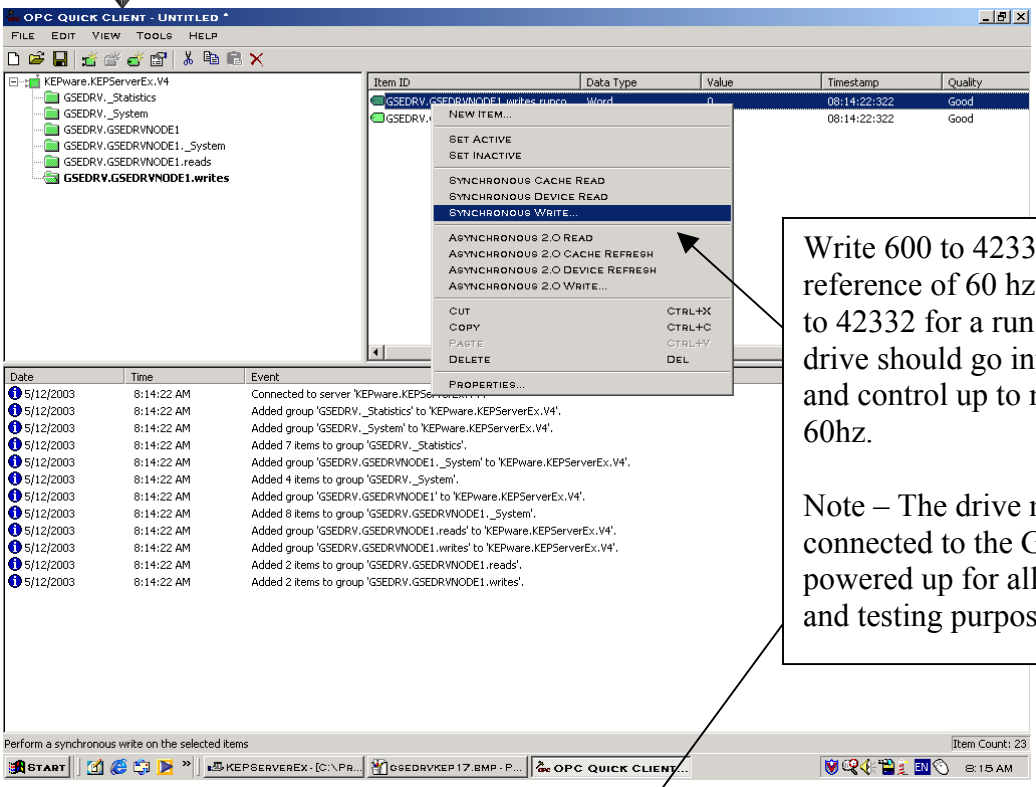
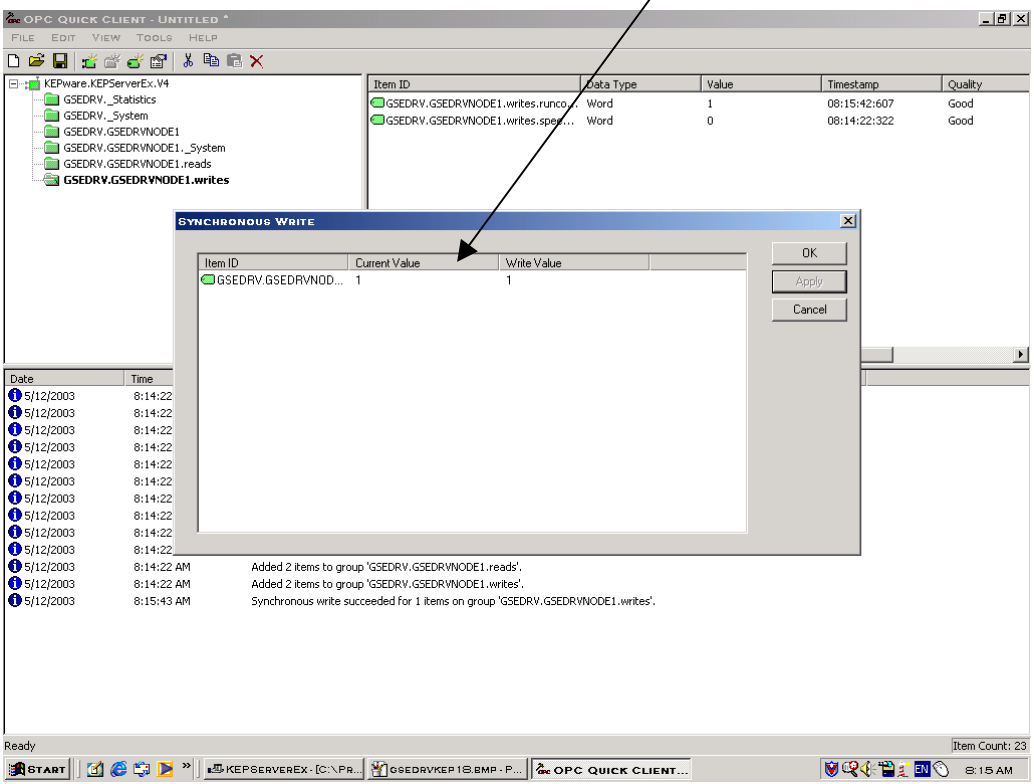


Write 600 to 42331 for a speed reference of 60 hz. And write a 1 to 42332 for a run command. The drive should go into run mode and control up to max speed of 60hz.

Note – The drive must be connected to the GS-EDRV and powered up for all connection and testing purposes.



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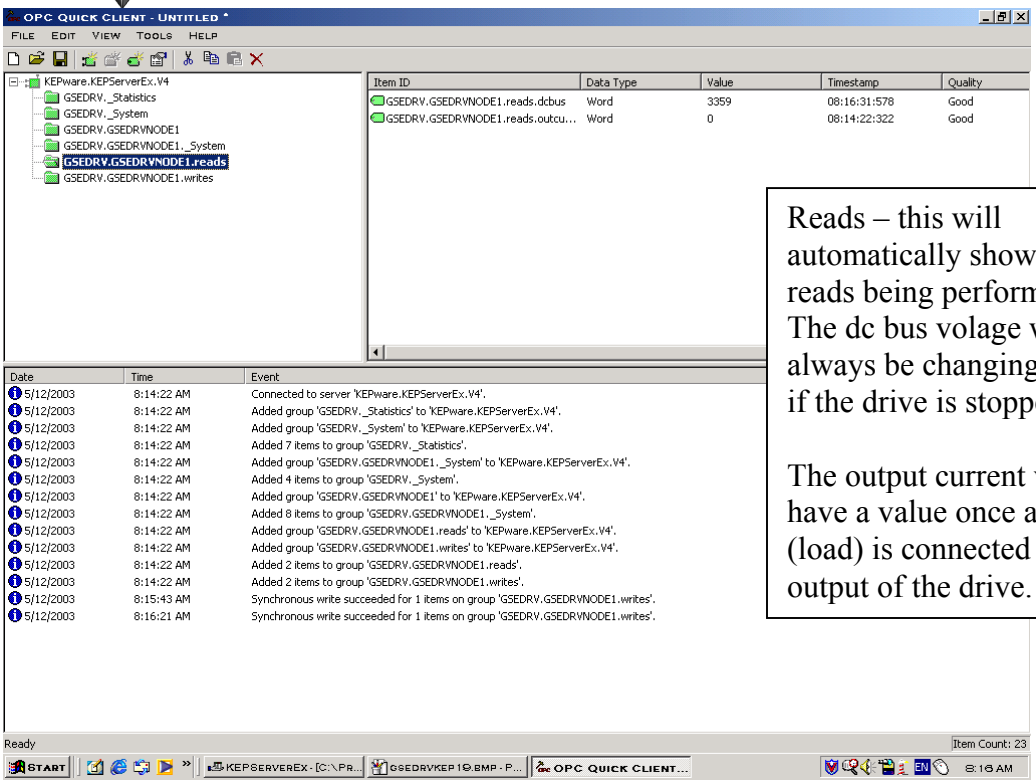

Reads – this will automatically show the reads being performed. The dc bus volage will always be changing even if the drive is stopped.

The output current will have a value once a motor (load) is connected to the output of the drive.

Modbus Addresses:

Read/Write	Hex	Modbus
Speed Reference	091AH	42331
Run Command	091BH	42332
Direction	091CH	42333
External Fault	091DH	42334
Fault reset	091EH	42335
Jog	091FH	42336
Status 1	2100H	48449
Status 2	2101H	48450
Frequency command	2102H	48451
Output frequency	2103H	48452
Output current	2104H	48453
DC-bus voltage	2105H	48454
Output voltage	2106H	48455
Motor RPM	2107H	48456
Scale frequency (low)	2108H	48457
Scale frequency (high)	2109H	48458
% Load	210BH	48460
Firmware Version	2110H	48465

Technical Assistance: If you have questions regarding this Application Note, please contact us at 770-844-4200 for further assistance.