



APPLICATION NOTE

THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

Product Family: GS Drives

Number: AN-GS-012

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 KEPdirect software.

Date Issued: 8/20/03

Revision: Original

Specifications:

Drive network: 1 x GS2-XXXX
1 x GS-EDRV
PC's: standard network pc
Software: PC-KEPEBC-3

Application:

KEPdirect now allows the user a direct line into the drive parameter group just like an Ethernet field I/O drop. Control or monitor from any OPC/DDE compliant third party software like Wonderware, iFix, Cimplicity, NI Lookout, and NI Labview to name just a few of the endless connectivity possibilities.

Imagine installing a drive on a piece of machinery new or old and being able to pipe information directly into your condition monitoring portion of CMMS or Asset management software. Take a look at the following application note for more information.

<http://support.automationdirect.com/docs/an-dsd-004.pdf>

The automatic tag generation with intuitive drive tag names takes the guess work out of mapping. This will cut down development and deployment time.

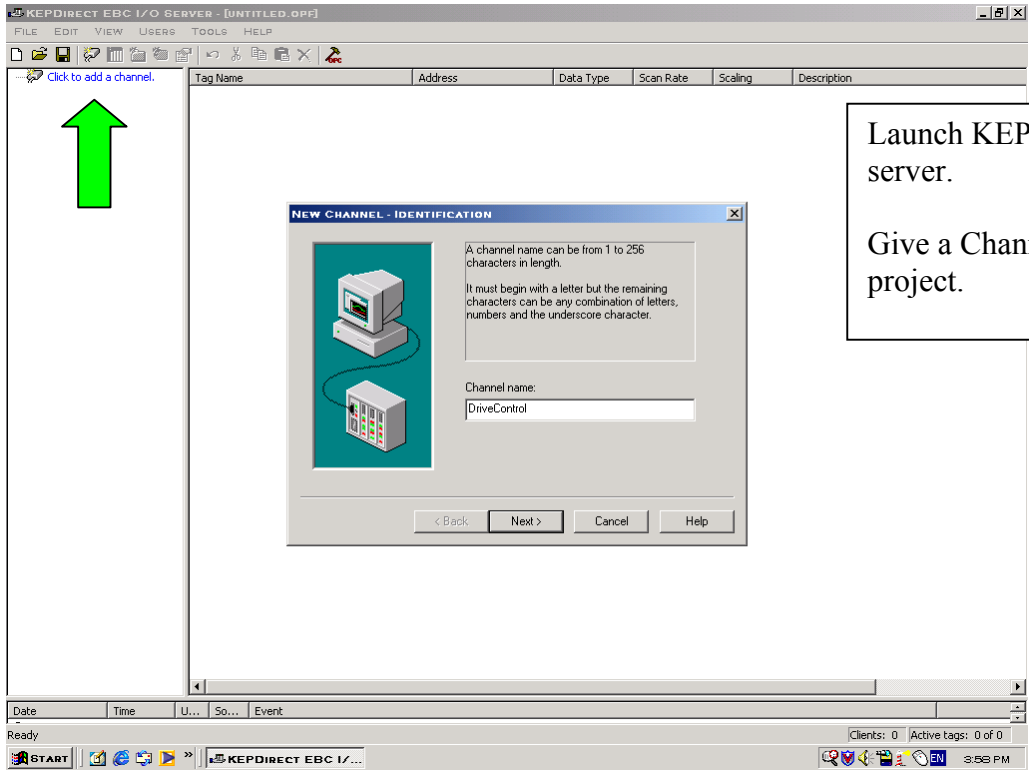
Basic Drive Communication parameter setting:

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



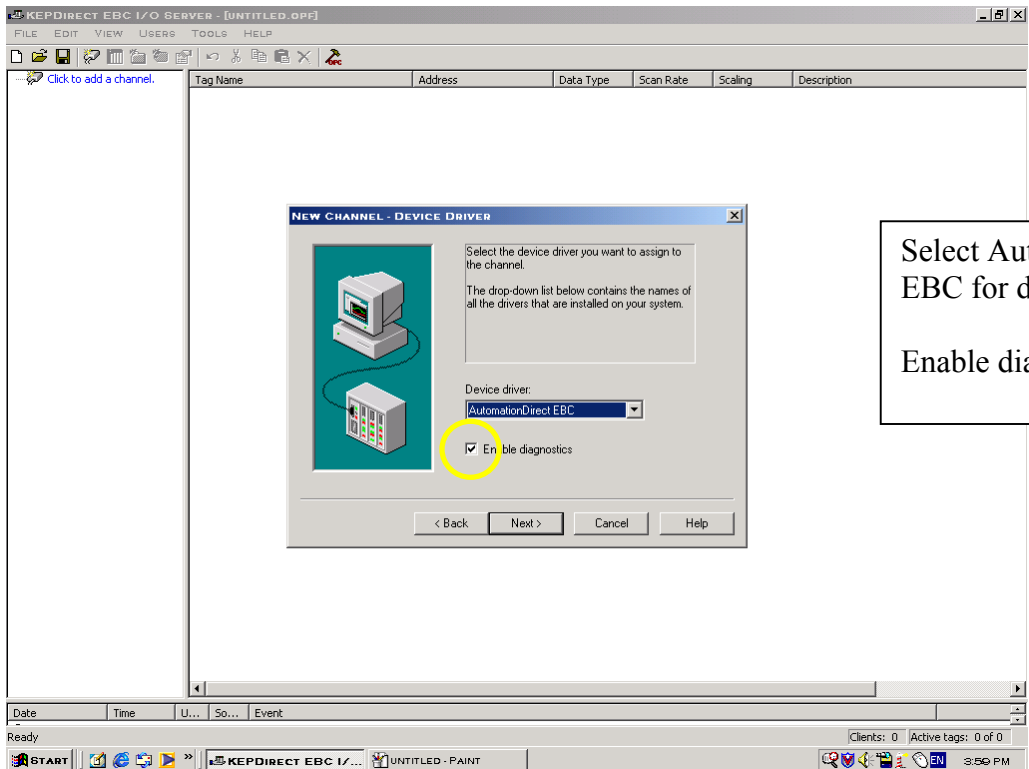
THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.



Launch KEPdirect EBC I/O server.

Give a Channel name for your project.



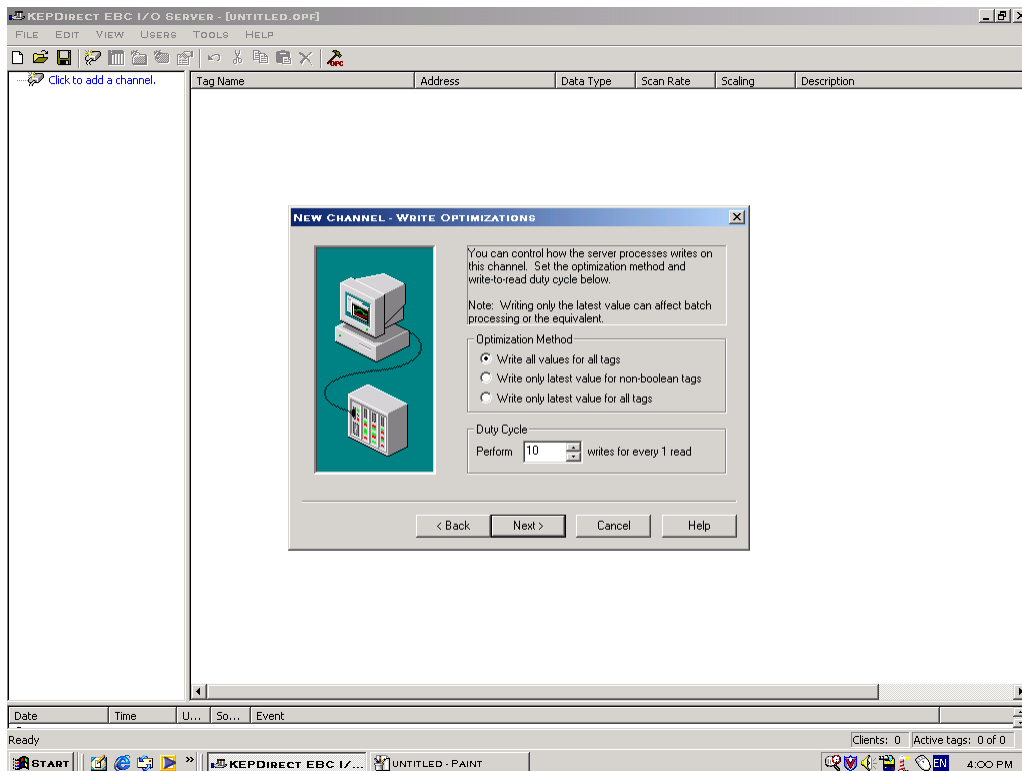
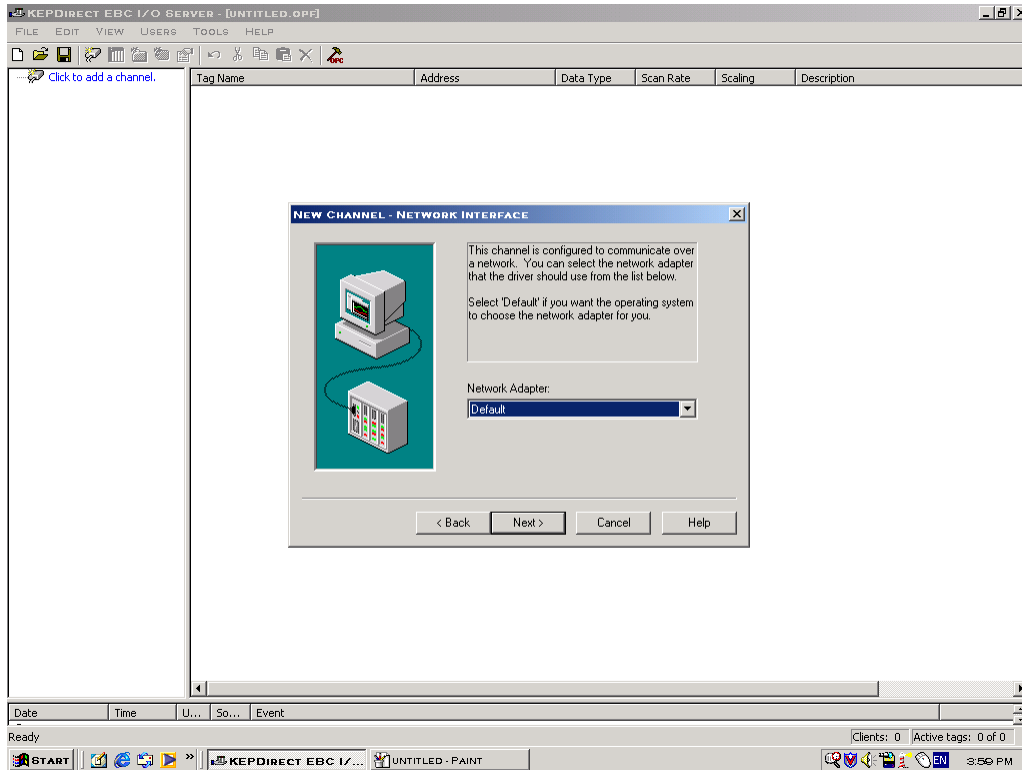
Select AutomationDirect EBC for device driver.

Enable diagnostics.



THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

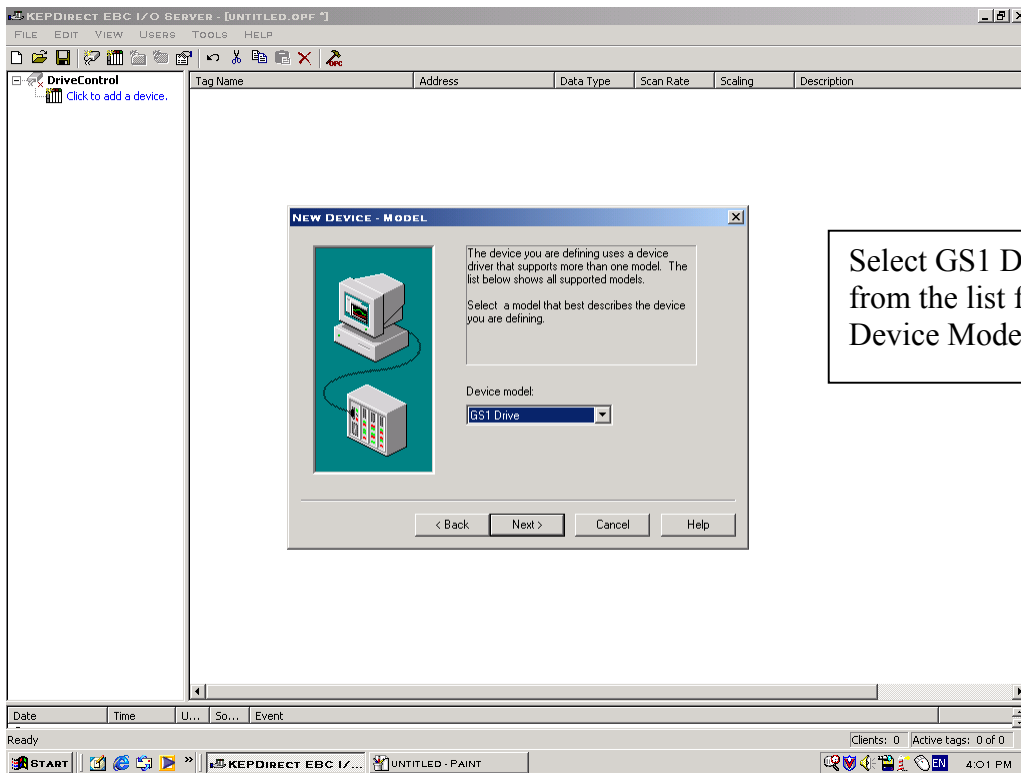
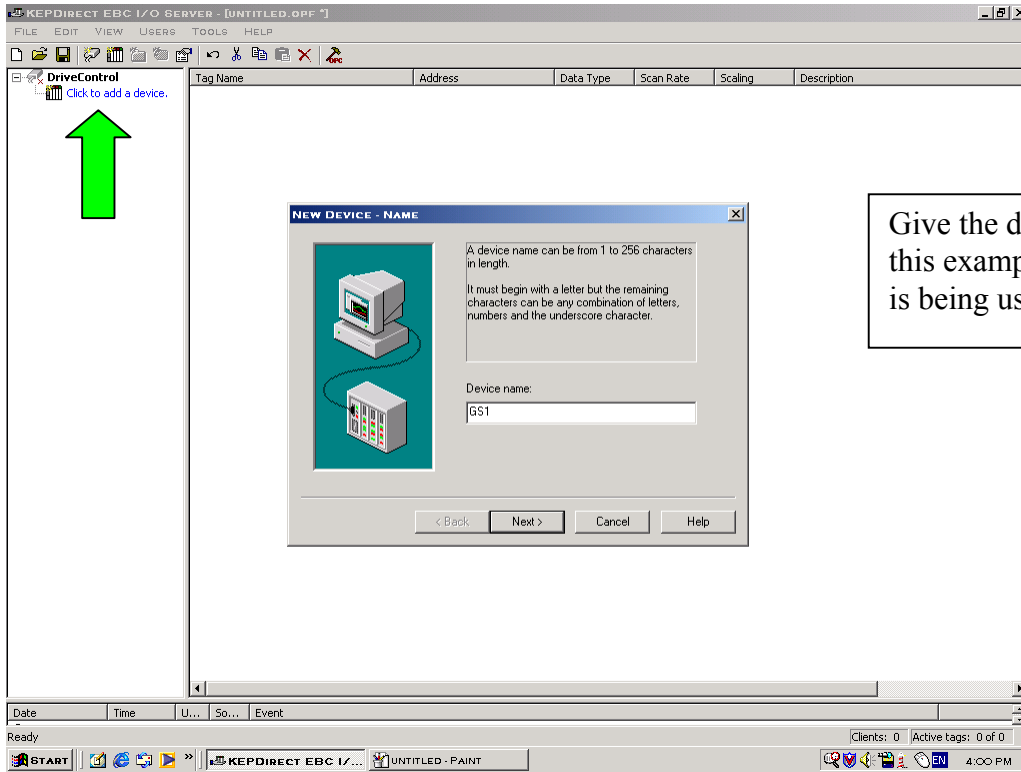
These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.





THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

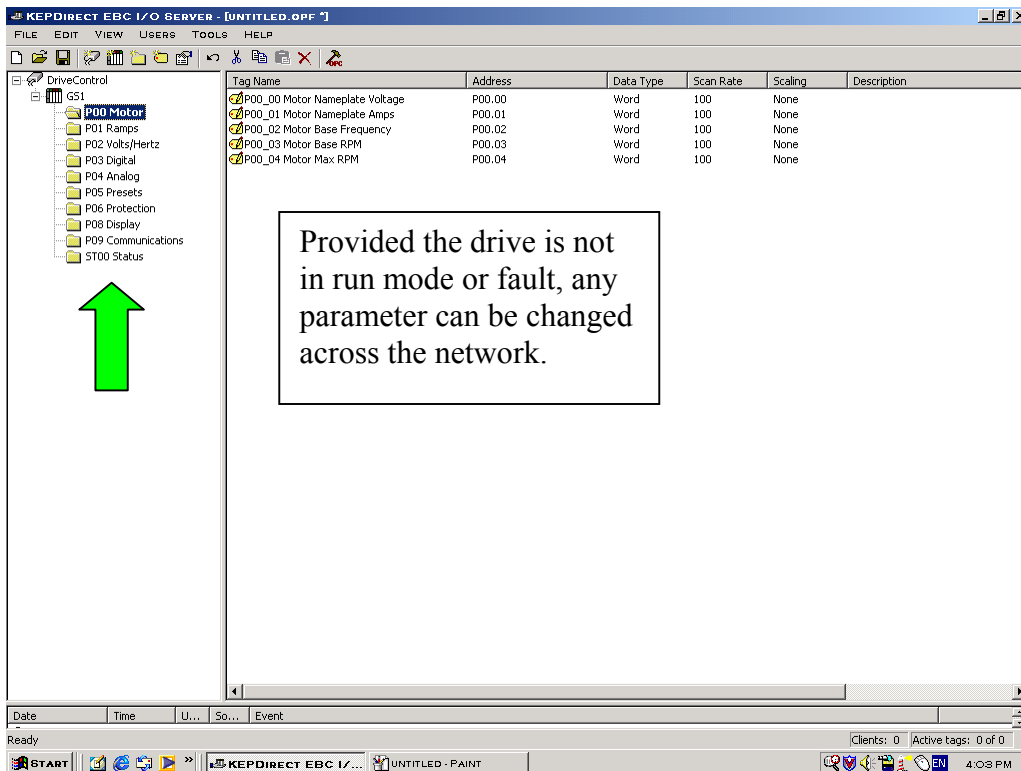
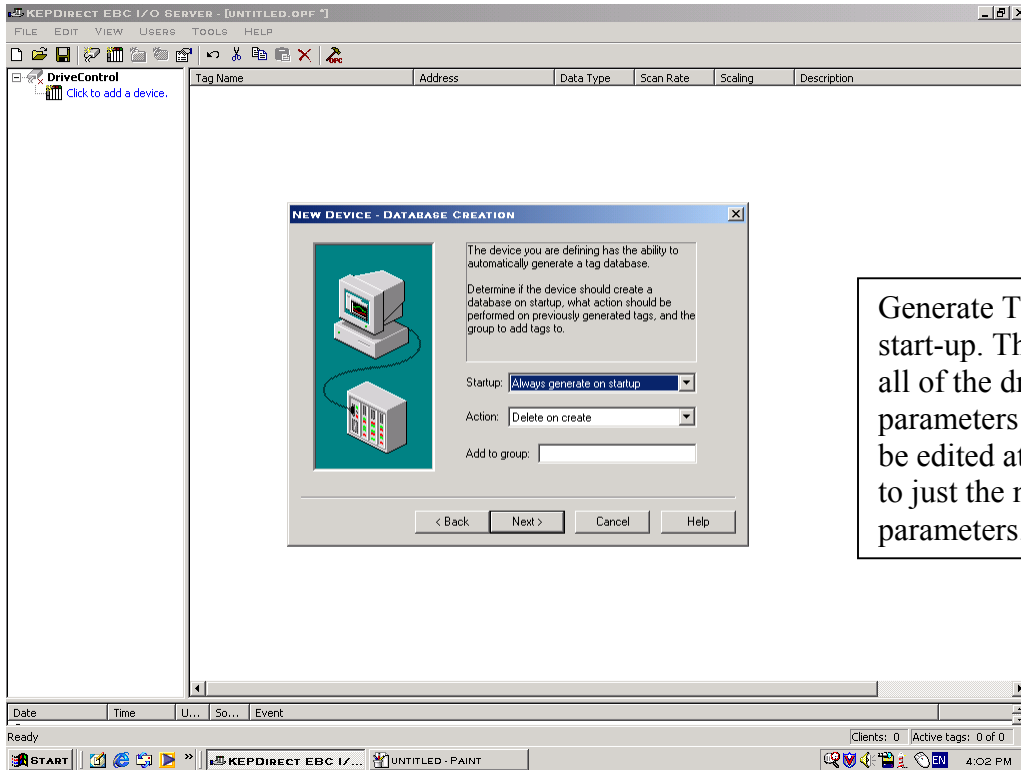
These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.





THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.





THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

The screenshot shows the 'Tag Name' table for P09 parameters. The table lists various parameters such as Communication Address, Transmission Speed, and Block Transfer Parameters. A callout box highlights P09_26 and P09_27.

Tag Name	Address	Data Type	Scan Rate	Scaling	Description
P09_00 Communication Address	P09.00	Word	100	None	
P09_01 Transmission Speed	P09.01	Word	100	None	
P09_02 Communication Protocol	P09.02	Word	100	None	
P09_03 Transmission Fault Treatment	P09.03	Word	100	None	
P09_04 Time Out Detection	P09.04	Word	100	None	
P09_05 Time Out Duration	P09.05	Float	100	None	
P09_07 Parameter Lock	P09.07	Word	100	None	
P09_08 Restore To Default	P09.08	Word	100	None	
P09_11 Block Transfer Parameter 1	P09.11	Float	100	None	
P09_12 Block Transfer Parameter 2	P09.12	Float	100	None	
P09_13 Block Transfer Parameter 3	P09.13	Float	100	None	
P09_14 Block Transfer Parameter 4	P09.14	Float	100	None	
P09_15 Block Transfer Parameter 5	P09.15	Float	100	None	
P09_16 Block Transfer Parameter 6	P09.16	Float	100	None	
P09_17 Block Transfer Parameter 7	P09.17	Float	100	None	
P09_18 Block Transfer Parameter 8	P09.18	Float	100	None	
P09_19 Block Transfer Parameter 9	P09.19	Float	100	None	
P09_20 Block Transfer Parameter 10	P09.20	Float	100	None	
P09_26 RS485 Speed Reference	P09.26	Float	100	None	
P09_27 RUN Command	P09.27	Word	100	None	
P09_28 Direction Command	P09.28	Word	100	None	
P09_29 External Fault	P09.29	Word	100	None	
P09_30 Fault Reset	P09.30	Word	100	None	
P09_31 JOG Command	P09.31	Word	100	None	
P09_41 GS Series Number	P09.41	Word	100	None	
P09_42 Manufacturer Model Information	P09.42	Word	100	None	

P09_26 is the Speed reference and P09_27 is the Run command.

The screenshot shows the 'Tag Name' table for ST00 parameters. The table lists status indicators such as Status Monitors, Frequency Command, Output Frequency, Output Current, Output Voltage, Motor RPM, Scale Frequency, Load, and Software Version. A callout box highlights the ST00 status indicators.

Tag Name	Address	Data Type	Scan Rate	Scaling	Description
ST00_00 Status Monitor 1	ST00.00	Word	100	None	
ST00_01 Status Monitor 2	ST00.01	Word	100	None	
ST00_02 Frequency Command F	ST00.02	Float	100	None	
ST00_03 Output Frequency H	ST00.03	Float	100	None	
ST00_04 Output Current A	ST00.04	Float	100	None	
ST00_05 DC BUS Voltage U	ST00.05	Float	100	None	
ST00_06 Output Voltage E	ST00.06	Float	100	None	
ST00_07 Motor RPM	ST00.07	Word	100	None	
ST00_08 Scale Frequency (Low)	ST00.08	Word	100	None	
ST00_09 Scale Frequency (High)	ST00.09	Word	100	None	
ST00_11 % Load	ST00.11	Word	100	None	
ST00_16 Software Version	ST00.16	Word	100	None	

ST00 is the Read only status indicators. This allows for complete monitoring of every display parameter.



THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

The screenshot shows the 'KEPDIRECT EBC I/O SERVER' application window. The 'Tools' menu is open, and 'LAUNCH OPC QUICK CLIENT' is selected. A table of OPC items is visible in the background.

Address	Data Type	Scan Rate	Scaling	Description
\$T00.00	Word	100	None	
\$T00.01	Word	100	None	
\$T00.02	Float	100	None	
\$T00.03	Float	100	None	
\$T00.04	Float	100	None	
\$T00.05	Float	100	None	
\$T00.06	Float	100	None	
\$T00.07	Word	100	None	
\$T00.08	Word	100	None	
\$T00.09	Word	100	None	
\$T00.11	Word	100	None	
\$T00.16	Word	100	None	

Launch OPC quick Client from the tools menu.

The screenshot shows the 'OPC QUICK CLIENT' application window. The tree view on the left shows the hierarchy of OPC items. The main table displays the following data:

Item ID	Data Type	Value
DriveControl_Statistics_FailedReads	DWord	0
DriveControl_Statistics_FailedWrites	DWord	0
DriveControl_Statistics_Reset	Boolean	0
DriveControl_Statistics_RxBytes	DWord	246947
DriveControl_Statistics_SuccessfulReads	DWord	6575
DriveControl_Statistics_SuccessfulWrites	DWord	0
DriveControl_Statistics_TxBytes	DWord	86077

The event log at the bottom shows several events from 8/18/2003 at 4:06:09 PM, including adding items to groups and creating groups.



THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

Find parameters P09_26 and P09_27 for control.

Item ID	Data Type	Value
DriveControl.GS1.P09 Communications.P09_11 Block Transfer Parameter 1	Float	99.9
DriveControl.GS1.P09 Communications.P09_12 Block Transfer Parameter 2	Float	99.9
DriveControl.GS1.P09 Communications.P09_13 Block Transfer Parameter 3	Float	99.9
DriveControl.GS1.P09 Communications.P09_14 Block Transfer Parameter 4	Float	99.9
DriveControl.GS1.P09 Communications.P09_15 Block Transfer Parameter 5	Float	99.9
DriveControl.GS1.P09 Communications.P09_16 Block Transfer Parameter 6	Float	99.9
DriveControl.GS1.P09 Communications.P09_17 Block Transfer Parameter 7	Float	99.9
DriveControl.GS1.P09 Communications.P09_18 Block Transfer Parameter 8	Float	99.9
DriveControl.GS1.P09 Communications.P09_19 Block Transfer Parameter 9	Float	99.9
DriveControl.GS1.P09 Communications.P09_20 Block Transfer Parameter 10	Float	99.9
DriveControl.GS1.P09 Communications.P09_26 RS485 Speed Reference	Float	30
DriveControl.GS1.P09 Communications.P09_27 RUN Command	Word	0
DriveControl.GS1.P09 Communications.P09_28 DIRECTION Command	Word	0
DriveControl.GS1.P09 Communications.P09_29 External Fault	Word	0
DriveControl.GS1.P09 Communications.P09_30 Fault Reset	Word	0
DriveControl.GS1.P09 Communications.P09_31 JOG Command	Word	0
DriveControl.GS1.P09 Communications.P09_41 GS Series Number	Word	1
DriveControl.GS1.P09 Communications.P09_42 Manufacturer Model Information	Word	0

Right click on the appropriate parameter and perform a synchronous write.

Date	Time	Event
8/18/2003	4:06:09 PM	Added 23 items to group 'DriveControl.GS1.P06 Pro...
8/18/2003	4:06:09 PM	Added group 'DriveControl.GS1.P09 Communication...
8/18/2003	4:06:09 PM	Added 2 items to group 'DriveControl.GS1.P08 Displ...
8/18/2003	4:06:09 PM	Added group 'DriveControl.GS1' to 'AutomationDirec...
8/18/2003	4:06:09 PM	Added 18 items to group 'DriveControl.GS1.P09 Co...
8/18/2003	4:06:09 PM	Added group 'DriveControl.GS1.ST00 Status' to 'Aut...
8/18/2003	4:06:09 PM	Added 12 items to group 'DriveControl.GS1.ST00 St...



THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

Item ID	Data Type	Value
DriveControl.GS1.P09 Communications.P09_11 Block Transfer Parameter 1	Float	99.9
DriveControl.GS1.P09 Communications.P09_12 Block Transfer Parameter 2	Float	99.9
DriveControl.GS1.P09 Communications.P09_13 Block Transfer Parameter 3	Float	99.9
DriveControl.GS1.P09 Communications.P09_14 Block Transfer Parameter 4	Float	99.9
DriveControl.GS1.P09 Communications.P09_15 Block Transfer Parameter 5	Float	99.9
DriveControl.GS1.P09 Communications.P09_16 Block Transfer Parameter 6	Float	99.9
DriveControl.GS1.P09 Communications.P09_17 Block Transfer Parameter 7	Float	99.9
DriveControl.GS1.P03	Float	99.9
DriveControl.GS1.P04	Float	99.9
DriveControl.GS1.P05	Float	99.9
DriveControl.GS1.P06	Float	99.9
DriveControl.GS1.P08	Float	0
DriveControl.GS1.P09	Float	0
DriveControl.GS1.P10	Float	0
DriveControl.GS1.P11	Float	0
DriveControl.GS1.P12	Float	0
DriveControl.GS1.P13	Float	0
DriveControl.GS1.P14	Float	0
DriveControl.GS1.P15	Float	1
DriveControl.GS1.P16	Float	0
DriveControl.GS1.P17	Float	0

Item ID: DriveControl.GS1.P09 Co...
Current Value: 0
Write Value: 1

Write a 1 to parameter P09_27 to command the drive to run.
Write a 0 - 60 to P09_26 for a speed reference of 0 - 60 Hz

Item ID	Data Type	Value
DriveControl.GS1.ST00 Status.ST00_00 Status Monitor 1	Word	772
DriveControl.GS1.ST00 Status.ST00_01 Status Monitor 2	Word	163
DriveControl.GS1.ST00 Status.ST00_02 Frequency Command F	Float	30
DriveControl.GS1.ST00 Status.ST00_03 Output Frequency H	Float	30
DriveControl.GS1.ST00 Status.ST00_04 Output Current A	Float	0
DriveControl.GS1.ST00 Status.ST00_05 DC BUS Voltage U	Float	323.4
DriveControl.GS1.ST00 Status.ST00_06 Output Voltage E	Float	117.7
DriveControl.GS1.ST00 Status.ST00_07 Motor RPM	Word	875
DriveControl.GS1.ST00 Status.ST00_08 Scale Frequency (Low)	Word	3000
DriveControl.GS1.ST00 Status.ST00_09 Scale Frequency (High)	Word	0
DriveControl.GS1.ST00 Status.ST00_11 % Load	Word	0
DriveControl.GS1.ST00 Status.ST00_16 Software Version	Word	105

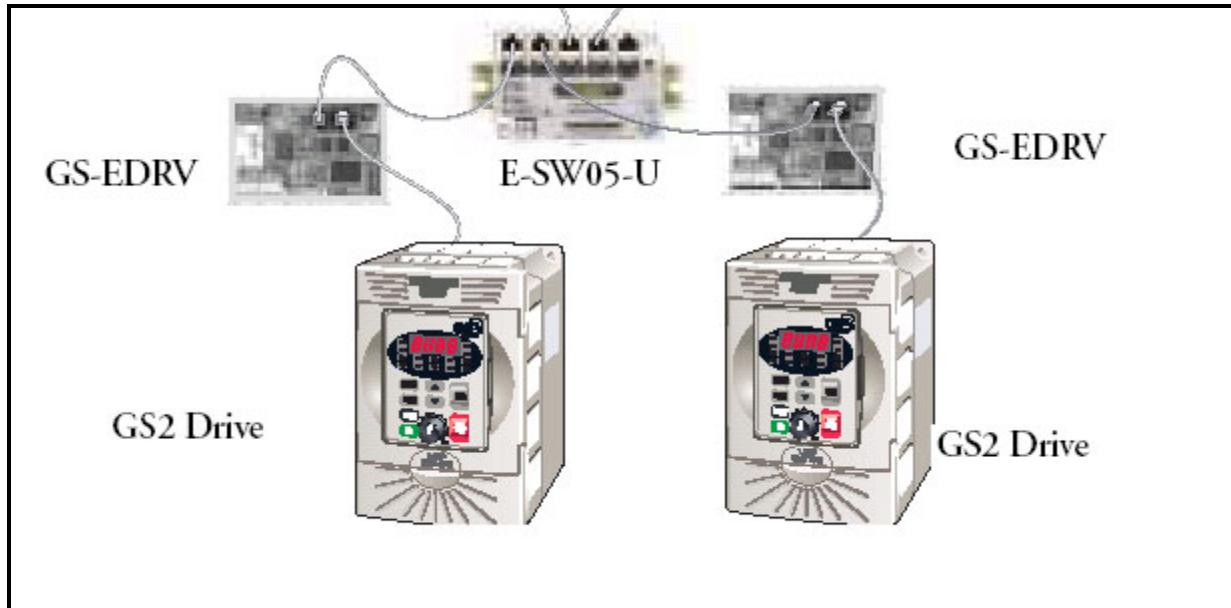
Actively running in the forward direction at 30 Hz.



THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND.

These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

Basic connection of Drives:



Technical

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