



APPLICATION NOTE

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Product Family: GS Drives

Number: AN-GS-003

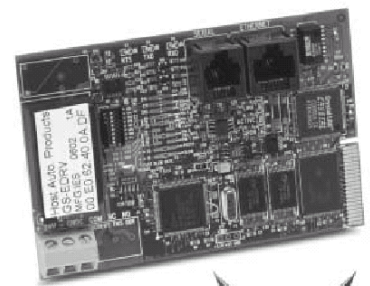
Subject: Modbus TCP/IP connectivity of GS drives

Date Issued: 6/11/03

Revision: Original

Application Description

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.



Specifications

Drive network:	2 x GS2-XXXX 2 x GS-EDRV
PC's:	standard network pc
Software:	Custom with Modbus TCP/IP driver or Modscan from Win-Tech (http://www.win-tech.com/)

Some additional resources:

<http://www.hosteng.com/>

<http://www.win-tech.com/html/mbusocx.htm>

<http://www.kepware.com/ModbusEthernetOPCSpecSheet.html>

<http://www.ictglobal.com/ICT010/default.asp>

<http://www.digi.com/>

<http://www.automatedsolutions.com/>





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MODSCAN32 - [MODSCAN1]

FILE CONNECTION SETUP VIEW WINDOW HELP

Address: 2331 Device Id: 1 Number of Polls: 0
Length: 2 MODBUS Point Type: 03: HOLDING REGISTER Valid Slave Responses: 0

Reset Ctrs

** Device NOT CONNECTED! **
42331: <00000>
42332: <00000>

CONNECTION DETAILS

Connect Using: Remote TCP/IP Ser

IP Address: 10.1.10.12

Service Port: 502

Configuration

Baud Rate: 9600

Word Length: 8

Parity: ODD

Stop Bits: 1

Hardware Flow Control

Wait for DSR from slave
Delay: 5 ms after RTS before transmitting first character

Wait for CTS from slave
Delay: 5 ms after last character before releasing RTS

Protocol Selections

OK Cancel

For Help, press F1

START MICROSOFT VISIO - [G6... MODSCAN2 MODSCAN32 - [MO... 11:11 AM

Polls: 0 Resps: 0

MODSCAN32 - [MODSCAN1]

FILE CONNECTION SETUP VIEW WINDOW HELP

Address: 2331 Device Id: 1 Number of Polls: 16
Length: 2 MODBUS Point Type: 03: HOLDING REGISTER Valid Slave Responses: 16

Reset Ctrs

42331: <00300>
42332: <00001>

Drive control:
42331 - Speed Reference
42332 - Run Command

For Help, press F1

START MICROSOFT VISIO - [G... MODSCAN2 MODSCAN32 - [M... UNTITLED - PAINT 11:12 AM

Polls: 16 Resps: 16



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Example Program (Any GS2 or GS1 drive will work with GS-EDRV):

GS2-43P0	DEFAULT	NEW	COMMENTS
P 0.00	480	460	Motor Nameplate Voltage Setting
P 0.01	5	4.8	Motor Nameplate Amps Setting
P0.02	60	60	Motor Base frequency
P0.03	1750	1725	Motor base RPM
P0.04	1750	1725	Motor Maximum RPM
P1.00	0	1	Coast to stop
P1.01	10	20	Acceleration time
P2.00	0	2	Volts/Hertz set to fans and pumps
P3.00	0	3	RS485 operation control enabled
P4.00	0	5	RS485 speed reference control
P8.00	0	3	RPM display
P9.00	1	X(1)	Communication address (dependent on drive 1-8)
P9.01	1	1	9600 Baud rate
P9.02	0	5	MODBUS RTU 8 data bits, odd parity, 1 stop bit

Modbus Addresses:

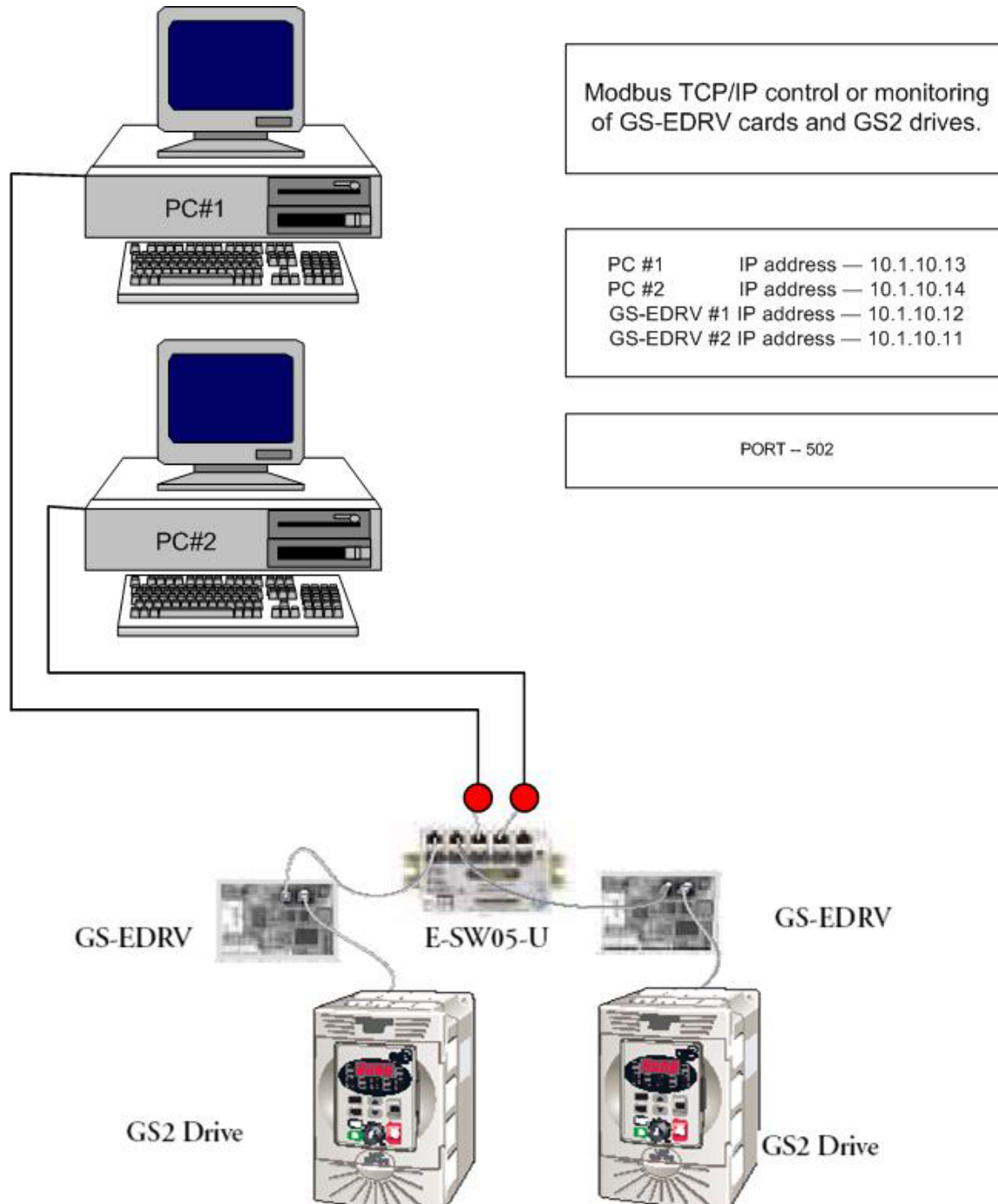
Read/Write	Hex	Modbus
Speed Reference	091AH	42331
Run Command	091BH	42332
Direction	091CH	42333
External Fault	091DH	42334
Fault reset	091EH	42335
Jog	091FH	42336
Status	2101H	48450
Frequency command	2102H	48451
Output frequency	2103H	48452
Output current	2104H	48453
DC-bus voltage	2105H	48454
Output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



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Basic Diagram:



Technical

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