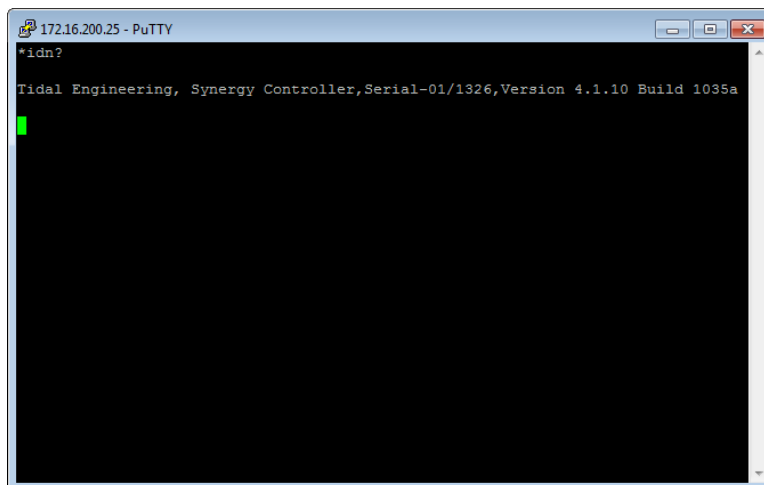# PuTTY Terminal Setup for Synergy Controller Family

Introduction

PuTTY[1] is a popular open source terminal program for Serial (RS-232) and TCP/IP (Ethernet) Communications. This application note covers PuTTY setup for Synergy family controllers and includes some examples of frequently used commands.

Tidal Engineering's Synergy Controllers, including the Synergy Micro 2, Synergy Quattro, and the ¼ DIN Synergy Nano provide state-of-the-art usability and connectivity for environmental test control and data acquisition. They combine the functions of a chamber controller and a data logger. They are designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards. Offering the flexibility of multiple communication ports including Ethernet, GPIB, and RS-232 make these controllers perfect for today's changing testing environments.
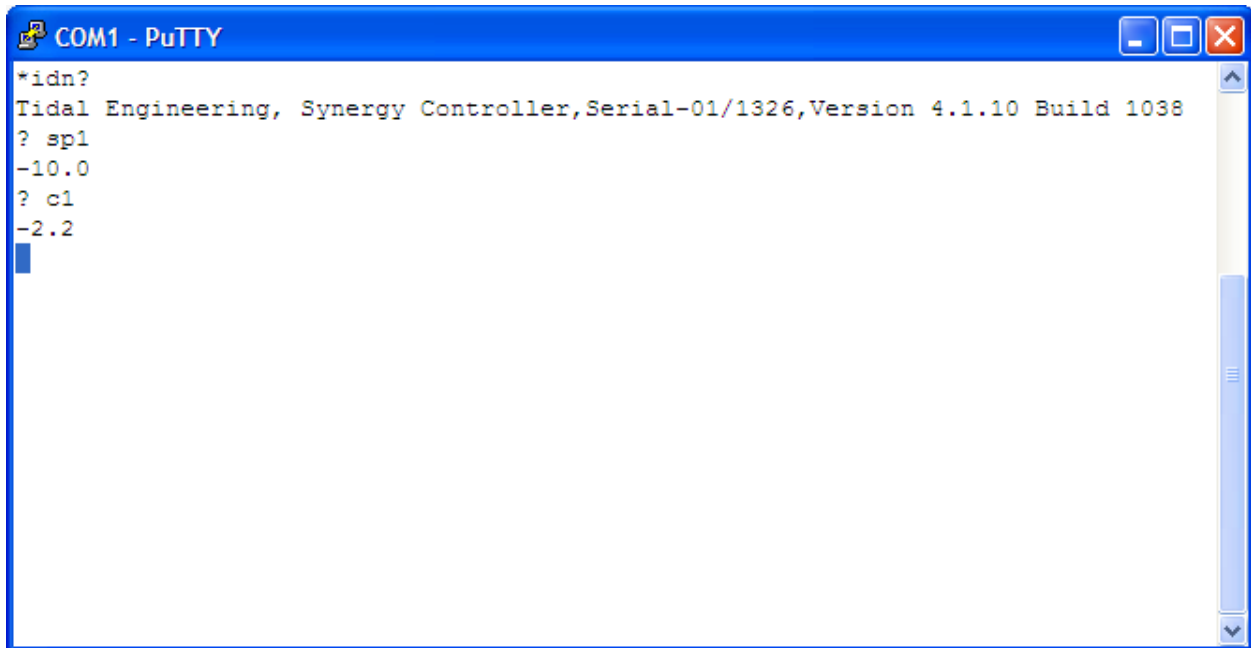

[1]PuTTY is a Serial, SSH and telnet client, developed originally by Simon Tatham for the Windows platform.   http://www.putty.org/

The following screenshots show the setup of the PuTTY terminal program for serial communications with the Synergy Controller.
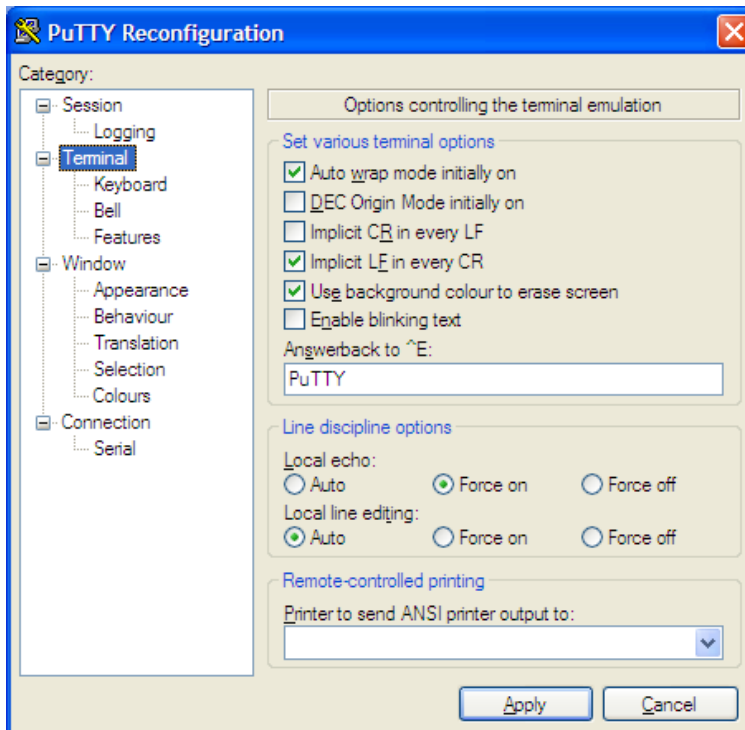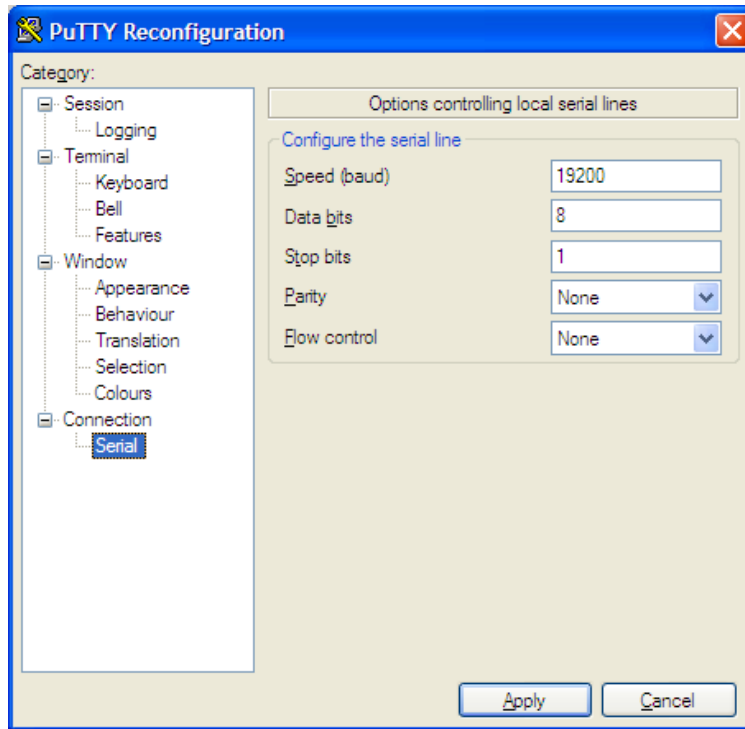
The screenshot below shows the following queries:

> *idn? //Query for Controller ID
> ? sp1 //Query for Channel 1 Setpoint
> ? c1 //Query for Channel 1 temperature

```
COM1 - PuTTY
*idn?
Tidal Engineering, Synergy Controller,Serial-01/1326,Version 4.1.10 Build 1038
? sp1
-10.0
? c1
-2.2
```
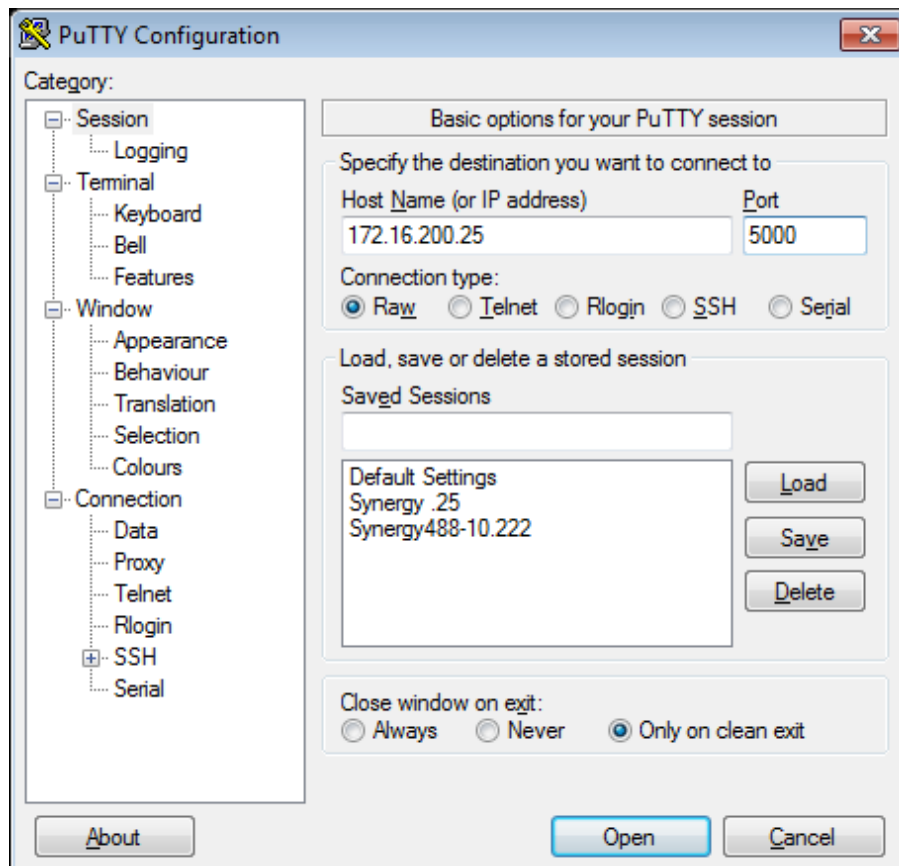
The following screenshots showing the setup of the PuTTY terminal program for TCP/IP (Ethernet) communications with the Synergy Controller.
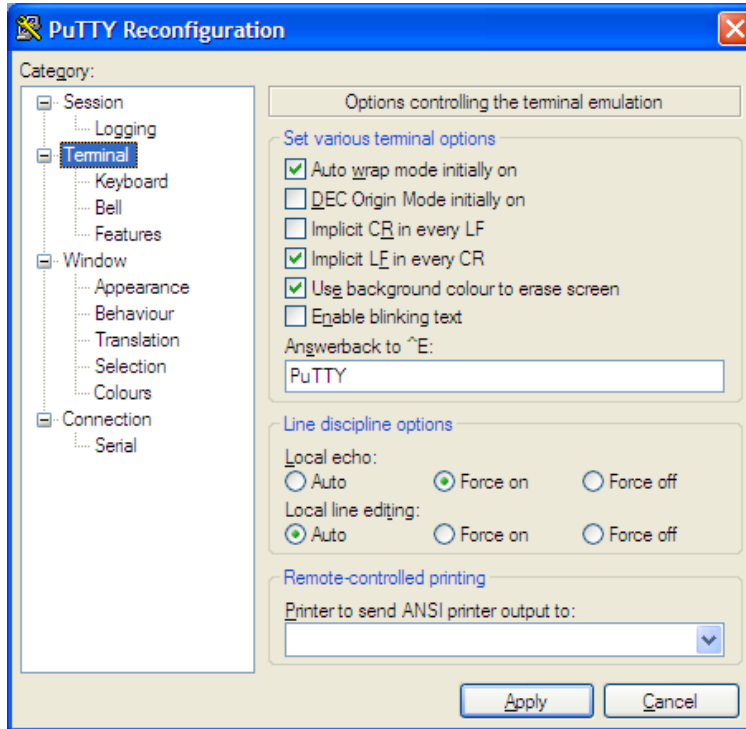
To begin, first check the IP Settings screen on your controller for the Ethernet Network Address as shown below:
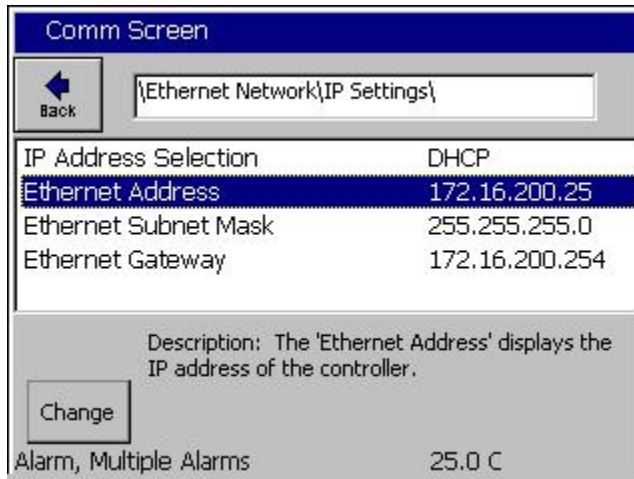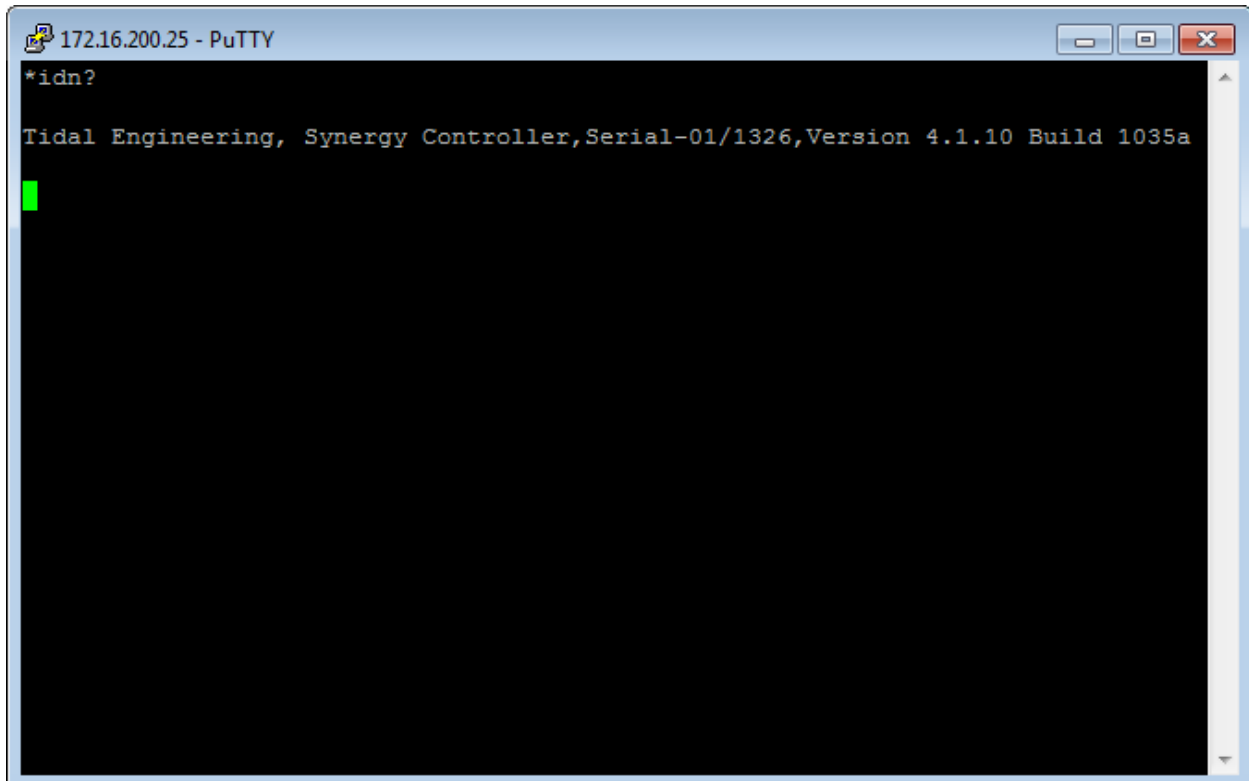
Then enter the IP Address in the Host Name (or IP Address) field and enter 5000 in the Port filed as shown below.

Setup the terminal settings as shown below, then press apply.

Type commands in the terminal window and press enter. The following screen shot shows the "*idn?" command and the controller's response.

The list below is a table of frequently used Synergy Controller commands:

Setpoints and Process Variable Commands	Syntax	Example	Response
Query Channel Process Variable	? Cn where n is the channel	? C1	25.0
Query Temperature (Chan.1)	? C1	? C1	25.0
Query Humidity (Chan.2)	? C2	? C2	50.0
Set Temperature Setpoint (Chan.1)	= SP1 n	= SP1 25.0	OK
Query Temperature Setpoint (Chan.1)	? SP1	? SP1	25.0
Set Humidity Setpoint (Chan. Chan.2)	= SP2 n	= SP2 50.0	OK
Query Humidity Setpoint (Channel 2)	? SP2	? SP2	50.0
On/Off Commands	Syntax	Example	Response
Turn Chamber ON	= ON	= ON	OK
Query Chamber ON state	? ON	? ON	0 or 1
Turn Chamber OFF	= OFF	= OFF	OK
Event Output Commands	Syntax	Example	Response
Set Event Output n ON	= EVENTS n, 1	= EVENTS 1, 1	OK
Set Event Output n OFF	= EVENTS n, 0	= EVENTS 1, 0	OK
Query State of Event Outputs	? EVENTS	? EVENTS	00FF0003
Program Commands	Syntax	Example	Response
Query Program State	? RUN PROFILE_STATE		
Load a Program	= FILEOPEN 1 "program-name"	= FILEOPEN 1 "Product1"	OK
Start a Program	= RUN	= RUN	OK
Start a Program at a specific line	= RUNFROM n	= RUNFROM 2	OK
Query Program state	? RUN 1= Run, 2 = Pause, 3 = Steady State	? RUN	1
Alarm Commands	Syntax	Example	Response
Check Status of Alarms	? ALM	? ALM	1,0,00000800
Acknowledge Alarms	= ACKALM	= ACKALM	OK

For a complete list of controller commands, download a technical manual from the following page on our website: www.tidaleng.com/synergy.htm

Our free SimpleComm program is an alternative to PuTTY and is available on the Tidal Engineering Website. The SimpleComm terminal supports RS-232, IEEE 488, and TCP/IP communications with the Synergy Controller family.

Application Note 8 covers the use of our SimpleComm Terminal program with the Synergy Controller family.

Download SimpleComm using the following link: http://tidaleng.com/downloads/SimpleCommV4.5.3Setup.zip
http://tidaleng.com/downloads/Installing_SimpleComm_on_Windows_7_REV_A.txt
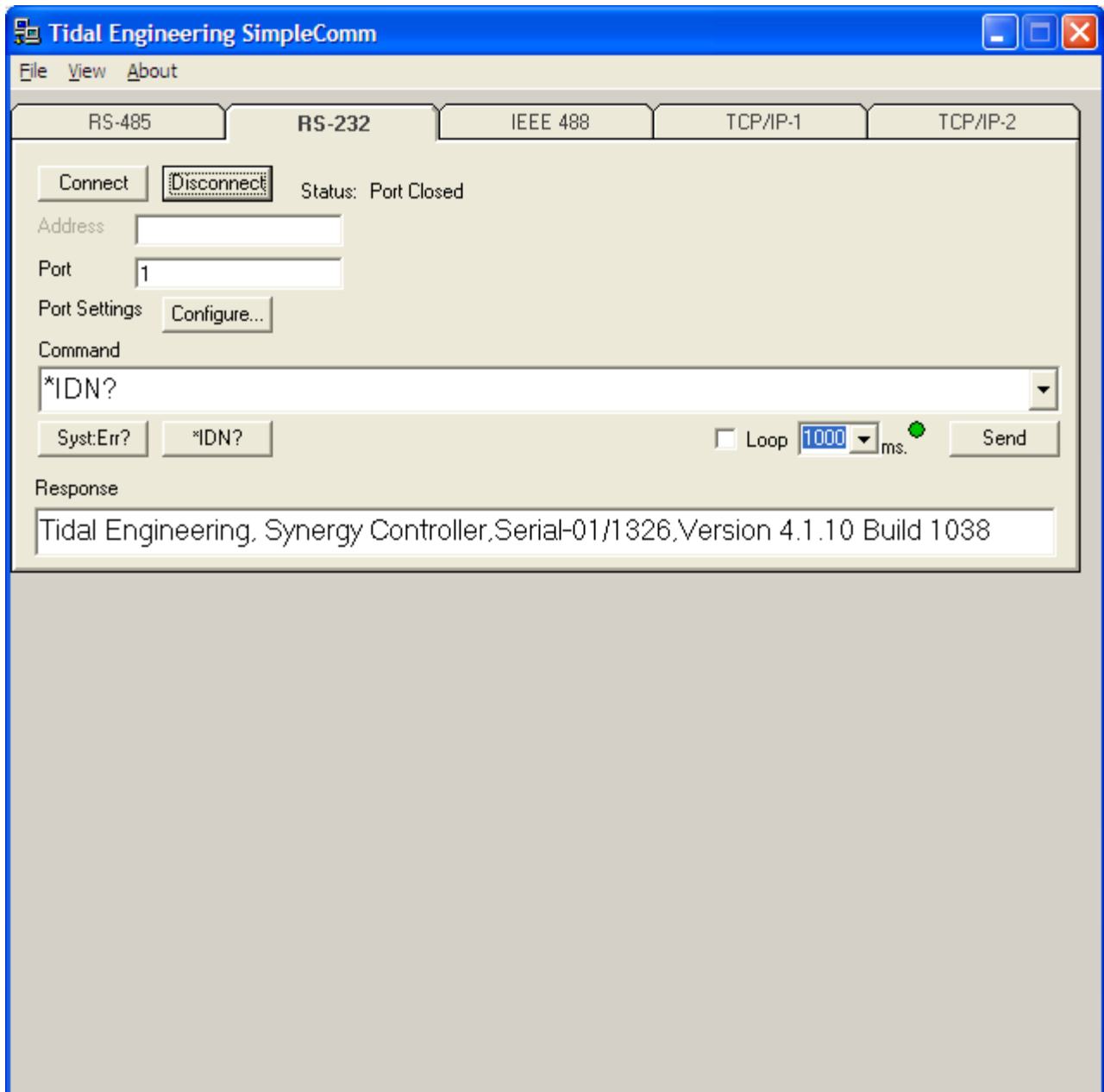
About the Synergy Family

Tidal Engineering's Synergy Controllers, the ¼ DIN Synergy Nano, Synergy Micro 2 and the Synergy Quattro provide state-of-the-art usability and connectivity for environmental test control and data acquisition. They combine the functions of a chamber controller and a data logger and are designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards.

Synergy Controller feature highlights includes:
- ➜ Color touch screen
- ➜ Ethernet, RS-232 and GPIB communications
- ➜ Built in 100 MB Data logger with USB drive support
- ➜ Data Acquisition, up to 64 T-type thermocouples (Optional)
- ➜ Built-in Web Server for remote control; WebTouch Remote ™
- ➜ Compatible with Synergy Manager for PC based control, monitoring and programming.
- ➜ Built-in FTP Server for factory automation and test and measurement applications

For more information regarding these controllers please see the full Synergy Controller Technical Manual on our website at http://www.tidaleng.com/synergy.htm

About Tidal Engineering

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for test and measurement and data acquisition applications since 1992. The company is recognized for technical expertise in such areas as Embedded IEEE 488, and turnkey SCADA (Supervisory Control and Data Acquisition) systems.

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