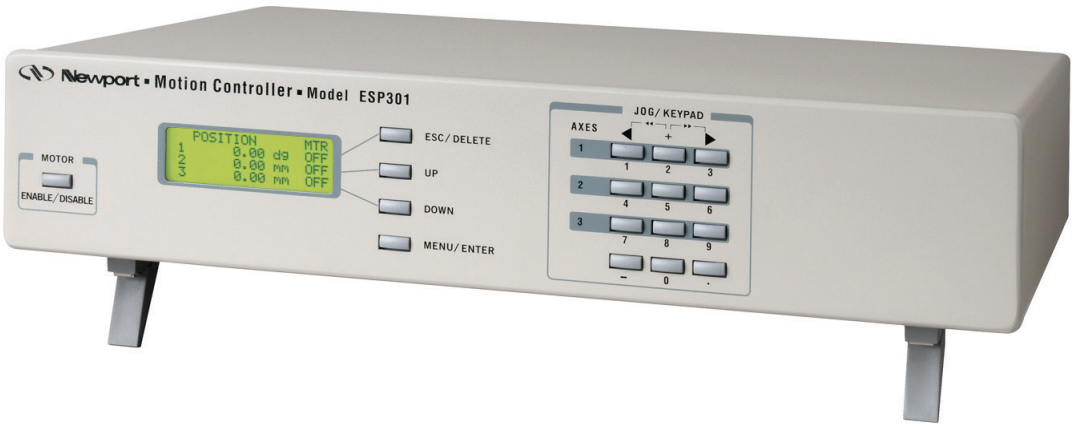
ESP301

Integrated 3-Axis Motion Controller/Driver



Controller GUI Manual

V2.0.x

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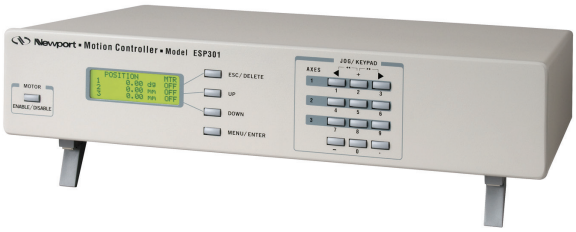


ESP301 Integrated 3-Axis Motion Controller/Driver

1.0 Introduction

1.1 Purpose

The purpose of this document is to provide instructions on how to use the ESP301 graphical user interface (GUI).

1.2 Overview

The ESP301 GUI is a graphical user interface, that allows the user to control Newport stages with the ESP301 controller (execute motion, configure stages, etc.).

2.0 Installation

2.1 Install ESP301 Graphical User Interface

Following are steps to install the ESP301 GUI:

- For 32 bit, Select and launch “ESP301 Utility Installer Win32.exe”. For 64 bit, Select and launch “ESP301 Utility Installer Win64.exe”.
- A window opens up showing Install welcome page.
- Click on “Next”.
- A window opens up allowing destination folder selection. By default it is showing C:\.
- Click on “Next”.
- Ready to install window opens up. Click “Install”.
- Then installation starts, wait for completion. Click on “Finish” to finalize the installation.

32 bit installer will install “Newport.ESP301.CommandInterface.dll” in GAC_32 folder and 64 bit installer will install the dll in GAC_64 folder.

NOTE

LabVIEW users can add a reference of the command interface dll from GAC during VI creation.

2.2 Launch GUI

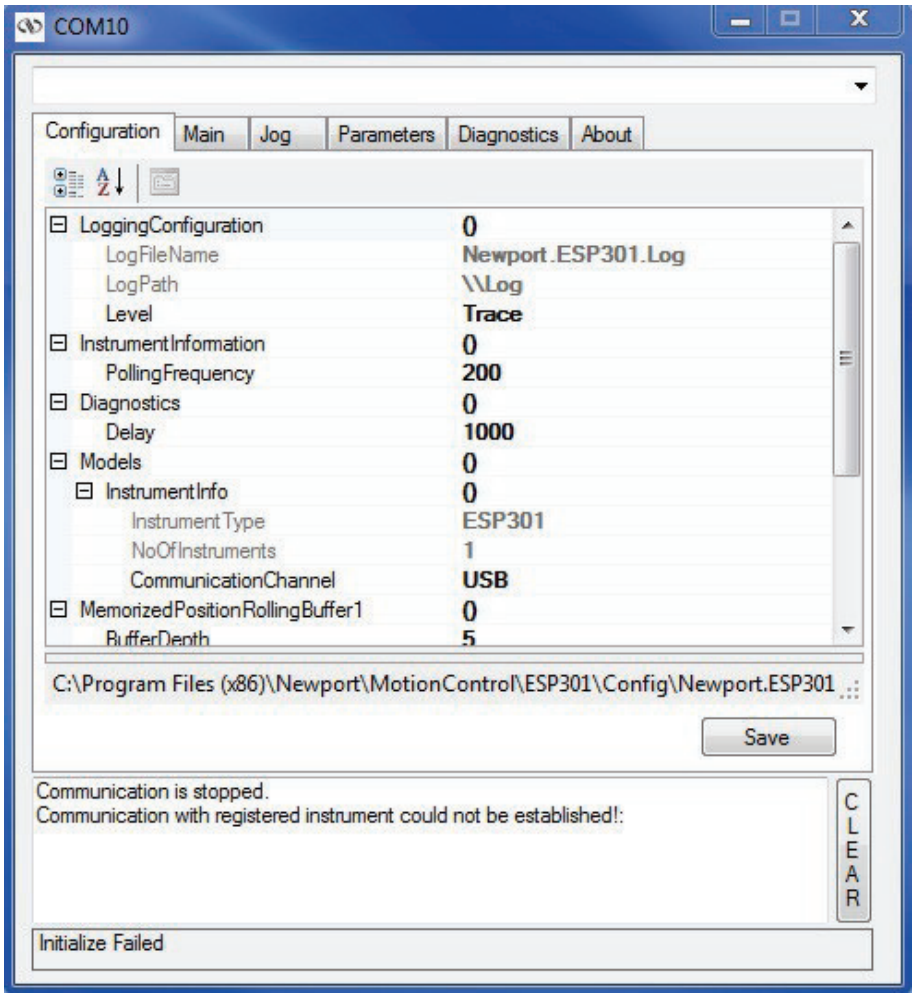
From Windows “START” menu, select “All Programs\Newport\Motion Control\ESP301\ESP301 Utility”.

3.0 User Interface

3.1 Configuration

The Configuration tab allows the user to view and / or change information related to the logging configuration and the instrument settings. Read only values are displayed for the log file name and the log file path.

The logging level may be changed to any of the settings in the drop-down list on the right hand side. Trace is the most detailed of the settings and when this setting is selected, the GUI logs everything. Critical Error is the least detailed of the settings and when selected, the GUI will only log errors that are defined to be critical.



The polling interval defines the number of milliseconds between each time the GUI polls the ESP301 for the latest information. The user may change the polling interval by entering a value.

The **Save** button saves the current settings to the configuration file.

Configurable settings

The following table describes all the settings that can be changed by the user.

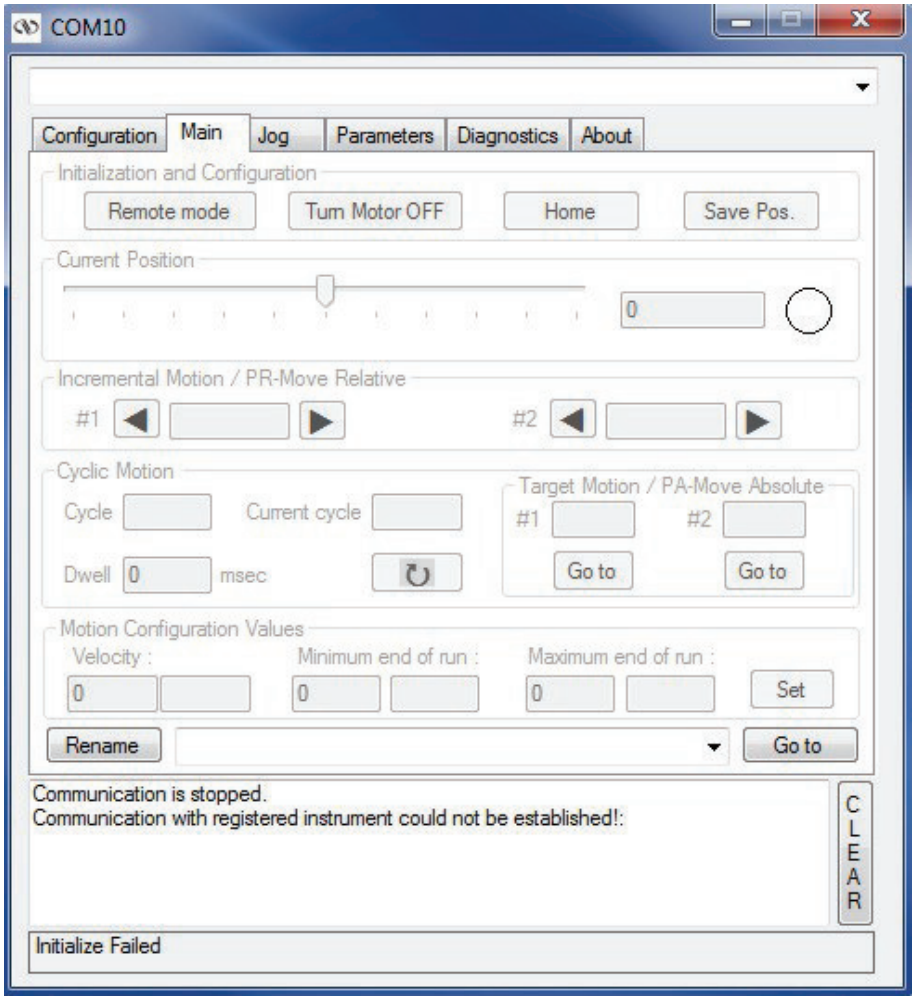
Parameter	Description	Values	Default
	LoggingConfiguration		
Level	Logging level. Trace is the most detailed of the settings and when this setting is selected, the GUI logs everything. Critical Error is the least detailed of the settings and when selected, the GUI will only log errors that are defined to be critical.	Trace Detail Equipment Message Info Warning Error Critical Error	**Trace**
	InstrumentInformation		
PollingFrequency	The polling interval defines the number of milliseconds (delay) between each time the GUI polls the instrument for the latest information.	An Integer	**200**
	Diagnostics		
Delay	The Delay defines the number of milliseconds (delay) between each command from a file of commands in the diagnostics tab.	An Integer	**1000**
	Models\InstrumentInfo		
CommunicationChannel	The communication channel	USB	**USB**
	MemorizedPositionRollingBuffer		
BufferDepth	MaxItem defines the maximum number of memorized positions by the GUI.		**5**
Positions	The list of the memorized position. The format is "Name of position #1;X position #1;Y position #1;Name of position #2;X position #2;Y position #2…"		

3.2 Axis

The combo box at the top of the window allows the selection of axes (1 to 3).

3.3 Main

The Main tab displays the main controls in the GUI like a virtual front panel. It is updated each time the polling interval timer expires.



“Initialization and Configuration”

In the “Initialization and Configuration” area, the first button switches between the Local and Remote states. The second button turns the motor: ON or OFF and Stop Motion. The Home button commands the stage to go to the home position. The last button “Save Pos.” memorizes the current positions in the combo box. As soon as a new position is memorized, this is displayed in the trace.

“Current Position”

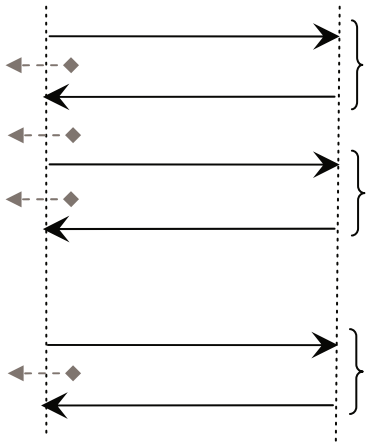
In the “Current Position” area, the current position is displayed in a text box and visualized in a slider. The slider limits are defined with the ends of run. An LED shows the current controller state. When you move the mouse over the LED, the controller state is displayed in an information balloon.

“Incremental Motion / PR-Move Relative”

In the “Incremental Motion / PR-Move Relative” area, two steps can be defined. For each step, a relative move is made in the negative direction or a positive direction.

"Cyclic Motion" and "Target position / PA-Move Absolute"

In the "Cyclic Motion" area, a motion cycle is configured with a number of cycles (Cycle) and a specified time in milliseconds (dwell). The motion cycle gets the defined target positions from the "Target position / PA-Move Absolute' area to perform the cycle.



In the "Target position / PA-Move Absolute" area, two target positions can be defined. The "Go to" button executes the absolute move to go to the specified target position.

"Motion Configuration Values"

In the "Motion Configuration Values", the current ends of run and the velocity are displayed in a disabled text box: "Minimum end of run", "Maximum end of run" and "Velocity". These ends of run and the velocity can be modified and saved with the "Set" button.

Memorized positions

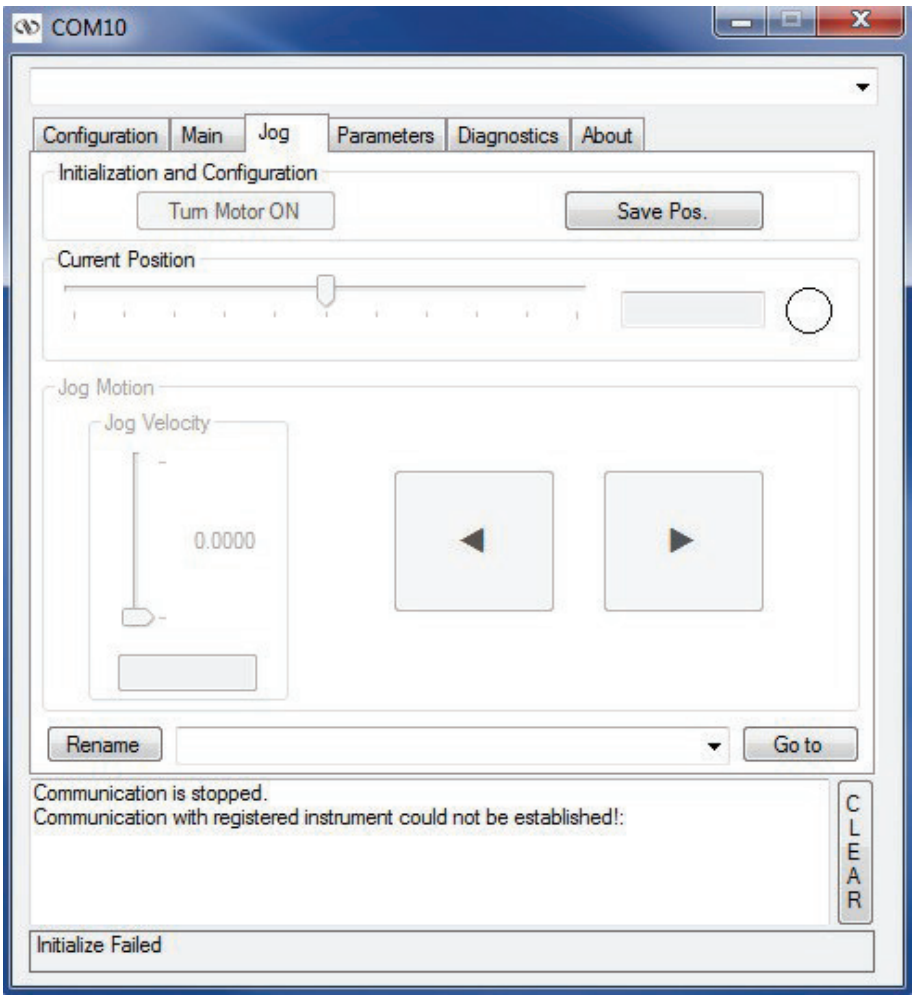
The combo box memorizes the positions using the "Save Pos." button. Each of these positions can be renamed or deleted. To execute an absolute move to go to one of these memorized positions, select one item of the combo box and click on "Go to" button. When the mouse moves over to the combo box, the positions of the selected memorized position are showed in an information balloon.

Rename a memorized position: Select an item from the combo box, edit the position name to change it and click on the "Rename" button to save the new position name.

Delete a memorized position: Select an item from the combo box, right-click on the mouse and select the "Delete" menu to delete the selected memorized position.

3.4 Jog

The Jog tab allows entry of the position value in the Jog mode.



"Initialization and Configuration"

In the "Initialization and Configuration" area, the first button switches between the Local and Remote states. The second button "Save Pos." allows memorizes the current positions in the combo box. As soon as a new position is memorized, this is displayed in the trace.

"Current Position"

In the "Current Position" area, the current position is displayed in a text box and visualized in the slider. The slider limits are defined with the ends of run. An LED shows the current controller state. When you move the mouse over the LED, the controller state is displayed in an information balloon.

"Jog Motion"

In the "Jog Motion" area, an indefinite move (MV) can be performed in either the negative direction or a positive direction. Motion starts when a button is held down and stops when the button is released.

"Jog Velocity"

In the "Jog Velocity" area, the jog velocity can be defined. Keep in mind that the slider's scale is logarithmic.

Memorized positions (defined by axis)

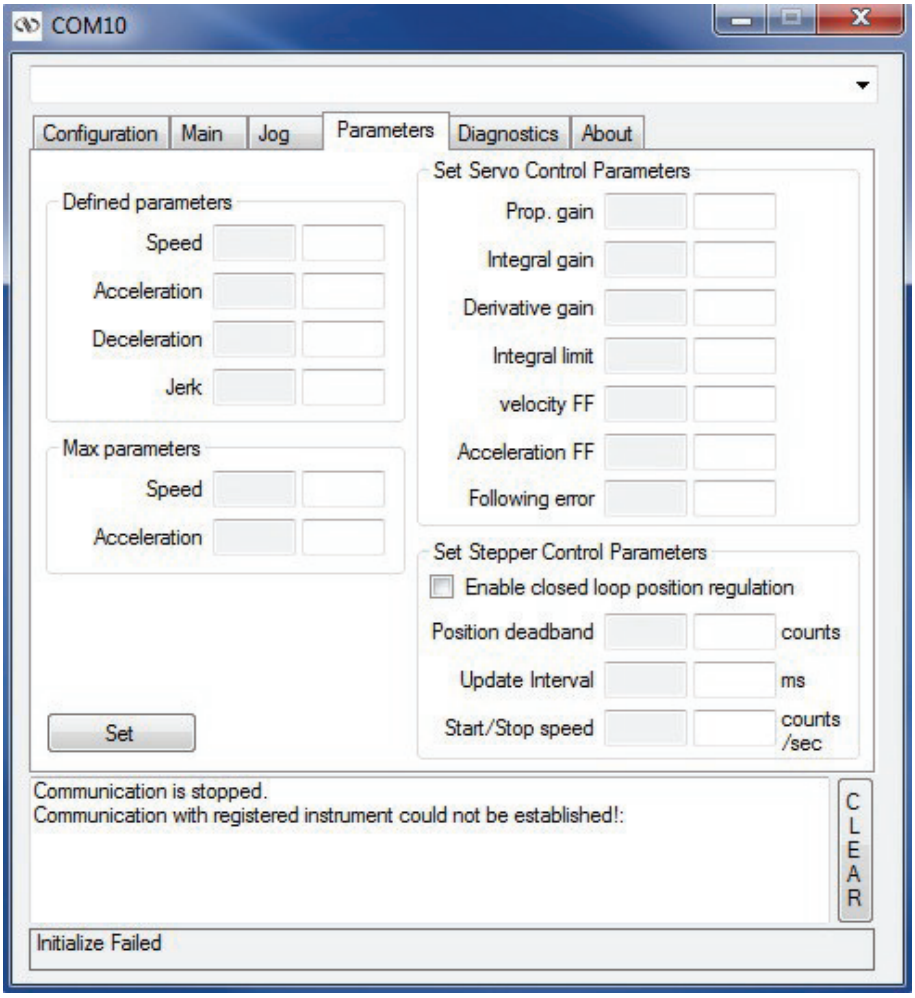
The combo box memorizes the positions using the “Save Pos.” button. Each of these positions can be renamed or deleted. To execute an absolute move to go to one of these memorized positions, select one item of the combo box and click on “Go to” button. When the mouse moves over to the combo box, the positions of the selected memorized position are showed in an information balloon.

Rename a memorized position: Select an item from the combo box, edit the position name to change it and click on the “Rename” button to save the new position name.

Delete a memorized position: Select an item from the combo box, right-click on the mouse and select the “Delete” menu to delete the selected memorized position.

3.5 Parameters

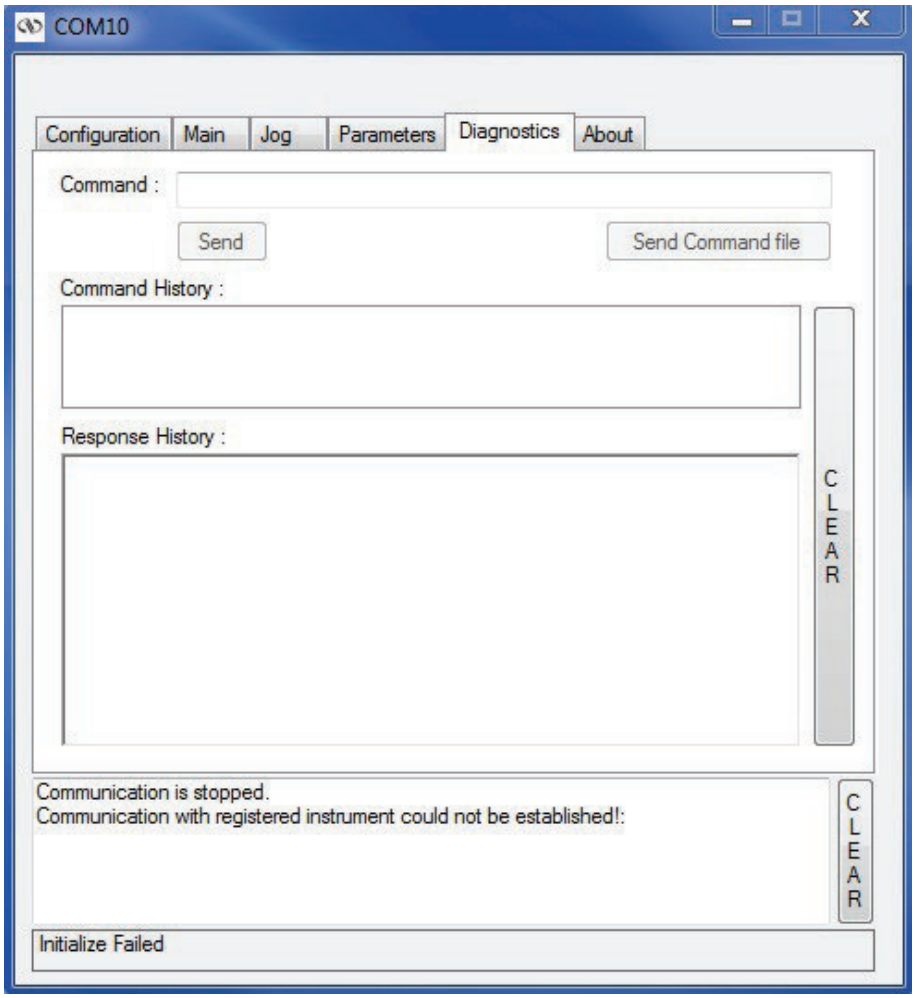
The Parameters tab display and allows changes tothe parameters of the instrument.



3.6 Diagnostics

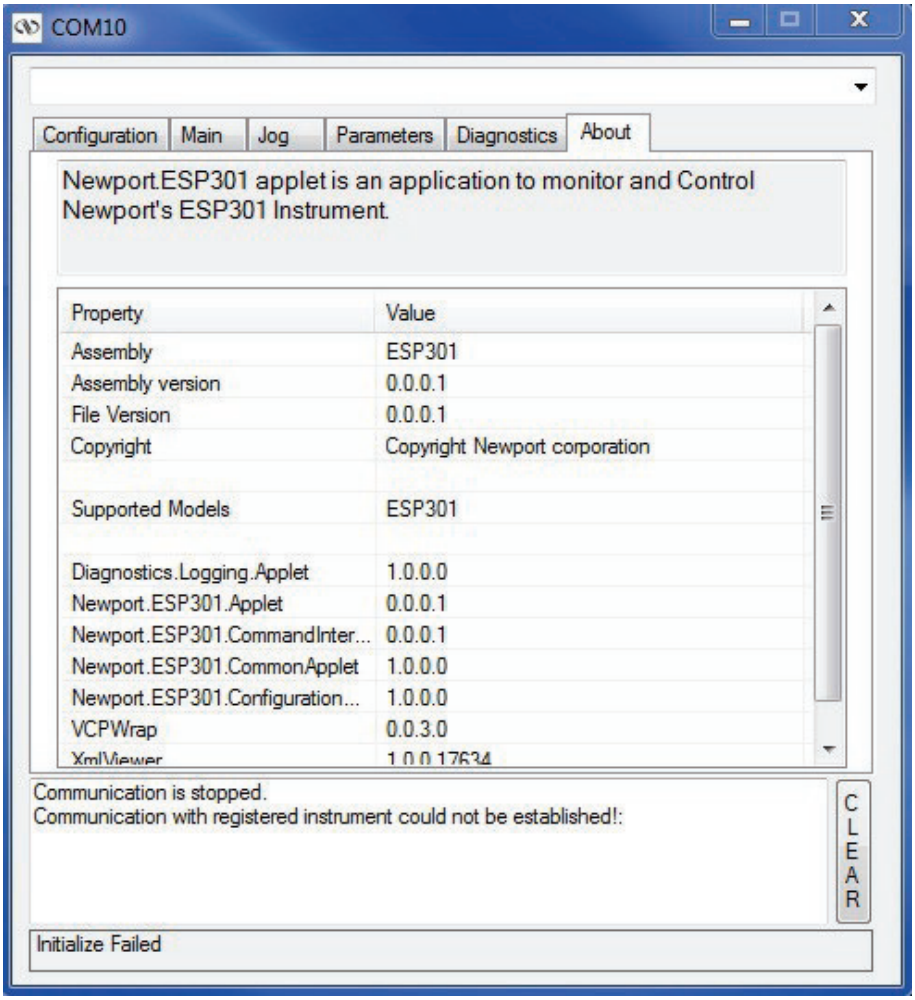
The Diagnostics tab allows the user to enter instrument commands and to view the history of commands sent and the responses received. This list of commands and the syntax of each command can be found in the user's manual for the instrument.

A file of commands can be sent line by line to the instrument with the "Send Command file" button.



3.7 About

The About tab displays information about the GUI and the connected instrument. It displays the GUI name, version, and copyright information. It also displays the instrument model and instrument key (serial number).



Service Form

Your Local Representative

Tel.: _____

Fax: _____

Name: _____

Company: _____

Address: _____

Country: _____

P.O. Number: _____

Item(s) Being Returned: _____

Model#: _____

Return authorization #: _____
(Please obtain prior to return of item)

Date: _____

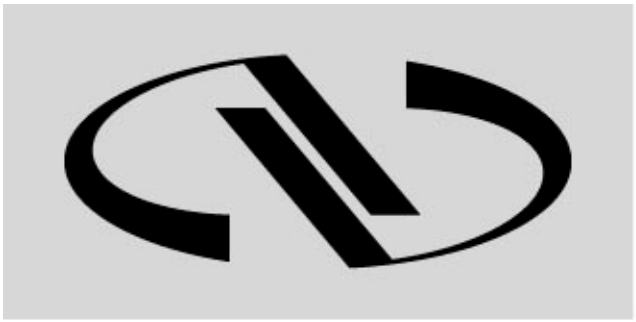
Phone Number: _____

Fax Number: _____

Serial #: _____

Description: _____

Reasons of return of goods (please list any specific problems): _____



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