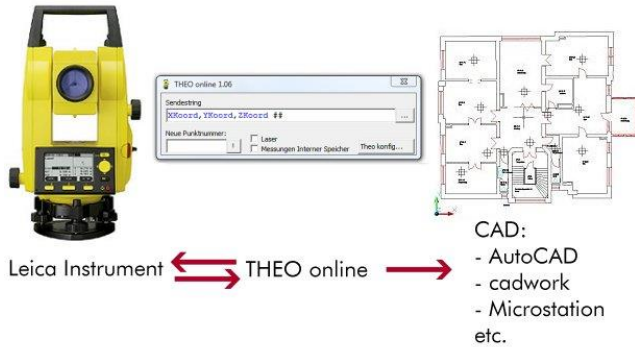


## THEO online Overview

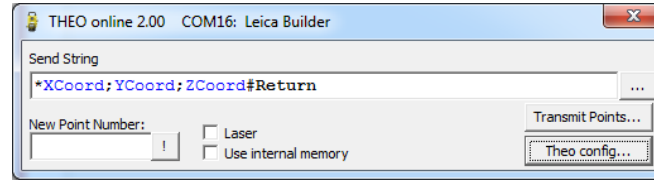
THEO online is an application to operate a Leica total station at any serial or Bluetooth port within a MS Windows XP/Vista/7/8.x/10 (32 and 64 Bit) operated PC or Notebook computer. The Leica Theodolite measurements are automatically formatted to your needs and transmitted into any active window, input field etc. You can send each measurement of your Leica total station directly into any Windows or DOS program:



## Features of THEO online

- Supports all Leica Total Stations with serial RS232 or Bluetooth interface
- The measurements could be sent to any windows program, even programs in the DOS box could receive measurements.
- For CAD applications the measurements are transmitted like normal user inputs: Therefore all drawing functions are supported.
- Various Remote Control functions for Total Stations: Laser on/off, loading of points lists, etc.

## THEO online Program Window

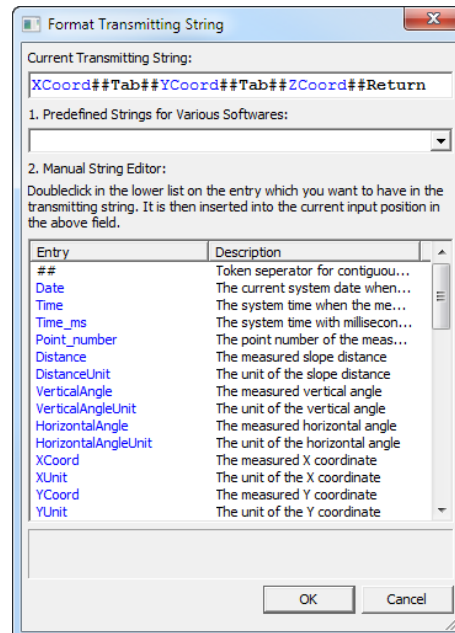


This window controls the communication with the Leica Total Station and other software. The central element is the Format string which defines the format who the measurements are sent to other applications

The Total Station could also remote controlled:

- Send a new point number for stationing points
- Switch Laser on/off.
- Store measurements in the instrument in order to be there for stationing.
- Load point files into the instrument.

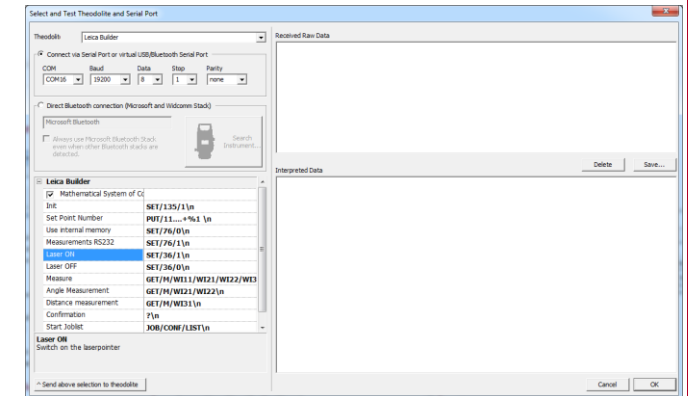
## Window „Format Transmitting String“



THEO online simulates normal keyboard input of a user. Therefore nearly all applications can be fed with measurements of a total station. The measurements can be formatted in virtually all possible ways, so that nearly all applications can benefit from THEO online.

## Window „Select and Test Theodolite and Serial Port“

It's very easy to connect THEO online with total stations: Select the total station model and all communication parameters are set to the factory defaults of this instrument. Then you choose the communication port which can be a real RS232 interface or a virtual serial via USB or Bluetooth port. You can also check the communication quite easily: You can send one of the predefined commands like "Laser on" to the instrument, and you can see very easily if the instrument responds to the command.



## Evaluation of THEO online

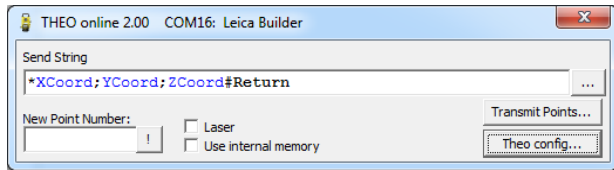
Evaluation is very easy: Just download THEO online from [www.elcovision.com](http://www.elcovision.com) and request an unlock code from within the software. We will send you a free unlock code which is valid for 2 workdays. If you have any questions we will gladly answer them by email or by phone.

# Operating Instructions Theodolite with Leica GSI Protocol

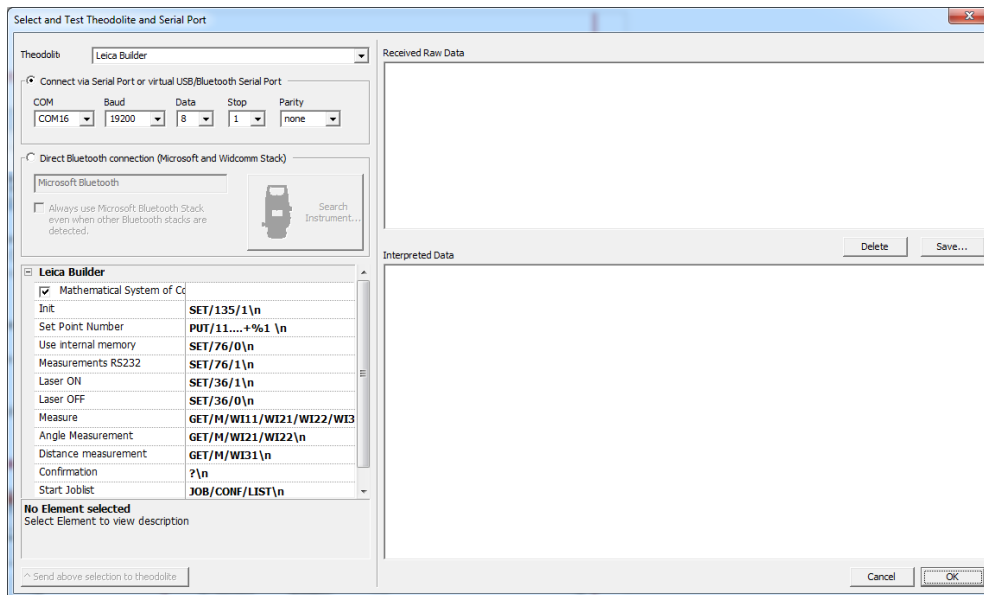
Connect the theodolite to the computer using a cable. If your theodolite has Bluetooth, you can make a connection with the Bluetooth Manager. Then a so-called virtual serial com port will be created. If Microsoft or Widcomm Bluetooth Stack is installed on your computer, **THEO online** can also communicate directly with the theodolite via Bluetooth.

## Connect THEO online to the theodolite:

Start **THEO online** and press [Theo config...]:



## Case 1: Via cable or virtual Bluetooth interface



Make sure that the correct serial port is selected. In the combo box all available serial ports are listed. If there are several, just try them all or look up in the Windows device manager which serial port is the right one.

## Case 2: Directly via Bluetooth

In "Select and test theodolite and interfaces" select the option "Direct connection via Bluetooth". Click on "Search Instrument..." and select the instrument that appears in the list.

Also pay attention to the Windows status bar. With some Windows versions a message will flicker and wants you to enter a Bluetooth pin. Click on this message and enter the Bluetooth pin of the theodolite. This is usually 0000.



## Configure the theodolite

Data output must be "RS232" or Bluetooth, depending on the selected connection, end mark must be "CR/LF".

## Testing the connection:

Click for example on [Laser ON] and [^Send selection to the theodolite] If the laser now turns on the connection PC -> theodolite works..

Test the opposite direction by e.g. selecting [Measurement] in the list and pressing [^Send selection to the theodolite]. Now the measured values should be listed in "Received raw data" and "Interpreted data". You can also trigger a measurement at the theodolite itself and then the measurement should also appear in the two lists. If not, check that all settings are correct.

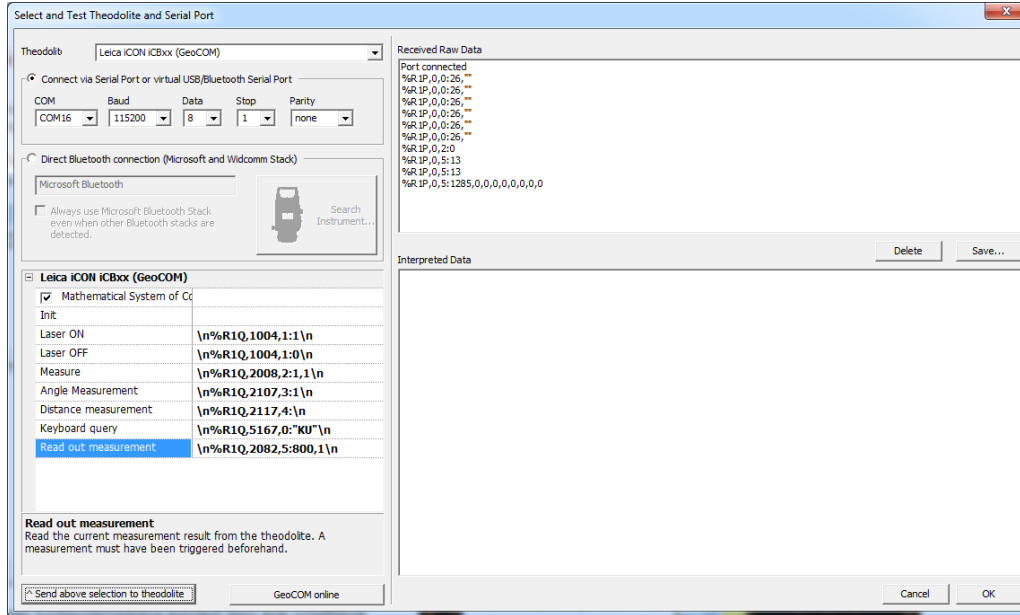
## Setting the transmit string

The transmission string can be entered directly in the "Transmission string" line. Recognized strings that are sent as measured values are displayed in blue. If you click [...] next to the send string line, a dialog box opens in which you can select prefabricated send strings for different CADs, as well as a list of all send tokens..

# Operating Instructions Theodolite with Leica GeoCOM Protocol

Connect **THEO online** to the theodolite via cable or via a virtual serial Bluetooth interface.

Start **THEO online** and click [**Theo config...**] and select a theodolite with GeoCOM protocol e.g. the Leica iCON:



In the small **THEO online** window and in the configuration dialog above a button [**GeoCOM online**] appears. With this button the measuring mode of the theodolite can be switched on and off.

## Test Connection:

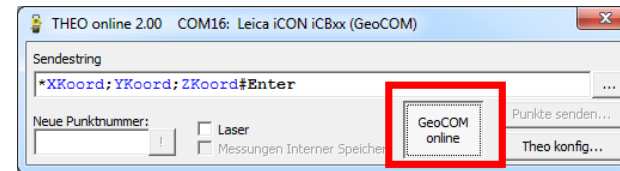
Click on the button [**GeoCOM online**]. The remote connection screen shown on the left must switch on, the field "Receive raw data" should now show several lines per second.

## How to Measure:

Set up the theodolite like always and orient it. Then return to the start screen or main screen of the theodolite. This is extremely important or else **THEO online** cannot switch the Total Station into the Remote mode. Only in this mode we can export the measurements out of the instrument:



Press the [**GeoCOM online**] button in the **THEO online** window:



The theodolite switches now into remote connection mode:



In this mode, measurements can now be done normally with the theodolite measurement button (crosshairs button at the bottom left of the cursor buttons). Note that all other buttons on the instrument have no function anymore.

If the theodolite has to be repositioned, press the [**GeoCOM online**] button on the **THEO online** again. After 1-2 seconds the main screen of the theodolite returns and the theodolite can be fully operated again.