TruPulse Model Serial Protocol/Commands

General:

1. Commands are case insensitivite.
2. Each command is starts with '$' sign and is ended with <CR><LF> (Enter)
3. There are no spaces inside command.
4. Every command which needs a parameter can be used to enquire the current setting of the parameter by entering the mnemonic command by itself (rule 2 applies).
   For example:
   $MM,2<CR><LF> sets the Measurement Mode to 2 (SD)
   $MM<CR><LF> returns value 1 (current Measurement Mode setting.
5. TruPulse sends $OK if parameter change is successful or ER,## if not.

Terminal Program example:

Download Tera Term Pro from http://www.sofotex.com/Tera-Term-(Pro)-download_L411.html

1. Setup Tera Term Pro
2. Open program.
3. Select serial and correct com port and click OK.
4. Enter into the setup tab and select serial. Change the baud rate to 4800 or 38400 (whichever you are using), click on OK.
5. Enter into the setup tab again and select terminal, in the new line box change the transmit and receive to CR+LF. Check local Echo box and click on OK.
6. Type $ID and enter (If you get a response back than you have communication with the TruPulse.
7. To ask for current value (units for example) just type: $MU ; To change setting to Feet type: $MU,2

TruPulse 200/B: Firmware Versions A1.02 & A1.05

- These code versions of the TruPulse 200/B will only output measurements. Please refer to the manual for Serial Data Interface section.

TruPulse 200/B: Firmware Versions A2.0

- Only TruPulse 200/B with v2.00 and newer supports serial protocol/command control.

- **Request only commands: Inquiry**
  - *Get ID*
    - **$ID**
    - response: $ID,TP200 MAIN,2.23,06-22-2011
  - *Get Battery Voltage*
    - **$BV**
    - response: $BV,v
    - where: v battery voltage in mV
  - *Get Instrument Status*
    - **$TS,n**
    - where: 0 battery ok
    - 2 battery voltage below warning level (2.15V)
- **User/Measurement setting commands:**
  - Measurement Start/Stop
    - *Start* $GO
    - *Stop* $ST

- MM - Set Measurement Mode
  - 0 - HORIZONTAL DISTANCE
  - 1 - VERTICAL DISTANCE
  - 2 - SLOPE DISTANCE
  - 3 - INCLINATION
  - 4 - HEIGHT
- TM - Set Target Mode
  - 0 - STANDARD
  - 1 - CONTINUOUS
  - 2 - CLOSEST
  - 3 - FARTHEST
  - 4 - FILTER
- MU - Change/Request Distance Units
  - 0 - METERS
  - 1 - YARDS
  - 2 - FEET
- Instrument settings commands:
  - NT - Set Shutdown Timeout without Bluetooth On
  - 1 - 255 mins
  - 0 - never timeout
- BT - Set Shutdown Timeout with Bluetooth On
  - 1 - 127 mins
  - 0 - never timeout
- BO - Set Bluetooth On/Off
  - 0 - OFF
  - 1 - ON
- BR - Set Baud rate
  - 0 - 4800
  - 1 - 38400

TP360/B: v3.07 & A3.17:

- **Request only commands: Inquiry**
  - *Get ID*
    - **$ID**
    - response: $ID,TP200 MAIN,2.23,06-22-2011
  - *Get Battery Voltage*
    - **$BV**
    - response: $BV,v
    - where: v battery voltage in mV
  - *Get Instrument Status*
    - **$TS,n**
    - where: 0 battery ok
    - 2 battery voltage below warning level (2.15V)

- **User/Measurement setting commands:**
  - Measurement Start/Stop
    - *Start* $GO
    - *Stop* $ST

- **MM - Set Measurement Mode**
  - 0 - HORIZONTAL DISTANCE
  - 1 - VERTICAL DISTANCE
  - 2 - SLOPE DISTANCE
  - 3 - INCLINATION
  - 4 - HEIGHT
  - 5 - AZIMUTH
  - 6 - MISSING LINE
- **TM - Set Target Mode**
  - 0 - STANDARD
  - 1 - CONTINUOUS
  - 2 - CLOSEST
  - 3 - FARTHEST
  - 4 - FILTER
- **DU - Change/Request Distance Units**
  - 0 - METERS
  - 1 - YARDS
  - 2 - FEET
- **AU - Set Angle (Inclination) Units**
  - 0 - DEGREES
  - 1 - PERCENTS
- **Instrument settings commands:**
  - NT - Set Shutdown Timeout without Bluetooth On
  - 1 - 255 mins
  - 0 - never timeout
- **BT - Set Shutdown Timeout with Bluetooth On**
  - 1 - 127 mins
  - 0 - never timeout
- **BO - Set Bluetooth On/Off**
  - 0 - OFF
  - 1 - ON
- **DE - Set Declination (any number is accepted)**
- **BR - Set Baud rate**
  - 0 - 4800
  - 1 - 38400

TruPulse 360R

TruPulse 200X

Firmware versions 1.14-76 and 1.14-92

Range measurements returned from the 200X in criterion mode with a TruAngle will be of the form:

Example: $PLTIT,HV,1.75,M,17.20,D,-32.71,D,2.08,M*2E

$PLTIT – measurement identifier

HV – horizontal vector

1.75 – horizontal distance (meters)

M – distance units (meters)

17.20 – heading (with TruAngle only)
D – heading units (with TruAngle only)
-32.71 – tilt angle
D – tilt angle units (degrees)
2.08 – slope distance (straight-line distance)
M – distance units (meters)
* - delimiter
2E - checksum

Without a TruAngle, the heading and heading units fields will be blank.
Some command require the instrument password to be entered first. See $PW command.

- **$ID – Request instrument ID string**
  - response: $ID,TP-211,TruPulse 200X_BT-3.14-92,AUG 08 2016,57EAC325*B785
- **$BC – get / change backlight setting**
  - 1 – increase backlight setting
  - -1 – decrease backlight setting
- **$BM – get / set measurement mode**
  - 1 – range
  - 2 – height (2-shot)
  - 3 – missing line (2-shot)
  - 4 – angle
- **$GO – take a measurement**
  - $GO,*n* Take *n* measurements
- **$ST – stop measurements**
- **$OZ – get current temperature**
  - In degrees C
- **$PD – save settings and power down instrument**
- **$SN – get serial number**