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CLI (C0MMAND LINE INTERFACE) MANUAL
ILT5000 & ILT1000

The ILT1000 devices can be used on pc's running Windows XP, 7 or 8 as well as on MAC computers. The ILT5000 devices cannot be used on pc's running Windows .

The ILT5000 and ILT1000 were designed to accept commands over a serial port. Both devices use the same theory of operation. The ILT5000 works with all ILT1000 commands plus some extended features and commands. The complimentary, extensive API can be accessed to perform many of the task found in ILT's BAR, TREND and METER applications using Labview or by interfacing with any standard terminal program (hyperterminal, putty, MAC terminal window, etc).

Note: 5/2015, ILT has added a preliminary experimental application called “FLASH” which is also included in our latest API.

ILT has included our full Datatlight API separately on the ILT website:

http://www.intl-lighttech.com/support/manuals-documentation

CLI:
CLI is a very basic command line interface program contained within Datalight and Datalight II.

1. Starting CLI: Double click on the CLI icon located the DataLight folder or on the desktop (depending of the rev of software you are using)

When run, CLI will scan through all available ports noting “No device found at COM port #” for each port until it finds a meter. CLI will automatically detect the first available device and present a CLI interface. If you wish to control additional devices, running another instance of CLI will open up another CLI window to control the next device found.

2. Command List: When CLI opens you will receive a prompt “Type help for a list of device commands Type exit or quite to close the console”. Type “help” and press return. This will display a list of the most commonly used commands for your version of firmware:

This list also serves as the documented API for the device.

help screen

```
CLI
echooff            : 0 on success.
echoon             : 0 on success.
eraselogdata       : 0 on success, -500 if logging active, -501 error erasing
get100perc         : Current for 100% transmission in amps,-500 if not set
getambienttemp     : Ambient temperature of the device in deg F (x100)
getcurrent         : Sensor current in picoamps, -500 if voltage saturation
getdarkmode        : 0 = NO DARK, 1 = FACTORY SET, or 2 = USER SET
getdatetime        : Date and time in mm/dd/yy hh:mm:ss and epoch time format
getfactorydark     : Factory-set dark values in microvolts, -500 if not set
getfwversion       : Device firmware version
getgeneration      : Generation of device
getirradiance      : Calibrated irradiance x1000, -500 no calibration data,
                     -501 input current out of range, -502 saturation
getirrthresholdlow: Min irradiance for data logging (user-defined units)
getlogdata         : Second Since 1970, Log Data Pairs, -500 if no data
getmodelname       : Device model name
getod              : Optical density (x100), -500 if 100 percent not set
getserialnumber    : Device serial number, -500 if not set
gettemp            : Internal temperature of the sensor logic in deg F
gettrans           : Transmission (x10), -500 if 100 percent not set
getuserdark        : User-set dark values in microvolts, -500 if not set
getvoltage         : Sensor voltage in microvolts
help               : Displays list of commands
set100perc         : 100 % current in amps, 1 if too low, 2 if too high
setautaveraging    : 0 on success
setdatetime        : 0 on success, -500 if missing fields, -501 if bad fields
setirrthresholdlow: 0 on success
setuserdark        : User dark voltage in microvolts, -500 if error saving
startlogdata       : 0 on success, -500 if missing fields,
                     -501 if session active, -502 bad bitmask
stoplogdata        : 0 on success, -500 if no active session
usecalfactor       : 0 on success, -500 missing fields, -501 bad factor number,
                     -502 factor not defined, 503 if error saving
usefactorydark     : 0 on success, -500 if factory-set dark voltage not set
usefeedbackres     : 0 on success, -500 missing fields, -501 unsupported cmd,
                    -502 bad resistor number, -503 if error saving
usenodark          : 0 on success
useuserdark        : 0 on success, -500 if user dark voltage not set

help
```

3. Display options: CLI opens in "**echooff**" mode, where all responses are numerical. Type **echoon** to swith to from numerical to text. The command prompt with a flashing curser will appear.

4. Issue commands: To use CLI simply type any of the commands shown in the help screen (or from the API) and hit enter.

5. Taking a light measurement readings with CLI:
CLI allows the user to verify their calibration factor and take a single reading or log data into the internal memory.

```
Command: echoon
echoon detected
Echo mode set

Command: getcalfactor
getcalfactor
getcalfactor detected
Calibration factor in use = 4


Command: usecalfactor 1
usecalfactor 1
usecalfactor 1 detected
```

5A Calibration factor: Calibrated ILT1000/ILT5000 units are shipped with the calibration factor pre-programmed. CLI can access 20 calibration factor channels used by the meter to store calibrations.

1. getcalfactor: To determine which calibration factor is currently in use type "getcalfactor" and hit return. CLI will respond with the answer, Calibration factor in use = # (# is channel 1 thru 20).

2. usecalfactor: If the channel noted is not the correct channel enter "usecalfactor #".
For example if you have a UVA filter with a cal factor in channel 1 and a Y VIS light filter with a cal factor in channel two. You must first assure your UVA filter is on the ILT1000 or ILT5000 sensor,
Type "usecalfactor 1" and hit enter.
(Note: The calibration factor channel and CLI do not save or display the units. For example, the UVA readings are typically in W/cm2 or W/m2 and the VIS light readings are typically in fc or lux. Please refer to the calibration certificate to determine the units of measurement)

3. setcalfactor: The ILT1000/ILT5000 allows the user to enter their own calibration factor. User must input calibration factor description (up to 100 characters), the current-to-irradiance multiplier and saturation current in microamps. Example: setcalfactor 5 calfact5 3.28e-4 50
(Note: only experienced users should attempt self calibration /setcalfactor)

5B. Taking a single reading: To take a single light level reading type "getirradiance" and hit enter. A single reading in scientific notation will appear, for example 5 mW/cm2 will be displayed as 5.00e-03.

5C. Logging data: The format for logging data is:
startlogdata"space"bitmask sum"space"time in millisecond intervals"space"0 (or epoch time)
ie. startlog data 32 1000 0

5C.1: Bitmask. To create a bitmask, select the items from the bitmask options below, and sum the total for the selected bitmap values . For example if you wish to log **4=**Detector Current (picoamps) and **32=**Calibrated light level (see getirradiance) you use a bitmap of 36 (4 + 32) Ie startlogdata **36**

Recorded Value Indicator bitmask as follows:
1=Optical Density (x100)
2=Percent Transmission (x10)
4=Detector Current (picoamps)
8=Detector Voltage (microvolts)
16=Device board temperature (degrees F)
32=Calibrated light level (see getirradiance)

5C.2. Recording interval: Readings are taken at 1 msec/ 1000 reading per second intervals. The record interval is the amount of msec between storing a value. A setting of 1 would save 1000 readings per second. To read once per second use interval of 100 ie startlogdata 36 ***100.***
Note: for firmware versions 2.0.0.2 a 1 = 1second delay between logging; a value of 3600 would indicate a 3600 second / 1 hour delay. The maximum value is 86400 / 1 day.

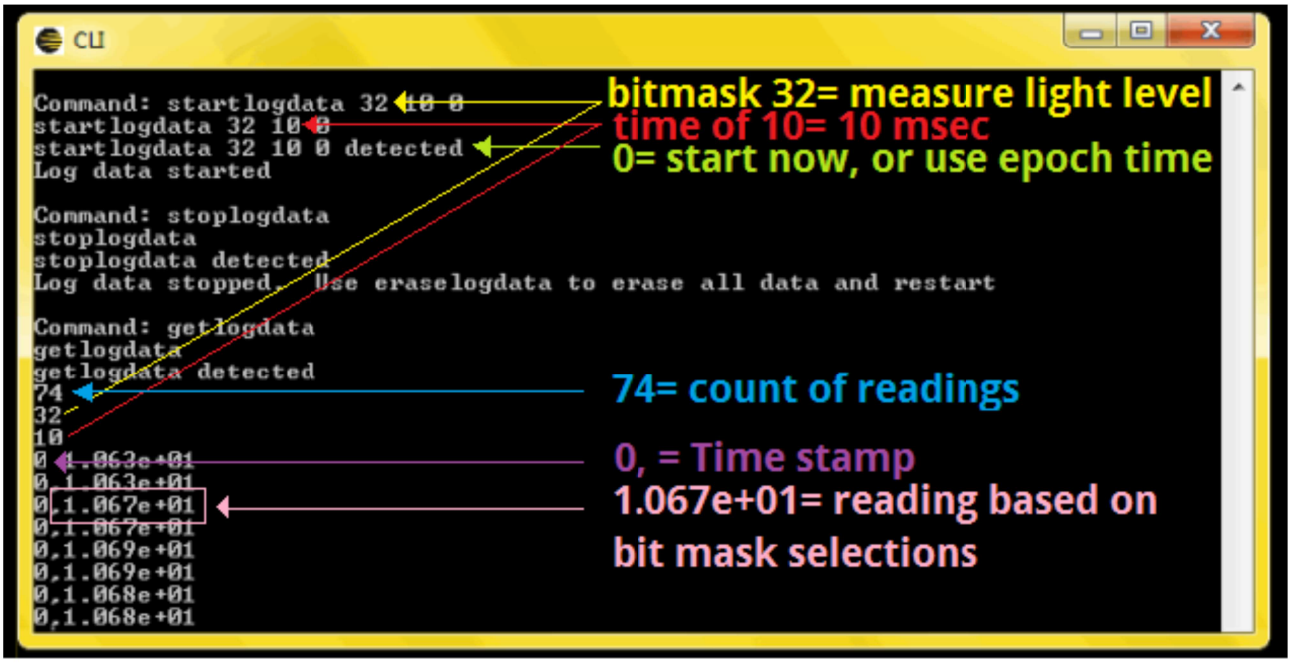
5C.3. Start time: the last digit in the startlogdata is the start time. Use a ***0*** to begin recording

immediately. Ie startlogdata 36 100 ***0***

Epoch time is used to delay the start time. Enter the epoch time [seconds since 1970] This is "Unix epoch time", with most application coding environments having a mechanism to convert a date-time structure to epochtime. There are easy to use converters online: http://www.epochconverter.com/

If done correctly, the terminal will display: log data started.

Example startlogdata 32 10 0.



5D. View readings during testing: To display the results without interrupting readings, type: getlogdata.

5E. Finish testing and veiw results: To stop the measurements and obtain readings, type: stoplogdata and then getlogdata

5F. Erase old data: The ILT1000/ILT5000 can only store one set of test data. Before starting a new session you will need to erase the old session. To erase the readings stored in memory type: eraselogdata.

For Additional advise on sending commands to the ILT1000 or ILT5000 see "Theory of Operation, and Labview" and the API on the ILT website:

http://www.intl-lighttech.com/support/manuals-documentation

For technical support please email ilsales@intl-lighttech.com and we will gladly offer support with in 24 hours of receipt of email.