Vernier EasyLink®

(Order Code EZ-LINK)

Vernier EasyLink is a single channel interface that plugs into the USB port of the TI-84 Plus, TI-84 Plus Silver Edition, TI-Nspire, or TI-Nspire CAS calculator. Vernier EasyLink's flexibility and ease of use make it perfect for a variety of activities in science and math. It supports over 45 analog sensors, including Gas Pressure, pH, and Dual-Range Force, among others.

Using the Vernier EasyLink with TI-84 Plus and TI-84 Plus Silver Edition Graphing Calculators

Follow this general procedure when using Vernier EasyLink with the TI-84 Plus family of calculators.

1. Confirm that the EasyData® application is installed on the calculator. Do that by pressing the APPS button and scrolling through the alphabetical list of applications. When you know that EasyData is there, press 2nd [QUIT] to return to the home screen. If EasyData is not installed, see below.
2. Connect one of the compatible sensors (listed in the chart) to Vernier EasyLink.
3. Connect Vernier EasyLink to the USB port on the calculator. The calculator will automatically launch EasyData and detect the sensor.
4. You are now ready to collect data.

Data collection with Vernier EasyLink and the EasyData application is simple, yet powerful. EasyData supports numerous data-collection modes, and EasyData version 2.0 or newer has built-in analysis tools, such as linear regression, and statistical analysis. For more information about EasyData, visit our web site at www.vernier.com/easydata

Obtaining EasyData

If EasyData is not installed on your TI-84 Plus calculator, you will need to install the application onto your calculator. EasyData can be downloaded free from our web site (www.vernier.com/easydata). Download the application to your computer and then use a TI-Connectivity™ cable and TI Connect™ software to send the application from the computer to the calculator. Your calculator will also need operating system version 2.30 or newer. If necessary, download the operating system from the TI web site (education.ti.com) and install it on your calculator.

Using Vernier EasyLink with TI-Nspire and TI-Nspire CAS Handhelds

1. Confirm that you are running TI-Nspire software version 3.0 or newer.
2. Connect one of the compatible sensors (listed in the chart) to Vernier EasyLink.

3. Turn on the handheld and connect Vernier EasyLink to the USB port on the handheld. The handheld will launch the DataQuest™ application automatically. See your TI-Nspire documentation for additional information on collecting sensor data using TI-Nspire.

Compatible Analog Sensors

For the most up-to-date list of compatible sensors, go to **www.vernier.com/ez-link** Go to **www.vernier.com/sensors** for more information on any of these sensors.

Sensor	Order Code	Sensor	Order Code
25-g Accelerometer	ACC-BTA	Calcium Ion-Selective Electrode	CA-BTA
Low-g Accelerometer	LGA-BTA	Chloride Ion-Selective Electrode	CL-BTA
Anemometer	ANM-BTA	Nitrate Ion-Selective Electrode	NO3-BTA
Barometer	BAR-BTA	Light Sensor	LS-BTA
Blood Pressure Sensor*	BP-BTA	TI Light Sensor	TILT-BTA
Charge Sensor	CRG-BTA	Magnetic Field Sensor	MG-BTA
CO_2 Gas Sensor$^\Diamond$	CO2-BTA	Melt Station	MLT-BTA
Colorimeter$^\Diamond$	COL-BTA	O_2 Gas Sensor	O2-BTA
Conductivity Probe	CON-BTA	ORP Sensor	ORP-BTA
Current Probe	DCP-BTA	pH Sensor	PH-BTA
High Current Sensor	HCS-BTA	pH Sensor, Tris-Compatible Flat	FPH-BTA
Dissolved Oxygen Probe	DO-BTA	Relative Humidity Sensor	RH-BTA
Dual-Range Force Sensor	DFS-BTA	Respiration Monitor Belt (requires GPS-BTA)	RMB
EKG Sensor$^\Diamond$	EKG-BTA	Salinity Sensor	SAL-BTA
Electrode Amplifier	EA-BTA	Soil Moisture Sensor	SMS-BTA
Flow Rate Sensor	FLO-BTA	Sound Level Meter	SLM-BTA
Force Plate	FP-BTA	Spirometer	SPR-BTA
Gas Pressure Sensor	GPS-BTA	Stainless Steel Temperature Probe	TMP-BTA
Hand Dynamometer	HD-BTA	Extra-Long Temperature Probe	TPL-BTA
Hand-Grip Heart Rate Monitor	HGH-BTA	Surface Temperature Sensor	STS-BTA

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* This sensor is not supported in EasyData.
$^\Diamond$ This sensor can quickly drain the calculator batteries.

Compatible Analog Sensors, *continued*

Sensor	Order Code	Sensor	Order Code
Instrumentation Amplifier	INA-BTA	Wide-Range Temperature Probe	WRT-BTA
Ammonium Ion-Selective Electrode	NH4-BTA	Turbidity Sensor	TRB-BTA
UVA Sensor	UVA-BTA	Differential Voltage Probe	DVP-BTA
UVB Sensor	UVB-BTA	30-Volt Voltage Probe	30V-BTA
Voltage Probe	VP-BTA		

This interface is equipped with circuitry that supports auto-ID. When used with the TI-84 Plus calculators or TI-Nspire handhelds or TI-Nspire, Logger *Pro*, or Logger Lite software on a computer[*], the data-collection software identifies the interface and uses pre-defined parameters to configure an experiment appropriate to the recognized sensor. This greatly simplifies the setup procedure for many experiments.

Power Considerations

Vernier EasyLink draws its power and the power for the sensor from the calculator battery. Both of these power draws will affect the calculator battery lifetime. With average use of most sensors, your calculator batteries should last a semester. Of course battery life will be determined by the amount of use and the type of sensor.

Specifications

- 12-bit resolution
- Maximum sample rate: 200 samples per second

NOTE: Vernier products are designed for educational use. Our products are not designed nor recommended for any industrial, medical, or commercial process such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind.

Troubleshooting Tips

LED remains red

When the software communicates with Vernier EasyLink, the LED on the Vernier EasyLink shows the status of the communications. Initially as they communicate, the LED is red, and then it turns to green when the communications have been established. If the status remains red, contact Vernier for additional help.

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[*] With the appropriate adapter (order code MINI-USB), Vernier EasyLink can also connect to the USB port of a computer or LabQuest.

### Vernier EasyLink not identified/LED remains off

If the LED is off while the data-collection software is running and your Vernier EasyLink is attached but not identified, select New from the File menu in the software. If this fails to resolve the problem, a fresh set of calculator batteries will probably solve the problem. If the problem persists, contact Vernier for additional support.

EasyData does not auto-launch

If your calculator contains the EasyData app and you have the calculator on the main screen, plugging Vernier EasyLink into the USB port on a TI-84 Plus calculator will cause the EasyData app to launch. This assumes that the calculator's batteries are in good condition. If they are weak, you may see a message about a low-battery condition. If EasyData does not auto-launch, leave Vernier EasyLink attached to the calculator and start the EasyData app by choosing it from the Apps menu. If an error message appears, your batteries are probably too low. Using a fresh set of batteries will probably solve the problem.

Warranty

Vernier warrants this product to be free from defects in materials and workmanship for a period of five years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use.
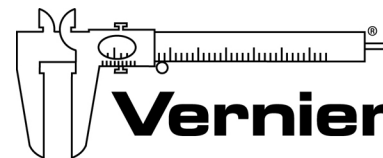
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