Vernier EasyLink®

(Order Code EZ-LINK)

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. EasyLink's flexibility and ease of use make it perfect for a variety of activities in science and math. It supports over 30 analog sensors, including Gas Pressure, pH, and Dual-Range Force, among others. (A complete list of compatible sensors can be found in this booklet.)

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

Follow this general procedure when using 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 EasyLink.
3. Connect 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 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/easy.

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/easy/easydata.html). 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 EasyLink with TI-Nspire and TI-Nspire CAS Handhelds

1. Confirm that you are running TI-Nspire software version 1.4 or newer.
2. Connect one of the compatible sensors (listed in the chart) to EasyLink.
3. Turn on the handheld and connect EasyLink to the USB port on the handheld. The handheld will launch a data-collection tool or application automatically. See your TI-Nspire documentation for additional information on collecting sensor data using TI-Nspire.

Compatible Analog Sensors

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	Chloride Ion-Selective Electrode*†	CL-BTA
Low-g Accelerometer	LGA-BTA	Nitrate Ion-Selective Electrode*†	NO3-BTA
Barometer	BAR-BTA	Light Sensor	LS-BTA
Charge Sensor	CRG-BTA	Magnetic Field Sensor	MG-BTA
Colorimeter◊†	COL-BTA	O_2 Gas Sensor	O2-BTA
Conductivity Probe	CON-BTA	ORP Sensor	ORP-BTA
Current Probe	DCP-BTA	pH Sensor	PH-BTA
Differential Voltage Probe	DVP-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*◊	EKG-BTA	Salinity Sensor	SAL-BTA
Electrode Amplifier	EA-BTA	Soil Moisture Sensor	SMS-BTA
Extra-Long Temperature Probe	TPL-BTA	Sound Level Meter*	SLM-BTA
Flow Rate Sensor	FLO-BTA	Spirometer†	SPR-BTA
Force Plate	FP-BTA	Stainless Steel Temperature Probe	TMP-BTA
Gas Pressure Sensor	GPS-BTA	Surface Temperature Sensor	STS-BTA
Hand Dynamometer	HD-BTA	Thermocouple	TCA-BTA
Hand-Grip Heart Rate Monitor*†	HGH-BTA	TI Light Sensor	TILT-BTA
Infrared Thermometer*	IRT-BTA	Turbidity Sensor*	TRB-BTA
Instrumentation Amplifier†	INA-BTA	UVA Sensor	UVA-BTA
Ammonium Ion-Selective Electrode*‡	NH4-BTA	UVB Sensor	UVB-BTA
Calcium Ion-Selective Electrode*†	CA-BTA	Voltage Probe	VP-BTA

◊ This sensor can quickly drain the calculator batteries.

* This sensor is not supported in EasyData version 1.0.

‡ This sensor is not supported with TI-Nspire family handhelds.

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

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 (EasyData version 1.0 supports a maximum sample rate of 25 samples per second.)

NOTE: This product is to be used for educational purposes only. It is not appropriate for industrial, medical, research, or commercial applications.

Troubleshooting Tips

LED remains red

When the software communicates with EasyLink, the LED on the 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.

EasyLink not identified/LED remains off

If the LED is off while the data-collection software is running and your 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 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 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.

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

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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