

USB-504 4–20 mA Current Loop Data Logger

The USB-504 data logger measures and stores up to 32,000 current loop readings over the 4 to 20 mA measurement range. The user can easily set up the logging rate and start-time, and download the stored data by plugging the module straight into a PC's USB port, and run the purpose-designed software under Windows 2000/XP/Vista. The data can then be graphed, printed, and exported to other applications. The data logger is supplied complete with a long-life lithium battery. Correct functioning of the unit is indicated by flashing red and green LEDs. The data logger features a pair of screw terminals, and is supplied with a set of measurement leads with alligator clip terminals.



Control Software

The easy-to-install and use USB-500 Series Data Logger Application software runs in Windows 2000/XP/Vista (Home and Professional Editions). It allows the user to configure the USB-504 logger and download and display the data graphically in a powerful strip chart. The software also provides an easy export to Excel™ feature.

The latest version of the application software may be downloaded from www.mccdaq.com

Setup Options

- Logger name
- Logging rate intervals (1-second to 12-hour)
- High and low alarms
- Start date and start time

Features

- 4–20 mA DC current loop measurement range
- Logging intervals between 1 second and 12 hours
- Stores 32,000 readings
- Connection via two screw terminals
- USB interface for set-up and data download
- User-programmable alarm thresholds
- Red and green LED status indication
- Replaceable long-life lithium battery

Ordering Information

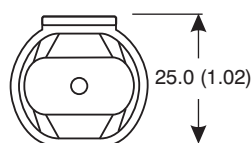
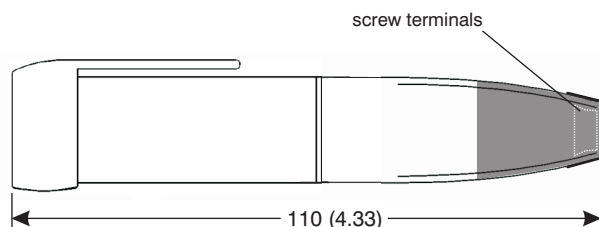
Part Number	Description	Price
USB-504	Current Data Logger (Logger unit, software CD, battery)	\$72

USB-504 Specifications

Specification	Minimum	Typical	Maximum
4–20 mA DC measurement range	0 mA DC	4–20 mA DC	
Internal resolution		±0.05 mA DC	
Accuracy (overall error)		±1 %	
Operating temperature range	-35 °C (-31 °F)		+80 °C (176 °F)
1/2AA 3.6V lithium battery life*	1 year		

*Depending on ambient temperature, logging rate, and use of alarm LED.

Dimensions All dimensions in mm (inches)



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www.mccdaq.com

info@mccdaq.com • (508) 946-5100

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LED Flashing Modes

The USB-504 features 2 LEDs, green and red. The LEDs will flash in one of the following ways, assuming alarm latching is turned off.

- Green single flash every 30 seconds**
 - The logger is primed and ready to start.
- Green single flash every 10 seconds**
 - Logging in progress, the last stored value is OK.
- Red single flash every 10 seconds**
 - Logging in progress, the last stored reading is equal to or exceeds the low alarm level (if latch is turned on, then a stored value is equal to or exceeds the low alarm level).
- Red double flash every 10 seconds**
 - Logging in progress, the last stored reading is equal to or exceeds the high alarm level (if latch is turned on, then a stored value is equal to or exceeds the high alarm level).
- Green single flash every 20 seconds**
 - Low battery, logging in progress, the last stored value is OK.
- Red single flash every 20 seconds**
 - Low battery, logging in progress, the last stored value is equal to or exceeds the low alarm level.
- Red double flash every 20 seconds**
 - Low battery, logging in progress, the last stored value is equal to or exceeds the high alarm level.
- Green double flash every 20 seconds**
 - Logger is full, the last stored value is OK.
- Red/Green single flash every 20 seconds (alarm latching on)**
 - Logger is full, last stored value is equal to or exceeds the low or high alarm level.
- No LEDs flash**
 - Battery is dead.



By default, latching (Hold) is disabled, so the red LED will no longer continue to flash after the logged current has returned to normal. Instead, the green LED will flash.

Latching can be turned on via the control software, so the red LED will continue to flash, even after the logged current has returned to normal. The red LED will effectively have latched into its alarm condition. This feature ensures that the user is notified that an alarm level has been exceeded, without the need to download the data from the logger.

Battery Replacement

Measurement Computing recommends that the battery be replaced every 12 months, or prior to logging critical data.

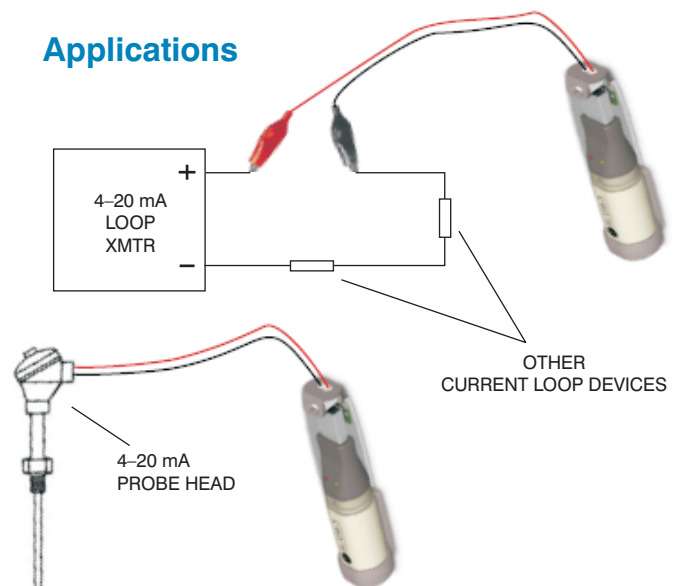
The USB-504 does not lose its stored readings when the battery is discharged or when it is replaced; the data logging process will however be stopped and cannot be restarted until the battery has been replaced and the logged data has been downloaded to the PC.

Use only 3.6V 1/2AA lithium batteries. Check with the supplier that the battery is 'press fit' and is not fitted with solder tabs. Before replacing the battery, remove the USB-504 from the PC.

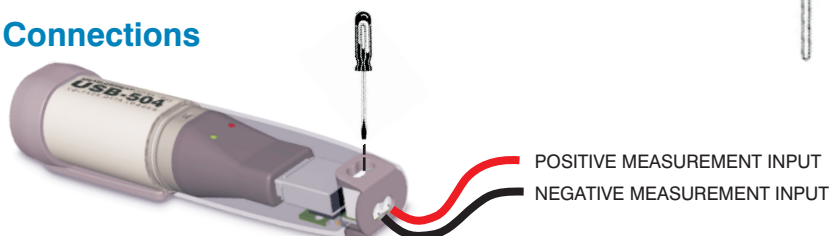
Note: Leaving the USB-504 plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.

WARNING: Handle lithium batteries carefully, observing warnings on battery casing. Dispose of in accordance with local regulations.

Applications



Connections



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