RL-USB-3

Voltage USB Data Logger

FEATURES

- 0-30V d.c. measurement range
- Logging rates between 1s and 12hr
- Stores 32,510 readings
- Connection via two screw terminals
- USB interface for set-up and data download
- User-programmable alarm thresholds
- Status indication via red and green LEDs
- Supplied with replaceable internal lithium battery and Windows control software

This standalone data logger measures and stores up to 32,510 voltage readings over a 0-30V d.c. measurement range. The user can easily set up the logging rate and start time, and download the stored data by plugging the data logger into a PC's USB port and running the purpose designed software under Windows 2000, XP, Vista & 7. 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 complete with a set of measurement leads terminating in crocodile clips.

Specifications	Minimum	Typical	Maximum	Unit
0-30V d.c. measurement range	0		30	V d.c.
Internal resolution		50		mV d.c.
Accuracy (overall error)		±1		%
Logging rate	every 1s		every 12 hr	-
Operating temperature range	-35 (-31)		+80 (+176)	°C (°F)
1/2AA 3.6V Lithium Battery Life		1*		Year

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

RL-WIN-USB (CONTROL SOFTWARE)

EasyLog USB control software is supplied free of charge with each data logger. Easy to install and use, the control software runs under Windows 2000, XP, Vista & 7. The software is used to set-up the data logger as well as download, graph and export data to Excel.

The software allows the following parameters to be configured:

- Logger name
- Logging rate (1s, 10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and low alarms
- Start date and start time

The
may be downloaded free of charge from

.
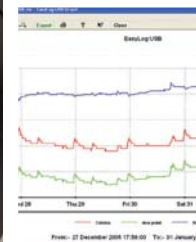
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LED FLASHING MODES

RL-USB-3 features a red and a green LED.

By default hold is disabled. In this mode the red LED will no longer continue to flash after the logged reading has returned to normal from an alarm condition.

Hold can be turned on via the control software. In this mode the red LED that indicates an alarm condition will continue to flash, even after the logged reading has returned to normal. 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.

	Green single flash (10 seconds) The data logger is currently logging. No alarm.
	Green single flash (20 seconds) The data logger is currently logging. No alarm. However, the battery is low and should be replaced before logging important data.
	Green single flash (30 seconds) The data logger is not currently logging, but is primed to start at a later date and time (delayed start).
	Green double flash (20 seconds) The data logger is full and has stopped logging. No alarm.
	Red single flash (10 seconds) The data logger is currently logging. Low alarm.
	Red single flash (20 seconds) The data logger is currently logging. Low alarm. However, the battery is low and should be replaced before logging important data.
	Red double flash (10 seconds) The data logger is currently logging. High alarm.
	Red double flash (20 seconds) The data logger is currently logging. High alarm. However, the battery is low and should be replaced before logging important data.
	Red/Green single flash (20 seconds) The data logger is full and has stopped logging. Alarm (high, low or both).
	No LEDs flash The data logger is stopped, the battery is empty or there is no battery fitted.

Green LED   Red LED

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DIMENSIONS

All dimensions in mm (inches)

26.8 (1.05)

26.8 (1.05)

98.0 (3.86)

CONNECTION AND APPLICATIONS

+ve supply to sensor

Signal out

Sensor

-ve/GND supply to sensor

+ −

Logging a sensor voltage

Battery

+ −

+ −

Logging a battery voltage
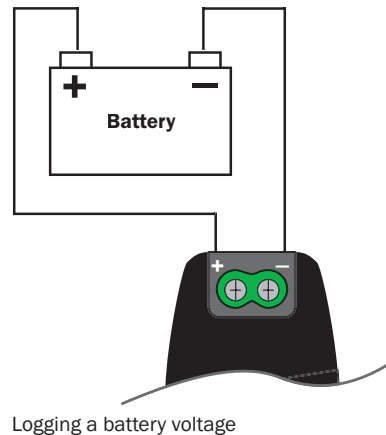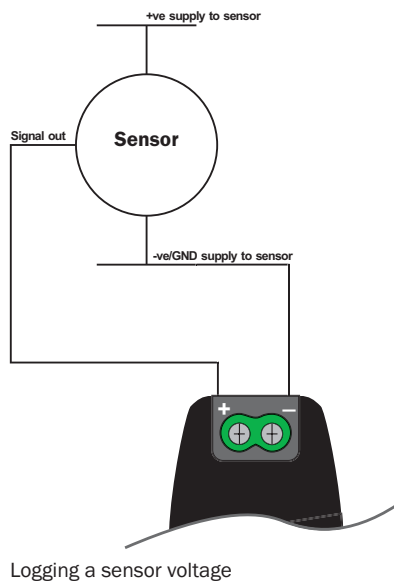
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BATTERY REPLACEMENT

We recommend that you replace the battery every 12 months, or prior to logging critical data.

The RL-USB-3 does not lose its stored readings when the battery is discharged or when the battery is replaced; however, the data logging process will be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to PC.

Only use 3.6V 1/2AA lithum batteries. Check with your supplier that the battery you are ordering is 'press fit' and is not fitted with solder tags. Before replacing the battery, remove the RL-USB-3 from the PC.

Note:
Leaving the RL-USB-3 plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.

WARNING

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

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THE EASYLOG USB RANGE

Each RL-USB data logger features the direct-to-USB connection and easy-to-use functionality that the range is known for. The range comprises 14 data loggers as detailed in the following table:

Part No	Function	Range	Accuracy (overall error) Typ.	Max.	Readings	Battery	Battery Life*
RL-USB-1	Temperature	-35 to +80°C (-31 to +176°F)	±1°C (±2°F)		16,382	3.6V ½AA	1 Year
RL-USB-1-PRO	High Temperature	-40 to +125°C (-40 to +257°F)	±0.2°C (±0.4°F)	±0.5°C (±1°F)	32,510	3.6V ⅔AA	3 years
RL-USB-1-RCG	Temperature with rechargeable battery	-20 to +60°C (-4 to +140°F)	±1°C (±2°F)		32,510	Lithium Ion	1 month (rechargeable)
RL-USB-2	Temperature, humidity & dew point	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.5°C (±1°F) ±3%RH	±2°C (±4°F) ±6.0%RH	16,382	3.6V ½AA	1 year
RL-USB-2+	Increased accuracy temperature, humidity & dew point	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.3°C (±0.6°F) ±2.0%RH	±1.5°C (±3°F) ±4.0%RH	16,382	3.6V ½AA	1 year
RL-USB-2-LCD	Temperature, humidity & dew point with LCD	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.5°C (±1°F) ±3.0%RH	±2°C (±4°F) ±6.0%RH	16,379	3.6V ½AA	1 year
RL-USB-2-LCD+	Increased accuracy temperature, humidity & dew point with LCD	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.3°C (±0.6°F) ±2.0%RH	±1.5°C (±3°F) ±4.0%RH	16,379	3.6V ½AA	1 year
RL-USB-3	Voltage	0 to 30V d.c.	±1%		32,510	3.6V ½AA	1 year
RL-USB-4	Current loop	4 to 20mA	±1%		32,510	3.6V ½AA	1 year
RL-USB-5	Counter, Event & State	N/A		±3 secs/24 hrs	32,510	3.6V ½AA	1 year
RL-USB-TC	Thermocouple (J, K and T-type) K-type probe included	-200 to +1350°C (-328 to +2462°F) (K-type) -200 to +1190°C (-328 to +2174°F) (J-type) -200 to +390°C (-328 to +734°F) (T-type)	±1°C (±2°F)		32,510	3.6V ½AA	6 months
RL-USB-TC-LCD	Thermocouple with LCD (J, K and T-type) K-type probe included	-200 to +1350°C (-328 to +2462°F) (K-type) -200 to +1190°C (-328 to +2174°F) (J-type) -200 to +390°C (-328 to +734°F) (T-type)	±1°C (±2°F)		32,510	3.6V ½AA	6 months
RL-USB-CO	Carbon monoxide	0 to 1000ppm **NOT A LIFE SAVING DEVICE**	±6ppm		32,510	3.6V ½AA	3 months
RL-USB-CO300	Carbon monoxide	0 to 300ppm **NOT A LIFE SAVING DEVICE**	±4ppm		32,510	3.6V ½AA	3 months
RL-USB-LITE	Low cost temperature	-10°C to +50°C (+14 to +122°F)	±1°C (±2°F)		4,080	CR1620 Lithium coin cell	1 month
RL-USB-RT	Real-time temperature & humidity monitor	-20 to +70°C (-4 to +158°F)	±1.5°C (±3°F) ±4.5%RH		7 days	N/A	N/A

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