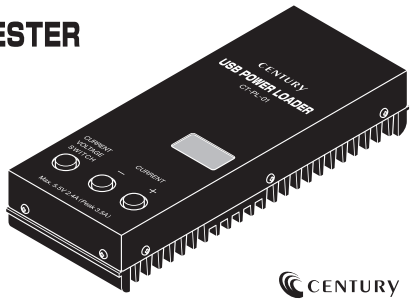
USB POWER LOAD TESTER

CT-PL-01

User Manual

Thank you for purchasing this quality Centech product. Please make sure to read this manual in its entirety prior to using the product and to retain the manual for future reference.



Caution: During normal use, the temperature of the USB Power Loader case can reach as high as 60 degrees Celsius. Please be very careful to NOT touch the tester case with bare skin or to allow the case to come into contact with flammable or heat sensitive materials.

Please review these notes before use:

- Do not use the device in operating conditions that exceed the capacity of the device as published in the documentation. Overloading the device may cause device failure and personal injury.
- The USB Power Load Tester is able to measure the maximum power supplied by standard 5V output devices. However, some products you may test may not output full power when using the USB Power Load Tester due to proprietary circuitry or operation. An example would be for output devices that only accept proprietary USB charging accessories in order to provide full output.

Disclaimers and Notices:

- The company is not responsible for any direct or indirect damages, including data loss, when using the product.
- Do not use the product near any magnetic fields or machinery that generate magnetic fields as this may cause the device to malfunction.
- This manual can be updated without notice.
- The illustrations in this manual are representative examples only and will not exactly match the appearance of the actual product.

Care

- Clean the device only with a dry and soft cloth.
- Do not use solvents like such as paint thinners or alcohol as this may degrade the paint on the outer case.

Century Corp, Limited Warranty

Note: Outside of Japan, the Limited Warranty is provided by the distributor in the country of purchase. If the Warranty notice, does not specify a warranty period, please contact the distributor for more details. A distributor's Limited Warranty takes precedence over the Century Corp Limited Warranty.
Century Corp's Limited Warranty is as follows:

The following situations are not covered under warranty;

a. If a distributor cannot identify the product as being within the warranty period.
b. The product is damaged by fire, earthquake, flood, lightning, natural disaster, or abnormal voltage.
c. Damage is caused by accident or unusual external force.
d. Damage is caused by other attached devices.
e. The product is not warranted to function with other attached devices.
f. Damage is caused by operation in a manner inconsistent with the user manual.
g. Damage is caused by any attempt by the user to service or repair the product.

The customer will prepay freight when shipping a damaged unit back to a distributor.

Safety Considerations

Please carefully read the Safety Considerations prior to using the product and follow the safety guidelines. Century Corp is not liable for any damages resulting from a failure to follow the safety guidelines.

The following describes two possible damage scenarios if the guidelines are not followed:

Caution

Indicates possible damage such as serious injury, when used in a manner inconsistent with the safety guidelines.

Alert

Indicates possible danger, such as risk of physical harm, when used in a manner inconsistent with the safety guidelines.

Caution

▶Smoke, Burning smell, or unusual noise during operation.
If you notice any smoke, smell a burning smell, or hear unusual noises during the operation of the product, please cease use of the product immediately and contact the distributor.

▶Do not disassemble or attempt to repair or service the product.
Any unauthorized disassembly or attempt to repair or service the product can result in fire or electrical shock. Please contact to the distributor for any maintenance or repair.

▶Do not pour water or insert any foreign objects into the product.
If water or any foreign object comes into contact with the inside of product, please contact to the distributor for maintenance or repair.

▶Do not operate the product in highly humid conditions.
Please do not operate the product in highly humid conditions. It may cause fire, failure, or electrical shock.

▶Please make sure to connect the product to USB devices only.
Connecting to any other type of device may cause fire, product failure, or electric shock.

▶Do not touch the product with wet hands.
Please do not touch the product with wet hands as this may result in product failure or electric shock.

Alert

▶Please pay attention to the product environment.
Putting the product in the following types of environment, it may cause fire, product failure, or electric shock.
Avoid locations:
- close to kitchen, or cooking appliances such as gas ovens or oil fryers, where the product might be exposed to oil or smoke.
- with high humidity such as kitchens, saunas, or bath rooms, or any room where water may be misted or sprayed.
- where the temperature less than 5 degrees Celsius or higher than 40 degrees Celsius.
- closes to a heat or fire source.
- exposed to organic solvents, corrosive gas, or salty air.
- such as dusty environments or those exposed to metal powder, abrasives, flour, chemical condiments, paper waste, wood chips, or cement.
- exposed to cutting or grinding chemicals come from factories such as machining or milling.
- exposed to oil, vinegar, or alcohol such as from food factories or cooking establishments.
- exposed to direct sunlight.

▶Remove the product from the source or target machine while not in use.
Make sure to remove any cables from the product when it is moved. Keeping the cables connected when moving the product may cause the wires to break.

▶Keep away from children.

▶Be careful of static electricity.
Exposure of the product to static electricity may cause it malfunction or fail.

Manufacturer
CENTURY CORPORATION
Website
http://www.centech.jp/?lang=en

Key Features:

▶The USB Power Load Tester has the ability to selectively adjust the current load applied to target devices to be measured. The load can be increased from 0.1A up to 2.4A by increments of 0.1A.
▶Output voltage is measured at the time the current load is applied.
▶Use the USB Power Load Tester to check:
- the amount of current supplied by USB ports on PCs, USB chargers, USB-AC adapters, and other USB compliant devices.
- the voltage drop of USB cables.
- how quickly a battery will discharge when a specific amount of load is applied.
- if specific product features of USB devices such as voltage and temperature monitoring are operating as expected.

Hardware requirements:

- Target devices should support both Type A USB connectors and 5 volt power output. Most USB ports in PCs, USB chargers, and USB-AC adaptors, conform to these specifications but be sure to verify before use.

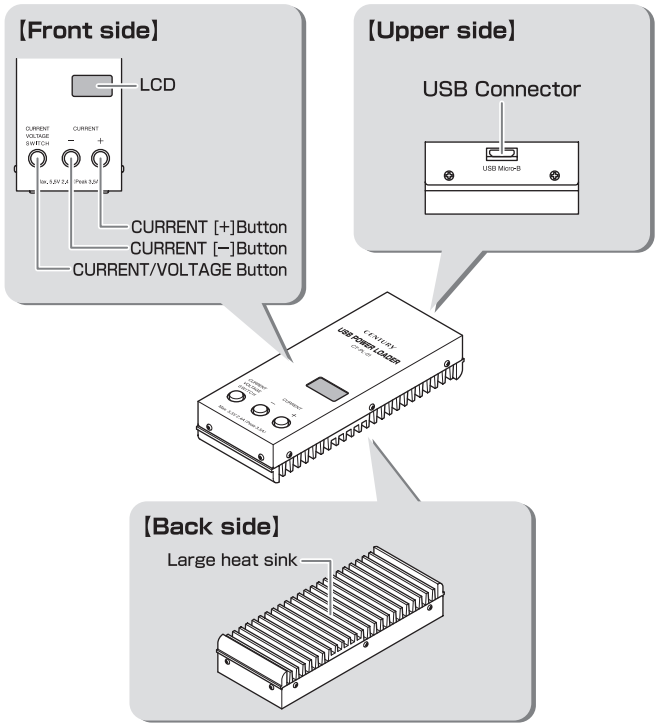
Specifications:

- Product name : USB POWER LOAD TESTER
- Model number : CT-PL-01
- Dimension : H126mm x W50mm x D24mm
- Weight : 233g (not including with cable)
- Operating temperature and humidity : 5~35℃, 20~80% (no condensation)
- Power consumption : 5V, 0~2.4A
- Measurement range : 4~5.5V/0.1~2.4A, adjustable with 0.1A increments, error ±0.02A
  #In the event that 2.5A is exceed, the device will provide a limited window of operating time before temperature sensors will automatically shut the device off.

Packing list:

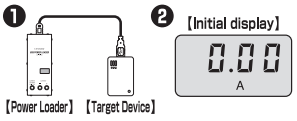
- USB POWER LOAD TESETER
- 0.3m USB cable for type A to micro B connector
- User manual

Major Components



Instructions #the displayed numbers on the LCDs are examples only.

Connection method:

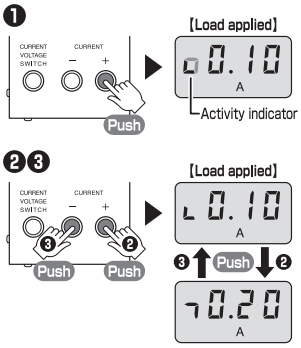


❶Connect the USB Power Load Tester and a target device with an attached USB cable.
#Note that the two types of connector for cables should match for each device connected.

❷When turning on the target device, the LCD of the product displays '0.00A'.

【Operation】

■Adjusting the load applied for measurement



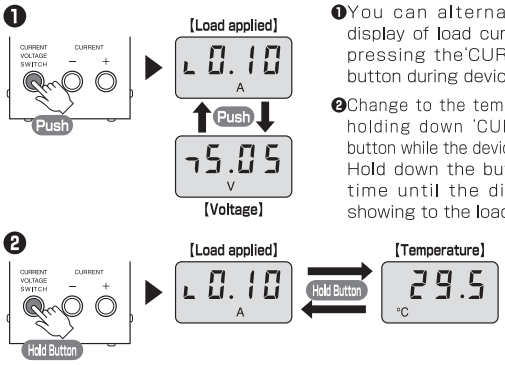
❶Initiate the load application when by pressing the [+] button.
The load current will be displayed on the LCD. While applying the load, the left sign on LCD will show an animated motion to indicate measurement is in progress.

❷Increase load current by 0.1A increments by pressing [+] button.

❸Decrease load current by 0.1A increments pressing [−] button.

❹Terminate application of a power load by reducing the load current until the LCD display shows 0.00.
Error for load value is ±0.02A.

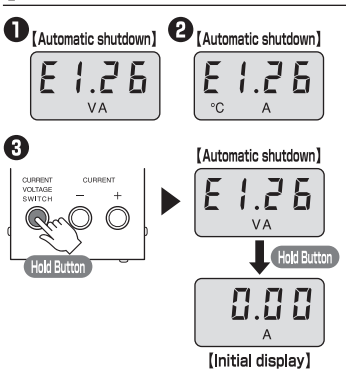
■Changing the display mode



❶You can alternate between the display of load current or voltage by pressing the'CURRENT/VOLTAGE' button during device operation.

❷Change to the temperature screen by holding down 'CURRENT/VOLTAGE' button while the device is in operation.
Hold down the button for a second time until the display reverts to showing to the load current screen.

【Automatic Shutdown conditions】

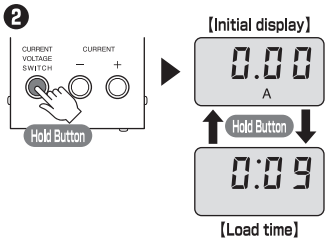


❶If the voltage value drops to less than 4V while measuring is in progress, the load being applied is stopped automatically. At this time the LCD displays [E*.**VA] which indicates the final value of load current before the error condition.

❷When the temperature of the USB Power Load Tester case reaches 60℃, the load being applied will stop automatically.
At this time the LCD displays [E*.**CA] and indicates the final value of load current applied. #1
#1 In the event the device automatically shuts down due to a over-temperature condition, the product will not restart until the internal temperature has cooled to less than 45℃.
Note: You should not overload the device by applying more than the rated current or the device may fail. Please also note that the product is more susceptible to falling over if it is positioned standing upright as opposed to flat on a supporting surface.

❸By holding down the 'CURRENT/VOLTAGE' button, the initial screen will be redisplayed if an automaticshutdown has occurred.

【How to display measurement values during operation】



❶When device operation is suspended by an automatic shutdown, the operating time of the load application is recorded but only if the time the load was applied is more than 5 minutes.

❷When holding down the 'CURRENT/VOLTAGE' button while displaying '0.00A' on LCD, the operating time is displayed at 'Hours : Minutes'.
When holding down the button for a second time, the initial screen is redisplayed. Only the last measurement for operating time is recorded.

❸When applying a specific load to a USB battery, the battery capacity can be measured.
Note: Only apply current loads that are within the allowable ranges for any USB battery or the battery may fail or cause injury.