

# QC Cam Power-Stick

## QC Power-Stick 12V

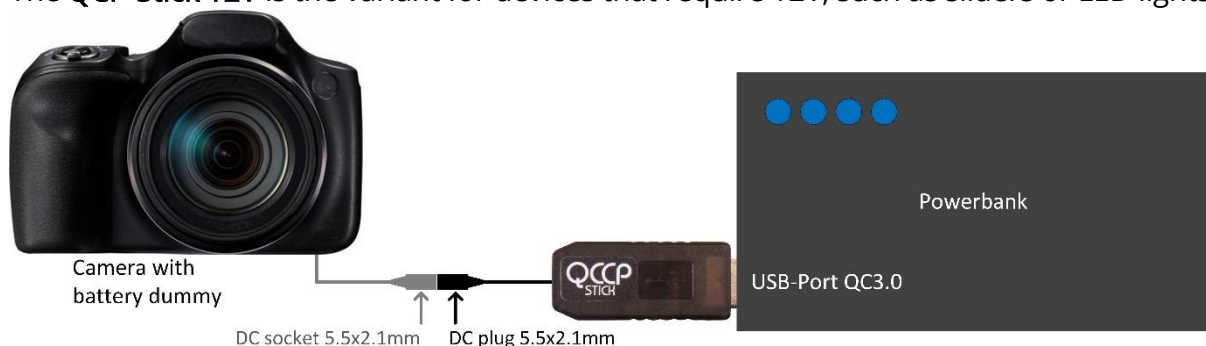


### Operation manual

Version 2.1

The QCCP-Stick serves as a long-term power supply for cameras, e.g. when used to record a time lapse or for astrophotography. For this purpose, the Quick Charge technology of power banks is used, which allows higher voltages than the usual 5V to be drawn from a power bank. To use the QCCP you need a power bank that meets the QC3.0 standard and a battery dummy suitable for the respective camera. This battery dummy should be equipped with a DC socket for a 5.5x2.1 mm plug.

The QCP-Stick 12V is the variant for devices that require 12V, such as sliders or LED lights.



The QCCP stick is connected between the USB QC power bank and the camera with battery dummy.

## Which power bank is the right one for this use

From Qualcomm Standard Quick Charge 2.0, voltages of 9 and 12V are possible at the USB port. Sometimes even up to 20V. The power is limited to 18W. This means that at a voltage of 9V a current of 2A is available. Power banks based on the Quick Charge 3.0 standard also offer the option of setting a voltage between 5V and 12V in 0.2V steps and are backwards compatible with QC2.0.

### Powerbanks with 18W.

Many of the PBs on offer have a maximum output of 18W and often have 2 QC3.0 USB ports. This is a little confusing, because if a voltage of 9V is requested at a USB port, the maximum power ( $9V \times 2A = 18W$ ) of the PB can be obtained from it. These PBs can supply a camera with 8.2 / 9V or a slider with 12V.

### Powerbanks with 35W and more.

Power banks with higher performance can provide 8.2 / 9V or even 12V at 2 USB ports at the same time. All PBs have at least one, some also 2 USB-A sockets with QC3.0 and additionally at least one USB-C socket. The USB-C sockets often also offer the Power Delivery (PD) standard. There are also PBs which only offer PD and no QC on the USB-C port. Some of them are marked with PD but are still QC compatible.

### Single or Dual-Mode?

A very practical application is to operate the camera on a QC port and in parallel to connect a lens heater to a 5V USB socket on a 2nd port. This is only possible with PBs with higher performance. PBs with 18W can only be used for single mode. PBs with higher power can supply a camera with 8.2V and a lens heater in parallel (dual mode). Some PBs are even able to supply a camera with 8.2V and a slider with 12V at the same time.

### Battery dummies:

There are many battery dummies out there, but not all of them work really well. In the case of cheap imports from China, the voltage from the plug is often connected directly to the battery connections. These do not work with all cameras and most of the time the battery charge cannot be displayed with them. Better dummies use a chip that simulates the battery and are often stated as "fully decoded".

Most battery dummies require a voltage which corresponds to the fully charged state of the battery of 8.2-8.4V. Some (e.g. Panasonic) need a voltage of 9V for the camera to work. To compensate for this difference, the QCCP stick can be set for 8.2V or 9V. (see QCCP-Stick configuration below)

**QCCP function:**

If the QCCP stick is connected to a QC3.0 power bank, it requests a voltage of 8.2V / 9 (QCCP-Stick) or 12V (QCP-Stick 12V) from the power bank after switching on.

Only when the PB supplies this voltage is the voltage to the camera or slider switched on. To prevent the PB from being switched off when the current is low, a software guardian simulates a permanently connected consumer by generating a current pulse at certain time intervals.

**An LED signals the status of the adapter:**

LED	Status
flashing slowly	Initialization 8,2V/9V or 12V (QCP)
flashing quickly	Error, voltage could not be set
permanently on	8.2V or 12V (QCP) have been set
5 sec on 1 sec off	9V have been set

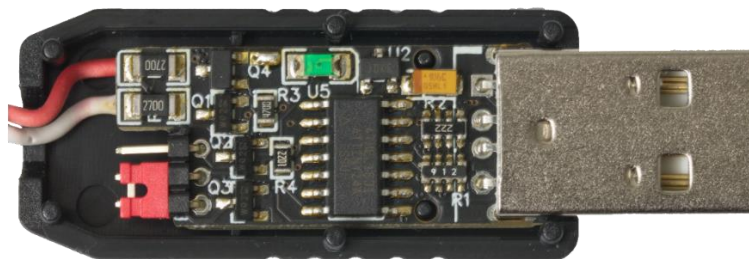
*At night and especially astro recordings, any unnecessary light source is annoying. Therefore, if there is no error, the LED is switched off after 2 minutes!*

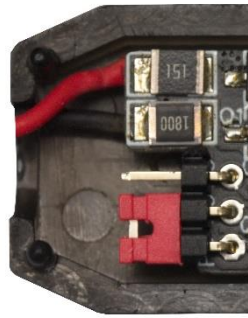
In the event of an error, the QCCP stick tries permanently to initialize the PB until the required voltage is available.

**QCCP-Stick configuration:**

By default, the adapter is set so that a voltage of 8.2V is available after 4-5 seconds. Depending on the battery dummy used, it is necessary to set the voltage to 9V. The QCCP stick is provided with jumpers to adapt it to the different requirements of the battery dummies.

To adjust the voltage, the housing must be opened by pressing laterally on the lower and upper housing shell and then removing the upper housing shell. If necessary, you can help with a small knife, which is pushed under the housing of the USB connector and opened by turning it slightly.





Voltage = 8,2V



Voltage = 9V

To set the desired voltage, insert the jumper as shown above.

### QCP-Stick 12V configuration:

The QCP stick 12V is permanently set to 12V. The jumpers have no function.

### QCCP-Stick and Powerbanks:

The QCCP-Stick and the QCP-Stick 12V are designed to work with most Powerbanks with a few exceptions. Detailed information can be found in the power bank compatibility list at the end of the manual.

For power banks that are not listed in the compatibility list, the function can be tested as follows:

To do this, connect the adapter to the power bank without a camera connected and wait approx. 1 minute. If the PB does not switch off during this time, the adapter will work with this PB without any problems. However, if the PB switches off after a short time, at least the USB-A port is not designed to function with the QCCP-Stick. In this case, connect the adapter to the USB-C port using the OTG adapter and repeat the test. All PBs tested so far with the QCCP-Stick functioned on the USB-C port.

### Connection of the QCCP-Stick to the USB C port

The QCCP stick is equipped with a USB A connector. A USB-OTG adapter must be used to connect to a USB C port. These are available in different versions.



But be careful with such OTG adapters:



These work, but !! This can also be inserted into the USB-A plug turned by 180 ° and thus creates an absolute **short circuit!**

### Connection of the QCCP stick to the battery dummy:



The QCCP stick is equipped with a 5.5x2.1 mm DC plug for connection to the battery dummy. Many battery dummies are equipped with the appropriate counterpart (socket 5.5x2.1mm). But there are also dummies with the same connector as the QCCP stick. In this case you need this adapter:



Other dummies have a socket with 4.0x1.7mm, for which this adapter is required:



The information about which plug / socket is installed on the dummy can be found in the article description of the dummy. If you are not sure, or if you have several dummies, such an adapter set can help:

### Specification:

Temperature range:	-20 ° C - + 40 ° C
Input voltage:	5-12V USB-A
Output voltage: 8.2 / 9 / 12V	DC plug 5.5x2.1mm
Output current:	2A
Dimensions:	53x18x10mm (LxWXH)
Cable length:	
QCCP stick	approx. 50 cm
QCP stick 12V	approx. 100 cm

## Powerbank compatibility list with QCCP / QCP-Stick

Most power banks work fine with the QCCP sticks. Only 2 of the tested PBs had problems connecting to the USB-A port despite the QC specification. This is due to the fact that the PBs need a very high current in order not to switch off, which the QCCP-Stick cannot process. This can be recognized by the voltage shown in **red** at the respective USB port. The voltage information in **blue** relates to the QCP stick 12V variant

### BANNIO 20000mAh Powerbank

USB-Port	Voltage	Dual Mode
USB A (OUT1)	8,2/9/12V	X
USB A (OUT2)	8,2/9/12V	X
USB C (Type C)	8,2/9/12V	X

### AINOPE 10000mAh Mini PD Power Bank

USB-Port	Voltage	Dual Mode
USB A (OUT1)	8,2/9/12V	X
USB A (OUT2)	8,2/9/12V	X

### Baseus 20000 mAh Powerbank

USB-Port	Voltage	Dual Mode
USB A (USB1)	5V	X
USB A (USB2)	5V	X
USB C (Out/In)	8,2/9/12V	X

### ANSMANN Powerbank 20.000mAh

USB-Port	Voltage	Dual Mode
USB A (QC3.0)	8,2/9/12V	X
USB A (QC3.0)	8,2/9/12V	X
USB A (PD)	8,2/9/12V	X

### Litionite Vulcan 65W / 20000mAh Power Bank

USB-Port	Voltage	Dual Mode
USB A (QC3.0)	8,2/9/12V	✓
USB C (PD)	8,2/9/12V	✓

### XTPower® XT-20TC

USB-Port	Voltage	Dual Mode
USB A (QC3.0)	5V	✓ mit USB C
USB A (5V 2.1A)	5V	✓ mit USB C
USB C (Type C)	8,2/9/12V	✓

#### AUKEY Power Delivery Powerbank 26500mAh

USB-Port	Voltage	Dual Mode
USB A (OUT 1)	5V	✓ mit USB2/C
USB A (OUT 2)	8,2/9/12V	✓
USB C (IN/OUT)	5V	x

#### helpers lab 20,000mAh Powerbank mit dual USB-C PD

USB-Port	Voltage	Dual Mode
USB C (IN/OUT)	8,2/9/12V	✓
USB C (18W OUT)	8,2/9/12V	✓
USB A (18W OUT)	5V	✓

#### RAVPower PD 60W Powerbank

USB-Port	Voltage	Dual Mode
USB A (ISmart )	8,2/9/12V	✓
USB C (PD)	8,2/9/12V	✓

#### PowerArc ArcPack 60W PD Powerbank 15000mAh

USB-Port	Voltage	Dual Mode
USB A (QC)	8,2/9/12V	✓
USB C (PD)	8,2/9/12V	✓
USB C (In/Out)	8,2/9/12V	✓

#### Littonite Falcon 24000mAh Power Bank

USB-Port	Voltage	Dual Mode
USB A (1)	5V	✓ mit USB A (3)
USB A (2)	5V	✓ mit USB A (3)
USB A (3)	8,2/9/12V	✓

**Disclaimer:** The function tests refer to the devices at the time of the tests. There is no guarantee that the QCCP stick will function in conjunction with the power banks. Especially if, due to a change in the power bank manufacturer, the QCCP stick does not work as tested or no longer works at all.

#### Nikon D750:

The Nikon D750 and D850 require a very high current for a short time when the shutter is released and when the live view mode is switched on. Not all power banks can provide this power. The Nikon D750 and D850 have problems with the following power banks:

**RAVPower PD 60W Powerbank**

**Littonite Falcon 24000mAh Power Bank**

**BANNIO 20000mAh Powerbank**

**ANSMANN Powerbank 20000mAh**

## safety instructions:

The QCCP sticks are operated at your own risk. The user is liable for property damage and personal injury resulting from the operation of the QCCP stick.

The QCCP stick is designed for indoor and outdoor use. Appropriate safety regulations must be observed when used in damp rooms and outdoors. When operating outdoors, the user is required to provide adequate protection from the weather.

If the camera is no longer used, the QCCP stick should be removed from the power bank to avoid discharging the power bank!



The symbol of a crossed-out garbage can on wheels indicates that our device complies with Directive 2012/19 / EU of the European Parliament and the Council of January 27, 2003 regarding the separate collection of electrical and electronic equipment.



This product bears the CE mark required by Directive 2014/30 / EU. The product thus fulfills the basic requirements and guidelines of the European regulations.