DOLGIN
CAMERA POWER

Battery Charger TC400-EX

Owner's Manual

Introduction

The TC400 Battery Charger is electrically compatible with Sony BP-UXX Li-Ion camera batteries.

Standard Features

- Four simultaneous charge positions for fast charging of multiple batteries.
- Fast, safe, and reliable charging. The battery pack can be left on the charger after the charge is complete.
- The charger's design is based on modern "Gas Gauge" technology. This determines battery capacity by monitoring the amount of charge input or removed from a rechargeable battery. The multifunction LCD display with backlight shows charge in progress data: voltage, estimated percent of readiness, and actual amount of charge in Ah input to the battery after battery insertion.
- Wide range input power compatibility (100-240VAC 50-60Hz).
- Compact, lightweight design for easy portability.

Batteries

The charger is capable of charging 4 batteries at the same time. It accepts Sony BP-UXX batteries. The charger is also compatible with non-OEM batteries.

Charging time

The time to full charge depends on the battery pack rated capacity, its state of charge prior to insertion, and its age. A fully discharged new BP-U60 battery pack will be fully charged (more than 90%) in about 4 hours. Since a depleted battery pack absorbs charge current faster, than a partially charged one, most of the charge energy is absorbed during the initial stage of charging and then the rate of charge levels off towards the end.

Charge channels

All 4 charge channels are fully independent from each other; charge initiation and termination depend on a battery's state of charge. An LCD display indicates each battery's state of charge, in voltage, percent of readiness (estimated), and amount of charge in Ah input in it since the battery insertion.

Operation

Charging

Operation of the charger is fully automatic. Mount any battery to any open position on the charger and the charger will initiate the charge routine. While charging is in progress, the LCD display will indicate the battery voltage, estimated readiness in percent, and amount of charge accepted by the battery. Upon charge completion, the display will report the position number (1-4), amount of charge the battery has absorbed, and the completion message.
Upon battery insertion, the charger will identify the battery's state of charge, and will initiate the appropriate charge regimen. If the inserted battery is fully charged, it cannot safely absorb charge. The charger will display the " # 1(2,3,4) Ready" message.

Note:

- *Estimated readiness is intended for the "charge in progress" status information. Accuracy may vary for an old or new battery, and between different sizes.*
- *Amount of charge absorbed by the battery is displayed from the moment of insertion. If a fully depleted battery charged in full, the charge displayed is equal to the actual battery capacity in Ah.*

- *Upon the battery removal, please wait 2-3 seconds before inserting a new battery in the same position, as the charger channel needs this time to initialize.*

Test/Discharge module (optional)

With the Test/Discharge circuit (TDM) installed, the charger becomes a complete battery management system enabling battery characterization, as well as identifying anomalies resulting from aging and other deficiencies.

The test performed is a full charge-discharge-full charge routine. This test will identify the true capacity of the battery displayed on the LCD panel. The discharge circuit closely approximates actual real life discharge, as seen by the battery in normal camera use.

The circuit is associated with channel 1.

Initiating Test

1. Insert the battery to be tested in position 1.
2. Press the "Test" button.

A letter "t" will be displayed while channel 1 status information is shown.

The charger will fully charge the battery, fully discharge using its internal load (LCD will display "Discharging"), and then fully charge for complete readiness. The amount of charge delivered to the load is displayed on the LCD panel. This is the true battery charge capacity in mAh. The mAh number should be close to the number on the battery label for a new healthy battery.

Status LEDs

LEDs help to quickly identify charging state.

1. Fast blink Battery is inserted; charge in progress
2. On Battery is ready (charged over 90%)
3. Slow blink Test in progress