

# Z90

Intelligent LED Light



USER GUIDE



## Thank you for choosing Zylight.

We at **Zylight** are happy that you chose the **Z90**. There are many lighting systems out there to choose from, and we think you will agree that what you hold in your hands is the most versatile production light instrument on the planet.

At **Zylight** our mission is to bring truly intelligent lighting to your shoots. With its small size and weight, the amazing HD-led™ module, and ZyLink™ technology, the **Z90** represents the most advanced lighting instrument for film and video production today.

The people who engineered and built your **Z90** are the same folks who will answer any questions you may have about it. We use our lights everyday, and would love to hear any comments or suggestions you may have about how we can improve our products.

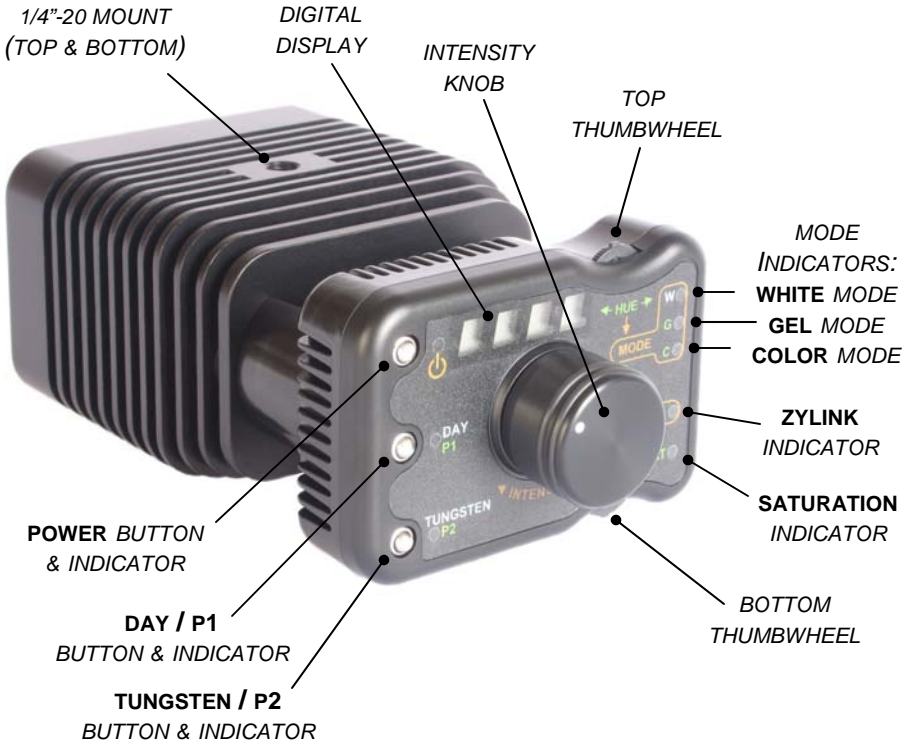
The **Z90** may be small, but what it will do for your shoots is big news!

Enjoy,

- The Zylight Team

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[www.zylight.com](http://www.zylight.com)

# Z90 Overview



# Powering the Z90

## Power Cables

The Z90 should be powered only from a battery cable or AC adapter supplied and approved by Zylight for use with the Z90.

## Input Voltage

The Z90's input voltage is **7-24 Volts DC**. Most types of professional batteries used in the production industry fall into this range, including those rated at 12V, 13.2V, and 14.4V nominal output voltage.

**!!! WARNING:** The input voltage to the Z90 must remain below 24 Volts. Application of excessive voltage, or reverse polarity voltage, will void the factory warranty and possibly cause damage to the Z90.

## Power Consumption

The powerful Z90 can draw up to 30 Watts at full power (2.5 Amps @ 12 Volts, or 2.1 Amps @ 14.4 Volts). When powering the Z90 from a battery, be sure your battery is rated to supply up to 30 Watts continuously.

**Important Camera Power Note:** Always use the battery power socket **closest to your battery**, i.e. the D-Tap socket found on an Anton Bauer Gold Mount. Many professional cameras have an on-board socket for powering a camera light. These connectors are often rated for less than 30W, and do not deliver the power required for normal Z90 operation.

# Z90 Orientation

To ensure adequate heat dissipation, avoid operating the Z90 in a lens-down position (below left). An angle of at least 30-degrees away from vertical is necessary to effectively dissipate heat (below right).



# Using the Z90

## **Power**

The Z90 accepts 7-24 Volts DC from either the supplied battery cables or AC adapter. The POWER indicator will glow steadily when the light is powered on, and flash when the light is powered off.

## **Turning the Z90 On and Off**

Push and release the Z90's POWER button to turn the light on and off.

## **Dimming**

Turn the intensity knob clockwise to increase the Z90's intensity, counter-clockwise to decrease intensity. At full intensity the 'Z' logo will be upright.

## **Operating Modes**

The Z90 operates in one of three modes: **WHITE**, **GEL**, and **COLOR**. To switch between modes push in and **hold** the top thumbwheel for ~1 second. The mode indicators will show the current operating mode.

### **WHITE Mode**

In **WHITE** mode the Z90 outputs daylight or tungsten white light. Push the DAY or TUNGSTEN buttons to change the output.

### **GEL Mode**

In **GEL** mode the Z90 outputs adjustable white light from 2500°K - 9000°K with  $\pm$ GREEN color correction. Rotate the top thumbwheel to adjust the color temperature in 50°K steps. Rotate the bottom thumbwheel to adjust color correction. The SAT indicator will glow whenever color correction is being used.

### **COLOR Mode**

**COLOR** mode lets you adjust the color hue and saturation of the Z90's output. Rotate the top thumbwheel and the output will cycle continuously through red, green, blue, and every color combination in between. Rotate the bottom thumbwheel to increase or decrease the saturation of the current hue. The digital display will indicate the percentage of saturation, and the SAT indicator will glow when any color is less than fully saturated.

## **Presets**

In **GEL** and **COLOR** modes you can save two of your favorite settings as presets. The preset buttons P1 and P2 work like those on a car radio: To save a setting push and hold the button for ~2 seconds. The button's indicator light will flash to show the current setting has been saved. To recall a saved setting push and release the appropriate preset button.

Preset settings are retained even after you remove power from the Z90.

In **WHITE** mode the preset buttons are factory-set at daylight and tungsten.

# Using ZyLink™ (patent pending)

## Overview

Every Z90 can be wirelessly linked to other Zylights (Z50 or Z90), creating a group of lights that operate in concert as if they were one larger light. The group can contain as many Zylights as you need. Adjusting the controls on one Zylight in the group will change all of the other lights in the group.

You can have Zylights operating independently at the same time you have linked Zylights. Any independent Zylight can be added to an existing group, and any linked Zylight can be removed from a group.

ZyLink™ settings are saved even if power is removed from the Z90. This allows you to remove power from your lights during down-time, and resume lighting later without having to re-group the lights.

## ZyLink™ QuickStart

1. Plug in at least two Z90s.
2. On one Z90, push in and hold the bottom thumbwheel until the ZYLINK indicator glows.
3. Select the desired ZyLink™ channel by pushing and releasing bottom thumbwheel until the correct channel is displayed.
4. Repeat steps 2 & 3 with other Z90s you wish to link together.
5. That's it! When the controls are adjusted on one of the Z90s on the same channel, all of the lights on that channel will change.

## Enabling & Disabling ZyLink™

To turn ZyLink™ on or off, push in and hold the bottom thumbwheel for ~1 second. The ZYLINK indicator will glow whenever ZyLink™ is enabled.

## Changing the ZyLink™ Channel

The Z90 has ten available ZyLink™ channels. With ZyLink™ enabled, change channels by pushing and releasing the bottom thumbwheel until the desired channel is displayed.

## ZyLink™ between the Z90 and Z50

The Z90's ZyLink™ channel 1 is compatible with Z50 lights. If you wish to control a Z50 with a Z90 (or vice-versa) be sure your Z90 is set to channel 1.

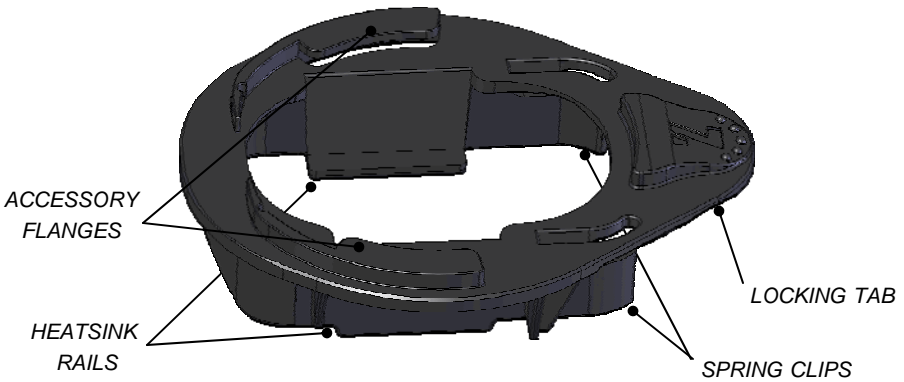
**NOTE:** Since the Z50 does not have a GEL mode, the Z90 must be in either WHITE or COLOR modes to use ZyLink™ with a Z50.

— **Note:** Removing power from any linked Z50 will also un-link it. Do not remove power from any Z50 or group of Z50s you wish to remain linked. You will then have to re-enable ZyLink™ on the Z50(s) that had their power removed. See the **Z50 User Guide** for more information.

# Using the Accessory Adapter

## Overview

The Z90's Accessory Adapter allows you to mount most standard lighting accessories with a 3-inch [76mm] mounting flange, such as a soft box or barndoors. Accessories with a mounting flange up to 0.075" [1.9mm] thick can be mounted.



## Mounting the Accessory Adapter

The Accessory adapter slides onto the Z90 from either side of the light.

1. Position the Accessory Adapter parallel with the front of the Z90 with the locking tab resting on the front window. Position the two spring clips so that they are touching the rounded corners on the short side of the heatsink.
2. Slide the Adapter onto the light, expanding the two spring clips as the heatsink rails slide between the heatsink fins.

## Mounting the Accessory

To mount the accessory, slide its flange over the locking tab and under the two accessory flanges.

## Removing the Accessory

To remove the accessory, gently depress the locking tab and slide the accessory out of the flanges.

## Removing the Accessory Adapter

To remove the Accessory Adapter, slide the Adapter off of the light in the opposite direction as it was installed.

# Z90 SPECIFICATIONS

## MECHANICAL

SIZE: 5.3" x 3.0" x 2.0" [135mm x 76mm x 51mm]  
WEIGHT: 16oz. [454g]  
MOUNTING: Two: 1/4"-20 Socket

## ELECTRICAL

INPUT: 7-24V DC  
DC PLUG: Positive Locking Type  
OD: 5.5mm, ID: 2.1mm  
AC ADAPTER: 100-240V, 50-60Hz  
POWER: 30W max. [2.5A max. @ 12V]  
WIRELESS FREQ: 2.45GHz  
CHANNELS: 10



## OUTPUT

BEAM ANGLE: 60° 2Θ ½-intensity, 130° total  
DIMMING: 1% - 100%  
PRESETS: White Mode - Two: Daylight, Tungsten  
Gel Mode - 2500°K ↔ 9000°K in 50°K steps, ±GREEN  
Color Mode - Two: User defined  
LED LIFE: 50,000 Hrs. min. before factory re-calibration

**THE ZYLIGHT Z90 IS PROTECTED BY THE FOLLOWING U.S. AND FOREIGN PATENTS WITH OTHER U.S. AND FOREIGN PATENTS PENDING:**



US 6,340,868
US 6,608,453
US 6,777,891
US 6,016,038
US 6,150,774
US 6,211,626
US 6,788,011
US 6,806,659
CA 2,302,227
EP 1 016 062 B1
AU 757000 B2
HK 1025416
DE 698 07 092 C0

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Reorient or relocate the receiving antenna; (2) Increase the separation between the equipment and receiver; (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; (4) Consult the dealer or an experienced radio/TV technician for help.



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