Your Ultimate Guide to the Different Types of Camera Lenses

Becoming a great photographer is about understanding all the aspects of your camera and how to use its functions in specific settings. Having the right gear to capture subjects in a captivating way is essential in your photography journey.

Once you move from a beginner or enthusiast photographer to an expert, having great camera lenses will be crucial. This ultimate guide to the different types of camera lenses will help you find the best lens to fit your needs, let's explore.

Understanding the Specifications

As a beginner, enthusiast, or expert, you understand lenses and their different focal lengths. In simple terms, the focal length is the distance between the lens and the sensor in your camera. It is measured in millimeters (mm), and the numbers are displayed on the outside of the lens.

The larger number the focal length, the greater in apparent size your subject will appear. NikonUSA provides a specific guide with photo examples of their different lenses and their capabilities.

Aperture is another critical factor when shooting. It's denoted as f-number and is known as an f-stop. If your aperture is larger (low f-number, e.g., f/2), more light can enter the lens. This is great for night photography when you need a decent amount of light to make your subject stand out.

If your aperture is smaller, (large f-number, e.g., f/18), a lower amount of light can enter the lens. This setting is ideal if you're shooting in harsh, intense sunlight and don't want your photo to be washed out.

Types of Lenses and When to Use Them

Your type of subject will be a determining factor when choosing a lens. Different focal lengths and apertures are best suited for specific subjects. Let’s compare the different types of lenses and discover when it is best to use each.

Standard Lens

This is the type of lens that should be in every photographer's bag. It is well known as a great "all-rounder" good for various kinds of subjects. It has a mid-range focal length, about 50mm give or take, and is full frame.

When to use?

This lens is great for a full range of subjects, from travel to portraits, to outdoors. Especially if you're just beginning your photography journey, a fixed standard lens is a top option as your go-to.

Macro Lens

Macro lenses are suited for very detailed, close up shots. They provide an enormous amount of detail, and your photos will come out looking extra sharp.

When to use?

Wildlife and nature photos are best suited with this type of lens as these lenses have extensive varying focal lengths, some up to 300mm.

Telephoto Lens

These types of lenses have very long focal lengths and are large. Telephoto lens are often confused with zoom lenses but they function differently.

When to use?

Telephoto lenses are great for shooting subjects that are far away because they make the subject appear close. Landscapes and cityscapes are wonderfully captured with telephoto lenses, as its primary effect is to blur the background while making your subject pop more. This effect is why telephoto lenses are also commonly used in portrait photography.

FishEye Lens

A fisheye lens has an extensive-angle point of view and makes your photos appear arched or convex, allowing you to capture a broader landscape.

When to use?

This lens is perfect for capturing landscapes and underwater shots as it allows for a 180-degree view or more of the scene.

Wide Angle Lens

Similar to the fisheye lens, the wide-angle lens lets you capture much more of a specific scene. These have a more significant depth of field and shorter focal length.

When to use?

With a considerable depth of field, shorter focal length, and enhanced details, a wide-angle lens is extremely popular with landscape and architecture photography.

Zoom vs. Prime Lens

Zoom lenses have a focal length range that can be adjusted by turning the lens's outer rim. Many standard zoom lenses have a focal length of 18-55mm and 55-200mm. Using zoom lenses is very beneficial when you have a wider range of subject matter and cannot move closer to your subject. Zoom lenses can be more expensive but are worth the investment if you have different categories of interest in photographing.

Prime lenses are essentially fixed in one focal length position, for example, at 55mm. Prime lenses cannot zoom in on subjects. These types of lenses provide excellent quality shots; however, you will need to move closer to your subject if required physically.

When to use?

Prime lenses are great if your subject is in a fixed position in a semi-close range. Zoom lenses are beneficial for subjects that are moving and further out.

Buyer’s Guide: What you Need to Know Before Buying a Lens

Buying a camera lens is not a simple task. There's countless information to consider like your main subjects, primary sceneries used, and cost. Here's a breakdown of all the factors you should consider when buying a lens:

Think About the Majority of Subjects You Photograph

What are you interested in capturing? Sports? Weddings? Portraits? Travel? Depending on which category you're heavily invested in, you'll need a lens with prime specifications as different lenses are suited for different subjects.

Make Sure the Lens Will Attach to Your Camera

Don't buy a lens without confirming it's compatible with your current camera body. There is an easy way to check this if you're purchasing from Amazon; there will be a dropdown menu toward the top asking you to select your camera type, and it will say yes or no for compatibility. If you're purchasing a camera through a different platform, scroll down in the information sections and make sure your camera body is listed in the compatibility section.

Read Reviews

Reading reviews for anything will always be beneficial to future customers. Reading other people's experiences with the same products is invaluable, and you can make your decision to buy based solely on reviews of others. See what Android Authority has to say about the Top 10 DSLR lenses.

Weight

Some lenses, like zoom lenses, are heavier and bulkier than others. Decide whether or not you're ok with carrying around some extra weight when out photographing.

IS or no IS?

IS stands for image stabilization and is most likely written as IS somewhere on the lens itself. Image stabilization can drastically improve your photo quality as it takes into account shaky hands or other unwanted camera movements. Image stabilization is worth the price jump from lenses without it.

Closing Remarks

It is imperative to understand your ultimate goal with your camera and its lenses. There are numerous options out there, and it can be very overwhelming. With your primary photographic categories in mind, and with the proper research, you can choose a lens or two that perfectly fit your needs.