

What kind of lens do I need?

There's a lot of variety in the world of digital-camera lenses, from tiny, built-in fixed-focal-length plastic lenses to big, glass, removable zoom lenses with special optical coatings. Each lens type influences the overall design and feature set of the camera that uses it. We've broken digital-camera lenses down into four broad categories so that you can determine which lens type is best for you.

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{tab=Fixed-focal-length }

These lenses offer no optical zoom. Look for autofocus instead of fixed focus, as well as selectable macro and landscape focus modes.

Best for: snapshotter, budget buyer

Advantages:

- • Allows compact or ultracompact camera designs.
- • Easy and quick camera operation.
- • Inexpensive.
- • Lenses usually offer relatively wide angle of view, which is good for landscapes and group shots.

Disadvantages:

- • Can't zoom in close to faraway subjects.
- • Lens doesn't usually accept converters for different focal lengths or filters.
- • Usually lowest optical quality available.

{tab=Retractable zoom }

These zoom lenses retract into the camera body when the camera is off and extend when it's on.

Best for: snapshotter, budget buyer, undecided, trendsetter

Advantages:

- • Allows very compact, portable camera design.
- • Lens is usually protected by a built-in cover.

Disadvantages:

- Generally doesn't support lens converters or filters.
- Zoom range is often limited to 2X or 3X magnification.
- Lens extension may increase camera start-up time.
- Limited manual-focus controls through buttons or switches

{tab=Fixed zoom }

These zoom lenses are fixed to the camera body and do not retract into it when the camera is turned off.

Best for: undecided, serious amateur, business user, trendsetter

Advantages:

- Zoom ranges up to 12X magnification.
- Lens is usually threaded to accept lens converters (wide-angle, close-up, and so on), filters, and even ring flash units.
- Cameras typically offer advanced controls.
- May offer more precise zoom and manual focus control via rings on the lens instead of buttons.

Disadvantages:

- Camera design bulkier than with retractable lens.
- Camera controls may be more complicated than what casual snapshot photographers want.

{tab=Interchangeable }

Digital SLRs use interchangeable lens systems, which means that you can detach the entire lens from the camera body and replace it with any other compatible lens. If you already own several lenses for a 35mm film camera, you might want to find out if there's a digital SLR body available that's compatible with them. For more on dSLRs, read our Digital SLR buying guide.

Best for: serious amateur

Advantages:

- Deliver the best quality optics.

- Provide the most flexibility to handle a variety of scenes.
- Don't have to buy a new camera to upgrade quality of lens.

Disadvantages:

- Expensive to implement and buy.
- Lenses tend to be big and heavy.
- Focal lengths generally differ for the same lens mounted on a film camera, which can be confusing and cause vignetting.

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