

## Depolarizers

### Q. What is the principle of operation behind the depolarizer?

A. The standard depolarizer works by splitting the input beam into two equally powered beams of orthogonal polarization, delaying one beam with respect to the other, then recombining them into a single output. As long as the relative delay between the orthogonally polarized beams is larger than the coherence length of the light beams, there is no fixed phase relationship between them when they are recombined. The resulting output is, therefore, depolarized.

### Q. What kind of fiber can be used to connect to the depolarizer?

A. The input is typically PM fiber, and the output is typically SM fiber. In some cases, devices that can work with SM inputs can be made.

### Q. Can the depolarizer be used with a pulsed or modulated signal?

A. The depolarizer is designed for use with cw input light. Because it functions by using DGD to depolarize the light, a depolarizer can have an adverse effect on a modulated signal.

### Q. Is the depolarizer bidirectional?

A. No. The standard depolarizer is a unidirectional device.

### Q. What kinds of light sources can be depolarized?

A. Depolarizers are generally used with light sources with relatively short coherence lengths. General Photonics' standard depolarizer can depolarize a light source with a coherence length of up to 10m. However, custom depolarizers can be made to work with light sources with longer coherence lengths (up to a few km).