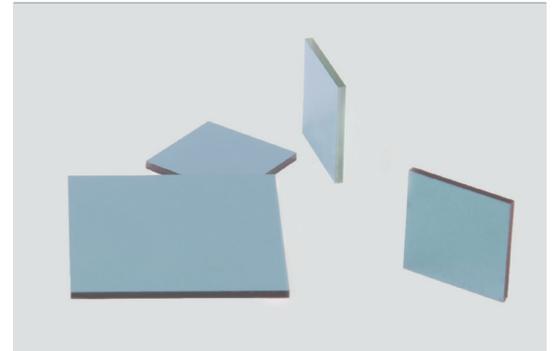


# Narrow Bandpass Filters for Gesture Recognition Systems

## NIR Bandpass Filter with Low Angle Dependency and High Performance Blocking

Gesture recognition and TOF systems like 3D imaging applications require best transmission performance in the range of the illumination wavelength (Laser or LED source) for a wide field of view. Outside the bandpass an extraordinary blocking is required to suppress the ambient illumination for a better contrast. The filters can be provided in various sizes and if required with B-Stage Epoxy or solderable coating frames for optional sealing.



### Benefits

- Design experience for customized solutions
- Fast sampling possible
- High volume production
- Customized filter sizes
- Optional sealing technologies available

### Applications

- Gesture recognition system
- 3D imaging applications
- Multi purpose cameras for the automotive market
- Distance measurement systems

### Technical Data

#### Transmittance in the bandpass

$T_{avg} > 94\%$  in the bandpass NIR

#### Blocking in the cut off bands

OD > 4 avg (UV and VIS)

OD > 3 avg (up to 1.2  $\mu\text{m}$ )

OD > 2 abs

#### Slope

$T(90\%) - T(10\%) < 10 \text{ nm}$

#### CWL shift as a function of AOI

< 12 nm up to 30° AOI

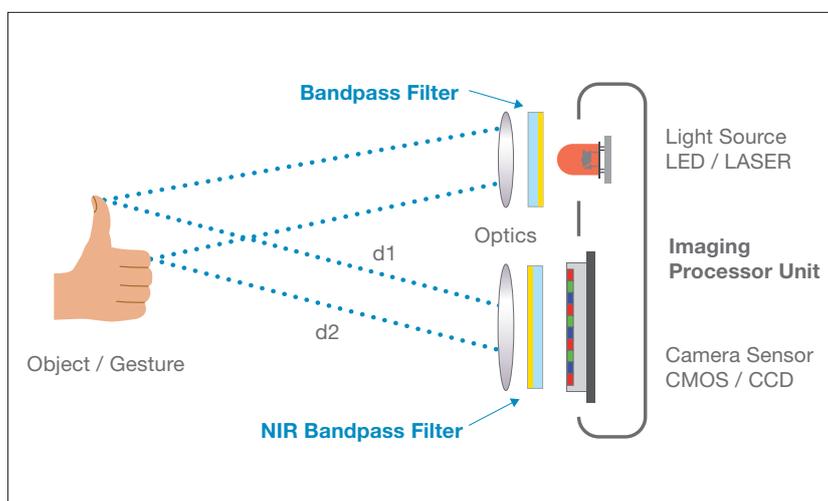
#### Max substrate size

200 mm round

#### Design adjustments

According to application and customer requirements possible

### Schematic of NIR Bandpass Filters for TOF Camera





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// BALZERS OPTICS

### NIR Bandpass Filter with back side AR

