

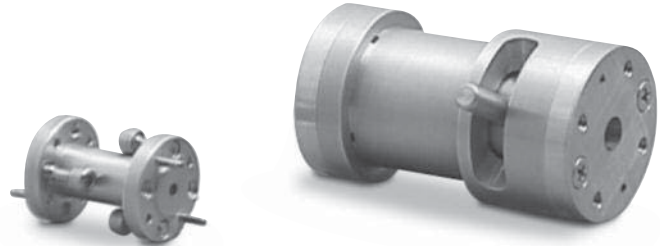


Linear-to-Circular Fixed and Switchable Polarizers

QWL/QWQ

Characteristics

- ◆ Low VSWR
- ◆ Minimum Insertion Loss
- ◆ Fixed; Manual and Motorized Switching
- ◆ Linear, LHCP and RHCP



Product Description

QuinStar Technology's **QWL** and **QWQ** series **linear-to-circular fixed** and **switchable polarizers** cover the frequency range of 26.5 to 110 GHz in six waveguide bands. Fixed polarizers are sections of circular waveguide with a built-in polarization converter that converts a linearly-polarized signal to either a left- or right-hand circularly-polarized signal, depending on the orientation of the waveguide section.

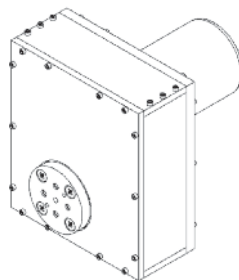
Series **QWQ switchable polarizers** have an internal polarizing card that can be manually rotated to change the

signal between right- and left-hand circular polarization without disconnecting the waveguide. A center position on the switch allows linearly-polarized signals to pass through the waveguide without changing polarization. These polarizers operate over a bandwidth of typically $\pm 10\%$ centered at a specific operating frequency.

QuinStar also offers a motorized (electromechanical) version of the switchable polarizer. The motorized version has only two positions corresponding to right- and left-hand circular polarizations.

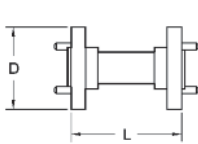
Specifications

PERFORMANCE PARAMETER	TYPICAL CHARACTERISTICS
Frequency Range	26.5 to 110 GHz
Operating Bandwidth	20% of waveguide band
Axial Ratio (max)	1 dB
VSWR (typ)	1.3:1

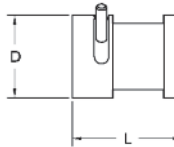


Motorized Polarizer

Outline Drawings/Mechanical Specifications



Fixed Polarizer
(round flange pattern shown)



Switchable Polarizer
(round flange pattern shown)

FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	OUTLINE DIMENSIONS, inches/mm			
			Switchable Polarizer		Fixed Polarizer	
			Diameter (D)	Length (L)	Diameter (D)	Length (L)
Ka	WR-28	UG-381/U	1.25/31.8	2.12/53.8	1.13/28.7	1.50/38.1
Q	WR-22	UG-383/U	1.25/31.8	2.12/53.8	1.13/28.7	1.50/38.1
U	WR-19	UG-383/U	1.25/31.8	2.12/53.8	1.13/28.7	1.50/38.1
V	WR-15	UG-385/U	1.00/25.4	1.5/38.1	0.75/19.1	1.00/25.4
E	WR-12	UG-387/U	1.00/25.4	1.5/38.1	0.75/19.1	1.00/25.4
W	WR-10	UG-387/U	1.00/25.4	1.5/38.1	0.75/19.1	1.00/25.4

Ordering Information

Model Number **QW - ABCDEO**

model prefix ←
L = linear-to-circular fixed polarizer
Q = switchable polarizer

center frequency rounded to nearest GHz ←
(A0 = 100 GHz, A1 = 101 GHz,
B0 = 110 GHz, etc.)

switch type →

S = switchable, manually
F = fixed
M = switchable, motorized

waveguide band designator →

A = Ka-band V = V-band
Q = Q-band E = E-band
U = U-band W = W-band

circular waveguide diameter →

L = low band (large)
M = mid band (medium)
H = high band (small)
Z = custom