

VPFC Calcium Fluoride Crystal Infrared Windows

Crystal Infrared Windows

Calcium Fluoride (also known as Fluorite) has long been used in research applications. It is a cost-effective solution which, performs well in controlled environments where humidity, chemical exposure, vibration and high frequency noise can be minimized or eliminated.

The transmission rate characteristics of CaF₂ are ideal for higher temperature applications, short and medium wave thermography and for the visual spectrum where transmission rates are over 90%. Long wave transmission rates will vary (typically between 50% and 65%) based on imager sensitivities at different wavelengths.

VPFC infrared windows are specially coated to reduce the transmission drift due to moisture/humidity. However, industrial users are strongly encouraged to investigate the VPFR series of Industrial-Grade Infrared Windows which are specifically designed for stability in harsh industrial environments.



Specifications

Materials	
Window housing and cover	UL 94 5VA Nylon ("switchgear-grade plastic"); -40°C (-40°F) to 273°C (523°F)
Optic	Calcium Fluoride Crystal (other crystal options also available) -100°C (-148°F) to 1400°C (2555°F)
Gaskets	UL 94 5VA TPE; -40°C (-40°F) to 273°C (523°F)
Hardware	316 stainless steel
Other	
Useful temperature rating	-40°C (-40°F) to 200°C (392°F)
Water and dust ingress	IP65 / NEMA 4: closed and when in use

Dimensions

Model	Body diameter	Viewing area diameter	Assembly thickness
VPFC-50	8.3 cm (3.3 in)	5 cm (2 in)	1.8 cm (0.7 in)
VPFC-75	11.2 cm (4.4 in)	7.5 cm (3 in)	1.8 cm (0.7 in)
VPFC-100	14.5 cm (5.7 in)	10 cm (4 in)	2.0 cm (0.8 in)

Ordering information

Order #	Description	Price
VPFC-50	Industrial-grade infrared window: 50 mm (2 in) diameter viewing area	Call for Pricing
VPFC-75	Industrial-grade infrared window: 75 mm (3 in) diameter viewing area	Call for Pricing
VPFC-100	Industrial-grade infrared window: 100 mm (4 in) diameter viewing area	Call for Pricing

Prices are US List and are subject to change without notice; quantity breaks start at 25 units.

VPFC Features

- Transparent crystal allows for visual inspection (however does not meet impact requirements of IEEE for medium and high-voltage switchgear).
- Compatible with long wave / shortwave IR imagers.
- Ultraviolet transmission compatible with corona cams.
- Fluoride-based crystals can be used in industrial environments, however, they are best suited for laboratory environments where moisture, humidity, vibration and high-frequency noise can be controlled, and where the imager can be periodically recalibrated to the transmission rate of the optic.
- Housing made of "switchgear-grade" plastics: insulated to 30kV/mm, non-conductive, and UL94 compliant.

Certifications

- UL 50V
- UL 508A; ANSI UL 508A
- IP65 / NEMA 4
- Lloyds of London Type Approval



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www.iriss.com
E-mail: info@iriss.com
US Toll Free (877) 70 IRISS
International +1 (941) 907 9128

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