



LENS Zoom-SWIR 7X – P/N C0628

General Description

This family of high resolution SWIR lenses image from 0.9 - 3.0 μ m making them especially well-suited for PCB inspection, specialty laser applications, surveillance and alignment and tracking. This zoom lens has been developed to provide maximum flexibility for a large variety of application. A high F/N and excellent transmission characteristics allow superior imaging in these wavelengths of interest.



Optical and mechanical parameters

Focal length	75-500 mm	N. of elements	12
Image format (diagonal)	20.5 mm	Dimensions	Dia 180 x 530 mm
F.O.V. (diagonal)	15.6-2.35 degrees	Weight	7 Kg
Max aperture	F/N = 6	Options	
Object format	N.A.	Tele Lens Position	-
Min working distance	15000 mm	Focus motorized	Upon request
Zoom range	6.7	Iris motorized	Yes
Focus	compensated	Zoom motorized	Yes
Iris	Max F/N = 6 Min F/N = 16	Other mount type	Upon request
		Customization	Upon request

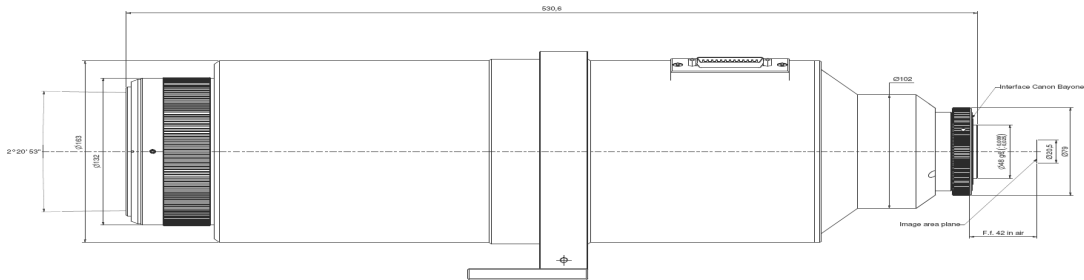
P/N	wavelength range	mount type	note
C0628.002	900-1700 nm	Canon	Zoom and iris diaphragm motorized
C0628.012	1700-2300 nm	Canon	Zoom and iris diaphragm motorized
C0628.022	900-2300 nm	Canon	Zoom and iris diaphragm motorized

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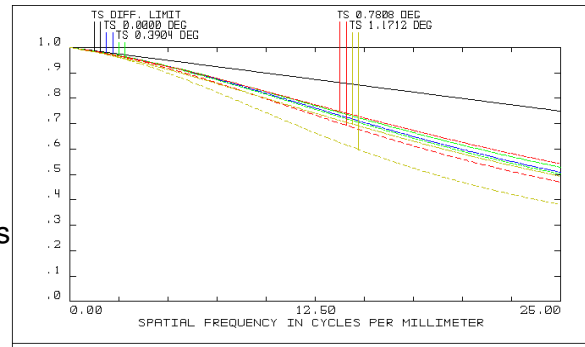
Outline Dimensions & Technical Notes

The lens outlines are shown here with further details available upon request.

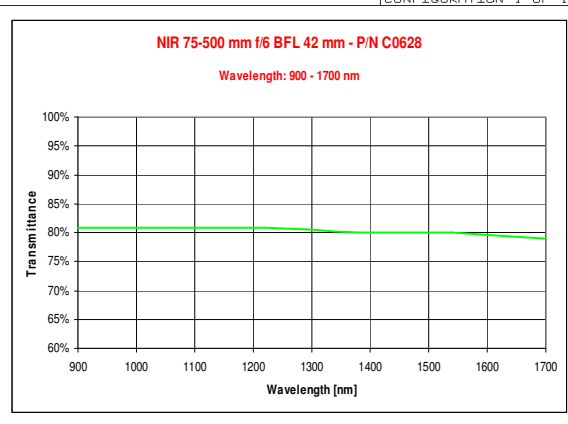
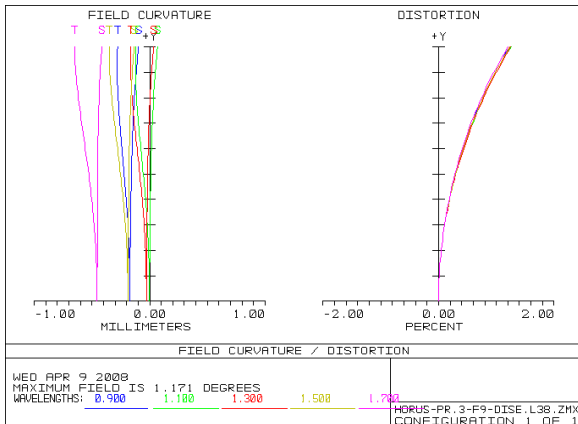


MTF, Field Curvature, Distortion and Transmission from 900 to 1700 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and best focus plane. The colored lines represent the F.O.V, starting in the center (0%) to the corner (100%).



WED APR 9 2008
DATA FOR 0.5000 TO 1.7000 μm.
SURFACE: IMAGE
HORUS-PR-3-F9-DISE_L38_ZHX
CONFIGURATION 1 OF 1



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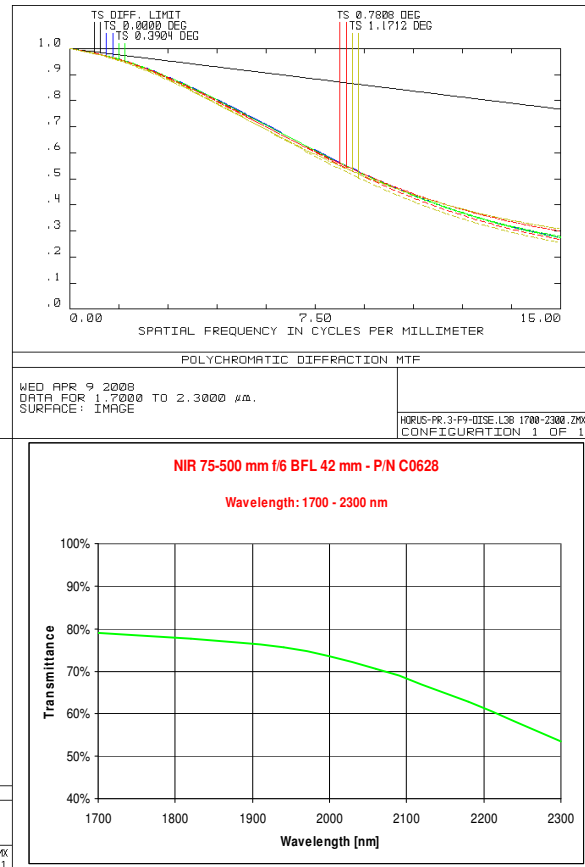
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Optical parameters for wavelength range 0.9 – 1.7 μm

Resolution	MTF > 50%@25lp/mm	Transmission	> 79%
Distortion	< 2%	Antireflection Coating	R \leq 1%
Average axial chromatic aberration	< 0.139 mm	Vignetting	< 14%

MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting in the center (0%) to the corner (100%)



Optical parameters for wavelength range 1.7 – 2.3 μm

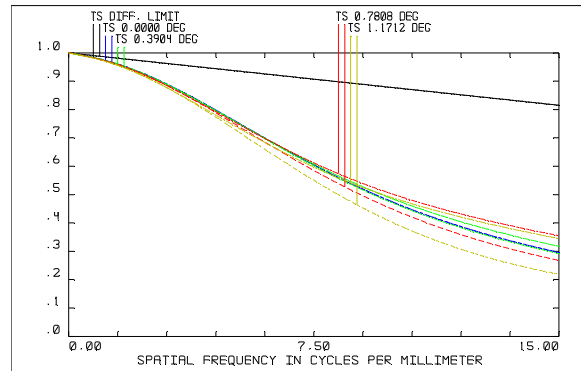
Resolution	MTF > 25%@15lp/mm	Transmission	> 55%
Distortion	< 2%	Antireflection Coating	R \leq 1%

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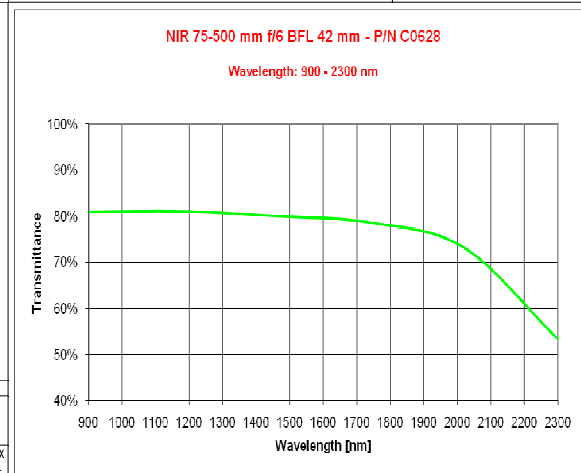
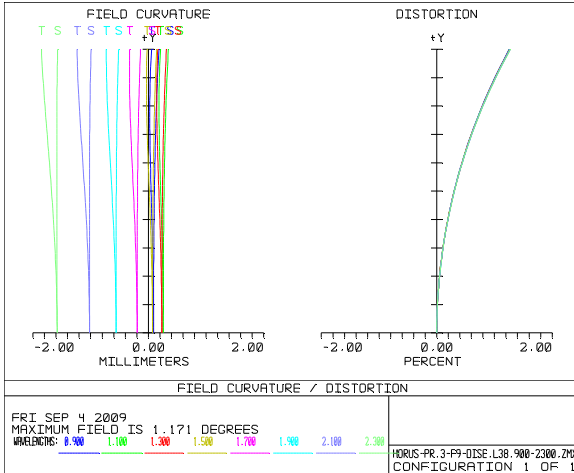
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MTF, Field Curvature, Distortion and Transmission from 900 to 2300 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting in the center (0%) to the corner (100%)



POLYCHROMATIC DIFFRACTION MTF
FRI SEP 4 2009
DATA FOR 0.9000 TO 2.3000 μm.
SURFACE: IMAGE
NORIS-PR-3-F9-DISE-L38-900-2300-7X
CONFIGURATION 1 OF 1



Optical parameters for wavelength range 0.9 – 2.3 μm

Resolution	MTF > 25% @ 15lp/mm
Distortion	< 2%

Transmission	> 55%
Antireflection Coating	R ≤ 1%

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Electrical data & interfaces

ZOOM FUNCTION

Motors Nominal Voltages	12 VDC
Motors Maximum Power	0.8 watts (over two different motors)
Encoder Maximum Voltages	4.5 – 5-5 VDC
Encoder Maximum Power	0.1 watts (over two different encoders)
Lines per revolution	2560

IRIS FUNCTION

Motor Nominal Voltages	12 VDC
Motor Maximum Power	0.4 watts
Encoder Maximum Voltages	4.5 – 5-5 VDC
Encoder Maximum Power	0.05 watts
Lines per revolution	2560

CONTROLLER

Controllers Nominal Voltages	12-28 VDC
Controllers Maximum Continuous current	5 Amp
Controllers Maximum Peak current	10 Amp
PWM switching frequency	62.5 kHz
Serial Port Interface	RS232 – 9600 (1200, 2400, 4800, 19200)
Program Memory	Serial EEPROM – 7936

FOCUS FUNCTION

Automatic focus compensation over full zoom range
Focus adjustment can be manually performed to change the working distance: minimum working distance is 15 m

LENS INTERFACE

Standard	The standard version is provided with Canon F-Mount
Options	Other interfaces can be provided like Nikon F-Mount
Customized interfaces can be also considered upon request	

MOUNTING

Lens is able to support the camera
Special interface for tripod installation is also provided