

Security Systems

PENTAX RICOH IMAGING SYSTEMS - SECURITY SYSTEMS DIVISION



Security Systems Division
www.pentax-security.com

PAIR
Pentax Atmospheric Interference Reduction

VARI-FOCAL LENSES

Vari-Focal Lenses for all applications

- Standard, Day/Night, Megapixel
- Focal Length 2.6 - 60 mm
- **Varifocal Plus Functionality**
- High Max. F-Stop
- High Resolution
- Manual, DC, VS
- Aspherical
- Durable and Robust
- Precise and Smooth-Action



PENTAX
A RICOH COMPANY

Standard Vari-Focal Lenses, 1/3"

Part No.	C70226	C70223HK	C70224	C70509HK	C70510HK
Designation	TS4V214	TS4V214ED (DG)	TS3V212ED (HK)	TS10V518AED (HK)	TS12V513ED-Q (HK)
Focal Length	2.8 - 12.0 mm	2.8 - 12.0 mm	2.9 - 8.5 mm	5 - 50.0 mm	5 - 60.0 mm
Iris Range (F)	1.4 - c	1.4 - 360	1.2 - 300	1.8 - 360	1.3 - 360
MOD	0.25 m	0.25 m	0.35 m	0.6 m	0.6 m
Horiz. Angle of View	93.29° - 23.5°	93.29° - 23.5°	96.2° - 33.4°	50° - 5.5°	54.2° - 4.6°
Iris Control	manual	DC	DC	DC	DC
Format	1/3"	1/3"	1/3"	1/3"	1/3"
Mount	CS	CS	CS	CS	CS
Remarks		20 cm Cable	25 cm Cable	25 cm Cable	25 cm Cable

Day/Night Vari-Focal Lenses, Aspherical, 1/3"

Part No.	C70316	C70315HK	C70315FQ	C70315WX
Designation	TS3V310	TS3V310ED(HK)	TS3V310ED(FQ)	TS3V310E (WX)
Focal Length	3.0 - 8.0 mm	3.0 - 8.0 mm	3.0 - 8.0 mm	3.0 - 8.0 mm
Iris Range (F)	1.0 - c	1.0 - 360	1.0 - 360	1.0 - 360
MOD	0.3 m	0.3 m	0.3 m	0.3 m
Horizontal Angle of View	93.22° - 35.26°	93.22° - 35.26°	93.22° - 35.26°	93.22° - 35.26°
Iris Control	manual	DC	DC	VS
Format	1/3"	1/3"	1/3"	1/3"
Mount	CS	CS	CS	CS
Remarks		25 cm Cable	12 cm Cable	25 cm Cable

Day/Night Vari-Focal Lenses, 1/3" and 1/2"

Part No.	C70227HK	C70700HK	C60635HK	C60635FQ	C60635WX
Designation	TS4V212ED-Q (HK)	TS7V714ED-Q (HK)	HS2V616ED (HK)	HS2V616ED (FQ)	HS2V616ED (WX)
Focal Length	2.8 - 12.0 mm	7.5 - 50.0 mm	6.0 - 12.0 mm	6.0 - 12.0 mm	6.0 - 12.0 mm
Iris Range (F)	1.2 - 360 mm	1.4 - 360	1.6 - 300	1.6 - 300	1.6 - 300
MOD	0.2 m	0.5 m	1.0 m	1.0 m	1.0 m
Horiz. Angle of View	98.29° - 23.5°	36.6° - 5.64°	65.29° - 30.86°	65.29° - 30.86°	65.29° - 30.86°
Iris Control	DC	DC	DC	DC	VS
Format	1/3"	1/3"	1/2"	1/2"	1/2"
Mount	CS	CS	CS	CS	CS
Remarks	25 cm Cable	25 cm Cable	25 cm Cable	12 cm Cable	25 cm Cable

Varifocal Plus Lenses 1/3" and 1/2", Megapixel

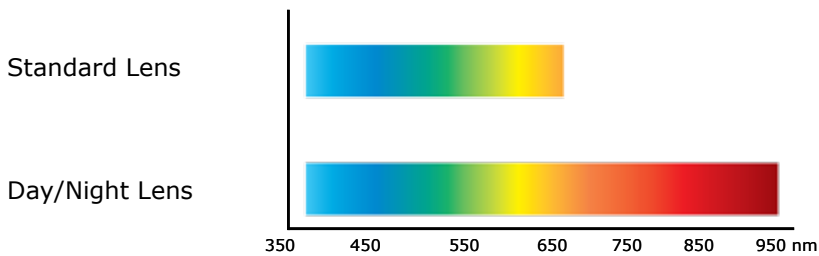
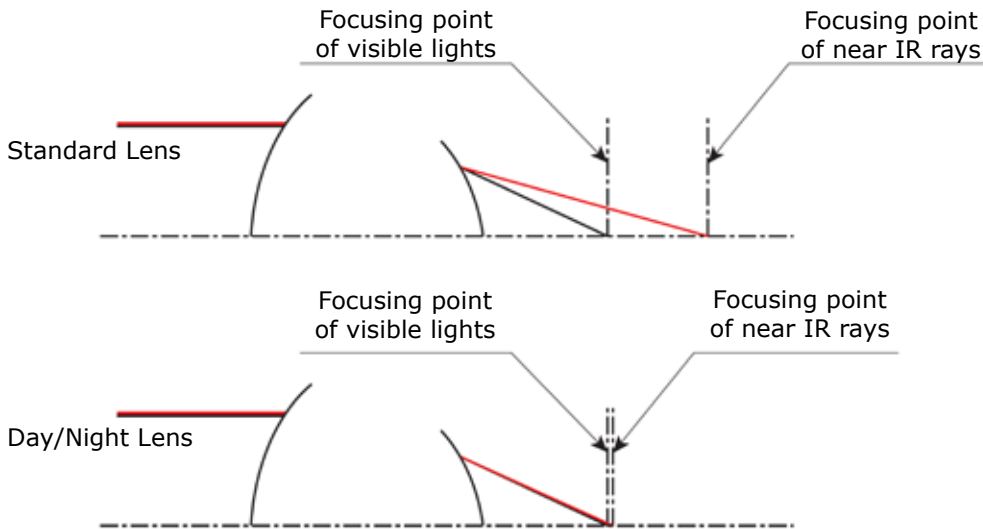
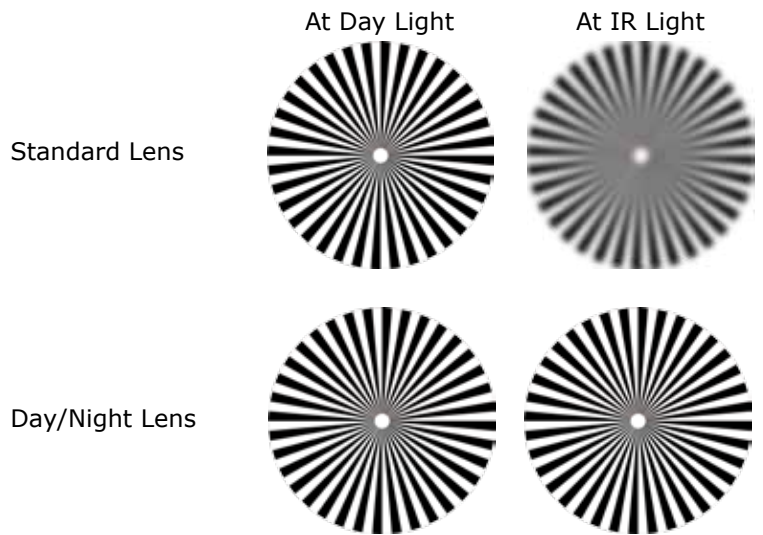
Part No.	C70228HK	C60842HK
Designation	TS3VP213ED-M (HK)	HS5VP814ED-M (HK)
Focal Length	2.6 - 8.0 mm	8.0 - 40.0 mm
Iris Range (F)	1.3 - 180	1.4 - 250
MOD	0.3 m	1.8 m
Horizontal Angle of View	104.4° - 35.5°	43.4° - 9.1°
Iris Control	DC	DC
Format	1/3"	1/2"
Mount	CS	CS
Remarks	Megapixel, Varifocal Plus, 25 cm Cable	Megapixel, Varifocal Plus, 25 cm Cable

Day/Night

Day/Night Vari-Focal Lenses are designed to be used with IR-sensitive colour cameras (day/night cameras).

During the day colour reproduction remains unaltered and at night these lenses, due to their optical arrangement, focus IR and White Light at the same point creating no discernable focus shift.

These lenses are also recommended for b/w cameras which reproduce high IR-reflecting surfaces such as grass and foliage particularly well.



Ordinary lenses are designed to correct chromatic aberration in the visible light wave-length range from 400nm to 700nm.

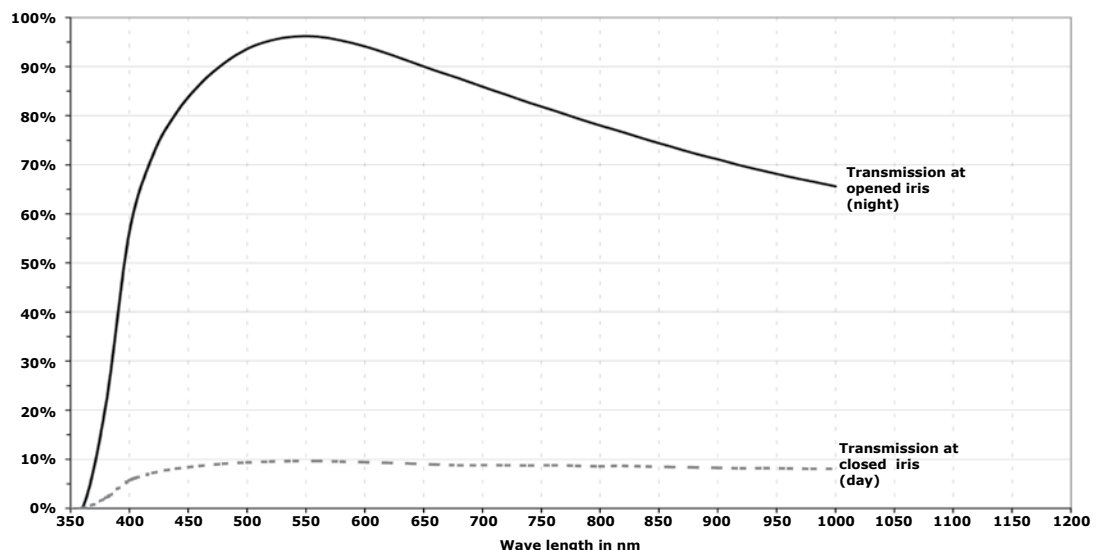
Day/Night lenses are designed to concentrate all light rays from visible to near IR directly onto the CCD at the same focusing point. This means that Day/Night lenses do not require the focus to be re-adjusted even when the lighting conditions have changed from daytime to night-time, under near IR illumination.

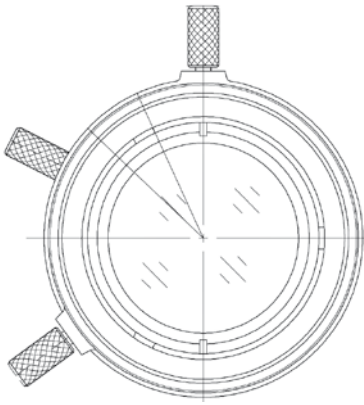
Spectral Transmission

The lenses are suitable for colour operation with an IR correcting filter which guarantees perfect colour reproduction.

PENTAX day/night Vari-Focal lenses had been designed to work with IR-sensitive colour/mono cameras but work equally well with colour or monochrome cameras.

See:
Day/Night Vari-Focal Lens
PENTAX C60635FQ

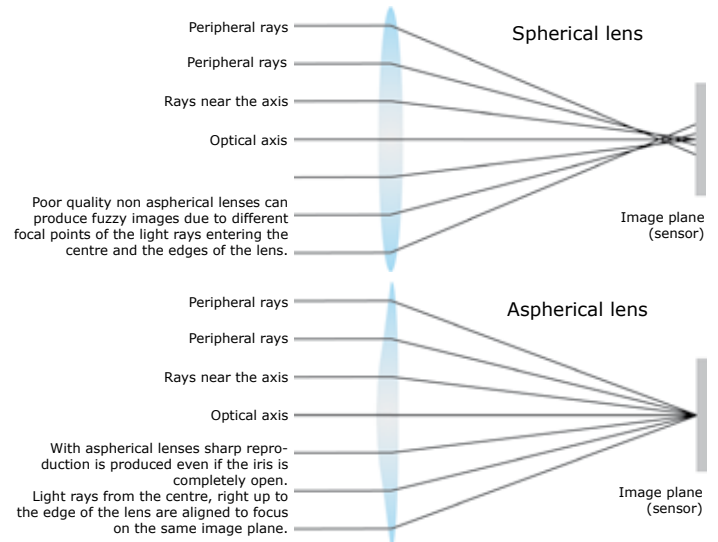




Aspherical Lenses

Due to the shape of the glass in an aspherical lens more light is able to be focused onto a camera's CCD. This is how PENTAX aspherical lenses are able to allow cameras work in lower light conditions than ordinary lenses. For colour cameras this is a particular advantage as they can struggle in low light conditions and need all available light. The picture will then have less noise, better colour reproduction and will help the camera produce a better video signal.

When used with high sensitivity mono cameras many applications won't require any form of additional lighting, coping with only the most limited natural light. Also, the more light transmitted by the lens, means better image sharpness and less distortion at the edges of the picture.



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Varifocal-Plus-Lenses

Due to the patented focus tracking mechanism, PENTAX provides a unique solution to the problem of defocusing during setup. The Varifocal Plus is the perfect solution for IP cameras solving the unique installation issues these cameras have with short latency and lower frame rates when trying to set the lens angle on install.

The lens meets the need for better image clarity, higher resolution and even better depth of field while saving on install time and hassle.

Varifocal Plus

Tracks focus when zooming

Varifocal Defocuses when zooming

Mega pixel → Smaller pixels → Finer focus adjustment
Solution → Varifocal Plus → Easier focus adjustment