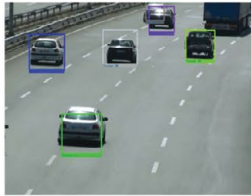


4K LENSES

DAIWON' 4K Ultra HD technology boasts 4,152×2,174p (9.03 megapixels; around four times the resolution of HDTV 1080p), and enables network cameras to display UHD video footage. It has many beneficial results such as data collected from video recordings with DAIWON' 4K UHD lens creates opportunities for improved investigations, but also beneficial for business intelligence.



Personnel Paths



License Plate Recognition

For instance, personnel and customer paths are more accurately traced, and the resolution is high enough to support multiple content analyses for functions like people counting and license plate recognition(LPR), which provides more precise identification and reduced false alerts.



Face detection



Crowd monitoring



Geographic Information Systems



Perimeter Protection

DAIWON' 4K UHD lens technology allows more accurate monitoring in crowd management and perimeter protection requirements. It can also be as key consideration applied to safe cities, wide-lane traffic monitoring, police dispatching using geographic information systems(GIS) maps, and more.

4K ULTRA HD : FISHEYE LENS



Applicable CMOS Sensor

1"	1/1.8"	1/1.9"	1/2.5"	1/2.8"

Model	Field of view	Resolution	Sensor size	F-number	Mount
19019-4M	Diagonal 190°	4152×2174	1/1.9"	F2.0	Board Mount
19019-4M	Diagonal 190°	3096×2080	1/1.8"	F2.0	Board Mount



- Designed for the popular 1/1.8" & 1/1.9" 4K image sensors to resolve the 1.85 or 2.4 micron size pixels for top-end high performance 4K cameras purpose.
- Offers four times the resolution of 1080p HD to capture crisper edge-to-edge images.
- True 4K resolution maintains crisp clarity in any area of image, whether it is the centre or the corners of the image.
- 4K ULTRA HD design, providing support for up to 9 megapixel crystal clear clarity resolution.
- 190 degrees super wide angle which eliminates dead angles and enables effective, wide-area surveillance.

4K ULTRA HD : BOARD LENS

4K ULTRA HD	8.57 MEGA	WIDE ANGLE 170°	FIXED FOCAL	BOARD MOUNT
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Applicable CMOS Sensor				
1"	1/1.8"	1/1.9"	1/2.5"	1/2.8"

Model	Field of view	Resolution	Sensor size	F-number	Mount
14025-4M	Diagonal 140°	3864x2218	1/2.5"	F2.0	Board Mount
17025-4M	Diagonal 170°	3864x2218	1/2.5"	F2.0	Board Mount



- Designed for the popular 1/2.5" 4K image sensors to resolve the 1.62 micron size pixels for top-end high performance 4K cameras purpose.
- Offers four times the resolution of 1080p HD to capture crisper edge-to-edge images.
- True 4K resolution maintains crisp clarity in any area of image, whether it is the centre or the corners of the image.
- 4K ULTRA HD design, providing support for up to 8.57 megapixel crystal clear clarity resolution.
- 170 degrees super wide angle which eliminates dead angles and enables effective, wide-area surveillance.

ULTRA LOW LIGHT : BOARD LENS

ULTRALOW LUX	2.13 MEGA	F1.2	FIXED FOCAL	BOARD MOUNT
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Applicable CMOS Sensor				
1"	1/1.8"	1/1.9"	1/2.5"	1/2.8"

Model	Field of view	Resolution	Sensor size	F-number	Mount
27028-3M	2.7mm	1945x1097	1/2.8"	F1.2	Board Mount
36028-3M	3.6mm	1945x1097	1/2.8"	F1.2	Board Mount
40028-3M	4.0mm	1945x1097	1/2.8"	F1.2	Board Mount

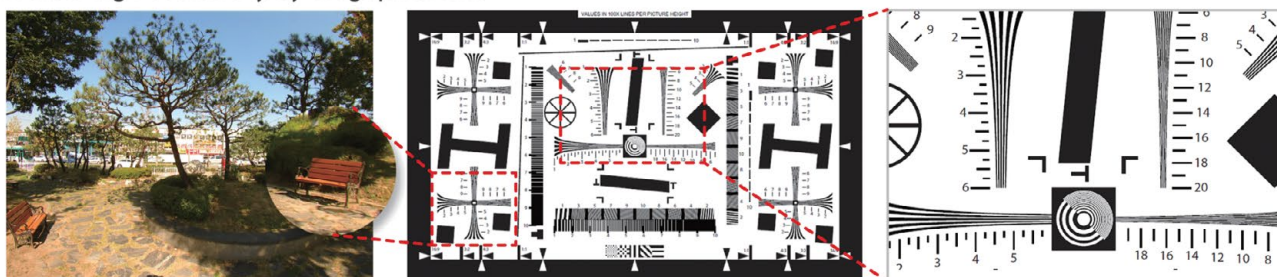


- Designed for the popular 1/2.8" image sensors to resolve the 2.9 micron size pixels.
- Features the most advanced low-light performance at bright F1.2 wide aperture.
- Delivers high sensitivity sharp images in color and black-and-white.
- Maintains crisp clarity in any area of image, whether it is the centre or the corners of the image.
- 2K HD design, providing support for up to 3 megapixels clear clarity resolution.

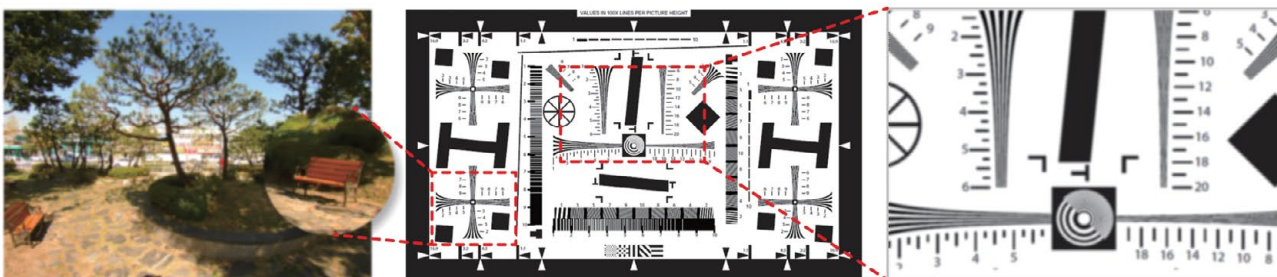
■ IMPORTANCE OF MEGAPIXEL CAMERAS

Proven by the image definition taken by the two different camera lenses, megapixel camera lenses enables to provide higher resolution of images than Non-megapixel camera lenses. With megapixel surveillance camera, the resolutions is at least three times better than an analog camera, with more image detail and with wider coverage than standard resolution cameras.

Measuring Eccentricity by Megapixel lens



Measuring Eccentricity by Non-Megapixel lens



60500-3MASDN

Focal Length	6.0 ~ 50.0 mm
Back Focal Length	5.63 ~ 5.69 mm
Image Format Size	1/2.7", 1/3", 1/4"
Aperture Ratio	F1.6 ~ 360
Iris Operation	Direct Drive
Resolution	3 Mega Pixel
Angle of View (Diagonal)	1/3" 58.5° ~ 7.2° 1/4" 42.2° ~ 5.4°
Dimension(φXL)	29.0 X 50.03 mm
Mount Type	Board Mount, φ14



VIR28110-3MASDN

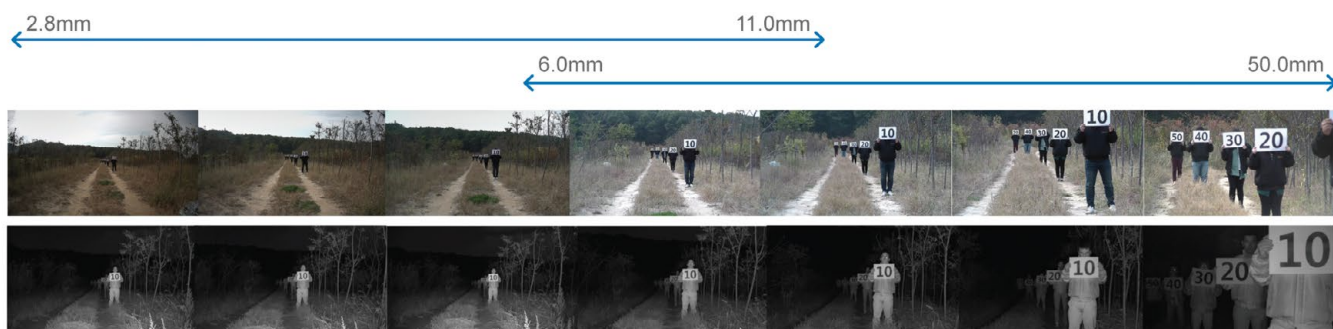
Focal Length	2.8 ~ 11.0 mm
Back Focal Length	3.42 ~ 10.22 mm
Image Format Size	1/2.7", 1/3", 1/4"
Aperture Ratio	F1.4
Iris Operation	Direct Drive
Resolution	3 Mega Pixel
Angle of View (Diagonal)	1/3" 131.8° ~ 38.1° 1/4" 89.3° ~ 28.6°
Dimension(φXL)	29.0 X 44.27 mm
Mount Type	Board Mount, φ14

Based on our experience in optical design and all-in-one work in progress, DAIWON OPTICAL is fully equipped with high precision facilities that produce wide-ranging optics that includes Varifocal lenses, CS Mount Varifocal Lenses, and pinhole lenses. Considering customers in need for up-to-date industrial trend, DAIWON OPTICAL holds comprehensive product portfolio with large scale of Fixed/ Varifocal lenses, C-Mount Varifocal Lenses, On-board Varifocal Lenses, On-board CS Mount Varifocal Lenses, and Panfocus Lenses.

TELE/WIDE ANGLE LENS

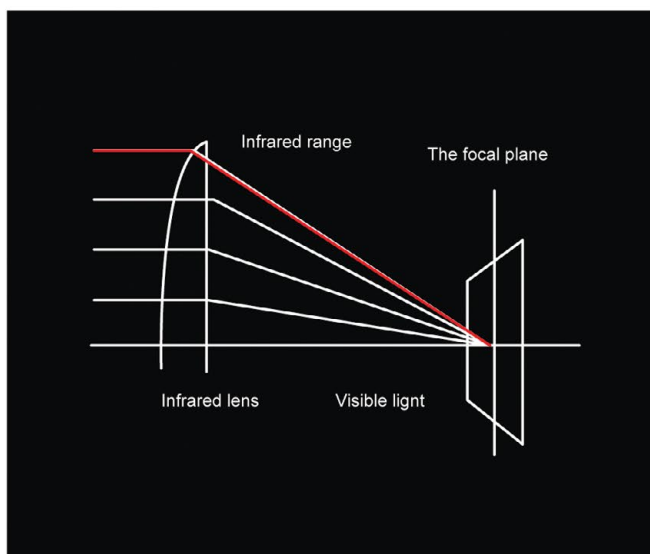
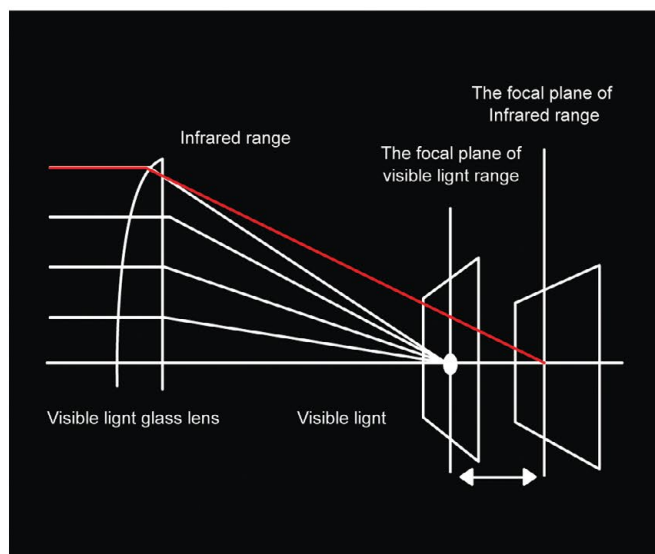
Daiwon Tele/Wide Angle Lenses, with IR shift optimization, facilitates their excellent performance day and night vision in ranges from 2.8~11.0mm and 6.0~50.0mm focal length.

Daiwon's 60500-3MAS hi-magnification lens is designed in compact size with excellence in defining the image in different field of view



IR CCTV LENS PERFORMANCE

Designed lens to be focused in the same focal plane of visible light range and Infrared wavelength, Daiwon IR CCTV camera lenses are outperformed in day and night vision that prevent from focus shift when using with IR LED. Therefore this can reduce or eliminate a loss of image focus at night or at low light environment.



LENSES FOR AUTOMOTIVE CAMERA APPLICATIONS

Daiwon Optical is one of the leading automotive lenses developer and manufacturer in the field of automotive vision system for advanced safety applications.

The core technology of Daiwon Optical is with its own patented lens designs. These sophisticated lens designs are used in its market-leading surround view system(SVS) and for the development of the advanced driver assistance systems(ADAS). At the center of its competitive edge is also the capability of developing and automotive lenses that would satisfy even the stringent requirements from OEMs.



Surround View Monitoring System



10620MAS



EFL:0.9mm, 1/4", F2.0
TTL:16.1mm
Res.: 1.3MP
Dim:(Φ 18.39 x 15.10mm)



12624MAS



EFL:1.2mm, 1/3", F2.4
TTL:14.0mm
Res.: 1.3MP
Dim:(Φ 16.75 x 12.95mm)



15422MAS



EFL:1.5mm, 1/4", F2.4
TTL:12mm
Res.: VGA
Dim:(Φ 16.79 x 10.73mm)



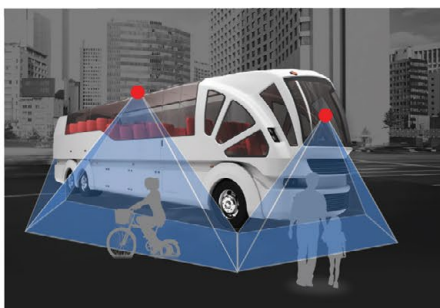
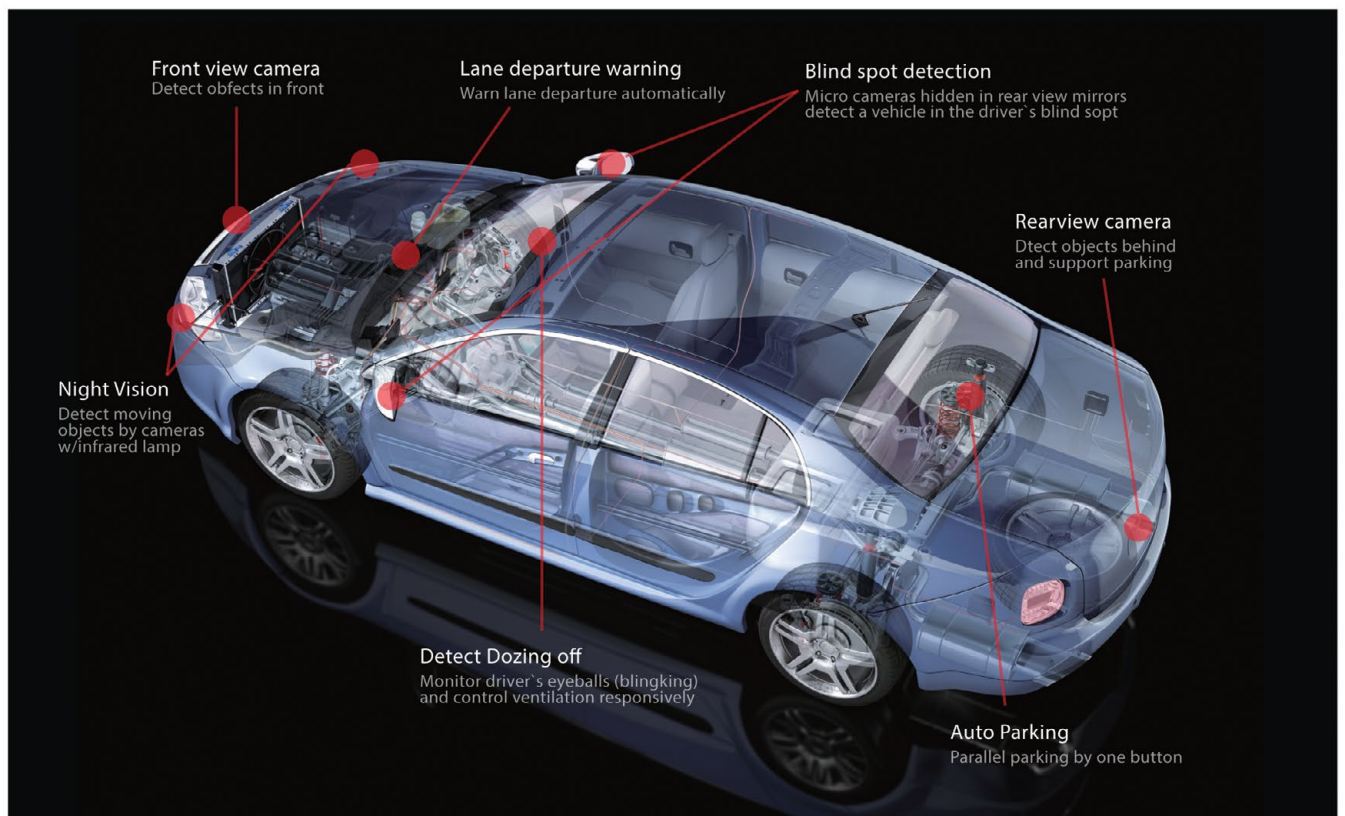
CAMERA LENSES FOR AUTO-VISION

Automotive Vision Technology has been evolved from occupant monitoring to Monitoring other vehicles, safety drive control, intelligent monitoring and beyond.

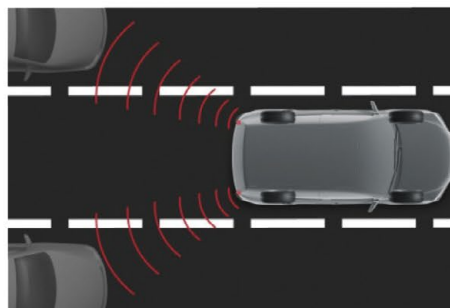
DAIWON OPTICAL as a 2nd or 3rd Tier supplier, has distinctive know-how and experience developing leading-edge automotive vision camera system to market. our team experienced with the project of lens and system development will offer the most optimal Auto-vision starting from concept of design, prototyping, lens manufacturing.

Providing the automotive camera module suppliers the range of lenses for rear view cameras, front-view cameras, surround view cameras, multi-lens array cameras, stereoscopic and most other automotive camera lens that enable to meet the industry's needs for highly required qualification and reliable quality that aligns to the latest technology.

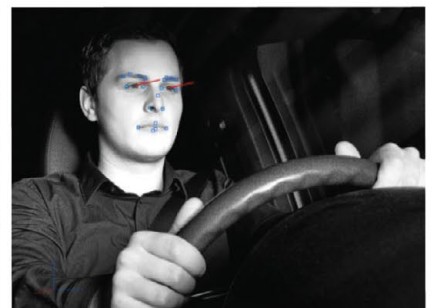
APPLICATION AREA



Multi View Monitoring



Lane Departure Warning System



Driver Status Monitoring

DRONE · SPORTS POV CAM

DAIWON OPTICAL is nowadays expanding into new territories of Point-of-View imaging. Action cameras have evolved beyond extreme sports into the everyday lives of ordinary people allowing them to tell their stories from their point of view. With a strong presence in extreme action sports, Sports Action Cam allows camera owners to record video from the participant's point of view and to be the center of the action.

■ DAIWON LENS FOR DRONE CAM



■ DAIWON LENS FOR SPORTS CAM



DIGITAL ACCESS CONTROL SYSTEM

During the period of rapid changes in bio enable iris scanner used in wide range of access control system, non-contact entry/exit control, has been on the increase as people want to keep their lives more convenient and more secure. Designed to optimized for electronic access control system, Daiwon lenses for bio-iris scanner is the latest development used for various types of scanning system.



■ OPTICS FOR BIO ENABLE IRIS SCANNER

- High Resolution Iris Image.
- Easy to Operate design.
- Optimal design for the iris scanning software.
- Lens for IR Illumination.
- Lenses designed for Single & Dual Iris Scanner.

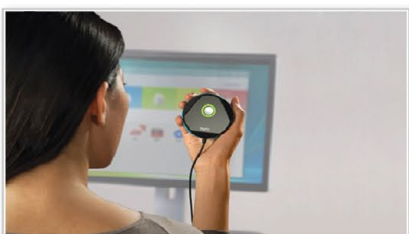
■ APPLICATION



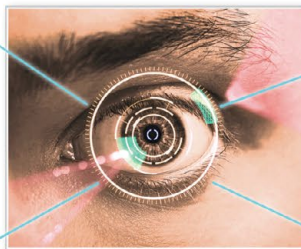
Time & Attendance Management



Access Control



Secure Online Transactions



Government & Law Enforcement

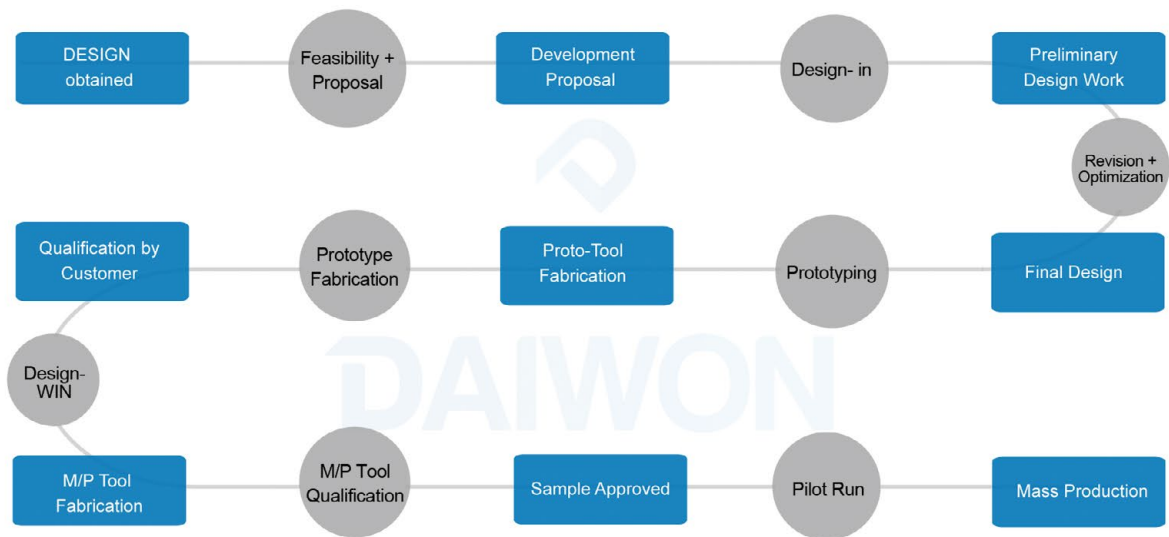
Our Successful history is measured not only by the off-the-shelf optical solutions but also by our ability to fulfill the designing and developing needs of our customers. We work with customers in various application that require a single unit of a one of a kind part or that require high volumes of their custom parts or anywhere in between. Daiwon employs the latest techniques and state-of-arts equipment to minimize waste and optimize our time to deliver. These savings are passed on the customers by providing the highest quality products at the most economical pricing.

Based on the library of comprehensive optical design we have obtained for your various application, our systemized team-up controlled manufacturing process has realized multiple production and will provide our valued customers with OEM/ODM based customized production.

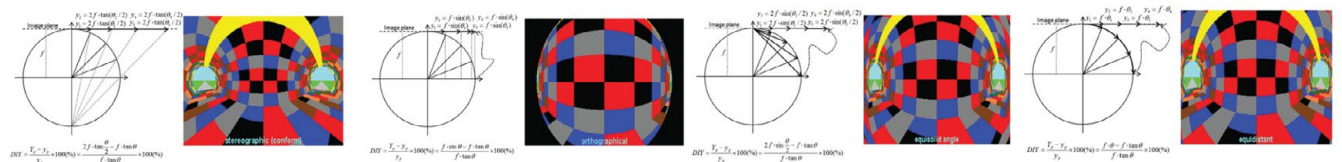
Our manufacturing capability surpasses most of our competitors' we have monthly capacity of 700,000 units. We invite you to partner in sourcing the existing new technology that we've created.

For more information on these cost-effective products, contact us today.

LENS-ON-DEMAND DEVELOPMENT PROCESS



Customization of the Various Design Method



CERTIFICATION

