

## | ABOUT LEtC 關於正能

正能光電於西元 2009 年 4 月 7 日在台灣台北成立，研發及經營管理階層來自前數位相機大廠普立爾科技、台系各大相機模組廠，及 LED 二次光學大廠等。我們的核心競爭力在於『光學設計』，即結合成像和非成像光學的影像整合解決方案技術及經驗，包括軟體、硬體、韌體及演算法等，並聚焦於「車載光學」、「照明光學」以及「立體光學」等三大應用領域。

Lattice Energy Technology Corporation (LEtC) was formed in Taipei, Taiwan, in April of 2009. Our R&D and Management teams came from the former digital camera manufacturer, Premier Image Technology Corporation. The core competence of LEtC is to provide total solution for “optical design” which may combine image optics, non-image optics software, hardware, firmware and algorithms. LEtC's product lines cover 3 main areas—automotive optics, lighting optics and dimensional optics.

## | AOBG 先進光學事業群

我們先進光學事業群承襲了普立爾的製造經驗，以及富士康集團的成本控管能力，讓我們有能力提供創新的成像與非成像光學產品的設計與製造。先進光學事業群有許多創新的概念產品，像是二輪車用 DVR、自行車 DVR 車燈、IoT (物聯網) 監控相機相關燈具、3D 列印機的光柵透鏡以及 3D 雙鏡頭相機模組。並自 2016 年起，我們已經投入 AR、VR 系統的光機設計以及研發製造。

Being rooted in the former Premier Image Technology Corp. and Foxconn, our manufacturing and cost control experiences are able to provide our customers with innovative imaging optics and non-imaging optics products and services. We launch brand-new ideas such as 3-D dual camera modules for game console, vehicle LED lamps + car event recorder, sensor light + IP camera, E-bike lens and camera module, aquarium lamps and monitoring system, lens and camera modules for 3-D printer or scanner. Since 2016, we expand the research and development into the fields of AR and VR.

## | MILESTONES OF LEtC 正能光電大事紀

### 2018

在美國洛杉磯成立光學與照明設計子公司

將在越南胡志明市成立光學與照明設計合資公司

將在柬埔寨金邊市成立光學與照明設計合資公司

LEtC forms subsidiary company in Los Angeles, USA.

LEtC starts up joint venture (JV) in HCM city, Vietnam.

LEtC starts up JV in Phnom Penh city, Cambodia.

### 2017

在泰國曼谷成立光學與照明設計合資公司

在中國深圳成立光學與照明設計合資公司

在日本東京及沖繩成立光學與照明設計辦事處

LEtC starts up JV in Bangkok, Thailand.

LEtC starts up JV in Shenzhen, China.

LEtC forms optics and lighting design office in Tokyo & Okinawa, Japan.

### 2016

正能光電合併展盛光電有限公司

Z-Sky, which is established by the former R&D VP of Foxconn MOEBG (world's No. 1 digital still camera maker in 2006) merges with LEtC.

### 2015

佛山正能光電成立佛山照明事務所 (LDBG)

LEtC forms Foshan LEtC for lighting design house (LDBG) in Foshan, China.

# 2018 PRODUCT ROADMAP

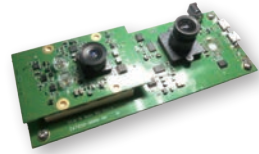
Q4

... ● Marine Cam  
水下相機



... ● Depth Camera  
景深相機

Q3



... ● Lighting Optics S.I.  
IoT(物聯網) 監控相機

Q2



... ● Automotive Optics  
車載相機

Q1



# CUSTOMIZED CAMERA MODULE

客製化單鏡頭模組

型號 AO3014-0501-01



## | APPLICATIONS 產品應用

- ▶ Robotic visual camera module
- ▶ Automotive optics
- ▶ Dash cam recorder
- ▶ Conference call systems
- ▶ Game console
- ▶ IP cam
- ▶ Surveillance cam
- ▶ IPC cam

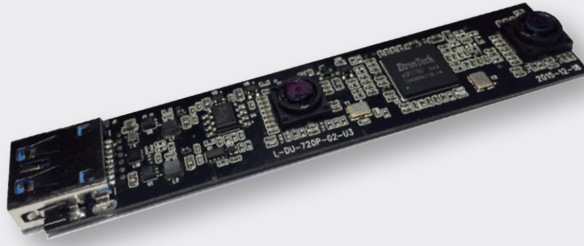
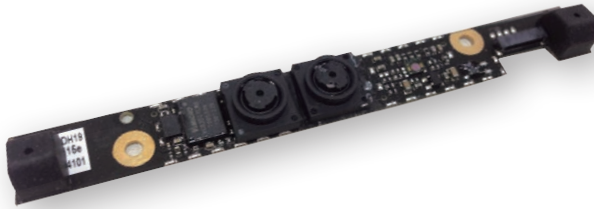
## | SPECIFICATIONS

- ▶ Resolution: VGA~5M pixels
- ▶ Lens: 2P/6G
- ▶ FOV: 50-220 degrees

# CUSTOMIZED DUAL CAMERA MODULE

客製化雙鏡頭模組

型號 AO3024-0101-01



## | APPLICATIONS 產品應用

- ▶ Robotic visual camera module
- ▶ Robot sweeper
- ▶ 3D scanner 3D printer
- ▶ Game console
- ▶ Cell phone dual camera module
- ▶ Facial or gesture recognition applications
- ▶ Virtual reality

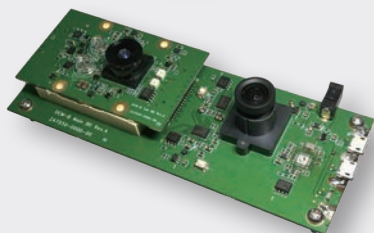
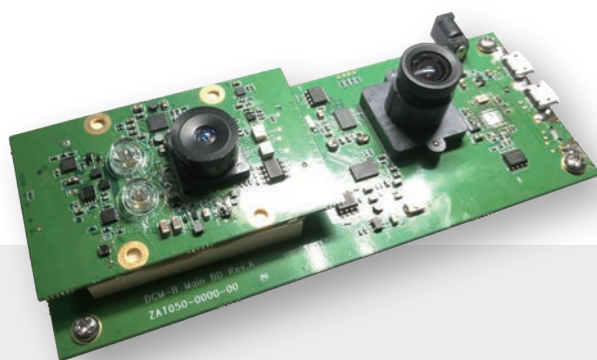
## | SPECIFICATIONS 產品規格

- ▶ 1M pixels CMOS image sensor
- ▶ FOV: 90-120 degrees
- ▶ USB Video Class
- ▶ 1280x720 MJPEG @30fps

# ToF DEPTH CAMERA MODULE

ToF 景深相機模組

型號 AO3014-0501-01



## | APPLICATIONS 產品應用

- ▶ Robotic visual camera module
- ▶ Robot sweeper
- ▶ 3D scanner/3D printer
- ▶ Game console
- ▶ Virtual reality
- ▶ Dual camera module in smart phone
- ▶ facial or gesture recognition.

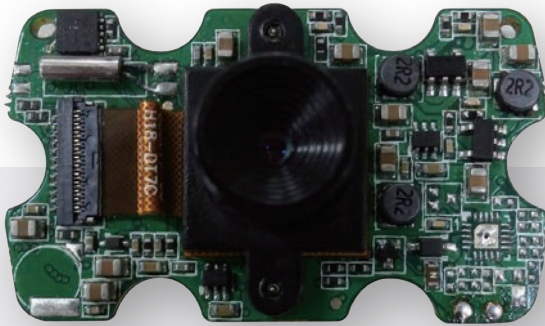
## | SPECIFICATIONS 產品規格

- ▶ VGA & 1M RGB sensor
- ▶ Build in dual ISP
- ▶ VCSEL IR light
- ▶ Depth accuracy: 1% of distance

# MINI EYE WiFi CAMERA MODULE

迷你 WiFi 相機模組

型號 AO3022-0302-01



## | APPLICATIONS 產品應用

- ▶ Front view/Rear view
- ▶ Helmet or other attachment apparatus

## | SPECIFICATIONS 產品規格

- ▶ Big pixel CMOS image sensor
- ▶ 57 degrees field of view (FOV)
- ▶ WiFi 802.11b/g/n
- ▶ Dimensions:23X40X12.2mm(with lens)

# IoT WiFi CAMERA BAREBONE



IoT(物聯網) 安控相機準系統  
型號 AO1011-0201-09



## | APPLICATIONS 產品應用

- ▶ Surveillance cam
- ▶ IoT smart home lighting

## | SPECIFICATIONS 產品規格

- ▶ Module Size(LWH/mm):60x105x42.2±0.2mm
- ▶ Camera Resolution: 1080P 30fps
- ▶ Lens: 4 Glass
- ▶ Camera FOV: 140 Degree
- ▶ Smart Phone APPs control
- ▶ WiFi Solution: IEEE802/11n,IEEE802.11g,IEEE802.11b



# IoT WiFi CAMERA BAREBONE APPLICATIONS

IoT(物聯網) 安控相機準系統應用  
型號 AO1011-0201-09



# IoT WiFi CAMERA BAREBONE APPLICATIONS

IoT(物聯網) 安控相機準系統應用  
型號 AO1011-0201-09





# BAT EYE



自行車 DVR 車燈

型號 AO1014-0301-01



## | APPLICATIONS 產品應用

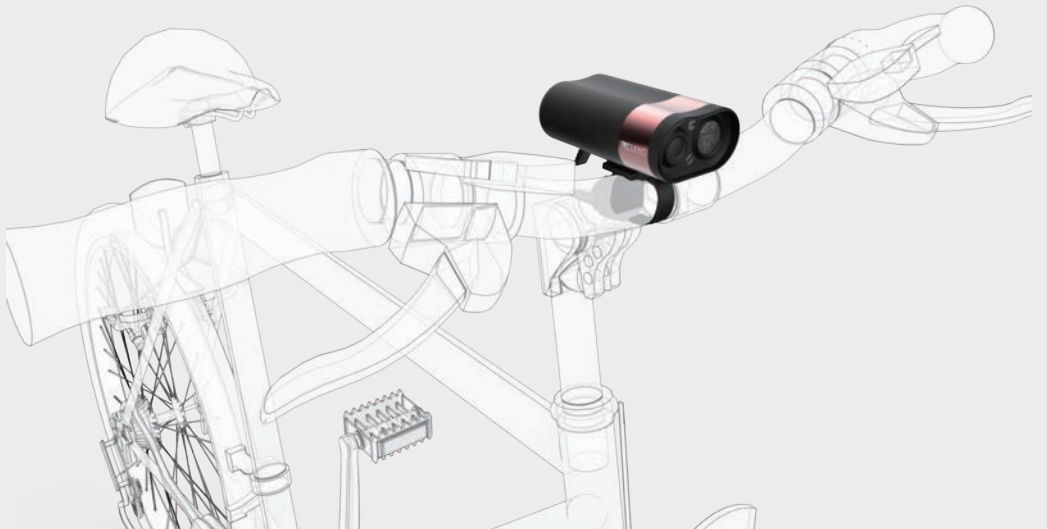
- ▶ Bike DVR LIGHT

## | SPECIFICATIONS 產品規格

- ▶ CMOS HD image sensor
- ▶ 4G aspheric lens
- ▶ FOV: 120°
- ▶ Wi-Fi 802.11b/g/n
- ▶ IP44 waterproof
- ▶ Battery Charger by USB
- ▶ Smart phone APPs control
- ▶ Video resolution: 1920x1080 @ 30fps
- ▶ Support storing MJPEG video and JPEG
- ▶ Support Micro SDHC Card up to 128GB Class 10 or above



## | BAT EYE INSTRUCTION DIAGRAM 使用示意圖

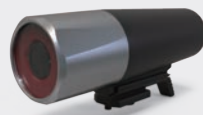


# BIG EYE



二輪車用 DVR

型號 AO1014 - 0108 - 01



## | APPLICATIONS 產品應用

- ▶ Two-wheeler DVR

## | SPECIFICATIONS 產品規格

- ▶ CMOS HD image sensor
- ▶ 4G aspheric lens
- ▶ FOV: 120°
- ▶ Wi-Fi 802.11b/g/n
- ▶ IP44 waterproof
- ▶ Battery Charger by USB
- ▶ Smart phone APPs control
- ▶ Video resolution: 1920x1080 @ 30fps
- ▶ Support storing MJPEG video and JPEG
- ▶ Support Micro SDHC Card up to 128GB Class 10 or above

# DRIVER DETECTION CAMERA

車用疲勞偵測器

型號 AO2012-0303-01



## | APPLICATIONS 產品應用

- ▶ Driver fatigue detection

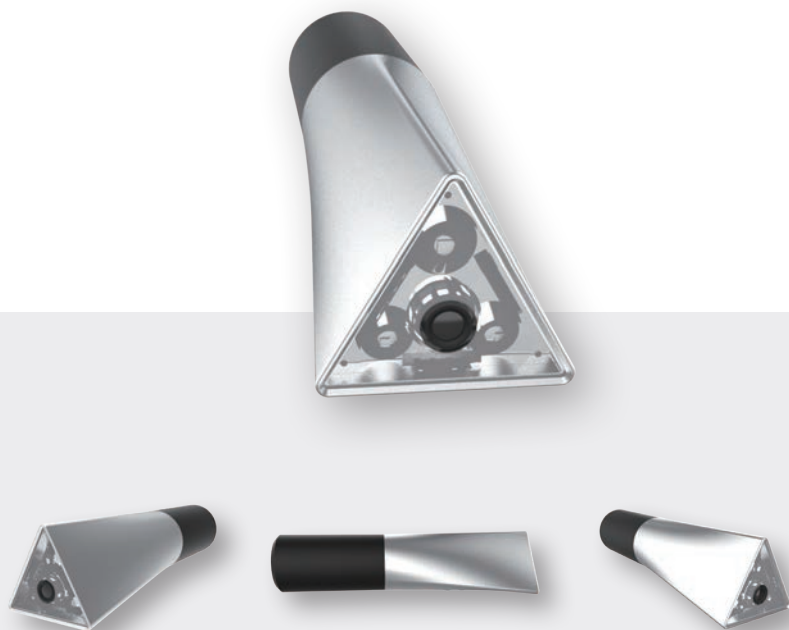
## | SPECIFICATIONS 產品規格

- ▶ Sensor Resolution: 640X480
- ▶ Lens Structure: 3 Glass
- ▶ FOV: 110°
- ▶ DDR, Flash, Speaker

# POLICE EYE+FLASH

執法儀

型號 AO1011-0301-01



## | APPLICATIONS 產品應用

- ▶ Security guard assistance

## | SPECIFICATIONS 產品規格

- ▶ Big pixel size CMOS sensor
- ▶ FOV: 120°
- ▶ IP44 waterproof
- ▶ Video resolution: 1920X1080 @ 30 fps
- ▶ Super Bright 400 lm light
- ▶ Multiple light flash modes



# BRIGHT EYE

IoT (物聯網) 智能監控燈

型號 AO1011-0201-03



## | APPLICATIONS 產品應用

- ▶ IoT smart home lighting
- ▶ Home security system
- ▶ Easy set-up

## | SPECIFICATIONS 產品規格

- ▶ Cloud-based surveillance
- ▶ 1080P Image WiFi transfer and recorder
- ▶ Outdoor use, water proof IP 54
- ▶ 1080P Image WiFi transfer & recorder
- ▶ High Luminous Flux 1000lm Spot LED lighting
- ▶ Easy control by smart phone APPs for panel light & spot light
- ▶ Real-time streaming in panoramic view and two way communication
- ▶ NB-IoT & edge computing tech possible

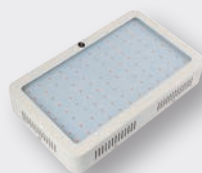
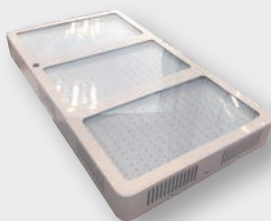
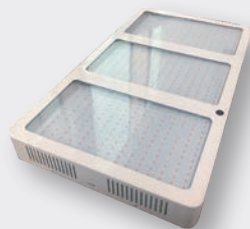
*OPTIONAL SPECIFICATIONS :*  
*PM 2.5/Temperature/Humidity Detection/  
 Smoke Detection*

# IoT PLANT GROW LIGHT+CAM



IoT(物聯網)植物生長燈

型號 AO1014 - 0210 - 01



## | APPLICATIONS 產品應用

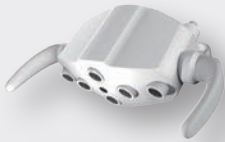
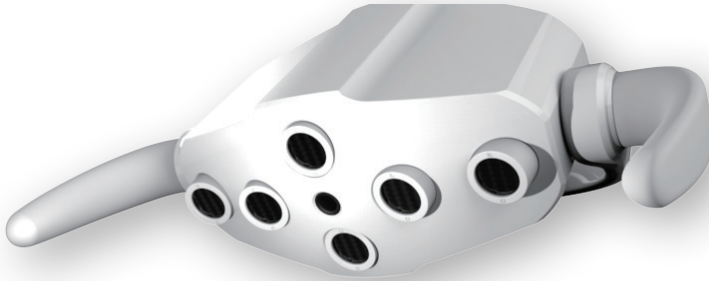
- ▶ IoT solution
- ▶ Plant grow for special spectrum

## | SPECIFICATIONS 產品規格

- ▶ Power Consumption: 600W/300W
- ▶ Spectrum: 380nm~840nm
- ▶ Beam Angle: 120°
- ▶ Camera resolution:1080p@30fps
- ▶ Rate: 5-30 fps
- ▶ Field of View: 140°
- ▶ Smart phone APPs control.

# DENTIST LIGHT+CAM

牙醫錄影燈及智能相機  
型號 AO1014 - 0210 - 01



## | APPLICATIONS 產品應用

- ▶ Medical monitor & smart lighting

## | SPECIFICATIONS 產品規格

- ▶ Module Size: L60xH105xW42.2 ±0.2mm
- ▶ Camera Resolution: 1080P 30fps
- ▶ Lens: 4 Glass
- ▶ Camera FOV: 140°
- ▶ Smart Phone APPs control
- ▶ WiFi Solution: IEEE802/11n \ IEEE802.11g \ IEEE802.11b

# 360 DEGREES MARINE CAMERA

360 度水下相機

型號 AO1023-0301-01



## | APPLICATIONS 產品應用

- ▶ Fishing light assistance