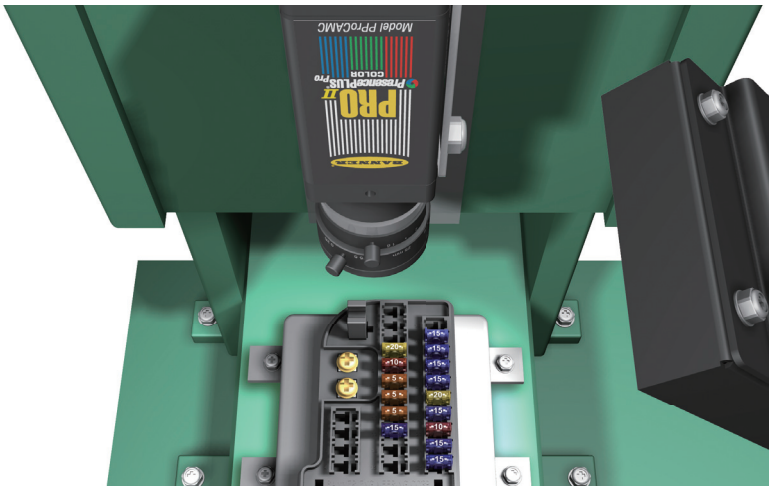
iVu series PresencePLUS®

視覺感測器及視覺專用燈源系列

BANNER®

more sensors, more solutions



汽車保險絲顏色確認

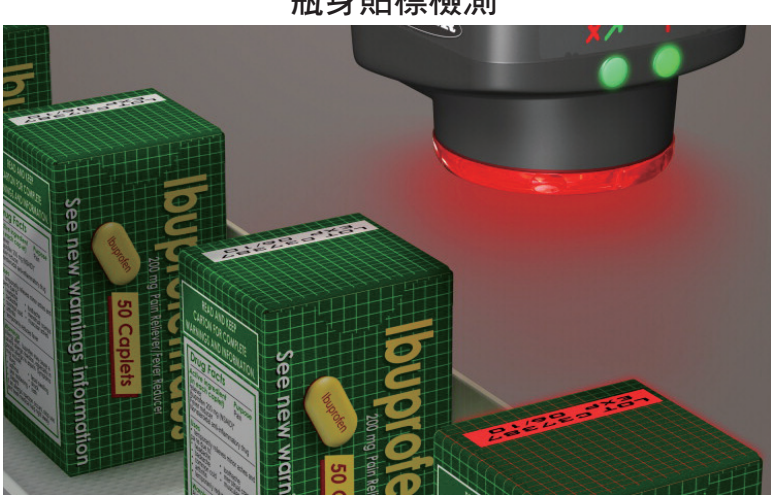
金屬物件上二維條碼讀取

IP68 沖洗環境

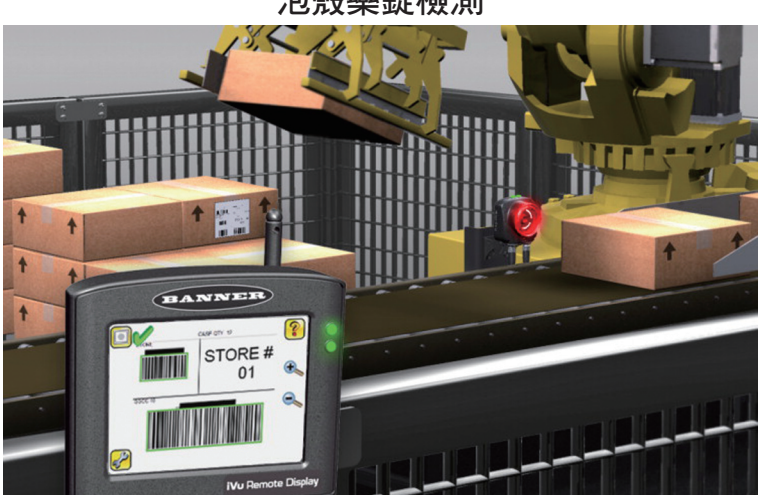
瓶內液位高度檢測

瓶身貼標檢測

泡殼藥錠檢測



製造日期批號打印檢測



貨箱條碼讀取

美商邦納提供完整的視覺檢測解決方案
適合各種產業的多種應用

PresencePLUS
Pro 及 P4 視覺感測器 頁數 3

iVu 影像感測器 頁數 15

視覺專用燈源系列 頁數 21

*Presence*PLUS® *Pro* 及 *P4* 全功能型視覺感測器

- 感測器包含完整的視覺檢測，定位及分析工具
- 適用於多重檢測區域及複雜的應用
- 可加購條碼讀取工具(BCR)，字元讀取/辨識工具(OCR/OCV)及塗膠工具(BEAD)
- 具有 30萬畫素及 130萬畫素灰階及彩色機種
- 具有達到 IP68 防水等級的機種，可使用於水洗或是多塵的環境
- 容易使用的圖形式操作介面，具有九國語言(包括繁體中文)
- 具有乙太，串聯通訊介面及可規畫的I/O接點
- ActiveX 工具可輸出檢測影像及結果
- 可連接外部顯示器即時顯示檢測影像
- 兩件式或是一體式外殼
- 完整的鏡頭，燈源，支架及配件選擇

*Presence*PLUS® *Pro*

- 兩件式設計
- 相機可搭配標準型，迷你型或是IP68 防水等級保護殼
- 具有 30萬畫素及 130萬畫素灰階及彩色機種
- 方便的快拆式端子台(20點)
- 14 點可規畫的數位I/O (NPN/PNP)
- 6 組雙色LED 指示燈

*Presence*PLUS® *P4*

- 一體式設計
- 直線型或是直角型外殼
- 具有標準型或是IP68 防水等級外殼
- 具有 30萬畫素及 130萬畫素灰階及彩色機種
- 7 點可規畫的數位I/O (NPN/PNP)
- 3 組雙色LED 指示燈

視覺操作軟體

- 功能強大，具有多種且完整的視覺及分析工具
- 容易使用，圖形式的操作介面
- 操作介面具有九國語言 – 英文、繁體中文、簡體中文、法文、德文、日文、葡萄牙文及西班牙文
- 統一平台，所有 Pro 及 P4 機種使用同一種操作介面
- 具有乙太，串聯通訊介面及可規畫的I/O
- ActiveX 工具可輸出檢測影像及結果
- 可於邦納網站下載新版軟體及韌體

視覺工具 – 分析影像

平均顏色 (Average Color): 檢測區域內的顏色成份數值

顏色區塊 (Color Blob): 檢測顏色特徵區域是否存在及大小

顏色比對 (Color Match): 檢測顏色是否相符

平均灰階度 (Average Gray Scale): 檢測物件上的灰階度

條碼 (Bar Code): 讀取一維及二維條碼

塗膠 (Bead): 檢測塗膠寬度及斷點

區域偵測 (Blob Detect): 檢測區域是否存在及數量

邊緣 (Edge): 偵測邊緣是否存在，數量及位置

幾何計數 (GEO Count): 偵測目標圖形是否存在及位置

物件 (Object): 偵測物件是否存在，數量，大小及位置

字元辨識/字元確認 (OCR/OCV): 讀取及確認字元

圖形計數 (Pattern Count): 偵測目標圖形是否存在及位置

圓形偵測 (Circle Detect): 偵測圓形或是弧線的半徑中心點

線段偵測 (Line Detect): 偵測線段的長度及端點

定位工具 – 提供位移及旋轉的位置補償

幾何找尋 (Geo Find): 尋找所定義的圖形以完成定位

邊緣定位 (Locate): 偵測邊緣以完成定位

圖形找尋 (Pattern Find): 尋找所定義的圖形以完成定位

區域找尋 (Blob Find): 尋找所定義的區域以完成定位

分析工具 – 測量及評估視覺工具的結果

通訊 (Communication): 利用乙太或是 RS-232 通訊傳輸檢測影像或是結果

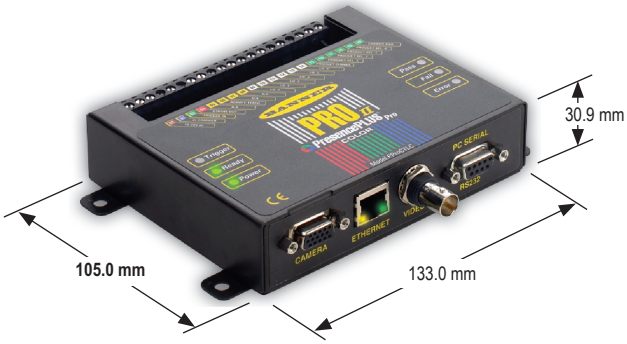
數學 (Math): 執行檢測結果數據或是常數的運算

測量 (Measure): 量測兩點，線段，曲線的距離或是角度

測試 (Test): 選擇視覺或是分析工具，設定上下限，決定檢測的結果為合格或是不合格

字串 (String): 比較 BCR，OCV/OCR 或是常數的字串是否相符

*Presence*PLUS® *Pro* 系列

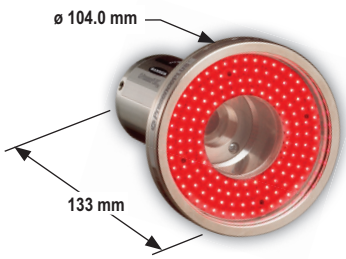


控制器

標準型照相機

迷你型相機

IP68 防水等級保護殼



IP68 防水等級保護殼
(加上專用型環燈)

*Presence*PLUS® *P4* OMNI 全功能系列

IP68 防水等級外殼 - 直角型

直角型

直線型

PROII 控制器，10-30V dc

型號	PPROCTL	PPROCTL1.3	PPROCTLC
解析度	640 x 480 灰階	1280 x 1024 灰階	752 x 480 彩色

—

外掛視覺工具		
BC = Bar Code Reader	**BD** = Bead Tool	**OC** = OCR/OCV
BCBD = Bar Code Reader & Bead Tool		
BCOC = Bar Code Reader & OCR/OCV		
BDOC = Bead Tool & OCR/OCV		
BCBDOC = Bar Code Reader, Bead Tool & OCR/OCV		

	Pro 照相機型號			環燈	鏡片	外殼
	灰階	灰階 1.3	彩色			
	PPROMCAMQ	PPROMCAM1.3Q	PPROMCAMCQ	—	—	Black Anodized Aluminum
	PPROCAMQ	PPROCAM1.3Q	PPROCAMCQ	—	—	Black Anodized Aluminum

	IP68 Pro 照相機型號			環燈	鏡片	外殼
	灰階	灰階 1.3	彩色			
	PPROCAMSC-G	PPROCAM1.3SC-G	PPROCAMCSC-G	50 mm† long Lens Cover (No Light)	Glass	Nickel-plated Aluminum
	PPROCAMSC-P	PPROCAM1.3SC-P	PPROCAMCSC-P		Plastic	
	PPROCAMSSC-G	PPROCAM1.3SSC-G	PPROCAMCSSC-G		Glass	Stainless Steel
	PPROCAMSSC-P	PPROCAM1.3SSC-P	PPROCAMCSSC-P		Plastic	
	PPROCAMSR-G	PPROCAM1.3SR-G	—	Red	Glass	Nickel-plated Aluminum
	PPROCAMSR-P	PPROCAM1.3SR-P			Plastic	
	PPROCAMSSR-G	PPROCAM1.3SSR-G			Glass	Stainless Steel
	PPROCAMSSR-P	PPROCAM1.3SSR-P			Plastic	
	PPROCAMSI-G	PPROCAM1.3SI-G	—	Infrared	Glass	Nickel-plated Aluminum
	PPROCAMSI-P	PPROCAM1.3SI-P			Plastic	
	PPROCAMSSI-G	PPROCAM1.3SSI-G			Glass	Stainless Steel
	PPROCAMSSI-P	PPROCAM1.3SSI-P			Plastic	
	PPROCAMSB-G	PPROCAM1.3SB-G	—	Blue	Glass	Nickel-plated Aluminum
	PPROCAMSB-P	PPROCAM1.3SB-P			Plastic	
	PPROCAMSSB-G	PPROCAM1.3SSB-G			Glass	Stainless Steel
	PPROCAMSSB-P	PPROCAM1.3SSB-P			Plastic	
	PPROCAMSG-G	PPROCAM1.3SG-G	—	Green	Glass	Nickel-plated Aluminum
	PPROCAMSG-P	PPROCAM1.3SG-P			Plastic	
	PPROCAMSSG-G	PPROCAM1.3SSG-G			Glass	Stainless Steel
	PPROCAMSSG-P	PPROCAM1.3SSG-P			Plastic	
	PPROCAMSW-G	PPROCAM1.3SW-G	PPROCAMCSW-G	White	Glass	Nickel-plated Aluminum
	PPROCAMSW-P	PPROCAM1.3SW-P	PPROCAMCSW-P		Plastic	
	PPROCAMSSW-G	PPROCAM1.3SSW-G	PPROCAMCSSW-G		Glass	Stainless Steel
	PPROCAMSSW-P	PPROCAM1.3SSW-P	PPROCAMCSSW-P		Plastic	

P4 OMNI 全功能系列, 10-30V dc

視覺工具		外型	解析度	型號
	OMNI 全功能 灰階	直角型	640 x 480	**P4OR**
		直線型		**P4OI**
		直角型	1280 x 1024	**P4O1.3R**
		直線型		**P4O1.3I**
	OMNI 全功能 彩色	直角型	752 x 480	**P4COR**
		直線型		**P4COI**

—

外掛視覺工具
BC = Bar Code Reader
BD = Bead Tool
OC = OCR/OCV
BCBD = Bar Code Reader & Bead Tool
BCOC = Bar Code Reader & OCR/OCV
BDOC = Bead Tool & OCR/OCV
BCBDOC = Bar Code Reader, Bead Tool & OCR/OCV

防水型 (IP68) *P4* Omni 全功能系列, 10 – 30V dc

視覺工具		外型	解析度	型號
	OMNI 全功能 灰階	直角型	640 x 480	**P4ORS**
	OMNI 全功能 灰階		1280 x 1024	**P4O1.3RS**
	OMNI 全功能 彩色		752 x 482	**P4CORS**

—

外掛視覺工具
BC = Bar Code Reader
BD = Bead Tool
OC = OCR/OCV
BCBD = Bar Code Reader & Bead Tool
BCOC = Bar Code Reader & OCR/OCV
BDOC = Bead Tool & OCR/OCV
BCBDOC = Bar Code Reader, Bead Tool & OCR/OCV

*Presence*PLUS® *P4* OMNI 全功能系列技術規格

Supply Voltage and Current	10 to 30V dc (24V dc ±10% if the sensor powers a light source) **P4OR, P4OI & P4ORS:** less than 650 mA (exclusive of lights and I/O load) **P4O1.3R, P4O1.3I, P4COR, P4COI, P4CORS & P4O1.3RS:** less than 550 mA (exclusive of lights and I/O load)
Memory	32 MB **Inspection (jobs):** 999 max.
Input/Output Configuration	NPN (sinking) or PNP (sourcing) software selectable
Output Rating	150 mA max. each output **OFF-state leakage current:** less than 100 µA **ON-state saturation voltage**: **NPN**—less than 1V @ 150 mA max. **PNP**—greater than V+ -2V
Bicolor Status Indicators	**PASS/FAIL:** Green ON steady—PASS Red ON steady—FAIL **POWER/ERROR:** Green ON steady—POWER Red ON steady—ERROR **READY/TRIGGER:** Green ON steady—READY Yellow ON steady—TRIGGER
Display Options	PC or NTSC video (uses 9 m max. BNC cordset)
Discrete I/O	1 Trigger IN 1 Strobe OUT 4 Programmable I/O 1 Product Change IN 1 Remote TEACH IN
Communications	10/100 Ethernet connection for running *Presence*PLUS *P4* software and/or output inspection results **P4OR, P4OI, P401.3R, P401.3I, P4COR & P4COI:** RJ-45 connector **P4ORS, P401.3RS & P4CORS:** 8-pin M12/Euro-style (female) connector RS-232 connection for output of inspection results
Imager Resolution	**P4OR, P4OI & P4ORS:** 640 x 480 pixels **P4O1.3R, P4O1.3I & P4O1.3RS:** 1280 x 1024 pixels **P4COR, P4COI & P4CORS:** 752 x 480 pixels

接下頁

*Presence*PLUS® *P4* OMNI 全功能系列技術規格

Pixel Size	**P4OR, P4OI, P4COR, P4COI & P4ORS:** 7.4 x 7.4 µm **P4O1.3R, P4O1.3I & P4O1.3RS:** 6.7 x 6.7 µm **P4CORS**: 6.0 X 6.0 µm
Imager Size	**P4OR, P4OI & P4ORS:** 4.8 x 3.6 mm, 5.9 mm diagonal (1/3 inch CCD) **P4O1.3R, P4O1.3I & P4O1.3RS:** 8.6 x 6.9 mm, 11 mm diagonal (2/3 inch CMOS) **P4COR, P4COI & P4CORS:** 4.5 x 2.9 mm, 5.4 mm diagonal (1/3 inch CMOS)
Levels of Gray Scale or Color	**P4OR, P4OI, P4O1.3R, P4O1.3I, P4ORS & P4O1.3RS:** 256 Gray Scale **P4COR, P4COI & P4CORS:**256 Red, Green and Blue
Exposure Time	**P4OR, P4OI & P4ORS:** 0.1 to 2830 milliseconds **P4O1.3R, P4O1.3I & P4O1.3RS:** 0.1 to 1670 milliseconds **P4COR, P4COI & P4CORS:** 0.1 to 1000 milliseconds
Full Image Acquisition	**P4OR, P4OI & P4ORS:** 48 frames per second max. **P4O1.3R, P4O1.3I & P4O1.3RS:** 26.8 frames per second max. **P4COR, P4COI & P4CORS:** 17 frames per second max.
Lens Mount	Standard C-mount (1 inch—32 UN)
Construction	**P4OR, P4OI, P4O1.3R, P4O1.3I, P4COR & P4COI:** Black anodized aluminum housing, glass lens **P4ORS, P4O1.3RS & P4CORS:** Die-cast nickel-plated aluminum housing, glass or acrylic window
Weight	**P4OI, P4O1.3I & P4COI:** 293 g **P4OR, P4O1.3R & P4COR:** 385 g **P4ORS, P4O1.3RS & P4CORS:** 430 g
Environmental Rating	**P4OR, P4OI, P4O1.3R, P4O1.3I, P4COR & P4COI:** IEC IP20; NEMA 1 **P4ORS, P4O1.3RS & P4CORS:** IEC IP68
Operating Conditions	**Stable ambient temperature:** 0° to +50° C **Stable ambient lighting:** No large, quick changes in light level; no direct or reflected sunlight **Relative humidity:** **P4OR, P4OI, P4O1.3R, P4O1.3I, P4COR & P4COI:** 35-90% (non-condensing)
Certifications	CE
Hookup Diagrams	**NPN:** VS09 **PNP:** VS10

*Presence*PLUS® *Pro*—PROII 控制器技術規格

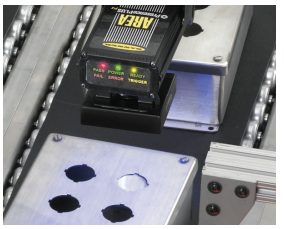
Supply Voltage and Current	**PPROCTL:** 10 to 30V dc @ less than 1.5 A (exclusive of load) **PPROCTL1.3 & PPROCTLC:** 10 to 30V dc @ less than 1.2 A (exclusive of load)
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Memory	**Storage:** 64 MB **Inspections (jobs):** 999 max.
Input/Output Configuration	NPN (sinking) or PNP (sourcing) software selectable
Output Rating	150 mA max. each output **OFF-state leakage current:** less than 100 µA **ON-state saturation voltage: NPN**—less than 1V @ 150 mA **PNP**—greater than V+ -2V
Input Specifications	**NPN: ON**—less than 3V **OFF-state voltage**—greater than 10V @ 4 mA max **PNP: ON**—greater than (+V -2)V @ 1 mA max. **OFF-state voltage**—less than 3V @ 6 mA max.
Indicators	**6 LED indicators:** Trigger, Ready, Power, Pass, Fail, Error
Display Options	PC or NTSC video (uses 9 m max. BNC cordset)
Discrete I/O	1 Trigger IN (pin 3), 1 Strobe OUT (pin 4), 1 Remote TEACH IN (pin 6), 6 Programmable I/O (pins 9-14), 1 Product Change IN (pin 15), 4 Product Select IN (pins 16-19)
Communications	1 RJ-45 10/100 Ethernet connection for running *Presence*PLUS *Pro* software and/or output inspection results 1 RS-232 DB-9 port for output of inspection results
Construction	Steel with black zinc plating
Weight	Approx. 0.55 kg
Environmental Rating	IEC IP20; NEMA 1
Operating Conditions	**Stable Ambient Temperature:** 0° to +50° C **Relative Humidity:** 90% (non-condensing) **Stable Ambient Lighting:** No large, quick changes in light level; no direct or reflected sunlight
Certifications	CE

*Presence*PLUS® PROII 照相機技術規格

Image Resolution	**PPROCAMQ & PPROCAMS(S):** 640 x 480 pixels **PPROMCAMQ, PPROMCAMCQ, PPROCAMCQ & PPROCAMCS(S):** 752 x 480 pixels **PPROMCAM1.3Q, PPROCAM1.3Q & PPROCAM1.3S(S):** 1280 x 1024 pixels
Pixel Size	**PPROCAMQ & PPROCAMS(S):** 7.4 x 7.4 µm **PPROMCAMQ, PPROMCAMCQ, PPROCAMCQ & PPROCAMCS(S):** 6.0 x 6.0 µm **PPROMCAM1.3Q, PPROCAM1.3Q & PPROCAM1.3S(S):** 6.7 x 6.7 µm
Imager Size	**PPROCAMQ & PPROCAMS(S):** 4.8 x 3.6 mm, 6 mm diagonal (1/3 inch CCD) **PPROMCAMQ, PPROMCAMCQ, PPROCAMCQ & PPROCAMCS(S):** 4.5 x 2.9 mm, 5.4 mm diagonal (1/3 inch CMOS) **PPROMCAM1.3Q, PPROCAM1.3Q & PPROCAM1.3S(S):** 8.6 x 6.9 mm. 11 mm diagonal (2/3 inch CMOS)
Levels of Gray Scale or Color	**PPROMCAMQ, PPROCAMQ, PPROMCAM1.3Q, PPROCAM1.3Q, PPROCAMS(S) & PPROCAM1.3S(S):** 256 Gray Scale **PPROMCAMCQ, PPROCAMCQ & PPROCAMCS(S):** 256 Red, Green and Blue
Exposure Time	**PPROCAMQ & PPROCAMS(S):** 0.10 to 2830 milliseconds **PPROMCAMQ, PPROMCAMCQ, PPROCAMCQ & PPROCAMCS(S):** 0.10 to 1040 milliseconds **PPROMCAM1.3Q, PPROCAM1.3Q & PPROCAM1.3S(S):** 0.10 to 1670 milliseconds
Full Image Acquisition*	**PPROMCAMQ, PPROCAMQ & PPROCAMS(S):** 48 frames per second **PPROMCAMCQ:** 55 frames per second max. **PPROCAMCQ & PPROCAMCS(S):** 17 frames per second max. **PPROMCAM1.3Q, PPROCAM1.3Q & PPROCAM1.3S(S):** 18 frames per second max.
Interface	LVDS
Lens Mount	Standard C-mount (1 inch—32UN)
Construction	**PPROMCAMQ, PPROCAMQ, PPROMCAM1.3Q, PPROCAM1.3Q, PPROMCAMCQ & PPROCAMCQ:** black anodized aluminum and black painted die cast zinc **PPROCAMS, PPROCAM1.3S & PPROCAMCS:** nickel-plated aluminum (Lens covers and ring lights are nickel-plated aluminum with glass or polycarbonate window) **PPROCAMSS, PPROCAM1.3SS & PPROCAMCSS:** 316 stainless steel (Lens covers and ring lights are stainless steel with glass or polycarbonate window)
Max. Cordset Length	10 m
Weight	**PPROMCAMQ, PPROMCAM1.3Q & PPROMCAMCQ:** approx. 96 g **PPROCAMQ. PPROCAM1.3Q & PPROCAMCQ:** approx. 113 g **PPROCAMS, PPROCAM1.3S & PPROCAMCS:** **Camera only**—approx. 288 g **Camera with cover**—approx. 348 g **Camera with ring light**—approx. 585 g **PPROCAMSS, PPROCAM1.3SS & PPROCAMCSS:** **Camera only**—723 g **Camera with cover**—904 g **Camera with ring light**—1480 g
Environmental Rating	**PPROMCAMQ, PPROCAMQ, PPROMCAM1.3Q, PPROCAM1.3Q, PPROMCAMCQ & PPROCAMCQ:** IEC IP20; NEMA 1 **PPROCAMS, PPROCAM1.3S & PPROCAMCS:** IEC IP68; NEMA 6P **PPROCAMSS, PPROCAM1.3SS & PPROCAMCSS:** IEC IP68; NEMA 6P and NEMA 4X
Outside Temperature	0° to +50° C
Relative Humidity	**PPROMCAMQ, PPROCAMQ, PPROMCAM1.3Q, PPROCAM1.3Q, PPROMCAMCQ & PPROCAMCQ:** 90% (non-condensing)
Certifications	CE
Hookup Diagrams	**NPN:** VS07 **PNP:** VS08

*Presence*PLUS® *P4*
單功能型視覺感測器

- 感測器包含對應功能的視覺檢測，定位及分析工具
- 適用於多重檢測區域及複雜的應用
- 具有 1.3萬畫素及 130萬畫素灰階機種
- 容易使用的圖形式操作介面，具有九國語言(包括繁體中文)
- 具有乙太，串聯通訊介面及可規畫的I/O
- ActiveX 工具可輸出檢測影像及結果
- 可連接外部顯示器即時顯示檢測影像
- 完整的鏡頭，燈源，支架及配件選擇

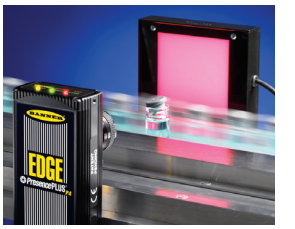


***Presence*PLUS® *P4* AREA-區域**

- 具有區域及平均灰階度工具
- 用來尋找物件特徵及計數

***Presence*PLUS® *P4* GEO-幾何**

- 具有幾何工具
- 用來做物件圖形比對



***Presence*PLUS® *P4* EDGE-邊緣**

- 具有邊緣及物件工具
- 用來偵測物件邊緣，可以量測物件尺寸

***Presence*PLUS® *P4* BCR-條碼讀取**

- 具有條碼讀取工具
- 可讀取一維及二維條碼

直線型

直角型

P4 單功能系列, 10 – 30V dc

	視覺工具	外型	解析度	型號
	AREA 區域	直角型	128 x 100	**P4AR**
		直線型		**P4AI**
		直角型	1280 x 1024	**P4A1.3R**
		直線型		**P4A1.3I**
	GEO 幾合	直角型	128 x 100	**P4GR**
		直線型		**P4GI**
		直角型	1280 x 1024	**P4G1.3R**
		直線型		**P4G1.3I**
	EDGE 邊緣	直角型	128 x 100	**P4ER**
		直線型		**P4EI**
		直角型	1280 x 1024	**P4E1.3R**
		直線型		**P4E1.3I**
	BCR 條碼讀取	直角型	640 x 480	**P4BCR**
		直線型		**P4BCI**
		直角型	1280 x 1024	**P4BC1.3R**
		直線型		**P4BC1.3I**

*Presence*PLUS® *P4* 單功能系列技術規格

Supply Voltage and Current	10 to 30V dc (24V dc ±10% if the sensor powers a light source) **BCR:** less than 650 mA (exclusive of lights and I/O load) **AREA, GEO & EDGE:** less than 500 mA (exclusive of lights and I/O load) **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** less than 550 mA (exclusive of lights and I/O load)
Memory	**Storage: AREA, GEO, EDGE & BCR**—8 MB **Inspection (jobs):** 999 max. **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3**—32 MB **Inspection (jobs)**: 999 max.
Input/Output Configuration	NPN (sinking) or PNP (sourcing) software selectable
Output Rating	150 mA max. each output **OFF-state leakage current:** less than 100 µA **ON-state saturation voltage**: **NPN**—less than 1V @ 150 mA max. **PNP**—greater than V+ -2V
Bicolor Status Indicators	**PASS/FAIL:** Green ON steady—PASS Red ON steady—FAIL **POWER/ERROR:** Green ON steady—POWER Red ON steady—ERROR **READY/TRIGGER:** Green ON steady—READY Yellow ON steady—TRIGGER
Display Options	PC or NTSC video (uses 9 m max. BNC cordset)
Discrete I/O	1 Trigger IN 1 Strobe OUT 4 Programmable I/O 1 Product Change IN 1 Remote TEACH IN
Communications	1 RJ-45 10/100 Ethernet connection for running *Presence*PLUS *P4* software and/or output inspection results RS-232 connection for output of inspection results
Imager Resolution	**BCR:** 640 x 480 pixels **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** 1280 x 1024 pixels **AREA, GEO & EDGE:** 128 x 100 pixels
Pixel Size	**BCR:** 7.4 x 7.4 µm **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** 6.7 x 6.7 µm **AREA, GEO & EDGE:** 20 x 20 µm

接下頁

*Presence*PLUS® *P4* 單功能系列技術規格

Imager Size	**BCR:** 4.8 x 3.6 mm, 6 mm diagonal (1/3 inch CCD) **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** 8.6 x 6.9 mm, 11 mm diagonal (2/3 inch CMOS) **AREA, GEO & EDGE:** 2.6 x 2.0 mm, 3.3 mm diagonal (1/5 inch CMOS)
Levels of Gray	256 Gray Scale
Exposure Time	**BCR:** 0.1 to 2830 milliseconds **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** 0.1 to 1670 milliseconds **AREA, GEO & EDGE:** 0.1 to 20.47 milliseconds
Full Image Acquisition	**BCR:** 48 frames per second max.* **AREA, GEO & EDGE:** 500 frames per second max. **AREA 1.3, GEO 1.3, EDGE 1.3 & BCR 1.3:** 27 frames per second max.*
Lens Mount	Standard C-mount (1 inch—32 UN)
Construction	Black anodized aluminum housing, glass lens
Weight	**In-line:** 293 g **Right-angle:** 385 g
Environmental Rating	IEC IP20; NEMA 1
Operating Temperature	**Stable ambient temperature:** 0° to +50° C **Stable ambient lighting:** No large, quick changes in light level; no direct or reflected sunlight **Relative humidity:** 90% (non-condensing)
Certifications	CE
Hookup Diagrams	**NPN:** VS09 **NPN:** VS10

*Presence*PLUS Pro & *P4* 連接線

Pro 照相機到控制器

	12-Pin Euro QD to DB15	
	直線型	直角型
1.83 m	PPC06SHF	PPC06SRAHF
3.96 m	PPC13SHF	PPC13SRAHF
7.01 m	PPC23SHF	PPC23SRAHF
9.75 m	PPC32SHF	PPC32SRAHF

P4 電源線

	12-Pin QD
	直線型
1.83 m	P4C06
7.01 m	P4C23
9.75 m	P4C32
15.2 m	P4C50
22.9 m	P4C75
34.0 m	P4C110

防水型 P4 電源線

	12-Pin Euro QD
	直線型
1.83 m	MQDC2S-1206
5.57 m	MQDC2S-1215
9.14 m	MQDC2S-1230
15.2 m	MQDC2S-1250
22.9 m	MQDC2S-1275

Pro & P4 影像

	BNC to BNC
	直線型
1.83 m	BNC06
5.57 m	BNC06
9.14 m	BNC30
14.6 m	BNC48

Pro & P4 乙太通訊線

	RJ45 to RJ45	
	Shielded	Shielded Crossover
2.13 m	STP07	STPX07
7.62 m	STP25	STPX25
15.2 m	STP50	STPX50
22.9 m	STP75	STPX75

防水型 P4 乙太通訊線

	RJ45 to 8-Pin Euro QD
1.83 m	STP-MAQDC-806
4.57 m	STP-MAQDC-815
9.14 m	STP-MAQDC-830

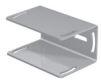
Pro 串列通訊線

	DB9 to DB9
1.83 m	DB9P06
4.57 m	DB9P15
9.14 m	DB9P30

防水型 P4 影像

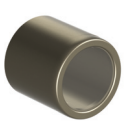
	Pico QD to BNC
2.00 m	PKG4M-2/CS
5.00 m	PKG4M-5/CS
9.00 m	PKG4M-9/CS

支架

Pro 控制器		Pro 照相機		
				
SMBPPDH	SMBPPDE	SMBPPLU	SMBPPRA	SMBPPU

Pro mini 照相機	防水型 Pro 照相機	P4		防水型 P4
SMBPPROMRA	**SMBPPSU**	**SMBP4RAB**	**SMBP4RAS**	**SMBP4SRAF**

鏡頭保護蓋

防水型 Pro & P4 鏡頭保護蓋				
長度			適用於	型號
	50 mm	Nickel-plated aluminum	*P4*	**P4SLC50-G**
				P4SLC50-P
			Pro	**PPSLC50-G**
				PPSLC50-P
	75 mm		*Pro & P4*	**PPSLC75-G**
				PPSLC75-P
	50 mm	Stainless Steel	*Pro*	**PPSSLC50-G**
				PPSSLC50-P

監視器

敘述		型號
	9" Black and White NTSC Video Monitor	**PPM9**
	8" Flat Panel NTSC Video Monitor	**PPM8**

安裝支架

敘述	
	• 3" and 6" column, base and knuckle kits for positioning of sensor and lights • Bogen arm with clamp for added flexibility in mounting • 2" pivoting knuckle assembly for positioning spot light

保護外殼

敘述	
	• Offers models for sensors and lights • Provides protection in rugged or harsh environments • Prevents tampering

C-Mount 鏡頭配件

	敘述	影像晶片尺寸	型號	適用感測器型號
	Extension Kit (0.5, 1.0 , 5.0, 10, 20 and 40 mm)	—	**LEK**	All Lenses
	Extension Kit (0.25 and 0.5 mm)		**LEKS**	
	Lens Extender (increases focal length 2X)		**LCF2X**	
	UV Lens Filter, Clear Glass	2/3"	**FLTUV**	Tamron Megapixel Lenses

*Presence*PLUS® 標準鏡頭

敘述	影像晶片尺寸	型號	適用感測器型號
4 mm	1/3"	LCF04	All (except 1.3 megapixel models)
8 mm		LCF08	
12 mm with Focus Locking		LCF12	
16 mm with Focus Locking		LCF16	
25 mm with Focus Locking (Rainbow)	1"	LCF25R	
25 mm with Focus and Aperture Locking, Metal Housing (Rainbow)		LCF25LR	
50 mm with Focus and Aperture Locking (Rainbow)	2/3"	LCF50L1R	
50 mm with Focus Locking, Metal Housing (Rainbow)	1"	LCF50L2R	
75 mm with Focus and Aperture Locking, Metal Housing (Rainbow)		LCF75LR	

*Presence*PLUS® 特殊鏡頭

敘述	影像晶片尺寸	型號	適用感測器型號
3.5 mm with Focus and Aperture Locking (Kowa)	1/2"	LCF03LT	All (except 1.3 megapixel models)
6 mm with Focus and Aperture Locking (Kowa)		LCF06LK	
10 – 40 mm with Zoom, and Focus and Aperture Locking (Tamron)		LCF1040LT	
50 mm Telecentric (Navitar)	2/3"	LCF50TELN	

*Presence*PLUS® 百萬畫素鏡頭 (具有焦距及光圈鎖定)

敘述	影像晶片尺寸	型號	適用感測器型號
8 mm (Tamron)	2/3"	LCF08LTMP	All
16 mm (Tamron)		LCF16LTMP	
25 mm (Tamron)		LCF25LTMP	
50 mm (Tamron)		LCF50LTMP	
16 mm (Pentax)	2/3"	LCF16LMP	
25 mm (Pentax)		LCF25LMP	
35 mm (Pentax)		LCF35LMP	
50 mm (Pentax)		LCF50LMP	
5 mm (Computar)	1/2"	LCF05LCMP	
8 mm (Computar)	2/3"	LCF08LMP	
12 mm (Computar)		LCF12LMP	
16 mm (Computar)		LCF16LCMP	
25 mm (Computar)		LCF25LCMP	
35 mm (Computar)		LCF35LCMP	
50 mm (Computar)		LCF50LCMP	
75 mm (Computar)		LCF75LCMP	
8.5 mm (Edmund Optics)	2/3"	LCF08LEMP	
12 mm (Edmund Optics)		LCF12LEMP	
16 mm (Edmund Optics)		LCF16LEMP	
25 mm (Edmund Optics)		LCF25LEMP	
35 mm (Edmund Optics)		LCF35LEMP	

iVu 影像感測器

市面上第一隻具有觸控螢幕且高性能的影像感測器

- 多種檢測模式且功能強大，適合多種產業及應用:
  - 貼標檢測
  - 日期/批號打印檢測
  - 藥品泡殼檢測
  - 衝孔檢測
  - 物件分類
  - 包裝確認
  - 藥瓶塞蓋檢測
  - 射出模具檢測
  - 郵件檢測
  - 一維及二維條碼讀取
- 容易使用，不需太多的教育訓練即可上手
- 使用內建的觸控螢幕操作感測器及完成檢測程式的設定，不需要使用電腦
- 具有 RS-232 及乙太*連線能力
- 可儲存多組檢測程式*
- 可在電腦使用模擬器軟體以執行/修改檢測程式

*功能視機種而定

不需要電腦

- Built-in or remote touch screen
- Self-contained sensor with easy configuration and convenient monitoring right on the sensor

設定簡便

1. Install and connect the sensor
2. Select the sensor or bar code type, depending on model
3. Acquire a good image
4. Set inspection parameters

直覺式的操作

- Define region of interest
- Adjust intensity/contrast
- Define the pass criteria

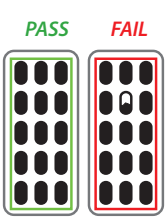
iVu & iVu Plus 影像檢測系列

• 多種檢測模式　　• 檢測物件的種類、大小、方向及形狀

圖形比對工具可設定比對百分比及旋轉範圍，用來比對被測物的圖形是否相符

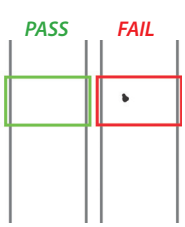
圖形比對工具 - Match

區域計數工具可設定區域面積尺寸及灰階度，用來偵測特定區域或是特徵是否存在於被測物上



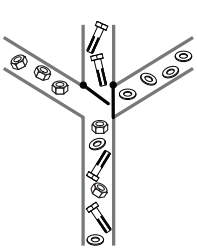
區域計數工具 - Area

邊緣檢測工具可設定邊緣敏感度及長度，用來偵測瑕疵或是特徵是否存在於被測物上

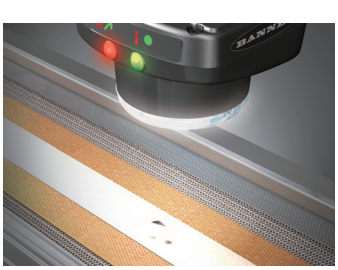


邊緣檢測工具 - Blemish

圖形分類工具可教導十種圖形及設定比對百分比，用來做物件圖形的分類



圖形分類工具* - Sort



iVu & iVu Plus 條碼讀取系列 (BCR)

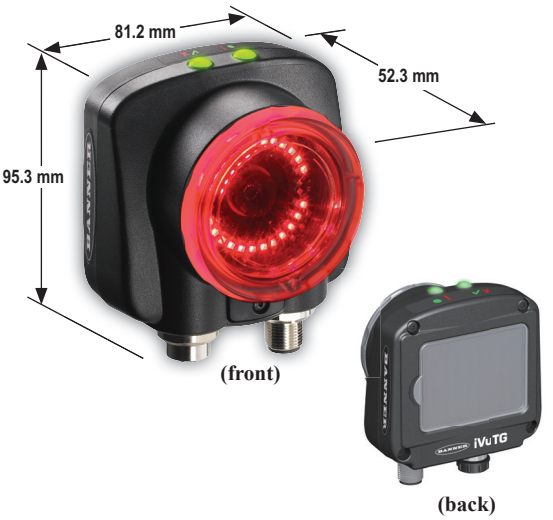
可讀取市面上常見的一維及二維條碼

2D Bar Codes
Data Matrix

1D Bar Codes
Code 128
Code 39
Codabar
Interleaved 2 of 5
EAN-13 (UPC-A)
EAN-8
UPCE
IMB
Postnet
Pharmacode

- 可透過 RS-232 或是乙太*通訊輸出讀取資料
- 可設定線上比對

iVu & iVu Plus 外觀及尺寸圖



整合式螢幕

分離式螢幕

iVu 系列型號選擇，10 – 30 Vdc

感測器類型: IVU TG

- TG ： 整合式螢幕
- RG ： 分離式螢幕
- TB ： BCR 整合式螢幕
- RB ： BCR 分離式螢幕

I/O: N

- N = NPN
- P = PNP

內建環燈顏色: R

- R ： 紅色
- B ： 藍色
- G ： 綠色
- I ： 紅外線
- W ： 白色
- X ： 無燈源

鏡頭尺寸: 04

- 04 = 4.3 mm
- 06 = 6 mm
- 08 = 8 mm
- 12 = 12 mm
- 16 = 16 mm
- 25 = 25 mm

iVu Plus 系列型號選擇，10 – 30 Vdc

感測器類型: IVU P TG

- P = Plus

I/O: [ ]

- 空白:NPN/PNP雙模

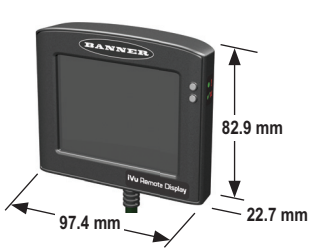
內建環燈顏色: R

- R ： 紅色
- B ： 藍色
- G ： 綠色
- I ： 紅外線
- W ： 白色
- X ： 無燈源

鏡頭尺寸: 04

- 04 = 4.3 mm
- 06 = 6 mm
- 08 = 8 mm
- 12 = 12 mm
- 16 = 16 mm
- 25 = 25 mm

分離式觸控螢幕及連接線



敘述	型號
3.5” 觸控螢幕	RD35
連接線組（含連接線，螢幕固定座，觸控筆）	直線型
1 m	IVURD-MXK-803
2 m	IVURD-MXK-806
5 m	IVURD-MXK-815
9 m	IVURD-MXK-830
16 m	IVURD-MXK-850

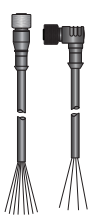
iVu & iVu PLUS 技術規格

General	
Supply Voltage	10-30V dc
Demo Mode	Full tool functionality on canned images
Sensor Lock	Optional password protection
Integrated Ring Light	Red, IR, Green, Blue, White or no integrated ring light
Imager	1/3 inch CMOS 752 x 480 pixels; adjustable Field-of-View (FOV)
Lens Mount	M12 X 1 mm thread; microvideo lens 4.3, 6, 8, 12, 16, 25 mm
Output Rating	150 mA
Exposure Time	0.1 milliseconds to 1.049 seconds
Construction	Black Valox™ sensor housing; acrylic window **iVu Plus Integrated:** Die cast zinc and Black Valox™
External Strobe Output	+ 5V dc
Environmental Rating	IP67
Model Specific	
Power Connection	**iVu TG (integrated touch screen):** 8-pin Euro-style (M12) male connector **iVu TG (remote touch screen) & iVu BCR (integrated and remote touch screen):** 12-pin Euro-style (M12) male connector **iVu Plus TG & iVu Plus BCR (integrated and remote touch screen):** 12-pin Euro-style (M12) male connector Accessory cordset required for operation; QD cordsets are ordered separately. See page 368.
Supply Current	**iVu TG and iVu BCR:** 800 mA max. (exclusive of I/O load) **iVu Plus TG:** 850 mA max. (exclusive of I/O load) **iVu Plus BCR**: 850 mA max. (exclusive of I/O load)
USB 2.0 Host	**iVu TG and iVu BCR (integrated touch screen):** 8-pin Euro-style (M12) female connector **iVu TG and iVu BCR (remote touch screen):** 4-pin Pico-style (M8) female connector **iVu Plus TG and iVu Plus BCR (integrated and remote touch screen):** 4-pin Pico-style (M8) female connector Optional USB cordset required for operation of USB Thumb Drive. QD cordsets are ordered separately. See page 368.
Ethernet Connection	**iVu Plus TG & iVu Plus BCR:** 4-pin Pico-style (M8) male connector. Ethernet cordsets are ordered separately. See page 368.
Output Configuration	**iVu TG & iVu BCR:** NPN or PNP determined by model **iVu Plus TG & iVu Plus BCR:** NPN or PNP, software selectable
Tools	**iVu TG:** Area, Blemish and Match **iVu Plus TG:** Area, Blemish, Match and Sort **iVu BCR and iVu Plus BCR:** Bar Code
Display	**Integrated touch screen:** 68.5 mm (2.7") LCD Color Integrated Display 320 x 240 pixels **Remote touch screen:** See RD35 Remote Display specifications (page 368).
Acquisition	**iVu BCR (integrated touch screen):** 50 fps (frames per second) max. **iVu BCR (remote touch screen):** 50 fps (frames per second) max. **iVu TG (integrated and remote touch screen):** 100 fps (frames per second) max. **iVu Plus TG & iVu Plus BCR (integrated and remote touch screen):** 100 fps (frames per second) max.
Operating conditions	**Stable Ambient Temperature:** **iVu TG & BCR:** 0° to + 50° C **iVu Plus TG (integrated touch screen):** 0° to +50° C **iVu Plus TG (remote touch screen):** 0° to +40° C **iVu Plus BCR (integrated touch screen):** 0° to +50º C **iVu Plus BCR (remote touch screen):** 0° to +40º C
Remote Display connection (Remote Touch Screen Models Only)	8-pin Euro-style (M12) female connector Accessory cordset required for remote display; QD cordsets are ordered separately. See page 368.
Certifications	CE NOTE: iVu Plus remote must use Euro QD power cordset for CE compliance. See page 368.
Hookup Diagrams	**iVu Plus:** **NPN:** VS01 **PNP:** VS02 **iVu (Integrated Touch Screen):** **NPN:** VS05 **PNP:** VS06 **All others:** **NPN:** VS03 **PNP:** VS04

iVu 分離式觸控螢幕技術規格	
Screen Size	3.5" diagonal
LCD Aspect Ratio	4:3
Display Resolution	320 x 240 RGB
Viewing Angle	60 degrees left, and 60 degrees right, 50 degrees up, and 55 degrees down
Housing Material	Polycarbonate
Bracket Material	Delrin
Stylus	Delrin
Display Weight	4.8 oz
Bracket & Stylus Weight	1.1 oz
Connection	Molex HandyLink connector
Operating Temperature	0° to + 50° C

專用連接線

電源，IO連接線			
長度	8-Pin Euro QD 適用於iVu TG系列		12-Pin Euro QD 適用於其它系列
	直線型	直角型	直線型
2 m	MQDC2S-806	MQDC2S-806RA	MQDC2S-1206
5 m	MQDC2S-815	MQDC2S-815RA	MQDC2S-1215
9 m	MQDC2S-830	MQDC2S-830RA	MQDC2S-1230
16 m	MQDC2S-850	MQDC2S-850RA	MQDC2S-1250
23 m	—	—	MQDC2S-1275



乙太連接線	
長度	RJ45 to 4-Pin Pio QD
	直線型
2.00 m	IVUC-E-406
5 .00m	IVUC-E-415
9.00 m	IVUC-E-430
16.00 m	IVUC-E-450
23.00 m	IVUC-E-475

USB 連接線			
長度	8-Pin Euro QD to USB 適用於iVu TG, TB系列		4-Pin Pico QD to USB 適用於其它系列
	直線型	直角型	直線型
0.15 m	MQDEC-8005-USB	MQDEC-8005RA-USB	PSG-4M-4005-USB
0.30 m	MQDEC-801-USB	MQDEC-801RA-USB	PSG-4M-401-USB
0.9 m	MQDEC-803-USB	MQDEC-803RA-USB	PSG-4M-403-USB
3.0 m	MQDEC-810-USB	MQDEC-810RA-USB	PSG-4M-410-USB

支架

iVu 本體				分離式觸控螢幕	
				螢幕固定座	萬向座
SMBIVURAL	SMBIVURAR	SMBIVUB	SMBIVUU	SMBRD35	SMBKS

鏡頭

iVu 鏡頭	
敘述	型號
4.3 mm	LMF04
6 mm	LMF06
8 mm	LMF08
12 mm	LMF12
16 mm	LMF16
25 mm	LMF25

濾鏡

iVu 濾鏡	
敘述	型號
紅色	FLTMR
藍色	FLTMB
綠色	FLTMG
紅外線	FLTMI

對焦環及保護蓋

iVu 對焦環及保護蓋	
敘述	型號
玻璃鏡面對焦環	IVUW-G
塑膠鏡面對焦環	IVUW
螢幕保護蓋	IVUBC

USB 儲存裝置

2 Gb USB Drive	
	型號
	IVU-USBFD2

觸控筆

觸控筆	
	型號
	STYLUS-1 (Qty 1)
	STYLUS-10 (Qty 10)

			62 x 62 & 80 x 80 mm LED 環燈	70 mm 高亮度 LED 環燈	62 x 62 & 80 x 80 mm LED 區域燈	70 mm 高亮度 LED 區域燈		70 x 70 & 85 x 220 mm LED 背燈
顏色（波長）	Red		630 nm	620-630 nm	62 x 62 mm: 630 nm 80 x 80 mm: 660 nm	620-630 nm		660 nm
	White		5500 K	5000-8300 K	5500 K	5000-8300 K		—
	Blue		464 - 475 nm	465-485 nm	62 x 62 mm: 464-475 nm 80 x 80 mm: 470 nm	465-485 nm		—
	Green		520 - 540 nm	520-535 nm	62 x 62 mm: 520-540 nm 80 x 80 mm: 525 nm	520-535 nm		—
	Infrared		940 nm	850 nm	62 x 62 mm: 940 nm 80 x 80 mm: 850 nm	850 nm		940 nm
操作電壓及電流	Operating Voltage		24V dc ± 10%	24V dc ± 10%	24V dc ± 10%	24V dc ± 10%		24V dc ± 10%
	Strobe Voltage		5-24V dc (Active Low)	5-24V dc (Active High or Low)	5-24V dc (Active Low)	5-24V dc (Active High or Low)		5-24V dc (Active Low)
	Current draw at Full Intensity	Infrared	62 x 62 mm: @ 100 mA max 80 x 80 mm: @ 180 mA max	350 mA max	62 x 62 mm: @ 150 mA max 80 x 80 mm: @ 250 mA max	350 mA max		70 x 70 mm: @ 250 mA max 85 x 220 mm: @ 500 mA max
		All others	62 x 62 mm: @ 130 mA max 80 x 80 mm: @ 250 mA max		62 x 62 mm: @ 200 mA max 80 x 80 mm: @ 250 mA max			
硬體	Housing		Steel with black zinc plating	Black anodized aluminum	Steel with black zinc plating	Black Anodized Aluminum	Nickel-plated aluminum or 316 Stainless Steel	Steel with black zinc plating
	Window		Clear Acrylic	Clear Diffused Acrylic	Clear Acrylic	Clear Diffused Acrylic	Clear Acrylic, Clear Glass or Clear Diffused Acrylic	White Acrylic
	Rating		IP20; NEMA 1	IP50; NEMA 2	IP40; NEMA 1	IP50; NEMA 2	IP68; NEMA 4X	IP40; NEMA 1
連接頭類型	Model number suffix	M*	0.3 m 3-pin pigtail Pico QD	0.3 m 3-pin pigtail Pico QD	2 m 3-pin pigtail Pico QD	2 m 3-pin pigtail Pico QD	—	2 m 3-pin pigtail Pico QD
		W or Q*	2 m or 9 m 3-conductor attached cable with flying leads	5-pin 0.15 m pigtail Euro QD	2 m or 9 m 3-conductor attached cable with flying leads	0.15 m 5-pin pigtail Euro QD	5-pin Integral Euro QD	2 m or 9 m 3-conductor attached cable with flying leads
工作壽命 (小時)			20,000	50,000	20,000	50,000		20,000
操作溫度			0° to +50° C	0° to +50° C	0° to +50° C	0° to +50° C		0° to +50° C
有效照明範圍	Minimum (Clear)		—	—	—	10"		—
	Maximum (Clear)		—	—	—	10'		—
	Minimum (Clear Diffuse)		3"	6"	3"	5"		—
	Maximum (Clear Diffuse)		62 mm: 12" 80 mm: 20"	4'	62 mm: 12" 80 mm: 20"	4'		—

	75x150, 150x150, 225x150 & 300x150 mm LED 背燈	145, 290, 435, 580, 870 & 1160 mm LED 直線燈		50 & 100 mm LED 同軸燈	150 mm LED 低角度環燈	LED 聚光燈	高頻管燈
	633 nm	620-630 nm		630 nm	640 nm	627 nm	—
	6500 K	5000-8300 K		5500 K	—	5500 K	4100 K
	469 nm	465-485 nm		470 nm	—	470 nm	—
	525 nm	520-535 nm		530 nm	—	530 nm	—
	850 nm	850 nm		880 nm	880 nm	—	—
	24V dc ± 10%	IP50: 24V dc ± 10% IP68: 24V dc ± 10%		24V dc ± 10%	24V dc ± 10%	10-30V dc	24V dc, 110V ac, 220V ac or 120/277V ac
	5-24V dc (Active High or Low)	5-24V dc (Active High or Low)		5-24V dc (Active Low)	5-24V dc (Active Low)	5-24V dc (Low)	—
	75 x 150 mm: @ 550 mA 150 x 150 mm: @ 1.1 A 225 x 150 mm: @ 1.65 A 300 x 150 mm: @ 2.2 A	145 mm: @ 0.5 A max 290 mm: @ 1 A max 485 mm: @ 1.5 A max 580 mm: @ 2 A max 870 mm: @ 3 A max 1160 mm: @ 4 A max		500 mA max.	350 mA max 500 mA max	10-30V dc @ 360 mA max	120V ac @ 0.15-0.26 A or 277V ac @ 0.07-0.11 A (Depending on bulb size/ wattage)
	Black Valox Plastic	Black Anodized Aluminum	Nickel-plated aluminum or 316 Stainless Steel	Black anodized aluminum	Black anodized aluminum	Black anodized aluminum	Acrylic
	White Acrylic	Clear Acrylic, Clear Glass or Clear Diffused Acrylic		Optical Glass with anti-reflective coating	—	Glass Lens	Clear Acrylic Tube
	IP67, NEMA 6	IP50; NEMA 2	IP68; NEMA 4X	IP40; NEMA 1	IP0; NEMA 0	IP68; NEMA 4X	IP68; NEMA 4X
	—	—		0.6 m 3-pin pigtail Pico QD	2 m 3-pin pigtail Pico QD	2 m 3-pin pigtail Pico QD	—
	5-pin integral Euro QD	5-pin Integral Euro QD		—	2 m or 9 m 3-conductor attached cable with flying leads	2 m or 9 m 3-conductor attached cable with flying leads	2.5 m attached cable (unterminated or wall plug)
	Green, White, Blue: 90,000 Red, Infrared: 100,000	50,000		20,000	20,000	50,000	—
	0º to +50º C	0º to +50º C		0º to +50º C	0º to +50º C	-40º to +50º C	-18 º to +40 º C
	—	9"		—	—	0"	—
	—	20' **		—	—	18"	—
	—	6"		—	—	—	—
	—	7' **		—	—	—	—

環型燈

燈具可固定在 PresencePLUS 視覺感測器上，提供小區域的直接照明

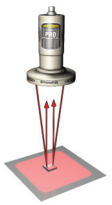
LED環型燈 (IP20), 24V dc

	Pro Models		Pro Mini Camera	P4 Models	
	80 x 80 mm	62 x 62 mm	62 x 62 mm	80 x 80 mm	62 x 62 mm
顏色	2 m			0.3 m Threaded 3-pin Pico Pigtail QD*	
Red	LEDRR80X80W	LEDRR62X62W	LEDRRM62X62W	LEDRR80X80M	LEDRR62X62M
White	LEDWR80X80W	LEDWR62X62W	LEDWRM62X62W	LEDWR80X80M	LEDWR62X62M
Blue	LEDBR80X80W	LEDBR62X62W	LEDBRM62X62W	LEDBR80X80M	LEDBR62X62M
Green	LEDGR80X80W	LEDGR62X62W	LEDGRM62X62W	LEDGR80X80M	LEDGR62X62M
Infrared	LEDIR80X80W	LEDIR62X62W	LEDIRM62X62W	LEDIR80X80M	LEDIR62X62M

高亮度 LED 環型燈 (IP50) 型號, 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	R	70	X	D	5	–	X	M

- 顏色: **B** = Blue, **G** = Green, **I** = Infrared, **R** = Red, **W** = White
- 類型: **R** = Ring Light
- 尺寸: **70** = 70 mm
- 外殼材質: **X** = Not sealed
- 鏡片材質: **D** = Diffused clear plastic
- 亮度調整: **X** = Fixed, **P** = Potentiometer
- 連接頭類型: **Q** = 0.15 m 5-pin Euro Pigtail QD†, **M** = 0.3 m 3-pin Pico Pigtail QD*

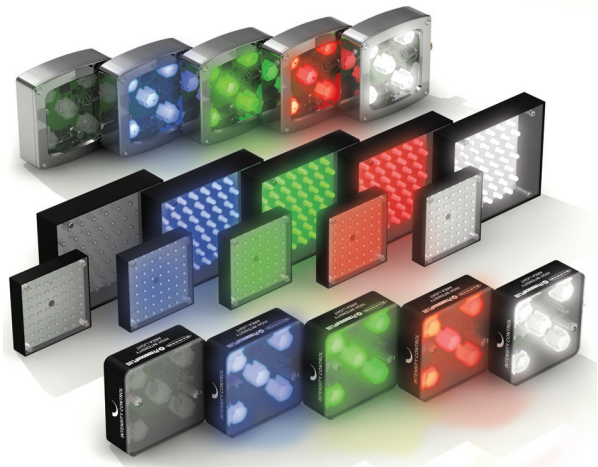


防水型LED環型燈(IP68), 24V dc

顏色	外殼材質	連接頭類型	90 mm Diameter Models†	
			Glass Window	Plastic Window
Red	Nickel-plated Aluminum	3-pin Pico QD	LEDRR90S-G	LEDRR90S-P
	Stainless Steel		LEDRR90SS-G	LEDRR90SS-P
White	Nickel-plated Aluminum		LEDWR90S-G	LEDWR90S-P
	Stainless Steel		LEDWR90SS-G	LEDWR90SS-P
Blue	Nickel-plated Aluminum		LEDBR90S-G	LEDBR90S-P
	Stainless Steel		LEDBR90SS-G	LEDBR90SS-P
Green	Nickel-plated Aluminum		LEDGR90S-G	LEDGR90S-P
	Stainless Steel		LEDGR90SS-G	LEDGR90SS-P
Infrared	Nickel-plated Aluminum		LEDIR90S-G	LEDIR90S-P
	Stainless Steel		LEDIR90SS-G	LEDIR90SS-P

區域燈

對集中的區域提供均勻的照明，可產生陰影或是反光以偵測特定的特徵



高亮度 LED 區域燈 (IP50) 型號, 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	A	70	X	D	5	–	X	M

- 顏色: **B** = Blue; **G** = Green; **I** = Infrared; **R** = Red; **W** = White
- 類型: **A** = Area Light
- 尺寸: **70 mm**
- 外殼材質: **X** = Non-Sealed
- 鏡片材質: **D** = Diffused clear plastic
- 亮度調整: **X** = Fixed; **P** = Potentiometer
- 連接頭類型: **M** = 2 m 3-pin Pico Pigtail QD*; **Q** = 0.15 m 5-pin Euro Pigtail QD†

防水型高亮度 LED 區域燈 (IP68) , 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	A	70	A	D	5	–	X	Q

顏色
- **B** = Blue
- **G** = Green
- **I** = Infrared
- **R** = Red
- **W** = White

類型
- **A** = Area Light

尺寸
- **70 mm**

外殼材質
- **A** = Nickel-plated Aluminum
- **SS** = 316 Stainless Steel

鏡片材質
- **P** = Plastic clear
- **G** = Glass clear
- **D** = Diffused clear plastic

亮度調整
- **X** = Fixed
- **P** = Potentiometer

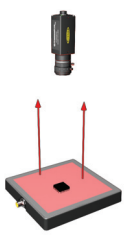
連接頭類型
- **Q** = 5-pin Euro integral QD*

LED 區域燈 (IP40) , 24V dc

顏色	連接頭類型	型號	
		80 x 80 mm	62 x 62 mm
Red	2 m	LEDRA80X80W	LEDRA62X62W
	2 m Threaded 3-pin Pico Pigtail QD	LEDRA80X80M	LEDRA62X62M
White	2 m	LEDWA80X80W	LEDWA62X62W
	2 m Threaded 3-pin Pico Pigtail QD	LEDWA80X80M	LEDWA62X62M
Blue	2 m	LEDBA80X80W	LEDBA62X62W
	2 m Threaded 3-pin Pico Pigtail QD	LEDBA80X80M	LEDBA62X62M
Green	2 m	LEDGA80X80W	LEDGA62X62W
	2 m Threaded 3-pin Pico Pigtail QD	LEDGA80X80M	LEDGA62X62M
Infrared	2 m	LEDIA80X80W	LEDIA62X62W
	2 m Threaded 3-pin Pico Pigtail QD	LEDIA80X80M	LEDIA62X62M

背燈

可提供高明暗對比的影像，適合用來量測物件尺寸或是檢測孔洞有無



防水型 LED 背燈 (IP67) , 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	B	75X150	P	W	2	–	X	Q

- 顏色: **B** = Blue, **G** = Green, **I** = Infrared, **R** = Red, **W** = White
- 類型: **B** = Backlight
- 尺寸: **75 x 150 mm**, **150 x 150 mm**, **225 x 150 mm**, **300 x 150 mm**
- 外殼材質: **P** = Plastic
- 鏡片材質: **W** = White Plastic
- 亮度調整: **X** = Fixed
- 連接頭類型: **Q** = 5-pin Euro integral QD*

LED 背燈 (IP40) , 24V dc

顏色	連接頭類型	型號	
		70 x 70 mm	85 x 220 mm
Red	2 m	LEDRB70X70W	LEDRB85X220W
	2 m Threaded 3-pin Pico Pigtail QD	LEDRB70X70M	LEDRB85X220M
Infrared	2 m	LEDIB70X70W	LEDIB85X220W
	2 m Threaded 3-pin Pico Pigtail QD	LEDIB70X70M	LEDIB85X220M

直線燈

可提供大面積區域均勻的照明，適合大型物件的檢測應用，具有 IP68防水等級外殼可以選擇

高亮度 LED 直線燈 (IP50) 型號, 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	LA	290	X	D	6	–	X	Q

LA = Linear Array

X = Not sealed

Q = 5-pin Euro Integral QD*

B = Blue
G = Green
I = Infrared
R = Red
W = White

145 mm**
290 mm
435 mm
580 mm
870 mm
1160 mm

P = Plastic clear
G = Glass clear
D = Diffused clear plastic

X = Fixed
PL = Pot & Analog wire (Strobe polarity = Low)
PH = Pot & Analog wire (Strobe polarity = High)

防水型高亮度 LED直線燈 (IP68) 型號, 24V dc

燈源	顏色	類型	尺寸	外殼材質	鏡片材質	相對亮度		亮度調整	連接頭類型
LED	R	LA	290	A	D	6	–	X	Q

LA = Linear Array

A = Nickel-plated Aluminum
SS = 316 Stainless Steel

Q = 5-pin Euro Integral QD*

B = Blue
G = Green
I = Infrared
R = Red
W = White

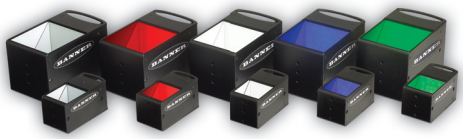
290 mm
435 mm
580 mm

P = Plastic clear
G = Glass clear
D = Diffused clear plastic

X = Fixed

同軸燈

提供與照相機相同軸向的光路，可以使與照相機垂直的反光面呈現亮態，其餘部份呈現暗態

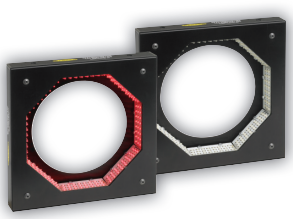


LED 同軸燈 (IP40) , 24V dc

顏色	連接頭類型	型號	
		100 x 100 mm	50 x 50 mm
Red	0.6 m Threaded 3-pin Pico Pigtail QD	LEDRO100M	LEDRO50M
White		LEDWO100M	LEDWO50M
Blue		LEDBO100M	LEDBO50M
Green		LEDGO100M	LEDGO50M
Infrared		LEDIO100M	LEDIO50M

低角度環燈

提供與被測物低角度的照光，可以突顯被測物表面的變化



LED 低角度燈, 24V dc

顏色	連接頭類型	尺寸	型號
Red	2 m	150 mm dia.	LEDRI150-3W
	2 m Threaded 3-pin Pico Pigtail QD		LEDRI150-3M
Infrared	2 m	150 mm dia.	LEDII150-3W
	2 m Threaded 3-pin Pico Pigtail QD		LEDII150-3M

聚光燈

提供小型區域均勻且集中的照明，可產生陰影或是反光
以偵測特定的特徵達到 IP68 防水等級

防水型LED聚光燈(IP68), 10-30V dc

顏色	連接頭類型	型號
		30 mm
Red	2 m	LEDRSW
	2 m Threaded 3-pin Pico Pigtail QD	LEDRSM
White	2 m	LEDWSW
	2 m Threaded 3-pin Pico Pigtail QD	LEDWSM
Blue	2 m	LEDBSW
	2 m Threaded 3-pin Pico Pigtail QD	LEDBSM
Green	2 m	LEDGSW
	2 m Threaded 3-pin Pico Pigtail QD	LEDGSM

高頻管燈

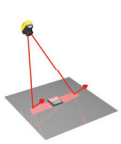
可提供大面積區域均勻且無閃爍的照明，適合大型物件的檢測應用達到 IP67 防水等級

防水型高頻管燈(IP67)

長度	電壓	啟動器	型號	
			White (4100 K)	Black UV (350-400 nm)
8"	24V dc	Integral	HFFW8DC	HFFB8DC
8"	110V ac		HFFW8AC110	HFFB8AC110
8"	230V ac		HFFW8AC230	HFFB8AC230
12"	24V dc		HFFW12DC	HFFB12DC
12"	120 to 277V ac		HFFW12AC	HFFB12AC
14"	24V dc		HFFW14DC	—
15"	110V ac		HFFW15AC110	—
15"	230V ac		HFFW15AC230	—
24"	120 to 277V ac		HFFW24AC	—
36"	120 to 277V ac		HFFW36AC	—
48"	120 to 277V ac		HFFW48AC	—
8"	120 to 277V ac	Remote	HFFW8ACR	HFFB8ACR
12"	120 to 277V ac		HFFW12ACR	HFFB12ACR
15"	120 to 277V ac		HFFW15ACR	—
24"	120 to 277V ac		HFFW24ACR	—
36"	120 to 277V ac		HFFW36ACR	—
48"	120 to 277V ac		HFFW48ACR	—

雷射補助燈

提供高對比度的照明，可檢測被測物高低變化



QS18雷射補助燈, 10-30V dc

敘述	連接頭類型	型號
高亮度水平線(class 2)	2m	QS186LE212

連接線

Euro QD		
長度	Threaded 5-Pin QD	
	Nickel-plated Nut	Stainless Steel Nut
2 m	MQDC20-506	MQDC20SS-506
5 m	MQDC20-515	MQDC20SS-515
9 m	MQDC20-530	MQDC20SS-530

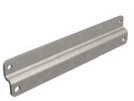
Pico QD		
長度	Threaded 3-Pin QD	
	Nickel-plated Nut	Stainless Steel Nut
4 m	—	PKGV3M-4
5 m	PKG3M-5	—
7 m	PKG3M-7	PKGV3M-7
10 m	PKG3M-10	PKGV3M-10

Pico QD (Double-Ended)	
長度	Threaded 3-Pin QD
0.35m	PKG3M-35-PSG3M
2 m	PKG3M-2-PSG3M

Pico QD Splitter		
長度		Threaded 3-Pin QD
Branches	Trunk	
0.2 m	0.2 m	CSB-M831M831

Pico QD Splitter		
長度		型號
Branches	Branch 1: 3-Pin Pico QD (0.3 m) Branch 2: 5-Pin Euro QD (0.3 m)	CSB-UNT213M831F1241
Trunk	4 m Flying Leads	

支架

區域燈與背燈			直線燈	環燈	同軸燈	
						
SMBBSSM	SMBACM	SMBP42ASM	SMBLASRA	SMBPMPRHI	SMBP4OAL..	SMBPPOAL..

濾鏡

敘述	型號
Infrared (≥ 760 nm) High-pass filter blocks visible light and passes infrared light. Included with all Banner Infrared light sources.	FLTI
Blue (400-525 nm) Band-pass filter improves quality by helping to reduce ambient light; it passes blue and infrared light.	FLTB
Green (400-575 nm) Band-pass filter improves quality by helping to reduce ambient light; it passes green and infrared light.	FLTG
Red (≥ 600 nm) High-pass filter improves quality by helping to reduce ambient light; it passes red and infrared light.	FLTR

偏光濾鏡

敘述	型號
Polarizing filter kit for 80 x 80 Ring Lights	LEDRRPFK
Polarizing filter kit for 62 x 62 Ring Lights	LEDRRPFKS
Polarizing filter kit for 80 x 80 Area Lights and 70 x 70 Backlights	LEDAPFK
Polarizing filter kit for 62 x 62 Area Lights	LEDAPFKS
Polarizing filter kit for Sealed Ring Lights	LEDRPFK90
Kit with a variety of filters, diffusers and window replacements	LEDFLTK
Polarizing filter kit for 290 mm Linear Array Lights (IP68)	LEDLAPFK290S
Polarizing filter kit for 580 mm Linear Array Lights (IP68)	LEDLAPFK580S
Polarizing filter kit for 145 mm Linear Array Lights (IP50)	LEDLAPFK145
Polarizing filter kit for 290 mm Linear Array Lights (IP50)	LEDLAPFK290
Polarizing filter kit for 435 mm Linear Array Lights (IP50)	LEDLAPFK435
Polarizing filter kit for 580 mm Linear Array Lights (IP50)	LEDLAPFK580
Polarizing filter kit for 870 mm Linear Array Lights (IP50)	LEDLAPFK870
Polarizing filter kit for 1160 mm Linear Array Lights (IP50)	LEDLAPFK1160
Polarizing filter kit for 70 mm High-Intensity Area Lights	LEDAPFK70
Polarizing filter kit for 70 mm High-Intensity Ring Lights	LEDRPFK70
Polarizing filter kit for 70 mm IP68 High-Intensity Area Lights	LEDAPFK70S

替換鏡片及柔光片

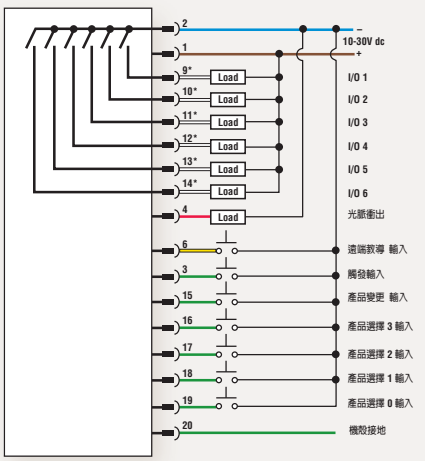
適用燈號型號	型號
Clear Plastic	
62 x 62 mm Ring Lights	**LEDRCWS**
80 x 80 mm Ring Lights	**LEDRCW**
62 x 62 mm Area Lights	**LEDAWS**
80 x 80 mm Area Lights	**LEDAW**
70 mm Sealed High-Intensity Area Lights	**LEDA70SW-P**
145 mm IP50 Linear Array Lights	**LEDLA145XW-P**
290 mm IP50 Linear Array Lights	**LEDLA290XW-P**
290 mm Sealed IP68 Linear Array Lights	**LEDLA290SW-P**
435 mm IP50 Linear Array Lights	**LEDLA435XW-P**
435 mm Sealed IP68 Linear Array Lights	**LEDLA435SW-P**
580 mm IP50 Linear Array Lights	**LEDLA580XW-P**
580 mm Sealed IP68 Linear Array Lights	**LEDLA580SW-P**
870 mm Sealed IP50 Linear Array Lights	**LEDLA870XW-P**
1160 mm IP50 Linear Array Lights	**LEDLA1160XW-P**
Clear Plastic Diffuse	
80 x 80 mm Ring Lights	**LEDRCDW**
62 x 62 mm Right Lights	**LEDRCDWS**
70 mm High-Intensity Ring Lights	**LEDR70CDW**
70 mm High-Intensity Area Lights	**LEDA70CDW**
70 mm Sealed IP68 High-Intensity Area Lights	**LEDA70SCDW-P**
145 mm IP50 Linear Array Lights	**LEDLA145XCDW-P**
290 mm IP50 Linear Array Lights	**LEDLA290XCDW-P**
290 mm Sealed IP68 Linear Array Lights	**LEDLA290SCDW-P**
435 mm IP50 Linear Array Lights	**LEDLA435XCDW-P**
435 mm Sealed IP68 Linear Array Lights	**LEDLA435SCDW-P**
580 mm IP50 Linear Array Lights	**LEDLA580XCDW-P**
580 mm Sealed IP68 Linear Array Lights	**LEDLA580SCDW-P**
870 mm IP50 Linear Array Lights	**LEDLA870XCDW-P**
1160 mm IP50 Linear Array Lights	**LEDLA1160XCDW-P**
Clear Glass	
70 mm Sealed IP68 High-Intensity Area Lights	**LEDA70SW-G**
145 mm IP50 Linear Array Lights	**LEDLA145XW-G**
290 mm IP50 Linear Array Lights	**LEDLA290XW-G**
290 mm Sealed IP68 Linear Array Lights	**LEDLA290SW-G**
435 mm IP50 Linear Array Lights	**LEDLA435XW-G**
435 mm Sealed IP68 Linear Array Lights	**LEDLA435SW-G**
580 mm IP50 Linear Array Lights	**LEDLA580XW-G**
580 mm Sealed IP68 Linear Array Lights	**LEDLA580SW-G**
870 mm IP50 Linear Array Lights	**LEDLA870XW-G**
1160 mm IP50 Linear Array Lights	**LEDLA1160XW-G**

適用燈號型號	型號
White Plastic	
70 x 70 mm Red Backlights	**LEDBW**
70 x 70 mm Infrared Backlights	**LEDBIW**
85 x 220 mm Red Backlights	**LEDBWL**
85 x 220 mm Infrared Backlights	**LEDBIWL**
White Plastic Diffuse	
62 x 62 mm Ring Lights	**LEDRDWS**
80 x 80 mm Ring Lights	**LEDRDW**
62 x 62 mm Area Lights	**LEDADWS**
80 x 80 mm Area Lights	**LEDADW**
70 mm Sealed High-Intensity Area Lights	**LEDA70SWDW-P**
145 mm IP50 Linear Array Lights	**LEDLA145XWDW-P**
290 mm IP50 Linear Array Lights	**LEDLA290XWDW-P**
290 mm Sealed IP68 Linear Array Lights	**LEDLA290SWDW-P**
435 mm IP50 Linear Array Lights	**LEDLA435XWDW-P**
435 mm Sealed IP68 Linear Array Lights	**LEDLA435SWDW-P**
580 mm IP50 Linear Array Lights	**LEDLA580XWDW-P**
580 mm Sealed IP68 Linear Array Lights	**LEDLA580SWDW-P**
870 mm IP50 Linear Array Lights	**LEDLA870XWDW-P**
1160 mm IP50 Linear Array Lights	**LEDLA1160XWDW-P**

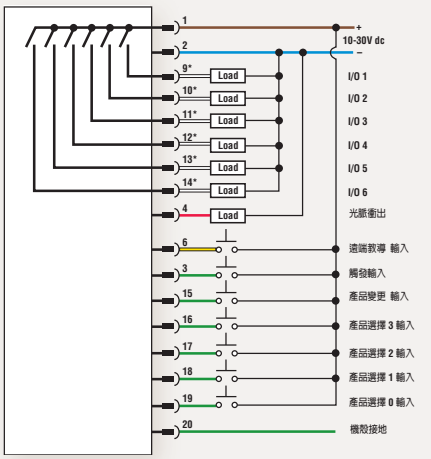
Proll, P4, iVu 連接腳位

Pro 連接圖

NPN 輸出(可為 NPN 輸入)



PNP 輸出(可為 PNP 輸入)



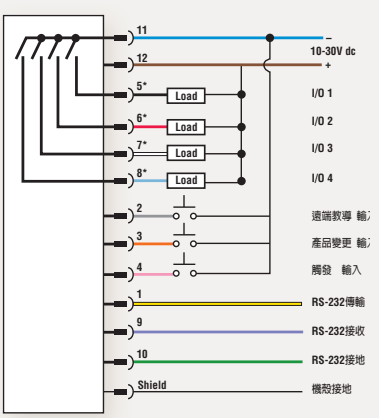
端子台

1 = 棕色
2 = 藍色
3 = 綠色
4 = 紅色
5 = 黃色**
6 = 黃色
7 = 黃色**
8 = 黃色**
9 = 白色*
10 = 白色*
11 = 白色*
12 = 白色*
13 = 白色*
14 = 白色*
15 = 綠色
16 = 綠色
17 = 綠色
18 = 綠色
19 = 綠色
20 = 綠色

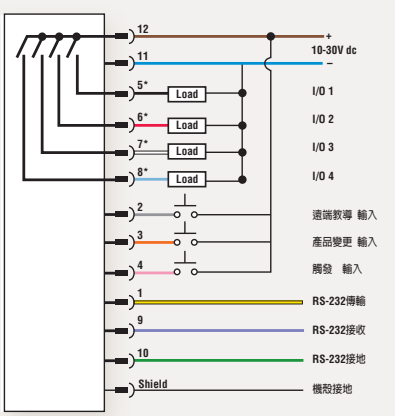
† 輸入可為NPN或PNP
* 可獨立以輸出或輸入組裝
** 未使用

P4 連接圖

NPN 輸出(可為NPN輸入)



PNP 輸出(可為PNP輸入)



端子台

1 = 黃色
2 = 灰色
3 = 橘色
4 = 粉紅色
5 = 黑色*
6 = 紅色*
7 = 白色*
8 = 淡藍色*
9 = 紫色
10 = 綠色
11 = 藍色
12 = 棕色
遮蔽 = 裸露金屬光

† 輸入可為NPN或PNP
* 可獨立以輸出或輸入組裝

iVu 8-pin 連接線

Pin #	Wire Color	Description	Direction
2	Brown	10-30V dc	Input
7	Input	Common (Signal Ground)	Input
6	Pink	External Trigger	Input
5	Gray	Remote Teach	Input
1	White	Pass/Fail	Output
8	Red	Ready	Output
4	Yellow	Strobe Out (5V dc only)	Output
3	Green	Reserved	Output (Do not connect)

iVu 12-pin 連接線

Pin #	Wire Color	Description	Direction
2	Brown	10-30V dc	Input
7	Brown	Common (Signal Ground)	Input
6	Pink	External Trigger	Input
5	Gray	Remote Teach	Input
1	White	Output 1	Output
8	Red	Ready	Output
4	Yellow	Strobe Out (5V dc only)	Output
3	Green	Output 2	Output
9	Orange	Not used	N/A
10	Light Blue	RS-232 TX	Output
11	Black	RS-232 Signal Ground	Output
12	Violet	RS-232 Rx	Input

美商邦納提供全方位的感測器解決方案

關鍵字 美商邦納 搜尋

BANNER®

TWV201106