

GPIO接線圖示說明

Point Grey相機



文件說明

頁2

- * 請依相機型號，來點選頁3的目錄超連結
 - * 建議使用Adobe Reader
- * 如欲詳細GPIO說明，請參考FlyCaptureSDK安裝目錄下對應的相機技術文件 (Technical Reference)
 - * C:\Program Files\Point Grey Research\FlyCapture2\doc\Camera
- * 使用Opto-isolated Output需連接上拉電阻來驅動外部設備 (頁13)

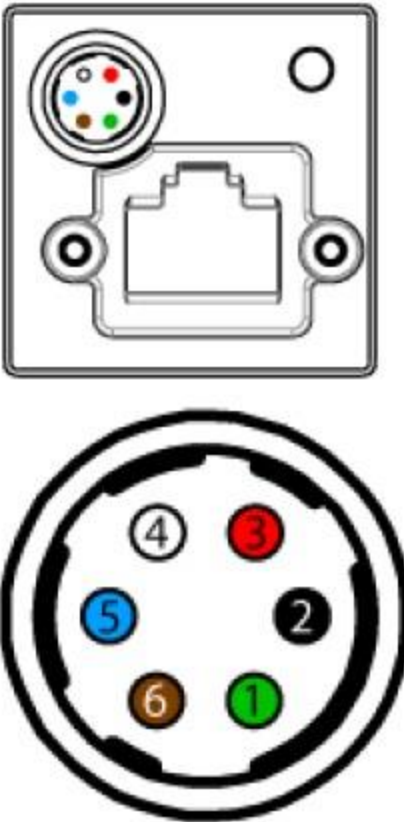
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BFLY

頁4

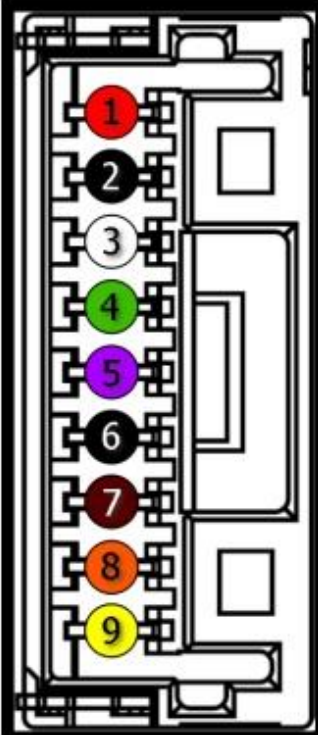
Diagram	Pin	Function	Description
	1	Power	+12 V DC Camera Power
	2	Opto Input 1	Opto-isolated input
	3	NC / +3.3 V	+3.3 V output. Current 120 mA (nominal). Firmware enabled
	4	Opto Output 1	Opto-isolated output *
	5	Opto GND	Ground for opto-isolated I/O, not connected to camera ground
	6	GND	DC camera power ground
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.			

* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



CM3

頁5

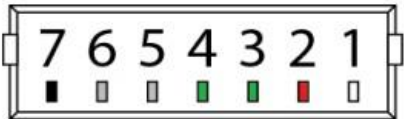
Diagram	Color	Pin	Function	Description
	Red	1	V_{EXT}	Allows the camera to be powered externally 5 - 24 VDC
	Black	2	GND	Ground for Input/Output, V_{EXT} , +3.3 V pins
	White	3	+3.3 V	Power external circuitry fused at 150 mA maximum
	Green	4	GPIO3 / Line3	Input/Output
	Purple	5	GPIO2 / Line2	Input/Output
	Black	6	GND	Ground for Input/Output, V_{EXT} , +3.3 V pins
	Brown	7	OPTO_GND	Ground for opto-isolated IO pins
	Orange	8	OPTO_OUT / Line1	Opto-isolated output*
	Yellow	9	OPTO_IN / Line0	Opto-isolated input
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.				

* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



CMLN/FFMV/FMVU


頁6

Diagram	Pin	Function	Description
	1	V _{EXT}	Allows the camera to be powered externally
	2	+3.3V	Power external circuitry up to a total of 150 mA
	3	IO0	Input/Output (Default Trigger_Scr)
	4	IO1	Input/Output
	5	IO2	Input/Output/RS232 Transmit (TX)
	6	IO3	Input/Output/RS232 Receive (RX)
	7	GND	Ground
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.			



FL2/GRAS


頁7

Diagram	Pin	Function	Description
	1	IO0	Input / Output (default Trigger_Src)
	2	IO1	Input / Output
	3	IO2	Input / Output / RS232 Transmit (TX)
	4	IO3	Input / Output / RS232 Receive (RX)
	5, 6	GND	
	7	Vext	Allows the camera to be powered externally. Voltage limit: 8 to 30V , Current limit: 1A
	8	+3.3V	Power external circuitry up to a total of 50mA
	To configure the GPIO pins, consult the “General Purpose Input / Output” section of the <i>PGR IEEE-1394 Digital Camera Register Reference</i> .		



FL2G/FL3/GS2/GS3/GX/GZL

頁8


Diagram	Pin	Function	Description
	1	IO0	Opto-isolated input (default Trigger in)
	2	IO1	Opto-isolated output*
	3	IO2	Input/Output/serial transmit (TX)
	4	IO3	Input/Output/serial receive (RX)
	5	GND	Ground for bi-directional IO, V_{EXT} , +3.3 V pins
	6	GND	Ground for opto-isolated IO pins
	7	V_{EXT}	Allows the camera to be powered externally
	8	+3.3 V	Power external circuitry up to 150 mA
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.			

* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



ZBR2

頁9

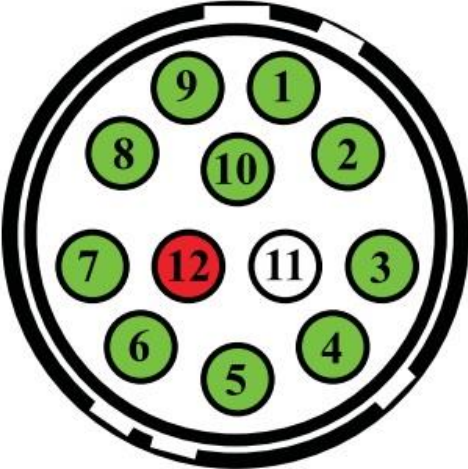
Diagram	Pin	Function	Description
 1 6	1	OPTO IN (IO0)	Opto-isolated input.
	2	OPTO GND	Ground for opto-isolated pins
	3	OPTO OUT (IO2)	Opto-isolated output*
	4	GND	Ground
	5	RS485B	RS-485 Signal (inverting)
	6	RS485A	RS-485 Signal (non-inverting)

* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



BB2/BBX3


頁10

Diagram	Pin	Function	Description
	1	IO0	Input / Output (default Trigger_Src)
	2	IO1	Input / Output
	3	IO2	Input / Output / RS232 Transmit (TX)
	4	IO3	Input / Output / RS232 Receive (RX)
	5	RTS	RS-232 Request to Send
	6	CTS	RS-232 Clear to Send
	7	TX	RS-232 Transmit (Output)
	8	RX	RS-232 Receive (Input)
	9, 10	GND	
	11	V _{EXT}	Voltage limit: 8-30V; Current limit: 1A
	12	+3.3V	Power external circuitry up to a total of 150mA
	To configure the GPIO pins, consult the “General Purpose Input / Output” section of the <i>PGR IEEE-1394 Digital Camera Register Reference</i> .		



Ladybug3

頁11

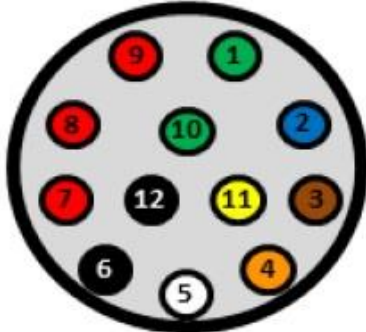
Diagram	Pin	Function	Function
	1	IO0	Opto-isolated Input (default Trigger in) (+3.3 V to +30 V) Input delay time: 4 μ s
	2	IO1	Opto-isolated Output (default Strobe out) * (+3.3 V to +30 V) Drive strength: 25 mA at 30 V
	3	IO2	Input / Output / RS232 Transmit (TX)
	4	IO3	Input / Output / RS232 Receive (RX)
	5	GND	Ground pin for bi-directional IO, Vext, +3.3 V
	6	GND	Ground pin for opto-isolated IO pins
	7	V _{EXT}	Allows the camera to be powered externally
	8	+3.3V	Power external circuitry up to 150mA

* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



Ladybug5

頁12

Diagram	Pin	Function	Description
	1	OPTO_GND	Ground for opto-isolated IO pins
	2	IO	Opto-isolated input (default Trigger in)
	3	O1	Opto-isolated output *
	4	IO2	Input/Output
	5	+3.3 V	Power external circuitry up to 150 mA
	6	GND	Ground for bi-directional IO, V_{EXT} +3.3 V pins
	7	V_{EXT}	Allows the camera to be powered externally
	8	V_{EXT}	Allows the camera to be powered externally
	9	V_{EXT}	Allows the camera to be powered externally
	10	OPTO_GND	Ground for opto-isolated IO pins
	11	IO3	Input/Output
	12	GND	Ground for bi-directional IO, V_{EXT} +3.3 V pins
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.			

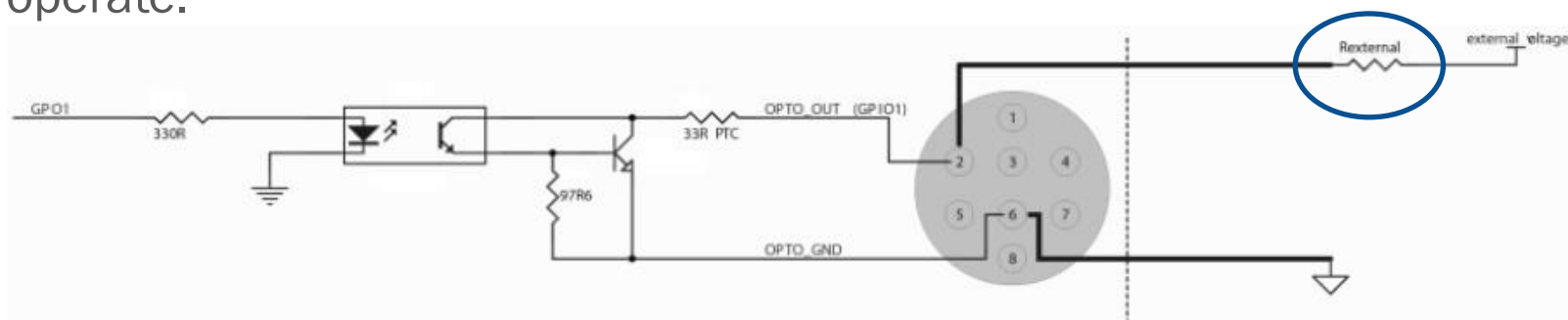
* Opto Output 1 requires a pull-up resistor to operate. [頁13](#)



Opto-isolated Output

頁13

- * The output is open collector and thus requires a pull-up resistor to operate.



- * The following table lists several external voltage and resistor combinations that have been tested to work with the opto-isolated output.

External Voltage	External Resistor	OPTO_OUT Low Voltage	OPTO_OUT High Voltage	Current
3.3 V	1 k Ω	0.6 V	2.7 V	2.8 mA
5 V	1 k Ω	0.8 V	4.2 V	4.2 mA
12 V	2.4 k Ω	0.9 V	8.1 V	4.6 mA
24 V	4.7 k Ω	0.9 V	12.1 V	4.9 mA
30 V	4.7 k Ω	1.3 V	15.0 V	6.1 mA
Values are for reference only		表格來源： FL3-U3-Technical-Reference		



Thank You



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感謝您的使用，如有任何問題，歡迎來電洽詢

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