

C5180

CMOS 25 MP

Camera Link®



Imperx: C5180

The C5180 incorporates the On Semiconductor Python NOIP1xx025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format delivering up to 32 frames per second in global shutter mode with either a Camera Link® Deca or PoCL output. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications. The Imperx Cheetah line provides excellent image quality with Imperx proprietary processing. However, Imperx puts you in control and gives you full access to raw data without corrections. By using the simple intuitive Graphical User Interface, you can quickly apply or remove image corrections. The C5180's flexibility and image quality make it suitable for a broad range of diverse and demanding applications, but "one size doesn't fit all," and Imperx can help optimize the camera to your exacting requirements.

Specifications

Feature	Description	Feature	Description
Interfaces available	Camera Link® Base, Full/Deca (CLF) w/PoCL	Strobe Output	2 strobes, programmable position and duration
Resolution	5120 x 5120	Pulse Generator	Yes, programmable
Sensor	Python NOIP1xx025KA, CMOS Color/Mono/ENIR	Image Enhancement	Two LUTs: 1 LUT pre-programmed with Gamma 0.45
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format	Data Corrections	Defective/hot pixel correction (static, dynamic), flat field correction, fixed pattern noise
Pixel Size	4.5 µm	Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
NIR Sensitivity	850nm: 18%, 950nm: 6%: ENIR: 850nm: 30%, 950nm: 11%	Supply Voltage Range	12VDC (5V – 33V), 1.5 A inrush
Shutter	Global shutter (GS)	Camera Current	Typical: 0.51A, Maximum: 0.66A
Fixed Pattern Noise	<0.9 LSB	PoCL	PoCL capable in medium/full mode
Digitization	10 bit	Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 33.8mm (L) – Applies to all interfaces
Frame Rate	26 fps (10 bit), 32 fps (8 bit)	Weight	379g
Camera Link Clock Rate	85MHz	Vibration, Shock	TBD
Pixel Clock Rate	32MHz to 360MHz	Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Dynamic Range	59 dB	Humidity	10% to 90% non-condensing
Row Overhead Time (ROT)	Zero	MTBF	>323,000 hours @ 40°C (Telcordia SR-332 Method 1)
Bit Depth	8, 10 bit	Military Standard	MIL-STD-810F
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x	Regulatory	FCC Part 15 Class A, CE, RoHs
Digital Gain	1x (0dB) to 15.9 (24 dB) with a precision of 0.001x. (AGC available)		
White Balance	Manual, auto, off		
Shutter Speed	1 µs/step, 40 µs to 1.0 sec		
Exposure Control	Off, internal, external		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	1 x 2, 2 x 1, 2 x 2		
Sub-sampling Decimation	1 x 2, 2 x 1, 2 x 2		
Trigger Inputs	External, pulse generator, software, computer		
Trigger Options	Edge, debounce		
Trigger Modes	Internal, External, Computer		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C5180 Applications

The C5180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

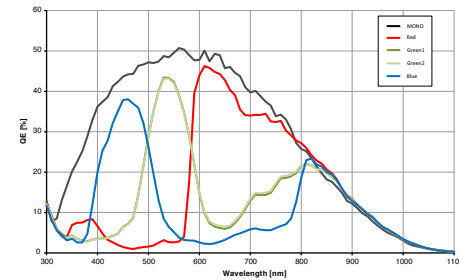
Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Aerospace • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency

Mono & Color Spectral Response

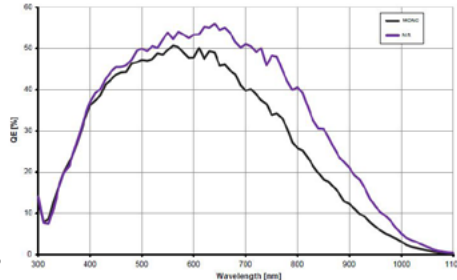
NOIP1xx025KA

Quantum Efficiency

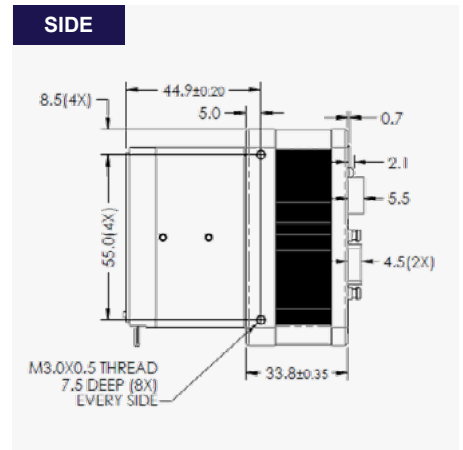
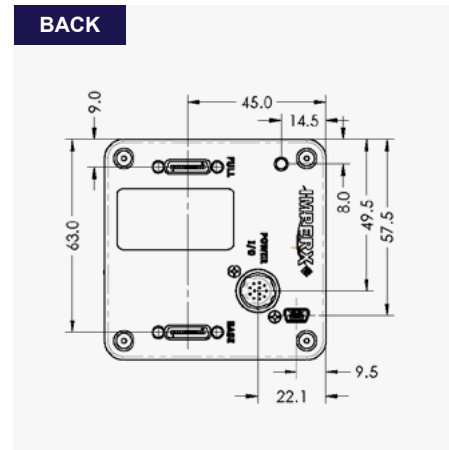
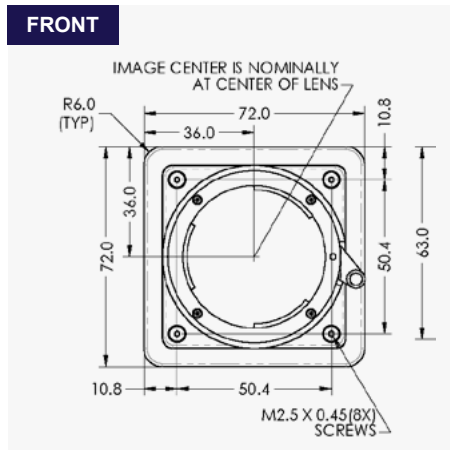


Mono & ENIR Spectral Response

NOIP1xx025KA



Dimensions



Ordering Information

Interface Available

- Camera Link® Full (CLF)
- GigE Vision®
- USB3

Sensor Types available

- Monochrome
- Bayer Color

Lens Mounts

- F-Mount (Default)
- M42
- EF Canon

Accessories (Sold separately)

- PS12V04A-Power Supply w/ 1 input and 1 output

Software/Drivers/Interface



Hirose Connectors

Power and I/O Interface

- 1. 12V DC Return
- 2. +12V DC
- 3. Reserved
- 4. Reserved
- 5. OUT2 OPTO -
- 6. OUT1 TTL Gnd
- 7. OUT1 TTL Signal
- 8. IN1 OPTO +
- 9. IN2 TTL Signal
- 10. IN1 OPTO -
- 11. IN2 TTL Gnd
- 12. OUT2 OPTO +



102 route de Limours - DOMAINE DE ST PAUL - BAT A6 - Bureau 3
 78470 ST REMY LES CHEVREUSE
 Tel : 09 54 16 23 53 - Fax : 09 59 16 23 53
 www.sacasa.info - contact@sacasa.info

CHEETAH

RUGGEDIZED CAMERA SERIES

C5180 CMOS 25 MP USB3



Imperx: C5180

The C5180 features the ON Semiconductor Python NOIP1x025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format. The GenICam™ compliant USB3 camera delivers up to 13 frames per second in global shutter mode using the USB3 interface. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications. The Imperx Cheetah line provides excellent image quality with Imperx proprietary processing. In addition, Imperx puts you in control and gives you full access to raw data without corrections. Using the simple, intuitive Graphical User Interface, you can quickly apply or remove image corrections. Flexibility and image quality make the C5180 suitable for a broad range of diverse and demanding applications. Imperx can help optimize the camera to your exacting requirements.

Specifications

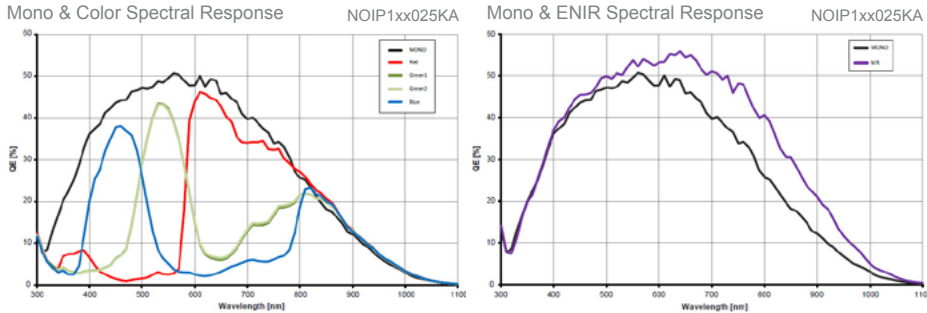
Feature	Description	Feature	Description
Interfaces available	USB3	Strobe Output	2 strobes, programmable position and duration
Resolution	5120 x 5120	Pulse Generator	Yes, programmable
Sensor	Python NOIP1x025KA, CMOS Color/Mono/ENIR	Image Enhancement	Two LUTs: 1 LUT pre-programmed with Gamma 0.45
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format	Data Corrections	Defective/hot pixel correction (static, dynamic) flat field correction, fixed pattern noise
Pixel Size	4.5 µm	Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
NIR Sensitivity	Mono: 850nm: 18%, 950nm: 6% ENIR: 850nm: 30%, 950nm: 11%	Supply Voltage Range	12VDC (5V – 33V) 1.5A inrush without enabled Canon controller 12VDC (6.5V – 33V) 1.5A inrush with enabled Canon controller
Shutter	Global shutter (GS)	Camera Current	Typical: 0.51A, Maximum: 0.66A
Fixed Pattern Noise	<0.9 LSB	Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 34.7mm (L) – Applies to all interfaces
Digitization	10 bit	Weight	379g
Frame Rate	6 fps (10 bit), 13 fps (8 bit)	Vibration, Shock	TBD
Pixel Clock	32MHz to 360MHz	Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Dynamic Range	59 dB	Humidity	10% to 90% non-condensing
Row Overhead Time (ROT)	Zero	MTBF	>323,000 hours @ 40°C (Telcordia SR-332)
Bit Depth	8, 10 bit	Military Standard	MIL-STD-810F
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x	Regulatory	FCC Part 15 Class A, CE, RoHS
Digital Gain	1x (0dB) to 15.9 (24 dB) with a precision of 0.001x. (AGC available)		
White Balance	Manual, auto, off		
Shutter Speed	1 µs/step, 40 µs to 1.0 sec		
Exposure Control	Off, internal, external. (AEC available)		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	1 x 2, 2 x 1, 2 x 2		
Sub-sampling Decimation	1 x 2, 2 x 1, 2 x 2		
Trigger Inputs	External, pulse generator, software		
Trigger Options	Edge, debounce		
Trigger Modes	Internal, external, software		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C5180 Applications

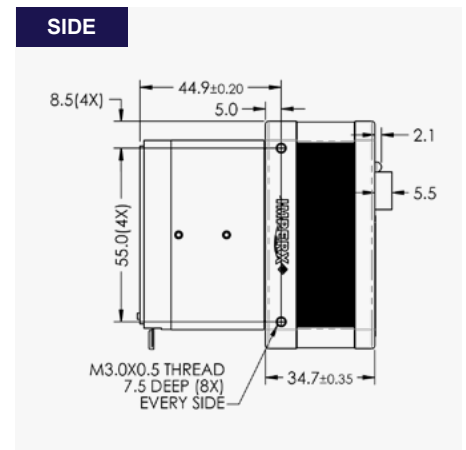
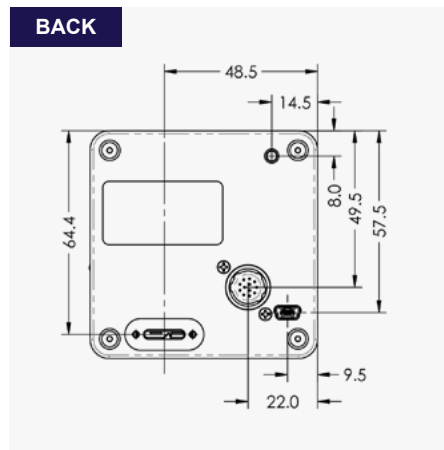
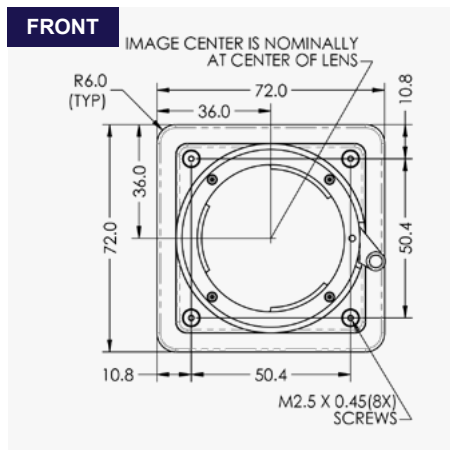
The C5180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Aerospace • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency



Dimensions



Ordering Information

Interface Available

- USB3
- Camera Link® Full (CLF)
- GigE Vision®

Sensor Types available

- Monochrome
- Bayer Color
- NIR

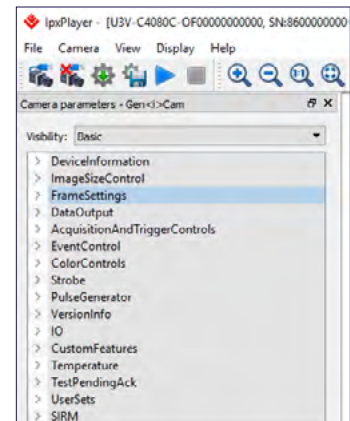
Lens Mounts

- F-Mount (Default)
- M42
- EF Canon

Accessories (Sold separately)

- PS12V04A-Power Supply w/ 1 input and 1 output

GenICam Compliant Camera Configurator



Hirose Connectors

Power and I/O Interface

1. 12 VDC Return	7. OUT1 TTL Signal
2. +12V DC	8. IN1 OPTO +
3. Reserved	9. IN2 TTL Signal
4. Reserved	10. IN1 OPTO -
5. OUT2 OPTO -	11. IN2 TTL Gnd
6. OUT1 TTL Gnd	12. OUT2 OPTO +



102 route de Limours - DOMAINE DE ST PAUL - BAT A6 - Bureau 3
78470 ST REMY LES CHEVREUSE
Tel : 09 54 16 23 53 - Fax : 09 59 16 23 53
www.sacasa.info - contact@sacasa.info

CHEETAH

RUGGEDIZED CAMERA SERIES

C5180 CMOS 25 MP GigE Vision®



Imperx: C5180

The C5180 features the ON Semiconductor Python NOIP1xx025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format. The GenICam™ compliant camera delivers up to 4.3 frames per second in global shutter mode using the GigE Vision standard interface. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications. The Imperx Cheetah line provides excellent image quality with Imperx proprietary processing. In addition, Imperx puts you in control and gives you full access to raw data without corrections. Using the simple, intuitive graphical user interface, you can quickly apply or remove image corrections. Flexibility and image quality make the C5180 suitable for a broad range of diverse and demanding applications. Imperx can help optimize the camera to your exacting requirements.

Specifications

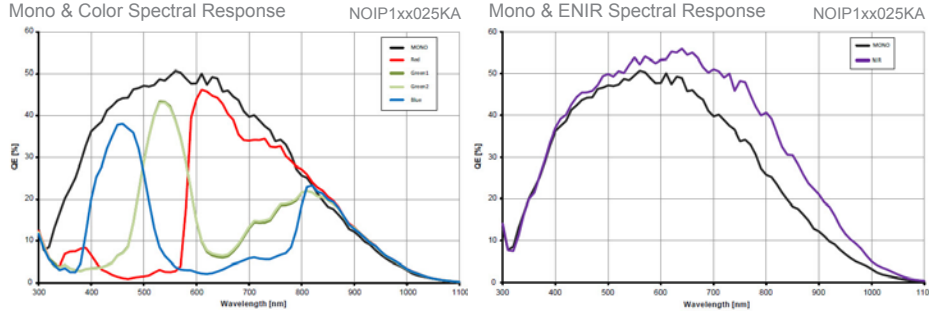
Feature	Description	Feature	Description
Interfaces available	GigE Vision	Strobe Output	2 strobes, programmable position and duration
Resolution	5120 x 5120	Pulse Generator	Yes, programmable
Sensor	Python NOIP1xx025KA, CMOS Color/Mono/ENIR	Image Enhancement	Two LUTs: 1 LUT pre-programmed with Gamma 0.45
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format	Data Corrections	Defective/hot pixel correction (static, dynamic) flat field correction, fixed pattern noise correction
Pixel Size	4.5 µm	Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
NIR Sensitivity	Mono: 850nm: 18%, 950nm: 6% ENIR: 850nm: 30%, 950nm: 11%	Supply Voltage Range	12VDC (5V - 33V) 1.5A inrush without enabled Canon controller 12VDC (6.5V - 33V) 1.5A inrush with enabled Canon controller
Shutter	Global shutter (GS)	Camera Current	Typical: 0.52A. Maximum: 0.66A
Fixed Pattern Noise	<0.9 LSB	Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 33.8mm (L) – Applies to all interfaces
Digitization	10 bit	Weight	389g
Frame Rate	4.3 fps (8-bit), 2.2 fps (10-bit)	Vibration, Shock	TBD
Pixel Clock	32MHz to 360MHz	Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Dynamic Range	59 dB	Humidity	10% to 90% non-condensing
Bit Depth	8, 10 bit	MTBF	TBD
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x	Military Standard	MIL-STD-810F
Digital Gain	1x (0dB) to 15.9 (24 dB) with a precision of 0.001x.	Regulatory	FCC Part 15 Class A, CE, RoHS
AEC/AGC	Yes		
White Balance	Manual, auto, off		
Shutter Speed	1 µs/step, 40 µs to 1.0 sec		
Exposure Control	Off, internal, external.		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	1 x 2, 2 x 1, 2 x 2		
Sub-sampling Decimation	1 x 2, 2 x 1, 2 x 2		
Trigger Inputs	External, pulse generator, software		
Trigger Options	Edge, debounce		
Trigger Modes	Internal, external, software		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C5180 Applications

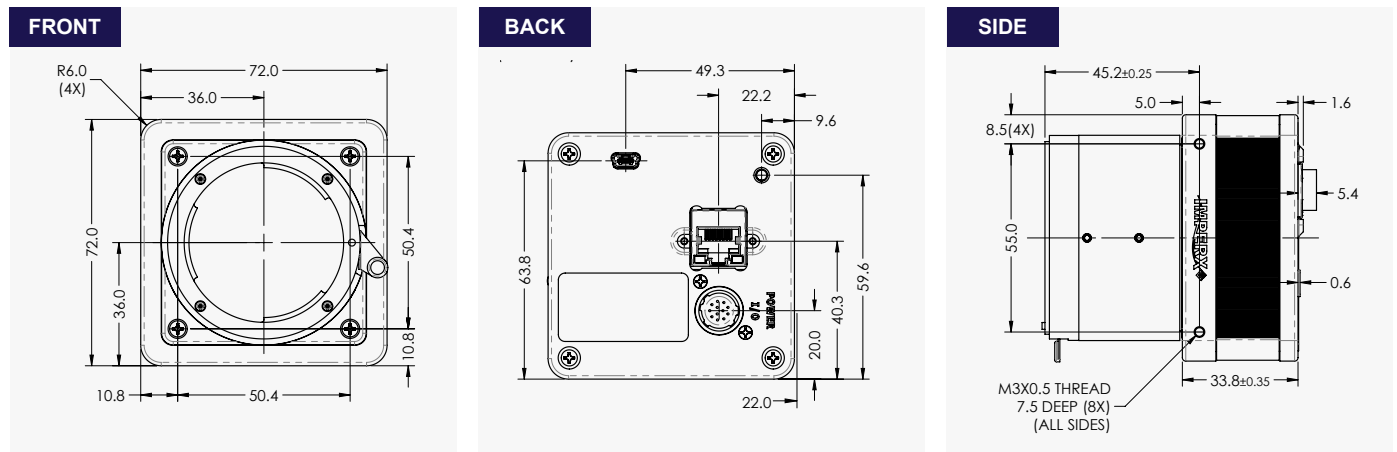
The C5180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Aerospace • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency



Dimensions

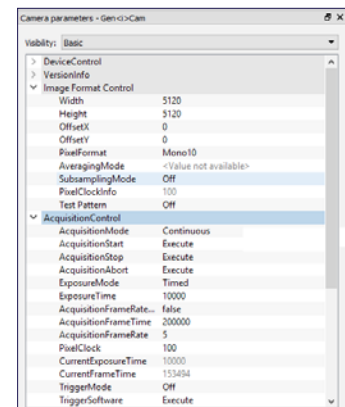


Ordering Information

Interface Available
GigE Vision®
Camera Link® Full (CLF)
USB3
Sensor Types available
Monochrome
Bayer Color
NIR

Lens Mounts
F-Mount (Default)
M42
EF Canon
Accessories (Sold separately)
PS12V04A-Power Supply w/ 1 input and 1 output

Camera Configurator Software



Hirose Connectors

Power and I/O Interface
<ol style="list-style-type: none"> 12V DC Return +12V DC Reserved Reserved OUT2 OPTO - OUT1 TTL Gnd OUT1 TTL Signal IN1 OPTO + IN2 TTL Signal IN1 OPTO - IN2 TTL Gnd OUT2 OPTO +



102 route de Limours - DOMAINE DE ST PAUL - BAT A6 - Bureau 3
78470 ST REMY LES CHEVREUSE
Tel : 09 54 16 23 53 - Fax : 09 59 16 23 53
www.sacasa.info - contact@sacasa.info