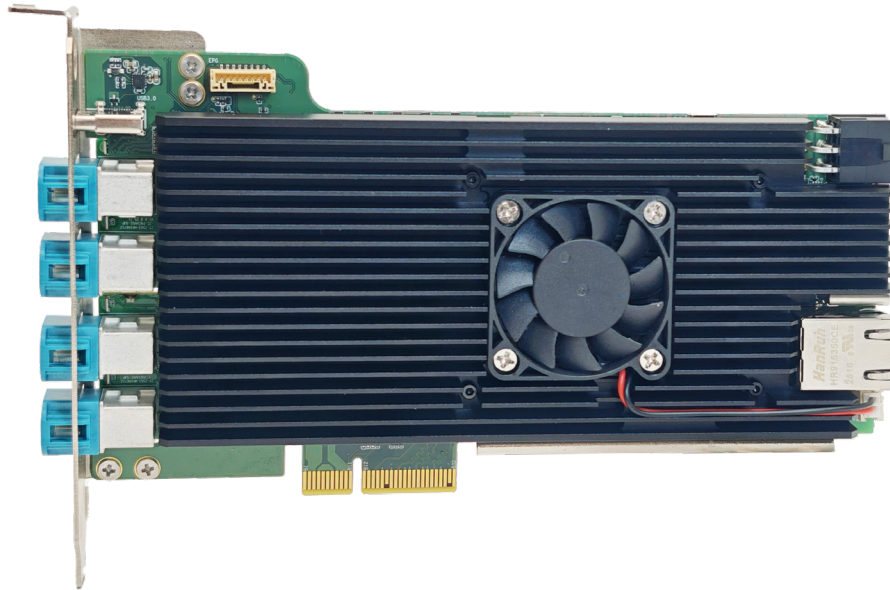


Raylon Multi-functional Image Capture Card



Product Introduction

Raylon Multi-functional Image Capture Card is an industrial grade multi-purpose board with built-in encoding, decoding, and image processing capabilities. It can achieve 8K 30FPS H.265/H.264 or JPEG format encoding; Provide basic image processing functions with the built-in computing platform; Supports multiple mechanical specifications such as 2U/4U, suitable for IPC, edge servers, and embedded systems, providing reliable multi-channel video capture solutions for industries such as autonomous driving, industrial automation, and rail transit.

Product advantages

- Multi channel acquisition: Supports up to 16 channels of video signal input, flexibly adapting to different acquisition requirements;
- Integrated Encoding, Decoding, and Processing: Built in video encoding, decoding, and basic image processing modules, eliminating the need for external hardware and improving integration and efficiency;
- Wide protocol compatibility: adopting a separate board design for flexible replacement; Supports multiple video protocols such as GMSL1/2/3, FPD Link III/IV, MIPI IN, HDMI IN, etc;
- High speed data transmission: Using zero copy technology, high bandwidth transmission is achieved through PCIe high-speed interface to meet the processing requirements of large data volumes.
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- Accurate timing function: supports multiple time synchronization protocols such as PPS+GPRMC, network PTP/gPTP, etc;
- Flexible mechanical specifications: Provides multiple size specifications such as 2U/4U, suitable for different chassis and application scenarios;
- Intelligent diagnosis and access: Supports link fault diagnosis and can be connected to ALG-TECH series cameras without a drive.

Product Parameters

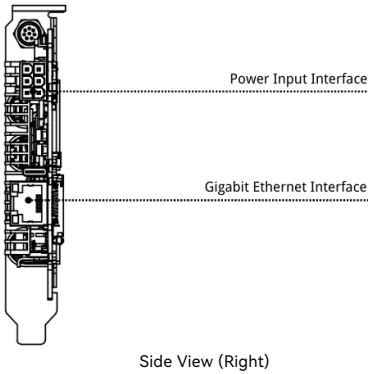
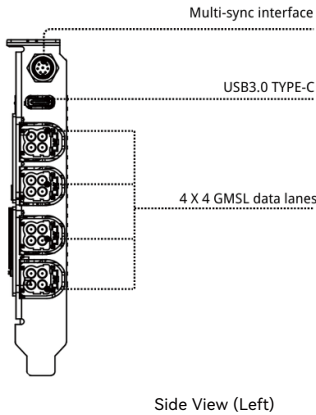
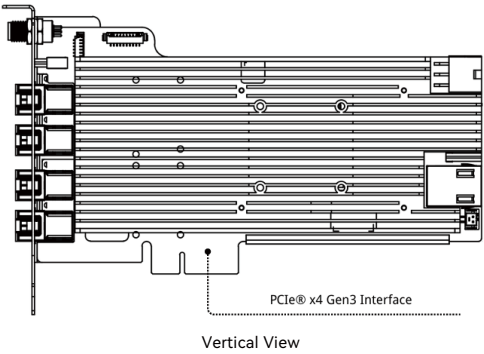
Sub Board Specifications

Input I/O	
GMSL2	16x GMSL 2 ports (6Gbps) FAKRA Z connectors
Output I/O	
MIPI	2x CSI-2 4 lanes each up to 10 Gbps
Electrical Characteristics	
Power Consumption	6W
Power Supply	12V DC input
Mechanical Properties	
Size	60mm(L) x 32.1mm(W) x 16.82mm(H)
Weight	35g

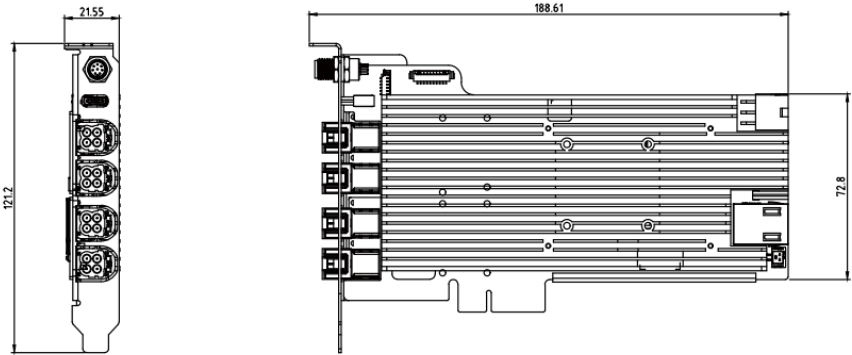
Carrier Board Specifications

Standard I/O	
Bus Interface	1x PCI Express Gen 3 x 4 (31.52Gbps)
CAN Bus	1x CAN 2.0 port, Levelreference: ISO 11898-2
Isolated DIO	1x GPS PPS input, Low level: OV, high level: 3.3V
Serial Port	1x RS-232 port, Levelreference: RS232
Ethernet Port	1x Gigabit Ethernet
USB	1x USB 3.0 type C
Video Port	1x Micro HDMI
Data Storage Port	1x SDMMC memory Interface
Security Authentication Port	1x SIM Interface
isolated GPIO	16x Trigger input, Low level: 0~0.35V, high level: 3.3~5V
MIPI	4x CSI-2 4 lanes each up to 10 Gbps
Time Synchronization	
PTP Network Timing	PTP (IEEE 1588v2) / gPTP (IEEE 802.1AS)
Other Timing	PPS+GPRMC
Encoding And Processing	
Video Encoding	H.265/H.264 MAX 8K/30FPS
Image Encoding	JPEG Encoding 90 MP/s
Electrical Characteristics	
Power Consumption	<25W
Power Supply	12V DC input
Mechanical Properties	
Size	188.61mm(L) x 121.2mm(W) x 21.55mm(H)
Weight	220g
Environmental Characteristics	
Operating Temperature	-40°C~+85°C
Storage Temperature	-40°C~ +105°C
Operating Humidity	10% ~ 90%
Storage Humidity	0~90%

Interface Definition



Structural Dimensions



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