



Injection / Reinjection card S2 for 8-way In-vehicle Camera Video

AUMO



Product Introduction:

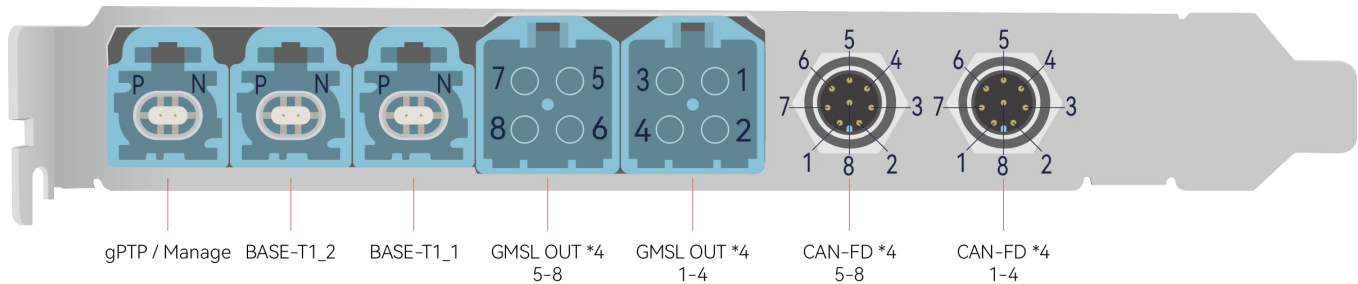
Injection card S2 for 8-way In-vehicle camera video is an optimization solution independently developed by ALINX Electronic Technology (Shanghai) Co., Ltd. Only one PCIE 3.0 X16 slot is needed to inject 8 channels of video data, 3 channels of 1000BASE_T1 data, and 8 channels of CAN/CAN-FD data into the target ECU and provide GPTP timestamp synchronization function to ensure the synchronization of multi-channel data. It meets the requirements for the characteristics of high integration and high reliability, saving space for customers, reducing energy consumption, and reducing the cost of the entire equipment.

I. Key parameters:

Item	Content	Item	Content
Serializer	Simulate MAX96717 / MAX96717F / MAX9295A / MAX96715	Corresponding Deserializer	Support MAX96712 / MAX9296A and so on
CAN-FD	8 CAN / CAN-FD interfaces	No. of channels	8-way camera video output
Video format	YUV422、RAW12	PCIE	PCI Express Gen 3 x16
Output Resolution	Supports a maximum of 8 channels 4096 x 2160@30fps output	FAKRA	4-in-1 Amphenol Z code mini-Fakra
Vehicle Ethernet	3 1000BASE_T1 interface Support PTP timestamp with time service, with the accuracy of less than 1 ms	Cable length	Under GMSL1 mode can reach 40m (3Gbps) Under GMSL2 mode can reach 20m(6Gbps)
Upgrade	Support the upgrade of PC firmware	Operating system	Linux / Window
Working temperature	-40°C ~ 70°C	Storage temperature	-40°C ~ 85°C
Working Humidity	10% ~ 90%	Storage Humidity	0 ~ 90%
Power supply	PCIE Power supply / 12V Power supply	Weight	450g
Size	Length* Width : 111* 190 (mm)	MTBF	5 years

II. Interface description:

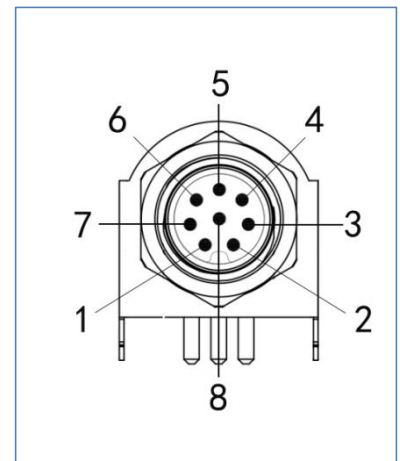
3 pieces of 1000BASE_T1 interface, 2-way 4-in-1 Amphenol mini-Fakra interfaces (8-way video output), and 2 M8 aviation socket (including 8-way CAN/CAN-FD interfaces) are led out at baffle as the external interfaces.



III. CAN-FD Interface definition:

Using M8 8pin aviation socket (male) for CAN/CAN-FD bus communication.

PIN	Signal name	Direction	Description
1	CAN1_H	Two-way	CAN_H signal wire
2	CAN1_L	Two-way	CAN_L signal wire
3	CAN2_H	Two-way	CAN_H signal wire
4	CAN2_L	Two-way	CAN_L signal wire
5	CAN3_H	Two-way	CAN_H signal wire
6	CAN3_L	Two-way	CAN_L signal wire
7	CAN4_H	Two-way	CAN_H signal wire
8	CAN4_L	Two-way	CAN_L signal wire

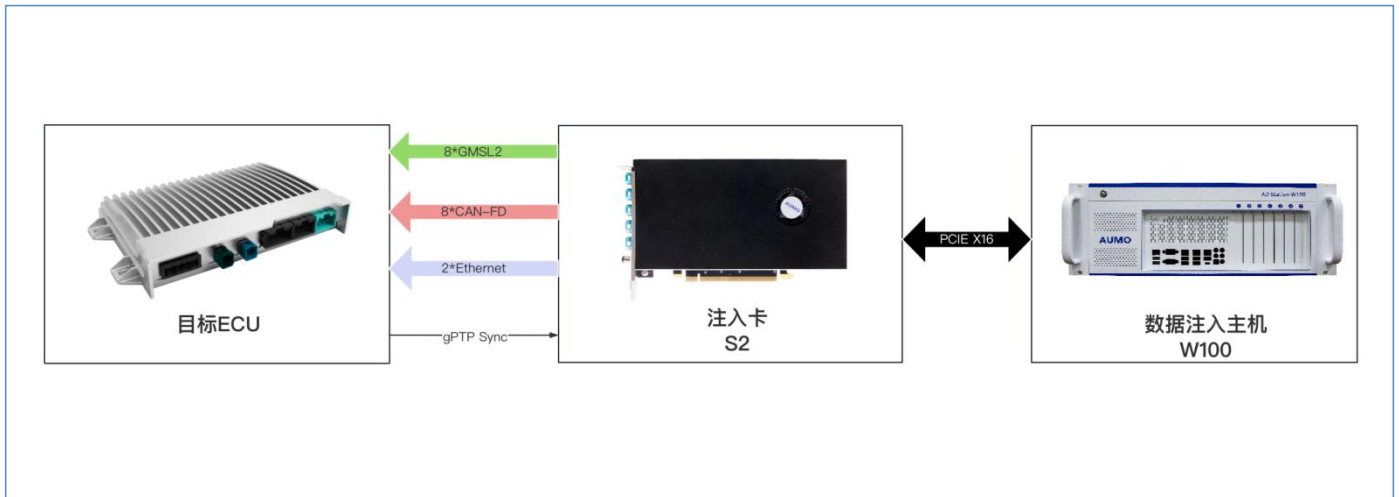


IV. Power consumption test:

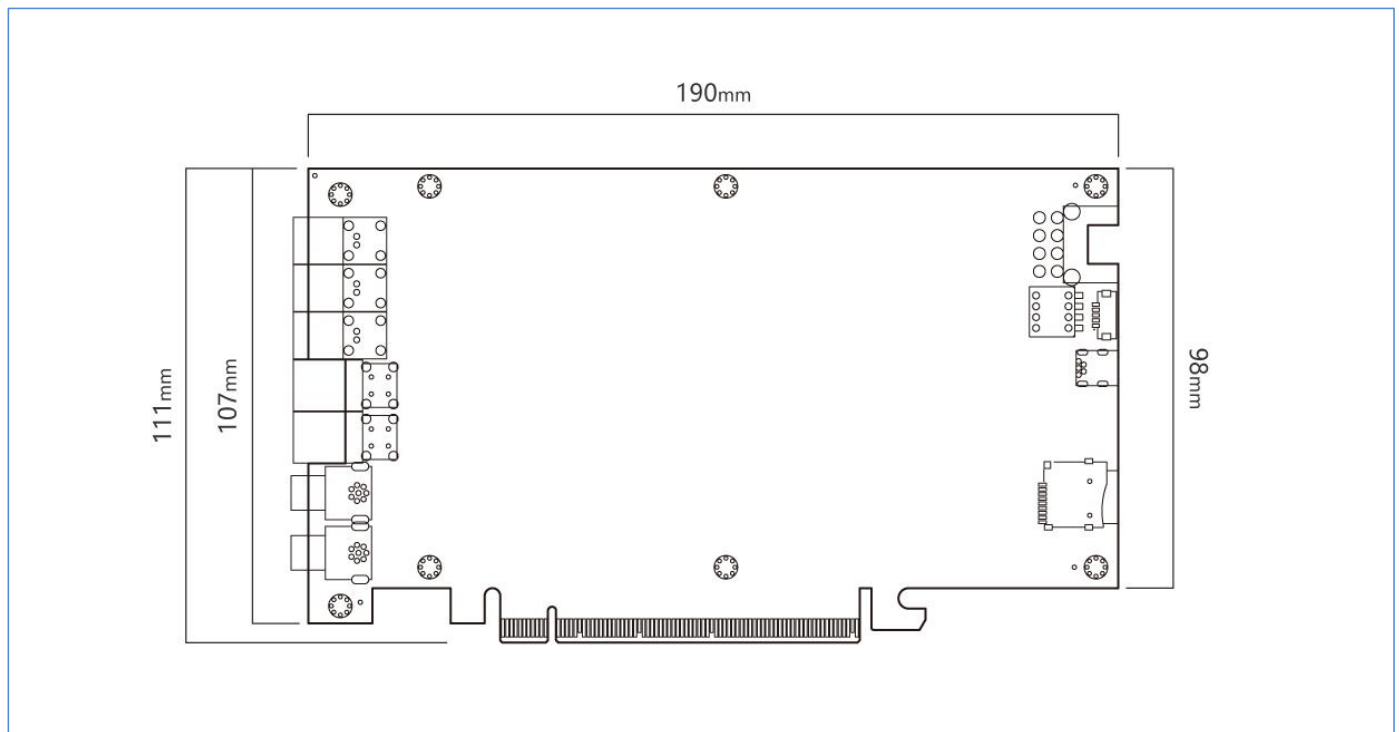
Item	Power Consumption (W)	Remark
Static power consumption	9.46	
Dynamic power consumption	22.15	

V. Typical cases:

Solution for hardware in the loop testing HIL, which can achieve parallel expansion of multiple boards to increase the number of injection channels.



VI. Size and Structure:



Version control:

Version	Time	Description
1.0	2023/4/7	Initial version
1.1	2023/5/17	Update "2. Interface Description", "3. Aviation Plug Interface Definition" and 4. Fakra Interface Definition
1.2	2023/7/31	Update "1. Key Parameters"
1.3	2023/11/10	The content is adjusted according to the new hardware version S2.2.0

