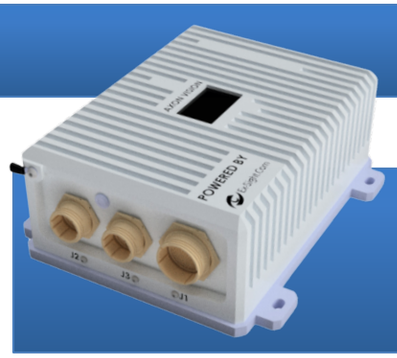
AI GRAPHIC PROCESSING UNIT

REF#20240216
16/02/2024



AIxGPU

AIxGPU is a rugged video processor computer based on NVIDIA ORIN 64.

It can be used for a variety of applications:
- Video Processing Graphic Computer
- Mobile Platforms Industrial Computer
- Robotics Computer
- Edge Computing GPU

System Highlights
Designed to Extended Temp. (-40°C to +85°C)
NVIDIA ORIN 64GB with Internal 256GB SSD Storage
HD-SDI out option(HDMI Out replacement)
HD-SDI Video Grabber * 3
PAL Video Grabber * 3
5*Port Industrial Gigabit Ethernet Switch
4*RS-232 | RS-422 | RS-485 Gateway as option
Embedded GPIO 1*CNBUS, 1*RS422, isolated 3*DO, 2*DI
Designed to MILSTD 1275/704
9-40VDC Power Supply with EMI Filter

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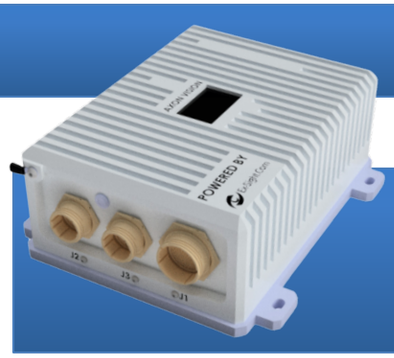


AIxGPU

NVIDIA ORIN 64GB WITH INTERNAL 256GB SSD STORAGE
POWERFUL AI COMPUTER ,UP TO 275 TOPS , 2048-CORE NVIDIA AMPERE GPU WITH 64 TENSOR CORES , 12-CORE ARM® CORTEX®-A78AE V8.2 64-BIT CPU 3MB L2 + 6MB L3 , DL ACCELERATOR 2X NVDLA V2 , VISION ACCELERATOR 1 X PVA V2 , 64GB 256-BIT LPDDR5 204.8 GB/S , STORAGE 64GB EMMC 5.1 , UP TO 6 CAMERAS (16 VIA VIRTUAL CHANNELS*)

CARRIER BOARD
HDMI 2.0 (MAX RESOLUTION 3840X2160), GIGABIT ETHERNET, CAMERA CONNECTOR (TOTAL 16-LANE), CAN BUS, DIGITAL INPUTS, 3X DIGITAL OUTPUTS, 2X TYPE-C , M.2 TYPE-M KEY PCIE GEN4 X4 (FOR HIGH SPEED STORAGE), M.2 KEY-B, MICROSD, FAN CONNECTOR, 2-PIN HEADER FOR RTC BATTERY, SERIAL COMMUNICATION CONNECTOR(1X UART, 1X I2C, 1X SPI) ,
HIGH SPEED EXPANSION CONNECTOR(1XMGBE, 1X PCIE X4, 1XI2S, 1X I2C)

HD-SDI VIDEO GRABBER
3 SDI INPUT UP TO 1080P60, INTEGRATES ADAPTIVE CABLE EQUALIZER , 3 PAL/NTSC/RS170 ANALOG INPUT.

HDMI 2 SDI
HDMI INPUT UP TO 1080P30, SDI OUTPUT UP TO 1080P30

EMBEDDED GPIO
1*CNBUS, 1*RS422, ISOLATED 3*DO, 2*DI

CONNECTION INTERFACE
MIL-D38999/24WH35PN, 2 X MIL-D38999/24WE6AN

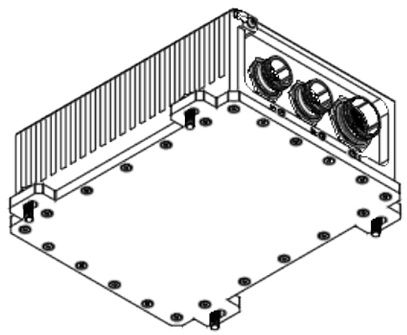
POWER SUPPLY UNIT & EMI FILTER
9-40VDC-DC POWER SUPPLY WITH EMI FRI FILTER

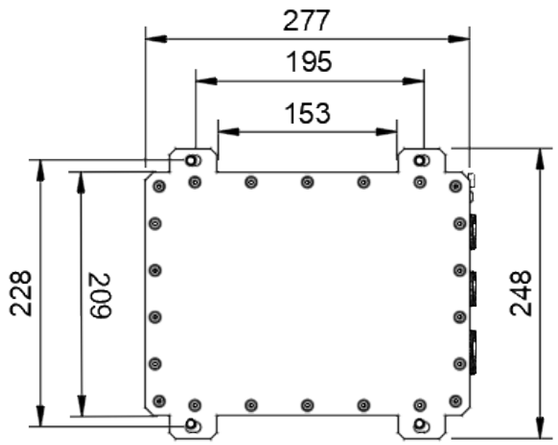
ENVIRONMENTAL
DESIGNED TO EXTENDED TEMP. PLATFORM (-40°C TO +85°C), IP-67 SEALED ALUMINUM CHASSIS, MILSTD 1275/704 PSU, STAINLESS STEEL SCREWS (N316), GROUND PIN CONNECTOR, LED INDICATOR

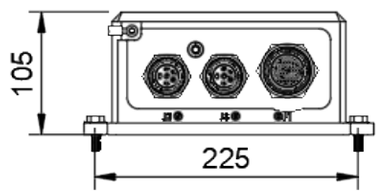
OPTIONAL 4* SHOCK ABSORBERS

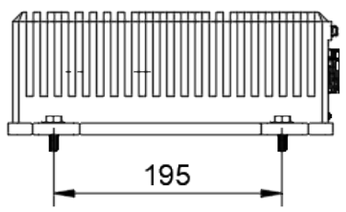
DIMENSIONS (mm)

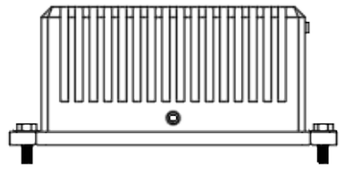
WEIGHT : 8.1Kg

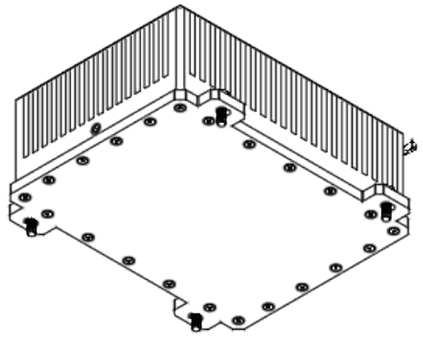












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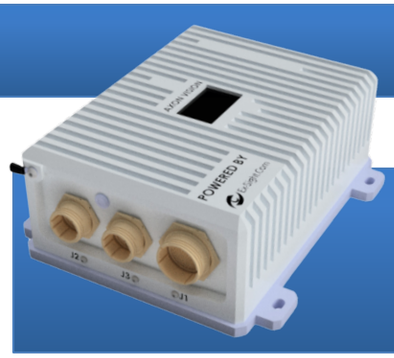
PIN LAYOUT



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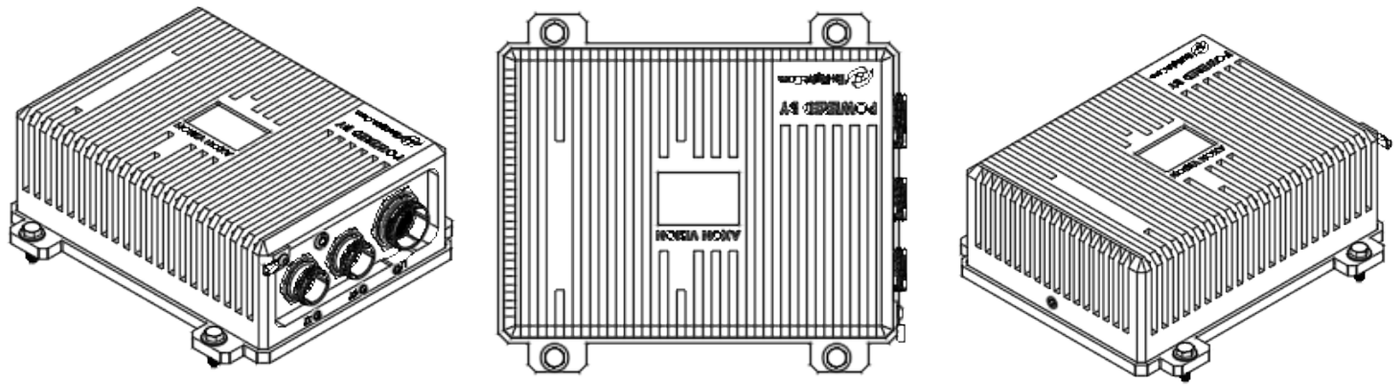
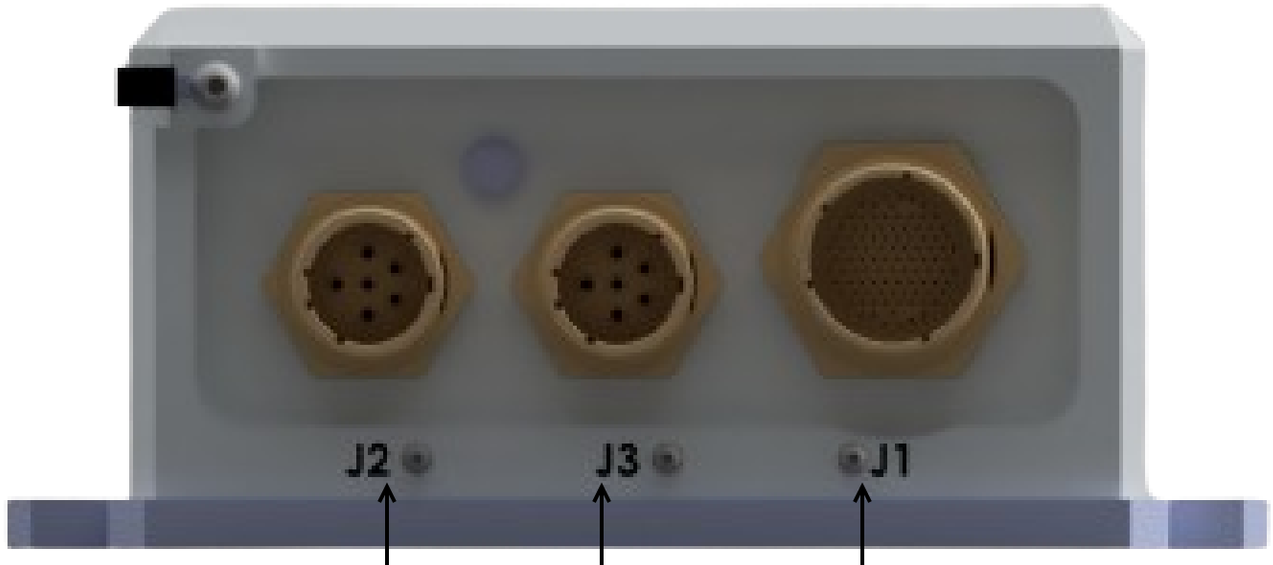


J2 Connector D38999/24WE6PN (mating: D38999/26WE6SN)

PIN#	Signal Name	Type
A1	Video_INPUT_1	SDI/PAL IN1
A2	Video_INPUT_1_RTN (Shield)	
B1	Video_INPUT_2	SDI/PAL IN2
B2	Video_INPUT_2_RTN (Shield)	
C1	Video_INPUT_3	SDI/PAL IN3
C2	Video_INPUT_3_RTN (Shield)	
D1	Video_INPUT_4	SDI/PAL IN4
D2	Video_INPUT_4_RTN (Shield)	
E1	Video_INPUT_5	SDI/PAL IN5
E2	Video_INPUT_5_RTN (Shield)	
F1	Video_INPUT_6	SDI/PAL IN6
F2	Video_INPUT_6_RTN (Shield)	

J3 Connector D38999/24WE6PN - Future use (mating: D38999/26WE6SN)

PIN#	Signal Name	Type
A1	Video_Out_1 (HDMI to SDI)	SdI OUT (HDMI to SDI)
A2	Video_Out_1_RTN (Shield)	
B1	IO10 ISOLATED GROUND	IO10 ISOLATED GROUND
B2	N.C	N.C
C1	IO9 DO 0	Digital Output 1
C2	N.C	N.C
D1	IO11 DO 1	Digital Output 2
D2	N.C	N.C
E1	IO13 DO 2	Digital Output 3
E2	N.C	N.C
F1	N.C	N.C
F2	N.C	N.C



J2/J3 Video Connector D38999/24WE6AN

J1 Main Connector D38999/24WH35PN

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PIN LAYOUT

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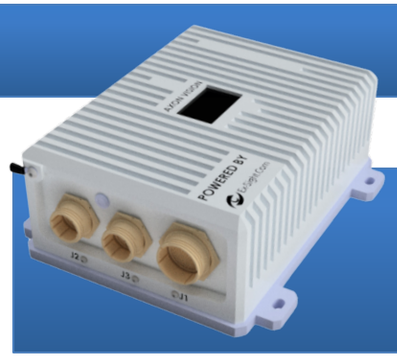

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J1 Connector D38999/24WH35AN (mating: D38999/26WH35SN)

PIN#	Signal Name	Type
1	24VDC_IN	24VDC 7A
2	24VDC_IN	
3	24VDC_IN	
4	24VDC_IN	
5	24VDC_IN	
6	24VDC_IN	
7	24VDC_IN	
8	24VDC_IN	
9	GND_IN	(-24VDC) GND Power INPUT
10	GND_IN	
11	GND_IN	
12	GND_IN	
13	GND_IN	
14	GND_IN	
15	GND_IN	
16	GND_IN	
17	I2C_0_BOOSTER_SDA_1V8	I2C
18	I2C_0_BOOSTER_SCL_1V8	
19	RX_RS232/422 RX+	RS232 / 422 Ch1
20	TX_RS232/422 TX-	
21	GND_RS232	
22	422 RX-	
23	422 TX+	
24	RX_RS232/422 RX+	RS232 / 422 Ch2
25	TX_RS232/422 TX-	
26	GND_RS232	
27	422 RX-	
28	422 TX+	
29	RX_RS232/422 RX+	RS232 / 422 Ch3
30	TX_RS232/422 TX-	
31	GND_RS232	
32	422 RX-	
33	422 TX+	
34	RX_RS232/422 RX+	RS232 / 422 Ch4
35	TX_RS232/422 TX-	
36	GND_RS232	
37	422 RX-	
38	422 TX+	
39	IO1 RS422-B	RS-422 Nativ
40	IO2 RS422-Y	
41	IO3 RS422-A	
42	IO4 RS422-Z	
43	IO10 ISOLATED GROUND	IO10 ISOLATED GROUND
44	IO12 DI 1	Digital Input 2
45	IO14 DI 0	Digital Input 1
46	REC BUTTON	REC BUTTON
47	REC BUTTON GND	REC BUTTON GND
48	ETH_1_G_MX2_P (RJ-45-PIN#4)	Ethernet 1
49	ETH_1_G_MX2_N (RJ-45-PIN#5)	
50	ETH_1_G_MX1_P (RJ-45-PIN#3)	
51	ETH_1_G_MX1_N (RJ-45-PIN#6)	
52	ETH_1_G_MX0_P (RJ-45-PIN#1)	
53	ETH_1_G_MX0_N (RJ-45-PIN#2)	
54	ETH_1_G_MX3_P (RJ-45-PIN#7)	
55	ETH_1_G_MX3_N (RJ-45-PIN#8)	
56	CAN_BUS_0_H	CAN_BUS_CH0
57	CAN_BUS_0_L	
58	GND	
59	GND	USB_CH0
60	USB2_P_0	
61	USB2_N_0	
62	GND	USB_CH1
63	USB2_P_1	
64	USB2_N_1	
65	(-5V) GND	5VDC Out
66	VDD_5V	
67	(-12V) GND	12VDC Out
68	12V_OUT	
69	GND_EARTH	GND_Earth

PIN#	Signal Name	Type
70	Reset Button	Reset Button
71	Reset button GND	
72	GND	Recovery USB
73	USB2_P_0	
74	USB2_N_0	
75	GND	Debug USB
76	USB2_P_0	
77	USB2_N_0	
78	SPI1_3v3.CS0	
79	SPI1_3v3.MISO	
80	UART1_3v3.tx	
81	UART1_3v3.rx	
82	SPI1_3v3.SCK	
83	SPI1_3v3.MOSI	
84	UART1_3v3.RTS	
85	UART1_3v3.CTS	
86	VDD_3V3	
87	DGND	
88	ETH_2_G_MX2_P (RJ-45-PIN#4)	Ethernet 2
89	ETH_2_G_MX2_N (RJ-45-PIN#5)	
90	ETH_2_G_MX1_P (RJ-45-PIN#3)	
91	ETH_2_G_MX1_N (RJ-45-PIN#6)	
92	ETH_2_G_MX0_P (RJ-45-PIN#1)	
93	ETH_2_G_MX0_N (RJ-45-PIN#2)	
94	ETH_2_G_MX3_P (RJ-45-PIN#7)	
95	ETH_2_G_MX3_N (RJ-45-PIN#8)	
96	SPARE	
97	SPARE	
98	SPARE	
99	SPARE	
100	SPARE	

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