Leica CRS360
AI Processing Unit
Datasheet

The Leica CRS360 AI processing unit is powered by Nvidia Orin, and it is the backbone of the Leica Xsight360 safety awareness solution. The Leica CRS360 is deisgned to perfrom:

- Visual Analysis of camera feeds via Nvidia AGX GPU processing unit.
- Network switching and management for Leica CRS240 cameras, Leica CR50, and external Leica CR214 display.
- Power management and distribution
- Alarm indication via CRS214 on CAN bus and external IO
- GNSS local positioning
- System diagnostics

Environmental Data

Water/Dust rating	IPX6, IPX8, IP6X
Operation temperature	-25°C to 60°C
Storage temperature	-25°C to 80°C
Humidity	EN60068-2-78 special, +65°C; 92%
Vibration	IEC 60068-2-6; Test Fc; 5-500 Hz; 5g; ±15mm MIL-STD-810G, Fig. 514.6E-1; Category 24 (20-2000Hz; 7,7grms)
Shock	IEC 60068-2-27; Test Ea, half sine, 60g/6ms
Drop	0.8 m drop onto hard surfaces

Mechanical Data

Weight	2.85 kg (6.28 lbs)
Dimensions	240 mm × 168 mm × 69 mm
Material	Casted aluminium

Compliance

USA	FCC/IC Class B
EU	CE 2014/30/EU: ISO13766-1, ISO13766-2 2011/65/EU RoHS 2012/19/EU WEEE
AU	RCM
KO	KCC

Electrical

Voltage range / Supply voltage	9 – 36V DC / Reverse polarity, short circuit, Surge: ISO16750-2 (Load Dump: 202V, 1Ω, 350ms)
Power consumption	Up to 50W, not including accessories

Processor and Memory

Model	Nvidia AGX Orin 32 (200 TOPS)
Cores	8 * ARM Cortex A78AE 2.2Ghz
GPUs	1,792 Nvidia Ampere GPU Cores 930Mhz
AI	56 Tensor Cores
TDP	Up to 30W
RAM	32 GB, 256bit LPDDR5, 204.8 GB/s
Flash	64 GB eMMC
Storage	512 GB, Industrial SSD

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Communication

7 * M12-T-4F	Automotive Ethernet 100Mbit/s 100Base-T1 (2 of these support 1000Mbit/s 1000Base-T1) and protected power output
1 * M12-L-4M1F	Power Input 9 -36V 26A
1 * M12-T-4M	Automotive Ethernet 100Mbit/s 100Base-T1 and Power Input 9-34V 12A
1 * M12-D-4F	Standard Ethernet 100Mbit/s 100Base-Tx
1 * M8-4F	USB 2.0 and 5V 0.5A power output
1 * M12-A-4M	CAN and Power output 4A
1 * M12-A-12F	2 Serial, 2 GPI, 2 GPO, 1 12V relay output
1 * TNC	L1 GNSS RF input, 5V output

GNSS

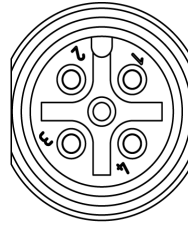| L1, 96 channels	GPS, GLONASS, BeiDou, Galileo

Interface

LED status indicators	3 x status information LEDs (Power, GNSS, Status)
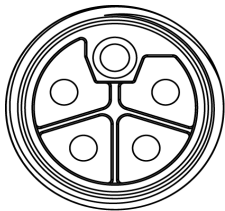
M12-L Male:
Power In

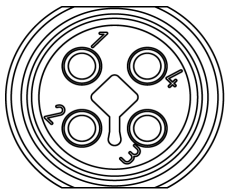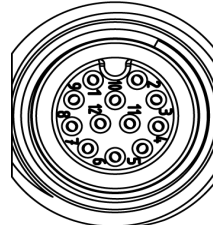| Pin	Function	Description
1	V+	Power In, up to 16A, 9-36V
2	V+	Power In, up to 16A, 9-36V
3	Ignition	Ignition Input for power control
4	V-	Power Ground, up to 16A
FE	V-	Power Ground, up to 16A

M12-A-4pin Male:
CAN Bus

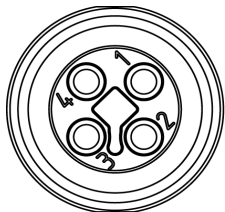| Pin	Function	Description
1	V+	Power Out, up to 4A, 9-36V
2	CAN+	Controller Area Network Positive
3	V-	Power Ground, up to 4A
4	CAN-	Controller Area Network Negative

M12-T-4Pin Male:
100Mb Automotive

Pin	Function	Description
1	100Base-T1+	Automotive Ethernet Diff Pair + (Slave)
2	100Base-T1-	Automotive Ethernet Diff Pair - (Slave)
3	V+	Power Control Signal
4	V-	Ground

M12-A-12pin Female:
Serial

Pin	Function	Description
1	V+	12V Regulated Power Out, 1A
2	GPO 1	Dout-A
3	GPO 2	Dout-B
4	GPI 1	Din-A
5	GPI 2	Din-B
6	Force Recover	Service only
7	Boot Mode	Service only
8	TX1	RS232 Transmit, STM
9	RX1	RS232 Receive, STM
10	TX2	RS232 Transmit, AGX
11	RX2	RS232 Receive, AGX
12	GND	Power / Signal Ground

M12-T-4Pin Female:
1Gb/100Mb Automotive

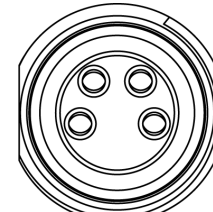| Pin	Function	Description
1	100/1000 Base-T1+	Automotive Ethernet Diff Pair + (Master)
2	100/1000 Base-T1-	Automotive Ethernet Diff Pair - (Master)
3	V+	Power Out, up to 8A, 9-36V (total 16A on all)
4	V-	Power Ground, up to 8A

M12-D-4pin Female:
Ethernet

Pin	Function	Description
1	TD+	Data Transmit Positive
2	RD+	Data Receive Positive
3	TD-	Data Transmit Negative
4	RD-	Data Receive Negative
Case	Shield	Shield

M8-A Female:
USB Service

Pin	Function	Description
1	V+	Power Out, 5V 500mA
2	D+	Data Positive
3	GND	Ground
4	D-	Data Negative
Case	Shield	Shield

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