Lizard1 Series Railway Smart Camera Brief

Features

1. Embedded x86 industrial PC

    Intel® ATOM™ E3950, 2.0GHz, quad cores

    4GB LPDDR4-2400, 64GB eMMC for OS, soldered onboard

    64-bit OS: Windows 10 IoT Enterprise

    Support gigabit Ethernet, support isolated digital IOs

2. Embedded SONY high-speed global shutter mono CMOS image sensors

    IMX421/2.8MP/371fps

    IMX428/7.1MP/51fps, IMX420/7.1MP/172fps

    IMX267/8.9MP/32fps, IMX255/8.9MP/88fps

3. Embedded thermal camera and lens (options)

    640x480/120fps, 640x480/60fps, 384x288/50fps

4. Embedded motorized high-resolution lens

    1/1.8" 11-50mm motorized 3A lens (motorized zooming, focusing and iris)

    1" 12-36mm motorized 3A lens (motorized zooming, focusing and iris)

5. Embedded 1000W white or 600W NIR (850nm) LED strobes flash

    Light energy output power is 300W and 180W respectively

6. Two types

    Type E: standard

    Type D: embedded pantograph flame arc detector (optional), embedded thermal camera (optional)

7. Embedded one M.2 slot for SSD

8. Embedded 5G Wi-Fi (802.11ac) or 4G/LTE module with a waterproof antenna

9. Embedded electronic dehumidifying for anti-fog on the glass

10. Embedded lightning protection circuit

11. Embedded isolated power module with EN50155 authentication

12. Support three supply voltages: 48VDC/110VDC, 100W max

13. IP67 rating

14. Rugged full metal casing, fanless

15. Wide operation temperature -40°C to +80°C

16. 2-year warranty for vehicle application

Applications

Railway Applications

Highly reliable industrial Applications

Pictures

Figure 1-1 Picture of Type D Profile

Figure 1-2 Picture of Type E Profile

Recommended Part Number

Lizard1 series railway smart cameras have powerful functions and also complex part number designation. For easy selection, the following part numbers are recommended.

Part Number   **RSLZ1-22MEB5-E60W68-NM0W5-V4-NN**

Description   2.8MP/371fps mono camera with type A IP67 full metal casing, 11-50mm 1/1.8" 3A lens (motorized zooming, focusing and iris control), 68 white (6000K) LEDs, beam angle 60 degrees, no embedded pantograph flame arc detector, no preinstalled SSD, embedded 5G Wi-Fi module with a waterproof antenna. Power supply is 48VDC/100W.

Part Number   **RSLZ1-71METT-D20W88-AM0W5-VB-NN**

Description   7.1MP/172fps mono camera with type D IP67 full metal casing, 12-36mm 1" 3A lens (motorized zooming, focusing and iris control), 688 white (6000K) LEDs, beam angle 20 degrees, embedded pantograph arc detection, no preinstalled SSD, embedded 5G Wi-Fi module with a waterproof antenna. Power supply is 110VDC/100W.

Ordering Information

The underlined option is the recommended option.

R S L Z **1** **-** **2 1** **M** **E** **B 5** **-** **E** **6 0** **W 6 4** **-** **N** **M 0** **W 5** **-** **V 4** **-** **N** **-** **N**
aaaa   b   cc   d   e   ff   g   hh   jjj   k   mm   nn   pp   q   r

aaaa	**RSLZ**	Lizard1 series all-in-one vehicle smart camera	
b		generation	
	1	the 1st generation, based on Intel® ATOM™ E3950	
cc		sensor type of grabbing camera	
	21	SONY 2.8MP 2/3" global shutter CMOS IMX421LLJ, max 200fps	
		resolution: 1936×1464, pixel size 4.5um	
	22	SONY 2.8MP 2/3" global shutter CMOS IMX421LLJ, max 371fps	
		resolution: 1936×1464, pixel size 4.5um	
	70	SONY 7.1MP 1.1" global shutter CMOS IMX428LLJ, max 51.4fps	
		resolution: 3208×2200, pixel size 4.5um	
	71	SONY 7.1MP 1.1" global shutter CMOSIMX420LLJ, max 172fps	
		resolution: 3208×2200, pixel size 4.5um	
	80	SONY 8.9MP 1" global shutter CMOS IMX267LLR, max 32fps	
		resolution: 4096×2160, pixel size 3.45um	
	82	SONY 8.9MP 1" global shutter CMOS IMX255LLR, max 88.7fps	
		resolution: 4096×2160, pixel size 3.45um	
d		color of grabbing camera	
	M	mono	
	S	color	

e	filter type of grabbing camera (refer to chapter 6 for details)	
	E	No filter
	C	IR-cut filter
ff	lens type of camera	
	B5	focal length 11-50mm, 8MP, 1/1.8" size, F1.8, motorized zooming, focusing and iris control
	TT	focal length12-36mm, 8MP, 1" size, F1.6, motorized zooming, focusing and iris control
g	casing type	
	D	type D
	E	type E
hh	beam angle of LED flash	
	20	20 degrees, recommended for 5-9 meters object distance
	40	40 degrees, recommended for 3-5 meters object distance
	60	60 degrees, recommended for 1-3 meters object distance
	A0	100 degrees, recommended for 0.5-1 meters object distance
jjj	type of LED strobe	
	W64	800W (pulsed) white strobe (6000K) for the type E
	W88	1000W (pulsed) white strobe (6000K) for the type D
	N64	500W (pulsed) NIR strobe (850nm), for the type E
	N88	600W (pulsed) NIR strobe (850nm), for the type D
k	pantograph arc detector	
	N	no pantograph flame arc detector
	A	embedded a pantograph flame arc detector
mm	embedded M.2 SSD capacity	
	M0	No M.2 SSD (default)
	Mx	xTB M.2 SSD, MQ for 0.25TB, MH for 0.5TB, M1 for 1TB, M2 for 2TB
nn	Wi-Fi function	
	W5	5G Wi-Fi (802.11ac) function with a waterproof antenna
	4G	4G/LTE module with a waterproof antenna
pp	power supply voltage (inner isolated power module with EN50155 authentication)	
	V4	45-50VDC power supply, 48VDC recommended, without isolated power module
	VB	43-160VDC power supply, 110VDC recommended, with isolated power module
q	thermal camera (optional)	
	N	no thermal camera (default)
	3	embedded thermal camera, 384x288/50fps
	6	embedded thermal camera, 640x480/60fps
	7	embedded thermal camera, 640x480/120fps
r	special function (optional)	
	N	no special function (default)

Power Port
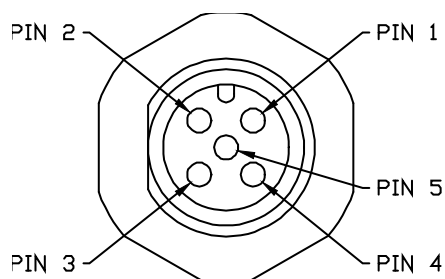
Figure 1-3 Power port (M12 5-Pin Male)

Table 1-1 Power port

Pin No.	Function	Direction	Wire Color
			Cable P/N: LZ1-M05A-F05A-08P26N-xxx
1	PWRIN+	IN	White/Orange and Orange
2	PWRIN-	IN	White/ Green and Green
3	ISO_IN1	IN	White/Brown
4	ISO_OUT1	OUT	Brown
5	ISO_GND	NA	White/Blue

Ethernet Port
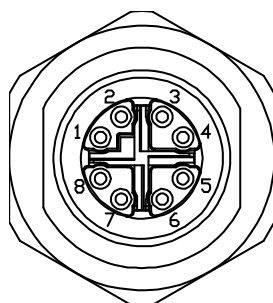
Figure 1-4 Ethernet port (M12 8-Pin Female)

Table 1-5 Ethernet port

Pin No.	Function	Direction	Wire Color
			Cable P/N: RW1-M08X-M08X-08P26N-xxx
1	DATA-P0	IN/OUT	White/Orange
2	DATA-N0	IN/OUT	Orange
3	DATA-P1	IN/OUT	White/Green
4	DATA-N1	IN/OUT	Green
5	DATA-P2	IN/OUT	White/Broun
6	DATA-N2	IN/OUT	Broun
7	DATA-P3	IN/OUT	White/Blue
8	DATA-N3	IN/OUT	Blue

Dimensions
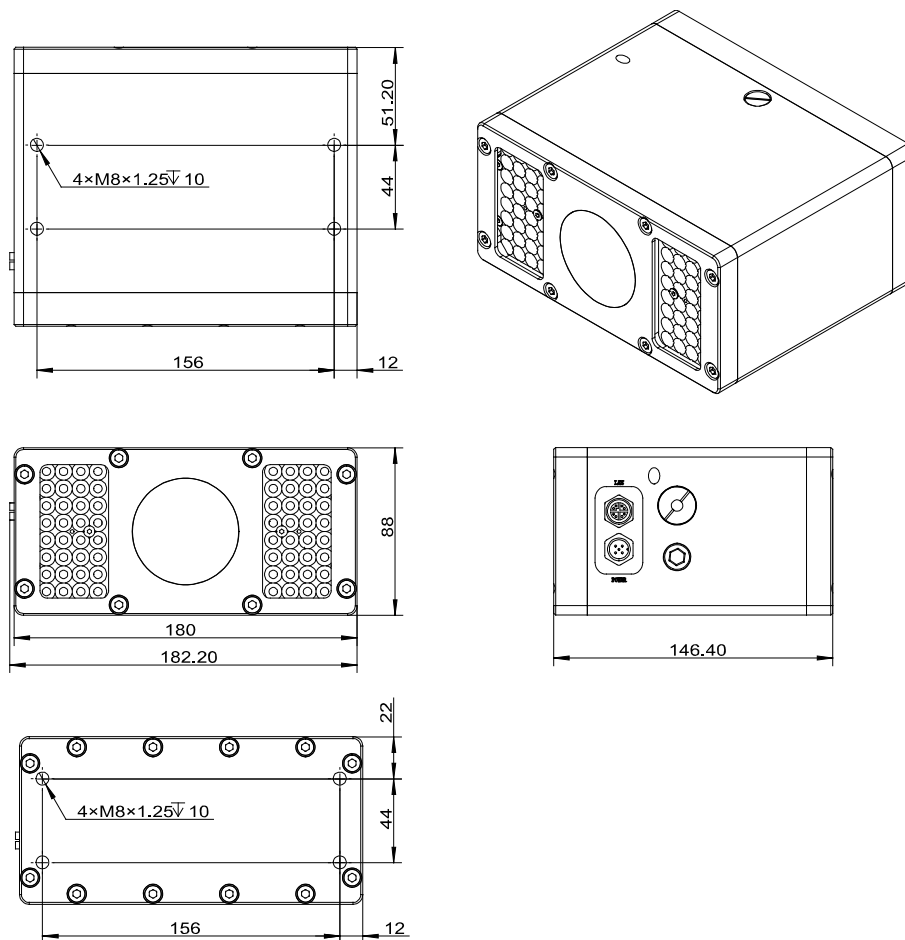

Figure 1-5 Dimensions of Type E

Note:

[1]   Unit: mm

[2]   Materials: aluminum alloy with anodizing process

[3]   Color: silver

[4]   Weight: 4.5 kg
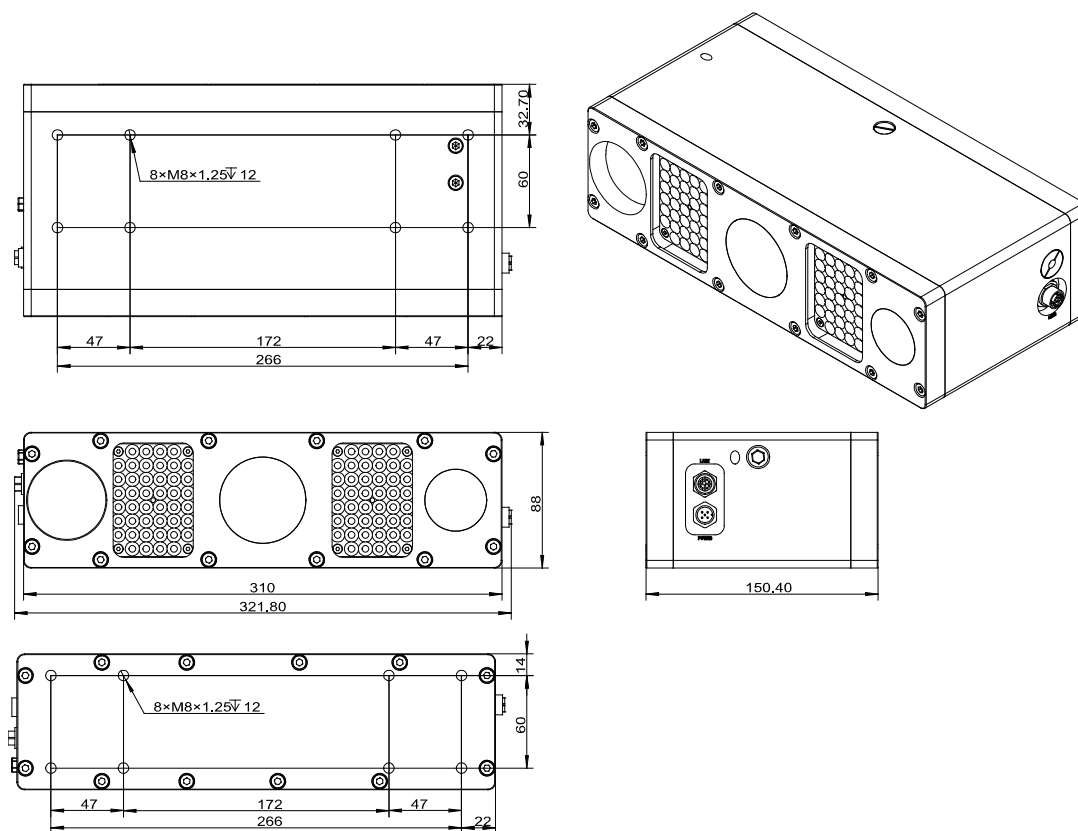
Figure 1-6 Dimensions of Type D

Note:

[1]   Unit: mm

[2]   Materials: aluminum alloy with anodizing process

[3]   Color: silver

[4]   Weight: 6kg