

**VisorJet Smart IP-cameras:
Bullet, Dome, Fisheye, PTZ, Bullet mini,
Dome mini**

Operation Manual

VARSh. 201219.009RE/

BAPIII.201219.009PЭ

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6.3 The storage of the product must be carried out in compliance with the requirements of the manipulation signs applied to the packaging.	Ошибка! Закладка не определена.
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7 TransportationОшибка! Закладка не определена.

7.1 The product must be transported in packaging at an atmospheric pressure of at least 60 kPa (450 mm Hg), at an ambient temperature of -25° C to +50° C... **Ошибка! Закладка не определена.**

7.2 When transporting the product, the requirements of the handling signs applied to the packaging must be observed**Ошибка! Закладка не определена.**

7.3 During transportation, the packaging with the product must be securely fastened to the means of transportation.....**Ошибка! Закладка не определена.**

7.4 The climatic conditions for transportation in containers **Ошибка! Закладка не определена.**

7.5 Cargo handling operation must be carried out in compliance with safety regulations.....**Ошибка! Закладка не определена.**

7.6 After transportation in below-freezing temperatures, the product will be ready for operation within 1 hour at temperatures down to -50 ° C... **Ошибка! Закладка не определена.**

8 8 Recycling informationОшибка! Закладка не определена.

8.1 The product does not contain elements that are hazardous to the environment, therefore no special measures are required for the disposal... **Ошибка! Закладка не определена.**

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This operation manual (hereinafter referred to as the OM) is intended to study the principle of operation of the VisorJet Smart IP-cameras of the Bullet, Dome, Fisheye, PTZ, Bullet mini, Dome mini VAPSh.201219.009 series (hereinafter referred to as the product), their devices and construction with the aim of correct operation, ensuring the full use of technical capabilities and maintaining in constant operability. The products work both independently and as part of video surveillance systems installed at the facility.

The personnel servicing the products must be certified for knowledge of electrical safety rules. The personnel need to study this manual and undergo special training in the use of computer technology and software.

1 DESCRIPTION AND OPERATION

1.1 Intended use

1.1.1 The product is designed to work as part of security video surveillance in indoor and outdoor conditions. The product functions both independently and as part of video surveillance systems.

1.1.2 The product is designed for long-term round-the-clock operation.

1.1.3 Maintenance of the product is carried out by the customer's service personnel, certified for knowledge of safety precautions during operator work at installations with voltages up to 1000 V, who have studied this OM and trained in the use of computer technology..

1.2 Technical specification

1.2.1 The main technical characteristics of the product are given in tables 1.1-1.5:

Table 1.1 - Main characteristics of the VisorJet Smart Bullet series

Parameter	Value					
	VisorJet Smart Bullet 2MII			VisorJet Smart Bullet 5MII		VisorJet Smart Bullet LPR
	VJS-B620-2-LPR	VJS-B620-2	VJS-B621-2	VJS-B620-5	VJS-B621-5	VJS-B622-2-LPR
1. Video matrix	1/2.8		1/2	1/2.8		1/2.8
2. Frame rate	120 fps	60 fps		30 fps		120 fps
3. Max. Image Resolution	1920 x 1080			2592 x 1944		1920 x 1080
4. Focal length	3.0~10.5 mm (replacement 2.7 ~ 13.5 and 7 ~ 22 are allowed)	2.7~13.5 mm	3.6~10 mm	2.7~13.5 mm	7~22 mm	Without lens, for C / CS mount
5. IR illumination range, m	60				100	-
6. IR wavelength, nm	850					-
7. Sensitivity, lx	0.002 (F1.2 AGS on), 0 with IR on		0.001 (F1.2 AGS on), 0 with IR on	0.005 (F1.2 AGS on), 0 with IR on		Color: 0.002 @ F1.2, B/W: 0.001 @ F1.2
8. Signal-to-noise ratio, dB, min	140			120		140

Parameter	Value					
	VisorJet Smart Bullet 2MII			VisorJet Smart Bullet 5MII		VisorJet Smart Bullet LPR
	VJS-B620-2-LPR	VJS-B620-2	VJS-B621-2	VJS-B620-5	VJS-B621-5	VJS-B622-2-LPR
9. Video compression algorithm	H.265+/H.265(HEVC)/H.264+/H.264/MJPEG					
10. Frame rate (main stream)	120fps (1920x1080),	60fps (1920x1080, 1280x960, 1280x720, 704x576)		30fps (2592x1944), 45fps (2048x1536), 60fps (1920x1080), 20fps (2592x1944), 30fps (2048x1536, 1920x1080, 1280x960, 1280x720, 704x576)		120fps (1920x1080), 60fps (1920x1080, 1280x960, 1280x720, 704x576)
(Second stream)	60fps (1920x1080, 1280x960, 1280x720, 704x576)					
(Third stream)	60fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)		30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)		60fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)
	30fps (1920x1080, 1280x720, 704x576, 640x480, 640x360, 320x240, 320x192, 320x180)					

Parameter	Value					
	VisorJet Smart Bullet 2MII			VisorJet Smart Bullet 5MII		VisorJet Smart Bullet LPR
	VJS-B620-2-LPR	VJS-B620-2	VJS-B621-2	VJS-B620-5	VJS-B621-5	VJS-B622-2-LPR
11. Video stream	RTSP, ONVIF supported (PROFILE S & G & T)					
12. Supported network protocols	IPv4/IPv6, ARP, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPnP, Bonjour, SIP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL					
13. Audio stream	G.711/AAC*					
14. Power supply	PoE (802.3af) / 12B ± 10% DC					
15. Power consumption, W, max	6 10,5 (when IR illumination on)	6 10 (when IR illumination on)	5 9 (when IR illumination on)	7		
16. Dimensions, mm	134x126x285					115x62x50
17. Weight, g	1100					407
18. Body material	Metal, plastic					
19. Controlled digital I / O	1/1					
20. External audio port I / O	1/1					
* Note – no built-in microphone. Set of audio wires, a microphone and a loudspeaker – optionally.						

Parameter	Value					
	VisorJet Smart Bullet 2MII			VisorJet Smart Bullet 5MII		VisorJet Smart Bullet LPR
	VJS-B620-2-LPR	VJS-B620-2	VJS-B621-2	VJS-B620-5	VJS-B621-5	VJS-B622-2-LPR
* Note – no built-in microphone. Set of audio wires, a microphone and a loudspeaker – optionally.						

Table 1.2 — Main characteristics of the VisorJet Smart Dome

Parameter	Value			
	VisorJet Smart Dome 2MII		VisorJet Smart Dome 5MII	
	VJS-D620-2	VJS-D621-2	VJS-D620-5	VJS-D621-5
1. Video matrix	1/2.8	1/2	1/2.8	
2. Frame rate	60 fps		30 fps	
3. Max. Image Resolution	1920 x 1080		2592 x 1944	
4. Focal length	2.7~13.5 mm	3.6~10 mm	2.7~13.5 mm	7~22 mm
5. IR illumination range, m	50			90
6. IR wavelength, nm	850			

Parameter	Value			
	VisorJet Smart Dome 2MII		VisorJet Smart Dome 5MII	
	VJS-D620-2	VJS-D621-2	VJS-D620-5	VJS-D621-5
7. Sensitivity, lx	0.002 (F1.2, AGC on), 0 with IR	0.001 (F1.2, AGC on), 0 with IR 0лк с ИК	0.005 (F1.2, AGC on), 0 with IR	
8. Signal-to-noise ratio, dB, min	140		120	
9. Video compression algorithm	H.265+/H.265(HEVC)/H.264+/H.264/MJPEG			
10. Frame rate (main stream)	60fps (1920x1080), 30fps (1920x1080, 1280x960, 1280x720, 704x576)		30fps (2592x1944), 45fps (2048x1536), 60fps (1920x1080), 20fps (2592x1944), 30fps (2048x1536, 1920x1080, 1280x960, 1280x720, 704x576)	
(Second stream)	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)		30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	
(Third stream)	30fps (1920x1080, 1280x720, 704x576, 640x480, 640x360, 320x240, 320x192, 320x180)			
11. Video stream	RTSP, ONVIF supported (PROFILE S & G & T)			

Parameter	Value			
	VisorJet Smart Dome 2MII		VisorJet Smart Dome 5MII	
	VJS-D620-2	VJS-D621-2	VJS-D620-5	VJS-D621-5
12. Supported network protocols	IPv4/IPv6, ARP, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPnP, Bonjour, SIP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL			
13. Audio stream	G.711/AAC			
14. Power supply	PoE (802.3af) / 12B ± 10% DC			
15. Power consumption, W, max	8 12 (when IR illumination on)			
16. Dimensions, mm	143x143x108.4			
17. Weight, g	1100			
18. Body material	Metal, plastic			
19. Controlled digital I / O	1/1			
20. External audio port I / O	0/1			

Table 3.3 - Main parameters of the VisorJet Smart mini series product

Parameter	Value				
	VisorJet Smart Bullet mini			VisorJet Smart Dome mini	
	VJS-B603-2	VJS-B603-2-LPR	VJS-B603-5	VJS-D603-2	VJS-D603-5
1. Video matrix	1/2.8				
2. Frame rate	30 fps	120 fps	30 fps		
3. Max. Image Resolution	1920 x 1080		2592 x 1944	1920 x 1080	2592 x 1944
4. Focal length	3.6	2.7-13.5	3.6		
5. IR illumination range, m	30	50	30	25	30
6. IR wavelength, nm	850				
7. Sensitivity, lx	0.002 (F1.2, AGC on), 0 with IR	0.002 (F1.2, AGC on), 0 with IR	0.005 (F1.2, AGC on), 0 with IR	0.002 (F1.2, AGC on), 0 with IR	0.005 (F1.2, AGC on), 0 with IR
8. Signal-to-noise ratio, dB, min	140		120	140	120
9. Video compression algorithm	H.265+/H.265(HEVC)/H.264+/H.264/MJPEG				
10. Frame rate (main stream)	30fps (1920x1080, 1280x960, 1280x720, 704x576)	120fps (1920x1080, 1280x960, 1280x720, 704x576) MJPEG 30fps (1920x1080,	20fps (2592x1944, 2592x1520, 2048x1536)	30fps (1920x1080, 1280x960, 1280x720, 704x576)	20fps (2592x1944), 30fps (2048x1536, 1920x1080,

Parameter	Value				
	VisorJet Smart Bullet mini			VisorJet Smart Dome mini	
	VJS-B603-2	VJS-B603-2-LPR	VJS-B603-5	VJS-D603-2	VJS-D603-5
(Second stream) (Third stream)		1280x960, 1280x720, 704x576)	30fps (1920x1080, 1280x960, 1280x720, 704x576)		1280x960, 1280x720, 704x576)
	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	120fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192,320x180)	20fps (2592x1944), 30fps (2048x1536, 1920x1080, 1280x960, 1280x720, 704x576)	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)
	30fps (1920x1080, 1280x720, 704x576, 640x480, 640x360, 320x240, 320x192, 320x180)				
11. Video stream	RTSP, ONVIF supported (PROFILE S & G & T)				
12. Supported network protocols	IPv4/IPv6, ARP, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPnP, Bonjour, SIP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL				
13. Audio stream	No			G .711/AAC	
14. Power supply	PoE (802.3af)				
15. Power consumption, W, max	3	8	3,5	2,5	2,5

Parameter	Value				
	VisorJet Smart Bullet mini			VisorJet Smart Dome mini	
	VJS-B603-2	VJS-B603-2-LPR	VJS-B603-5	VJS-D603-2	VJS-D603-5
	5 (when IR illumination on)	11,5 (when IR illumination on)	5,5 (when IR illumination on)	4 (when IR illumination on)	5,5 (when IR illumination on)
16. Dimensions, mm	97x74x180	76x76x240	97x74x180	106x75,5	119x111x65
17. Weight, g	610	825	610	410	500
18. Body material	Metal, plastic				
19. Controlled digital I / O	-				
20. External audio port I / O	-			integrated microphone /1	

Table 4.4 - Main parameters of PTZ series product

Parameter	Value		
	VisorJet Smart PTZ		VisorJet Smart Speed PTZ
	VJS-P612-2-LPR	VJS-P612-5	VJS-P622-5
1. Video matrix	1/2.8		
2. Frame rate	120 fps	30 fps	60 fps
3. Max. Image Resolution	1920 x 1080	2592 x 1944	
4. Focal length	5.3~64 mm 12x optical zoom		4.7~141 mm 30x optical zoom
5. IR illumination range, m	140		200
6. IR wavelength, nm	850		
7. Sensitivity, lx	0.002 (F1.2, AGC on), 0 with IR	0.005 (F1.2, AGC on), 0 with IR	
8. Signal-to-noise ratio, dB, min	140	120	
9. Video compression algorithm	H.265+/H.265(HEVC)/H.264+/H.264/MJPEG		
10. Frame rate (main stream)	120fps (1920x1080), 60fps (1920x1080, 1280x960, 1280x720, 704x576)	30fps (2592x1944), 45fps (2048x1536), 60fps (1920x1080), 20fps (2592x1944),	30fps (2592x1944), 45fps (2048x1536), 60fps (1920x1080, 1280x960, 1280x720, 704x576)

Parameter	Value		
	VisorJet Smart PTZ		VisorJet Smart Speed PTZ
	VJS-P612-2-LPR	VJS-P612-5	VJS-P622-5
(Second stream) (Third stream)		30fps (2048x1536, 1920x1080, 1280x960, 1280x720, 704x576)	
	60fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	30fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)	60fps (704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)
	30fps (1920x1080, 1280x720, 704x576, 640x480, 640x360, 352x288, 320x240, 320x192, 320x180)		
11. Video stream	RTSP, ONVIF supported (PROFILE S & G & T)		
12. Supported network protocols	IPv4/IPv6, ARP, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPnP, Bonjour, SIP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL		
13. Audio stream	no		G.711/AAC
14. Power supply	PoE (802.3at) / 12B ± 10% DC		PoE (802.3at) / 24B ± 10% AC
15. Power consumption, W, max	DC 12V: 10.5W MAX / 15W MAX (when IR illumination on) PoE power supply: 14W MAX / 20W MAX (when IR illumination on)		16.5 35.5 (when IR illumination on)
16. Dimensions, mm	160x274x210		205x205x308
17. Weight, g	2000		4000

Parameter	Value		
	VisorJet Smart PTZ		VisorJet Smart Speed PTZ
	VJS-P612-2-LPR	VJS-P612-5	VJS-P622-5
18. Body material	Metal, plastic		
19. Controlled digital I / O	1/1		2/2
20. External audio port I / O	-		1/1

Table 5.5 - Main parameters of the Fisheye series product

Parameter	Value	
	VisorJet Smart Fisheye	
	VJS-F603-5	VJS-F603-12
1. Video matrix	1/2.8	1/1.7
2. Frame rate	30 fps	
3. Max. Image Resolution	2592x1944	4000x3000
4. Focal length	1.68 mm	1.98 mm
5. IR illumination range, m	15	
6. IR wavelength, nm	850	

Parameter	Value	
	VisorJet Smart Fisheye	
	VJS-F603-5	VJS-F603-12
7. Sensitivity, lx	0.005 (F1.2, AGC on), 0 with IR	0.01 (F1.2, AGC on), 0 with IR
8. Signal-to-noise ratio, dB, min	120	
9. Video compression algorithm	265+/H.265(HEVC)/H.264+/H.264/MJPEG	H.265+/H.265(HEVC)/H.264+/H.264/
10. Frame rate (main stream)	30fps 2592x1944 (Original) 30fps 2560x1440 1920x1080, 1280x720	Fisheye 30fps (4000x3000, 3000x3000, 2560x2560, 1920x1920, 1280x1280) Panoramic 30fps: (3000x752, 2560x640, 1920x480) Double panoramic 30fps: (3000x1680, 2688x1520, 1920x1080, 1280x720) 4PTZ 20fps: (4000x3000), 30fps: (3840x2160, 3072x1728) 3PTZ+F 15fps: (4000x3000), 20fps: (3840x2160), 25fps: (3072x1728) 3PTZ+P 20fps: (4000x3000), 30fps: (3840x2160, 3072x1728)
(Second stream)	30fps (640x480, 640x360, 320x240)	Fisheye 25fps: (1280x960, 1024x1024, 720x720, 320x320) Panoramic 30fps: (1920x480, 1280x320, 960x240)
(Third stream)		

Parameter	Value	
	VisorJet Smart Fisheye	
	VJS-F603-5	VJS-F603-12
		30fps(1920x1080, 1280x720, 704x576, 640x480, 640x360, 320x240, 320x192, 320x180)
11. Video stream	RTSP, ONVIF supported (PROFILE S & G & T)	
12. Supported network protocols	IPv4/IPv6, ARP, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPnP, Bonjour, SIP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL	
13. Audio stream	G .711/AAC	
14. Power supply	PoE (802.3af) / 12B ± 10% DC	
15. Power consumption, W, max	4.1 7.1 (when IR illumination on)	4.8 8 (when IR illumination on)
16. Dimensions, mm	95.8x74x158.5	140x140x46
17. Weight, g	630	1100

Parameter	Value	
	VisorJet Smart Fisheye	
	VJS-F603-5	VJS-F603-12
18. Body material	Metal, plastic	
19. Controlled digital I / O	-	1/1
20. External audio port I / O	-	-/1

1.2.2 The product does not generate any radiation hazardous to technical personnel. Live components are protected to ensure the safety of the operating personnel.

1.2.3 For the correct viewing of video images from the product, the following requirements are imposed on a personal computer (hereinafter referred to as PC):

In the hardware part:

- central processor - not worse than Intel®, Pentium®, DUAL Core (D) CPU;
- clock frequency - not less than 1.66 GHz;
- RAM - at least 1 GB;
- network connection - not less than 100 Mbit / s;
- monitor resolution - at least 1280x1024 pcl;
- the presence of a speaker system or headphones.

In the software part:

- operating system - Windows 10;
- the presence of installed web browsers Internet Explorer version 8.0 or higher;
- the presence of the installed software ONVIF Device Manager or ONVIF Device Tool Lingodigits®.

1.2.4 Product reliability indicators are shown in Table 6.

Table 6 - Product reliability indicators

Parameter	Value
Average service life, years, not less	5
Mean time between failures of a workplace, h, not less	30000
Notes - Failure is understood as the impossibility of establishing any type of connection due to the technical condition of the equipment and software for more than 1 minute.	

1.3 Components

1.3.1 The product is a functionally and structurally complete device consisting of a product body, a movable bracket and a commutation cable.

1.3.2 The overall dimensions of the product are shown in Figures 1 - 11.

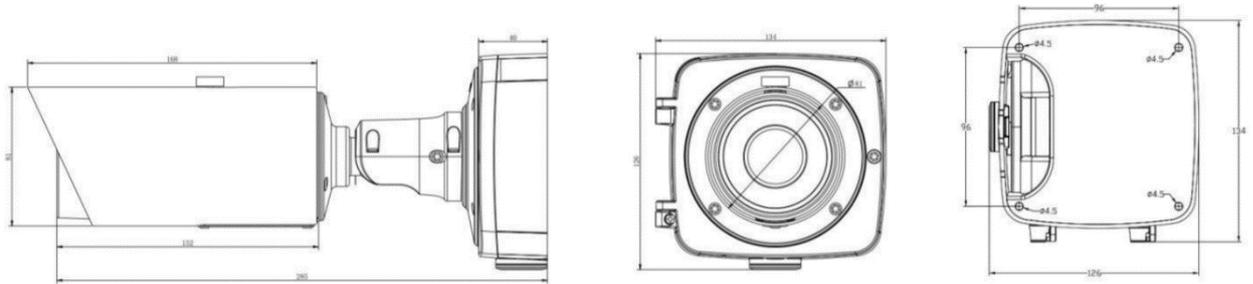


Figure 1 - IP-camera VisorJet Smart Bullet

Product line: VJS-B620-2-LPR \ VJS-B620-2 \ VJS-B620-5 \ VJS-B621-2 \ VJS-B621-5

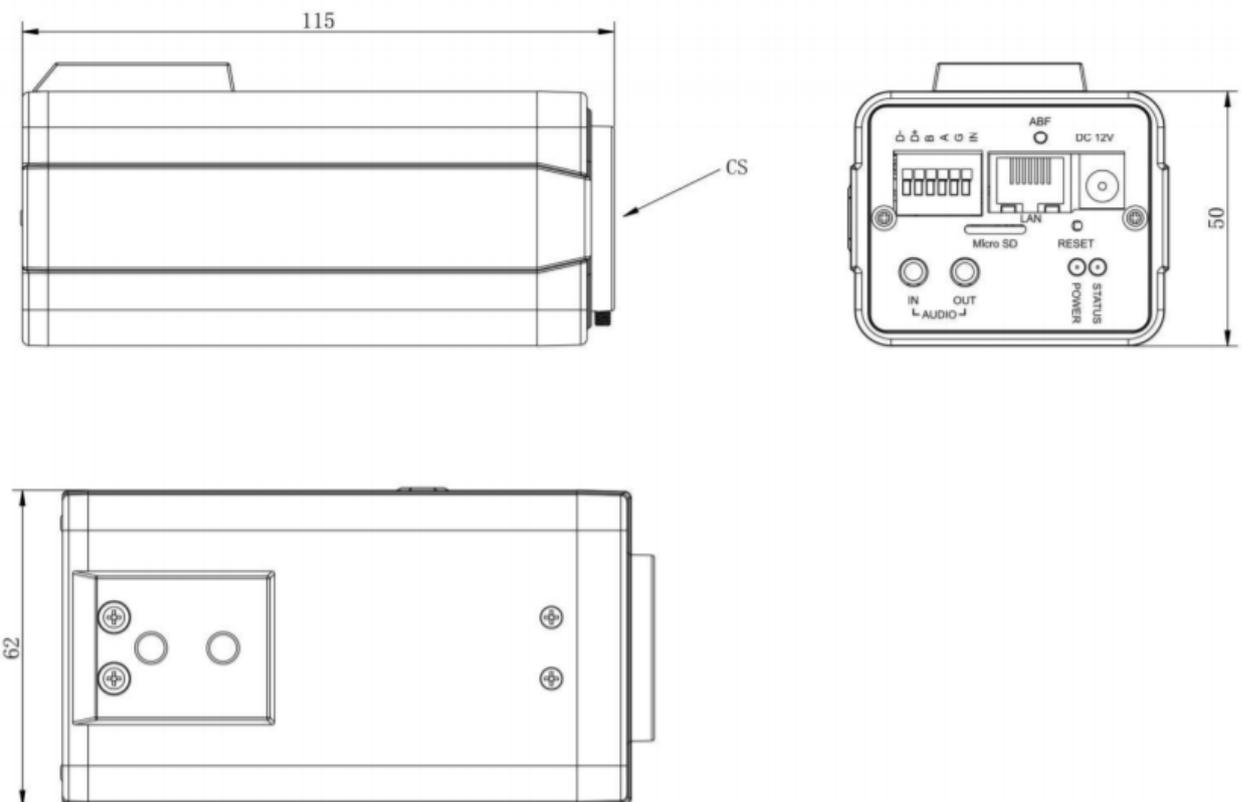


Figure 2 - IP-camera VisorJet Smart Bullet

Product line: VJS-B622-2-LPR

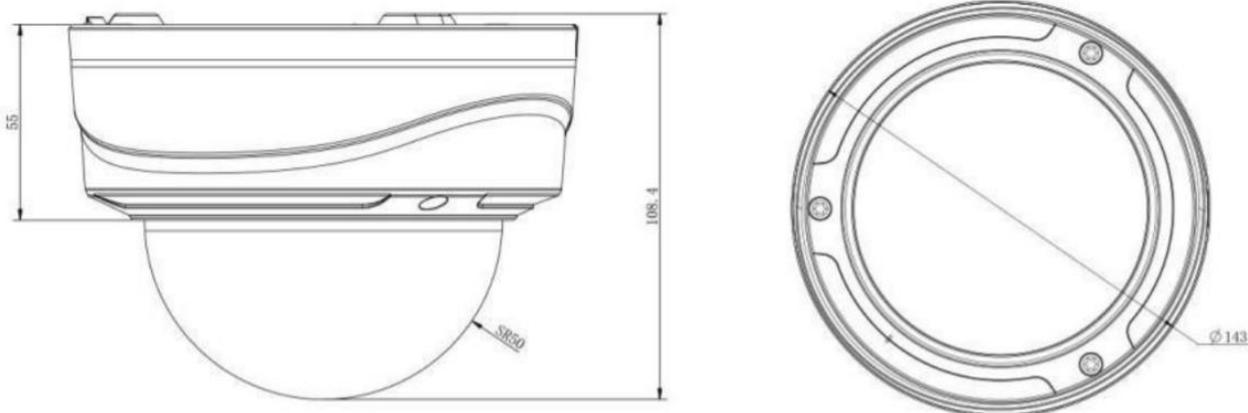


Figure 3 — IP-camera VisorJet Smart Dome.

Product line: VJS-D620-2 \ VJS-D620-5 \ VJS-D621-2 \ VJS-D621-5

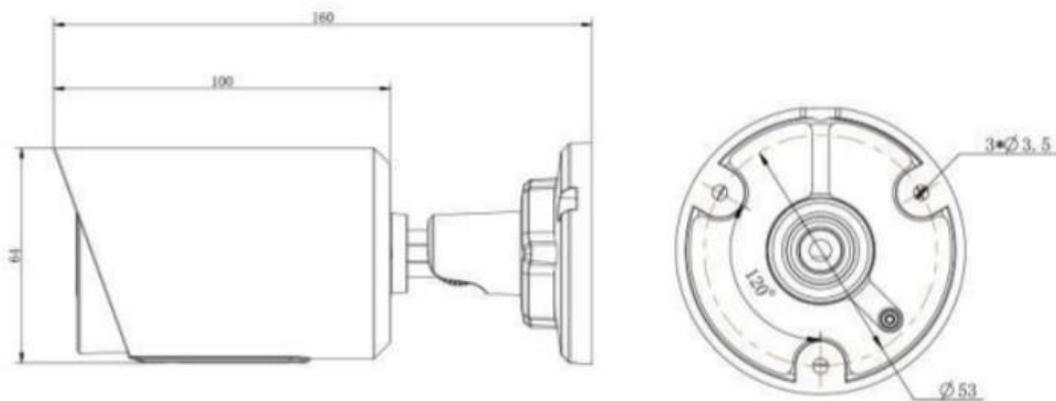


Figure 4 — IP-camera VisorJet Smart Bullet mini

Product line: VJS-B603-2 \ VJS-B603-5

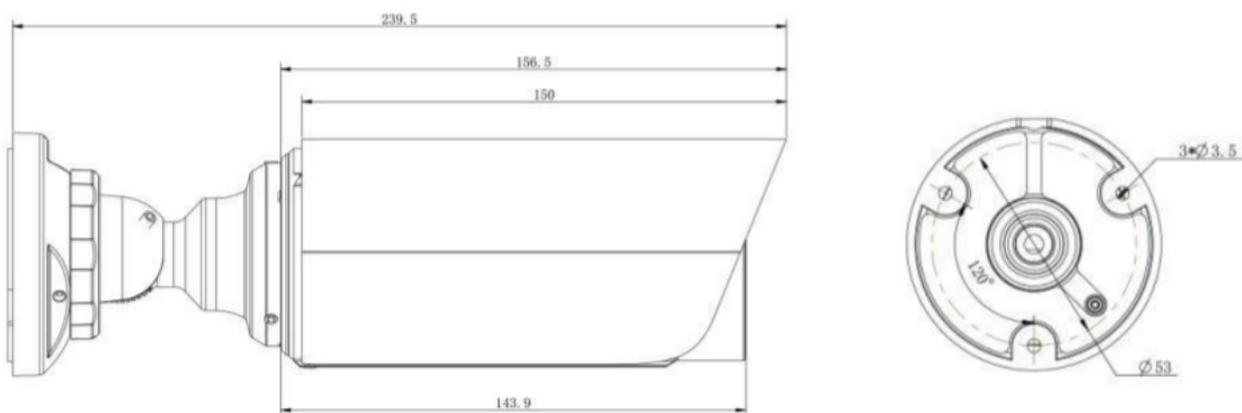


Figure 5 — IP-camera VisorJet Smart Bullet mini

Product line: VJS-B603-2-LPR

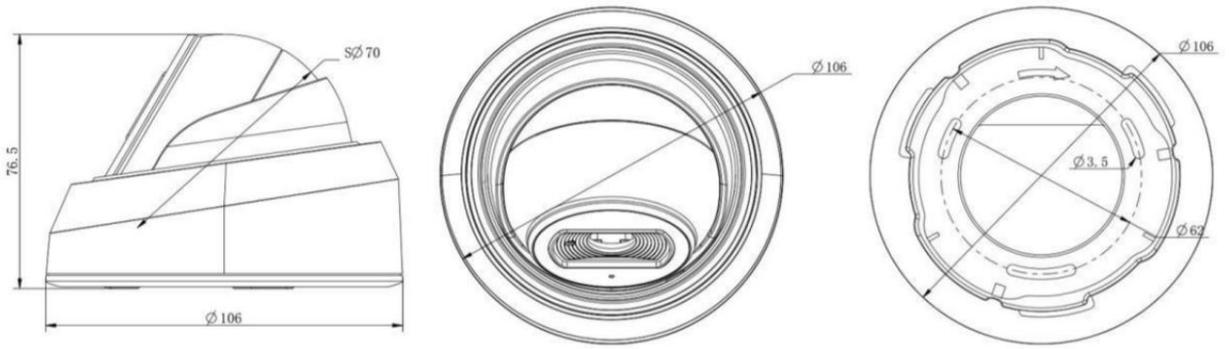


Figure 6 — IP-camera VisorJet Smart Dome mini
Product line: VJS-D603-2

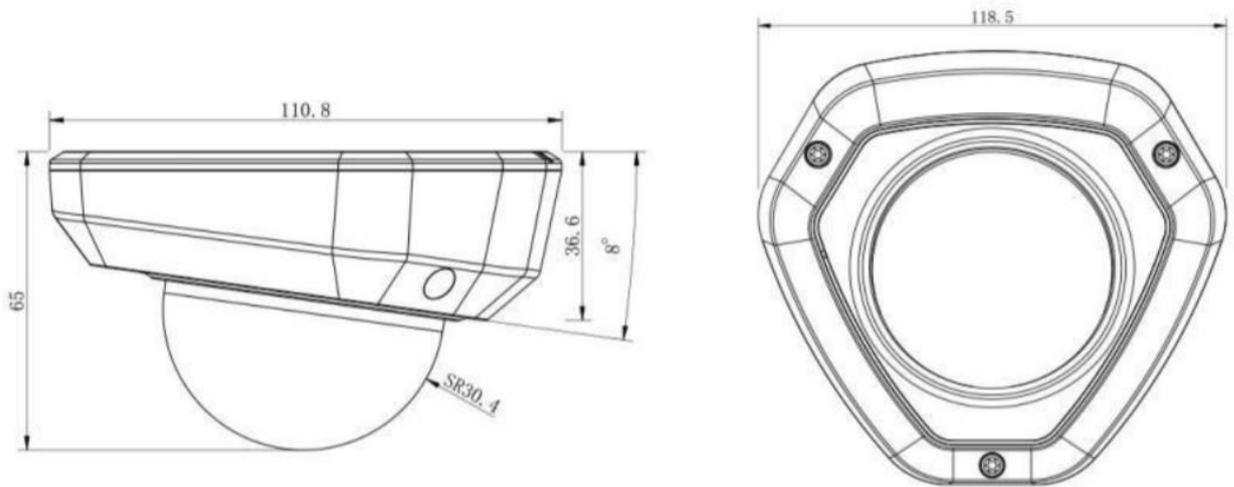


Figure 7 — IP-camera VisorJet Smart Dome mini
Product line: VJS-D603-5

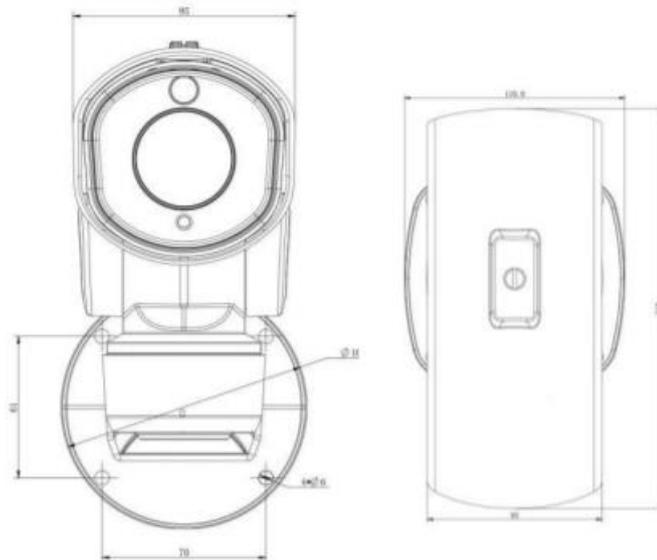


Figure 8 — IP-camera VisorJet Smart PTZ.
Product line: VJS-P612-5, VJS-P612-2-LPR

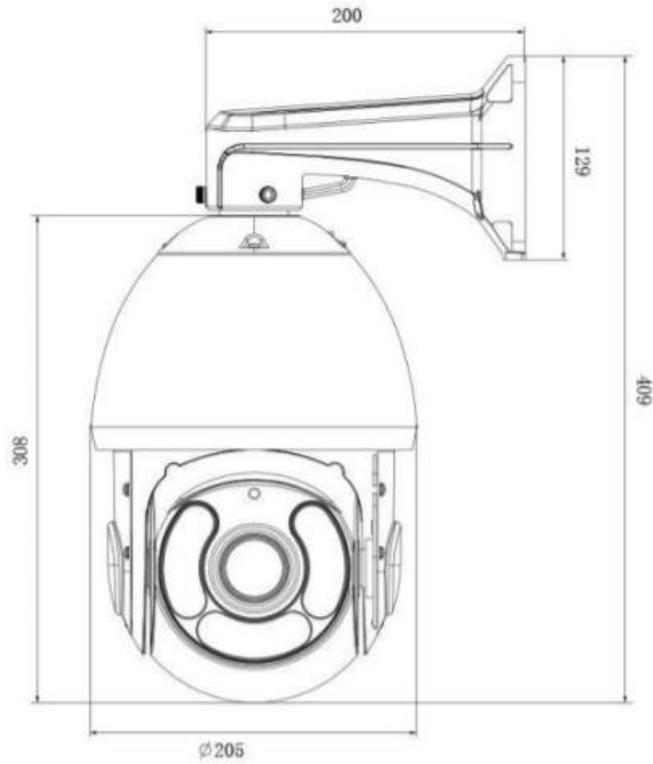


Figure 9 — IP-camera VisorJet Smart Speed PTZ.
Product line: VJS-P622-5

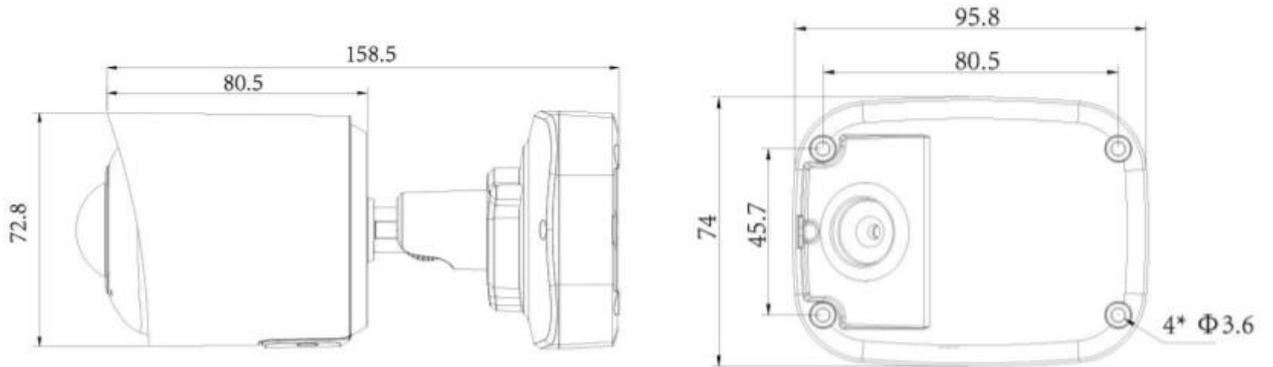


Figure 10 — IP-camera VisorJet Smart Fisheye. Product line: VJS-F603-5

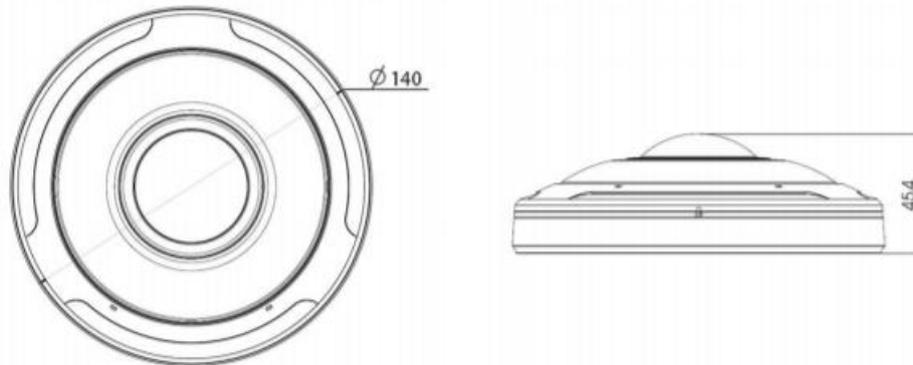
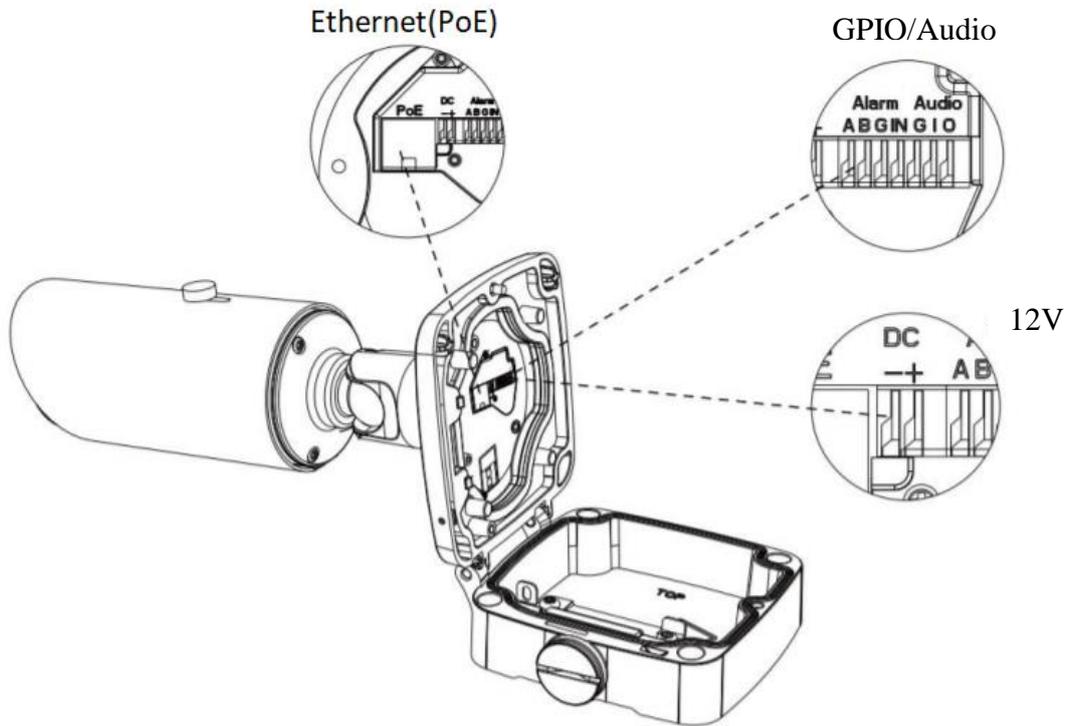


Figure 11 — IP-camera VisorJet Smart Fisheye. Product line: VJS-F603-12

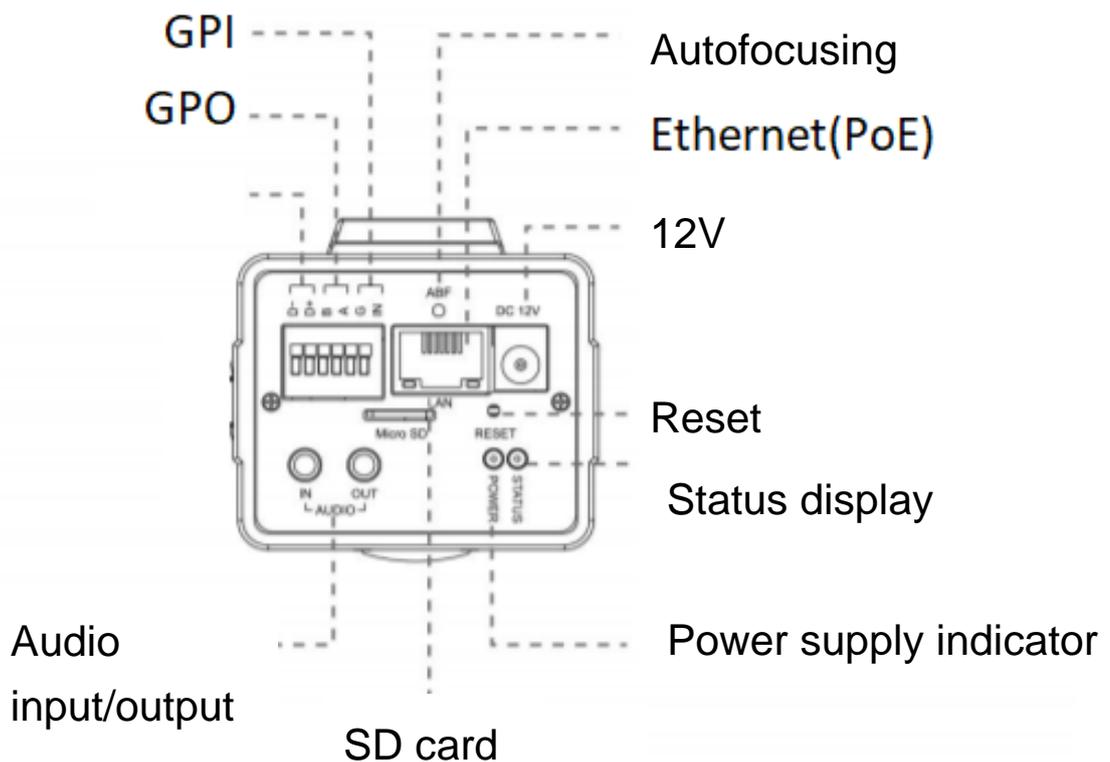
2 DESIGN AND OPERATION

2.1.1 Product design

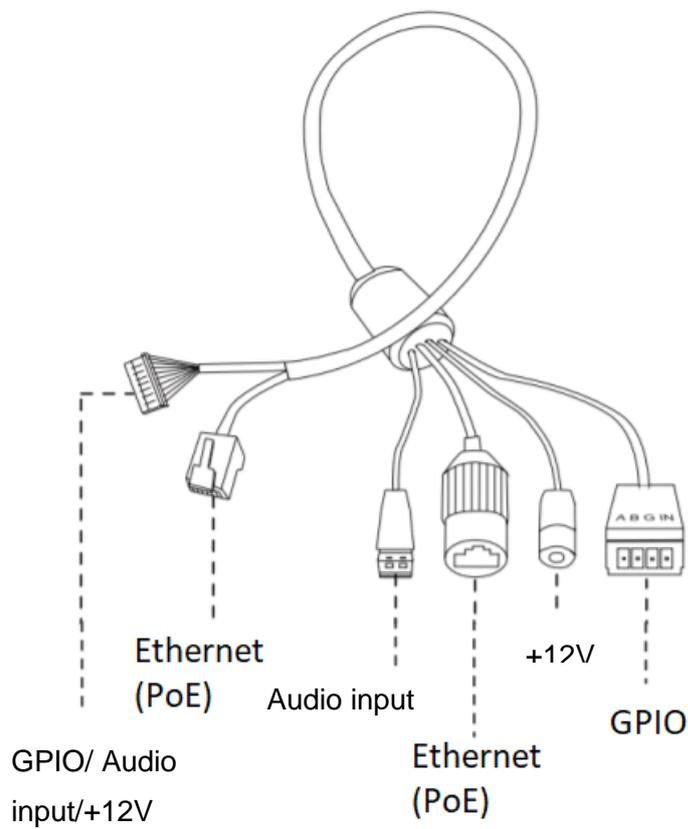
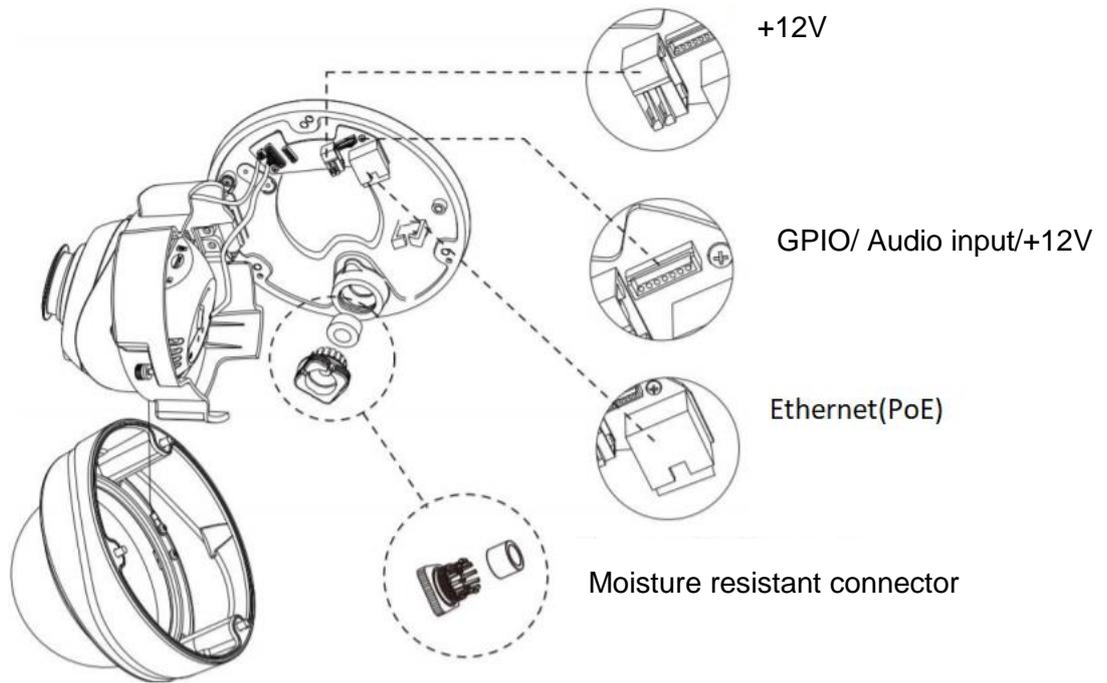
2.1.1.1 VisorJet Smart Bullet Series, Models: VJS-B620-2-LPR, VJS-B621-2, VJS-B620-5, VJS-B621-5.



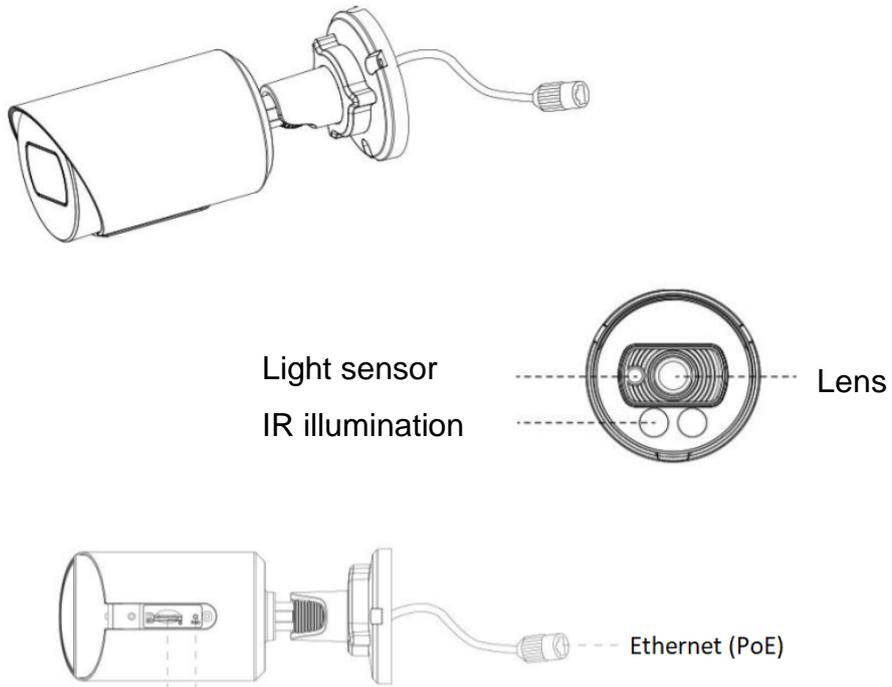
2.1.1.2 VisorJet Smart Bullet Series, Model: VJS-B622-2-LPR.



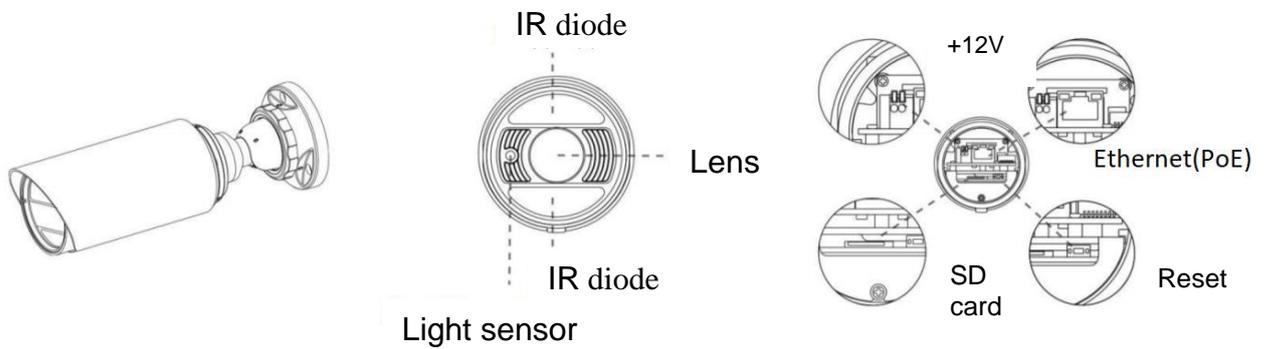
2.1.1.3 VisorJet Smart Dome Series, Models: VJS-D620-2, VJS-D621-2, VJS-D620-5, VJS-D621-5.



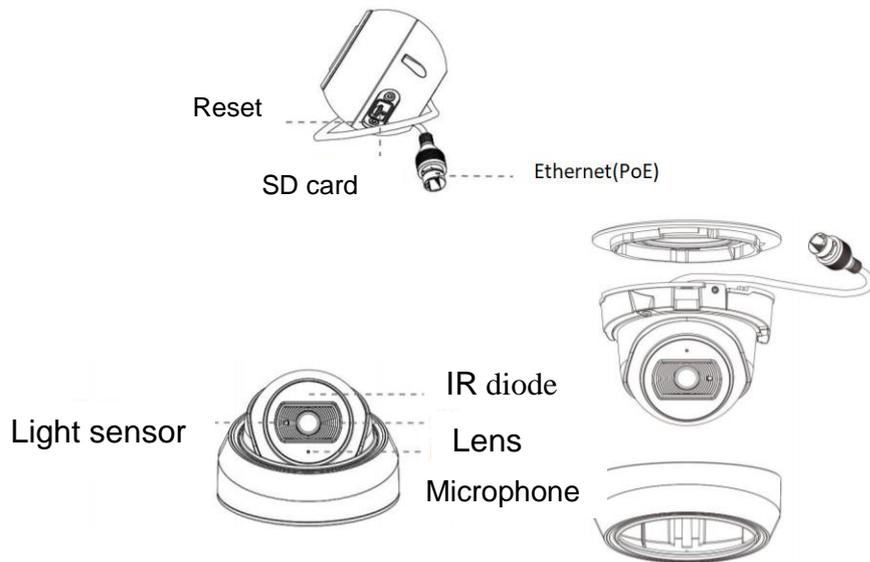
2.1.1.4 VisorJet Smart Bullet mini Series, Models: VJS-B603-2, VJS-B603-5



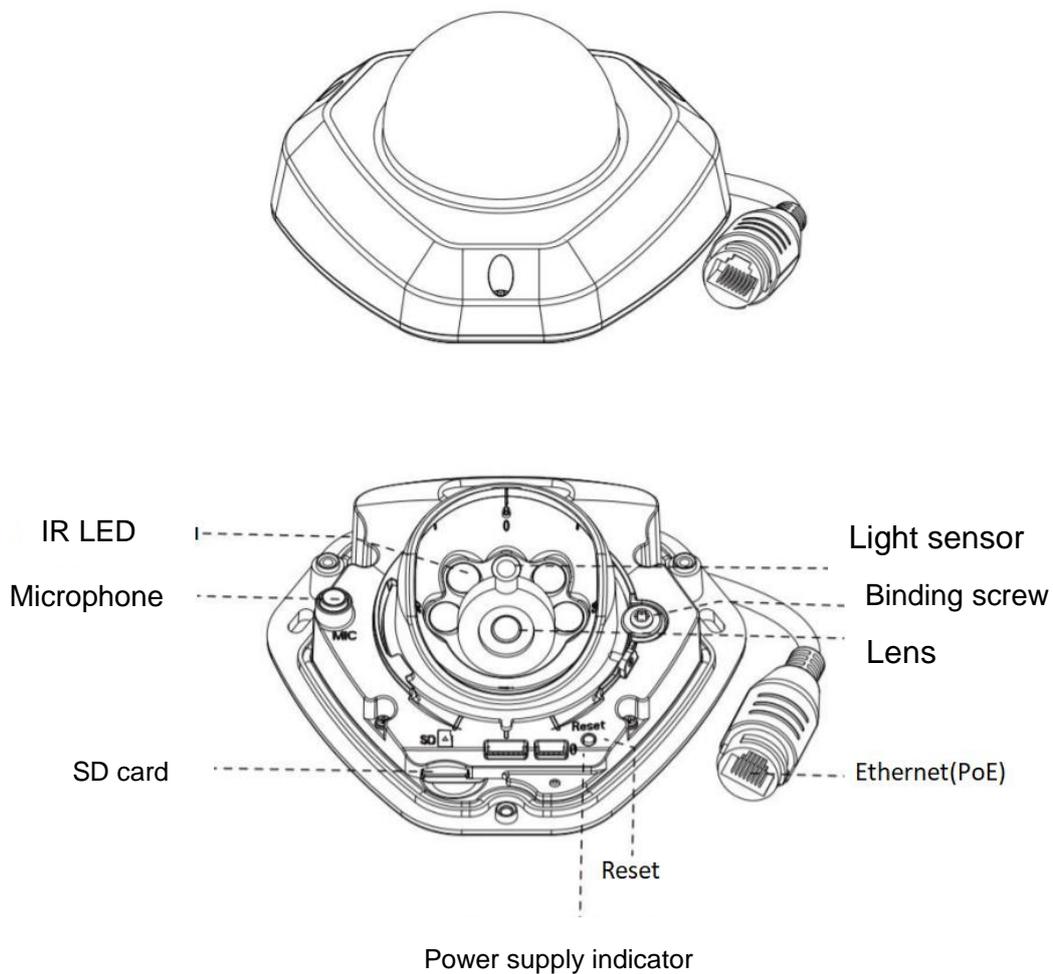
2.1.1.5 VisorJet Smart Bullet mini Series, Model: VJS-B603-2-LPR



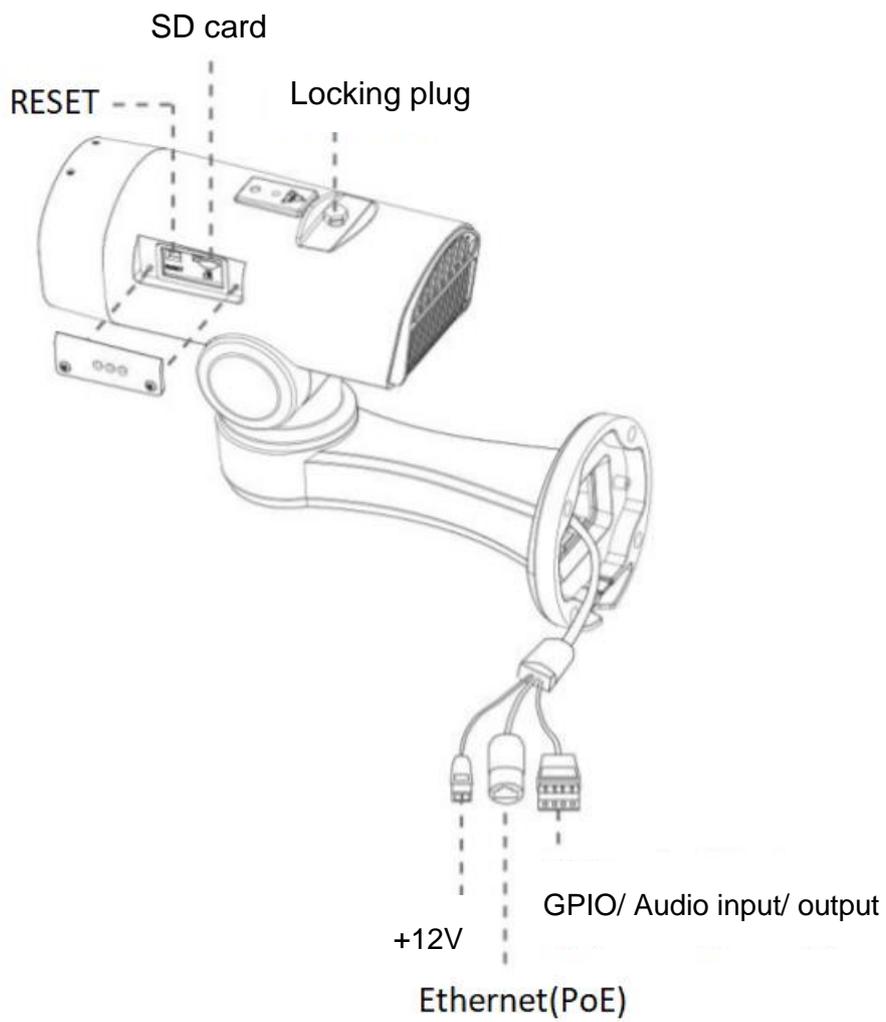
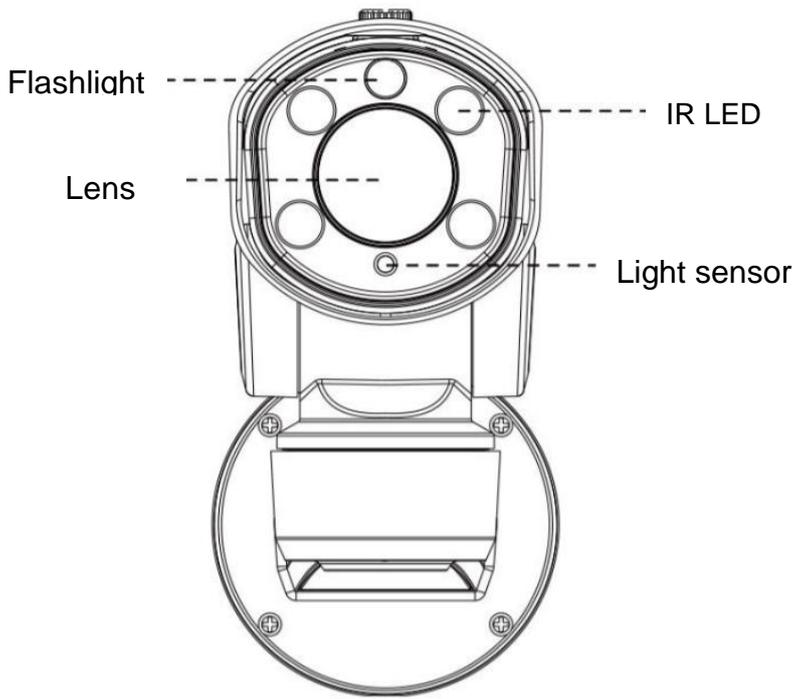
2.1.1.6 VisorJet Smart Dome mini Series, Product line: VJS-D603-2



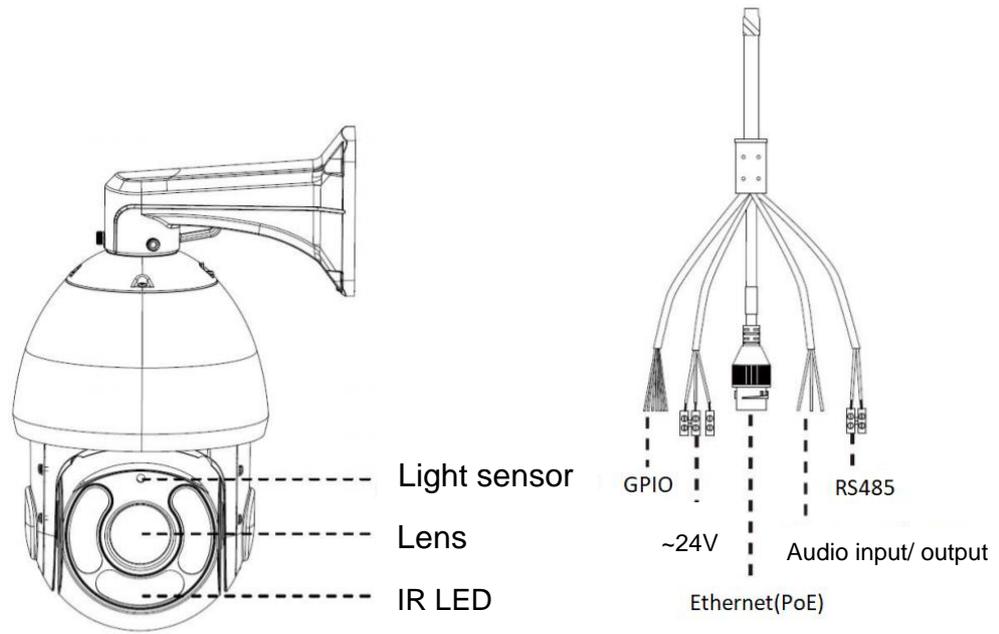
2.1.1.7 VisorJet Smart Dome mini Series, Model: VJS-D603-5



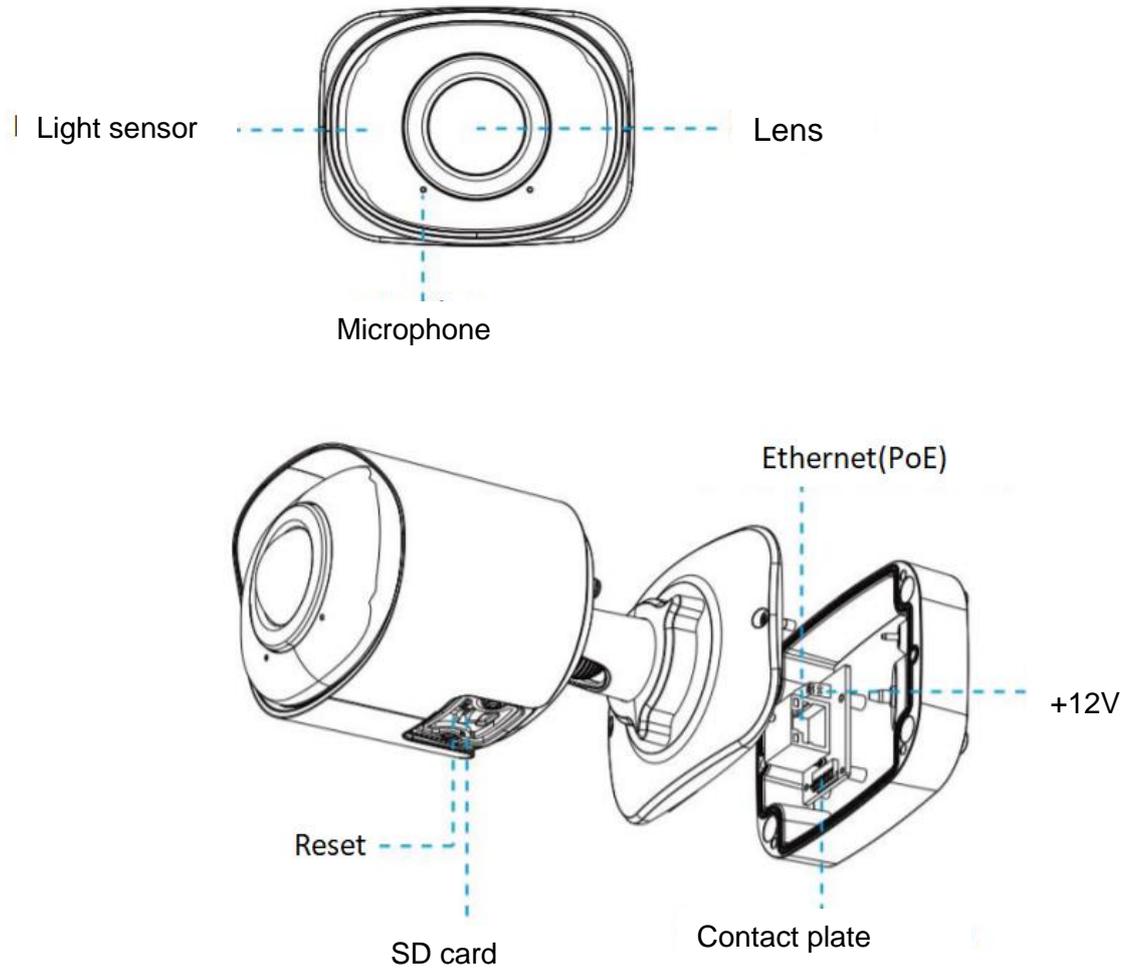
2.1.1.8 VisorJet Smart PTZ Series, Models: VJS-P612-2-LPR, VJS-P612-5



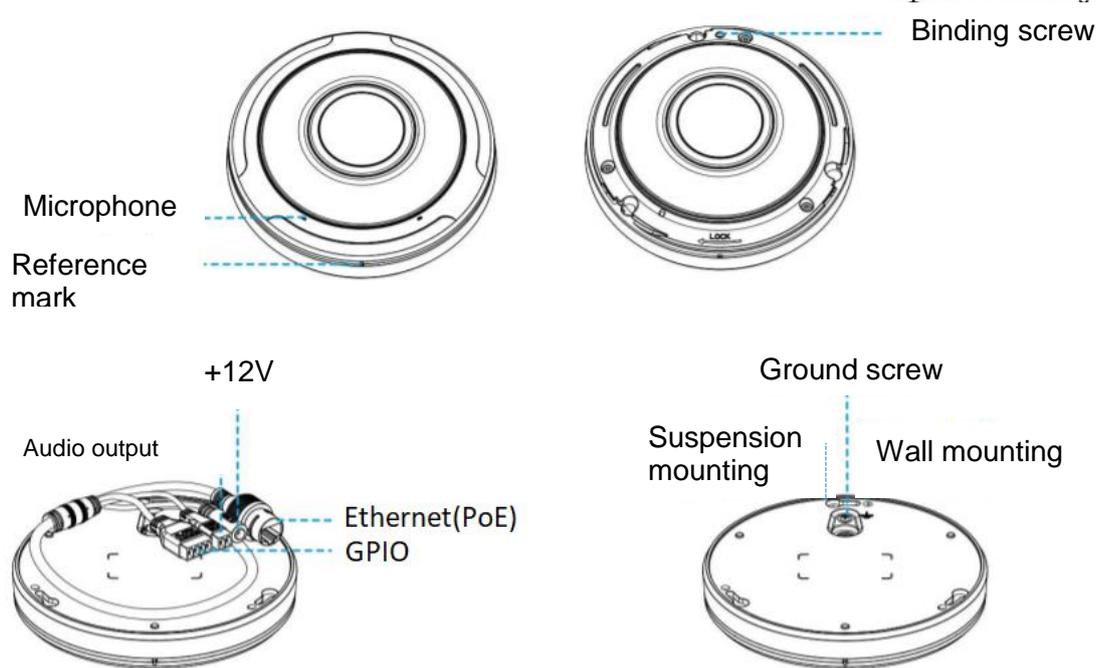
2.1.1.9 VisorJet Smart Speed PTZ Series, Model: VJS-P622-5



2.1.1.10 VisorJet Smart Fisheye Series, Model: VJS-F603-5



2.1.1.11 VisorJet Smart Fisheye Series, Model: VJS-F603-12



2.1.1.12 The product is made in a metal case with plastic inserts.

2.1.1.13 The product contains the following connectors:

- RJ-45 port for connecting the product to an Ethernet network of the IEEE 802.3, IEEE 802.3af or IEEE 802.3at standards;
- microSD slot.

Optional:

- DC connector for connecting a 12 V or ~ 24 V power supply;
- GPIO connector; – audio jack; – RS485.

2.1.1.14 The product is also equipped with:

- built-in IR illumination;
- Reset button;
- motorized lens, Bullet, Dome, PTZ;
- 360 ° rotary mechanism in PTZ version.

2.1.2 Operation

2.1.2.1 The product can operate both independently and as part of video surveillance systems installed at the facility.

2.1.2.2 The product operates on the basis of the Linux operating system.

2.1.2.3 The product performs the following functions:

- broadcasts one (main) or simultaneously two or three video streams (main and additional);
- works in shifts in day and night modes. Switching is done automatically;
- corrects the incoming video image (smoothing the defects of different-contrast lighting, suppression of noise, compensation of background illumination);
- superimposes additional information on the video stream (date, time, text, etc.).

2.1.2.4 The product is connected to an Ethernet network using an RJ-45 connector. Also, through this connector, the product can be connected to the power supply (using a PoE injector).

2.1.2.5 Use the web interface to view video data in real time and configure the parameters of the product.

2.1.2.6 The product supports the ONVIF protocol, which allows you to view video data in specialized software that supports this protocol.

2.1.2.7 The product software supports the update function. In this case, the update is carried out by the maintenance personnel in the product web interface. Information about the latest updates is available on the manufacturer's website www.visorjet.ru.

2.1.2.8 The product performs a self-diagnosis function and, in the event of a malfunction, displays error messages in the web interface.

2.1.2.9 The web interface of the product contains tabs, a brief description of which is presented in Table 7, for a complete description see Appendix B.

Table 7 - Tabs of the device web interface

Tab Name	Description
Live Video	To view video in real time, select the language, select the configuration of the video stream and switch between video streams.
Storage	To view video images (in the off-line mode) recorded in the camera's internal memory.
Local path	To select the path for recording video images.
Basic Settings	Configuring the product and contains the tabs: Video, Image, Audio, Network, Date&Time.
Advanced Settings	Configuring the product settings related to security and contains the tabs Alarm, Storage, Security, SIP, Smart Event, Logs.
System	Provides information about the device. Designed to change the device name and inform about device and software versions, camera model, MAC address, device operating time

Maintenance	It is intended for flashing the device, resetting to factory settings, forced rebooting the device, exporting and importing the configuration file, enabling auto-restart and its periods.
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2.1.3 Measuring instruments, tools and accessories

2.1.3.1 For the operation and maintenance of the product, apart from a PC, no special tools are required.

PC system requirements:

OS: Windows XP / Vista / 7/8/10 / Server 2000 / Server 2008.

Processor: 1.66GHz or higher, RAM: 1GB or higher.

Graphics memory: 128MB or higher.

Internet Protocol: TCP / IP (IPv4 / IPv6).

Web browser: Internet Explorer 8.0.

2.1.4 Marking and sealing

2.1.4.1 Product marking is made in accordance with the requirements of the design documentation and contains:

- brand and model;
- sign of the certificate of conformity (if any).
- serial number (includes month and year of manufacture);
- MAC address of the product;
- information about the static IP address;
- information about the input power supply.

2.1.4.2 Sealing of the product is made by sticking a seal on the body of the product.

2.1.4.3 Sealing is carried out after acceptance tests, as well as after repair or when the product is put into operation at the customer's site.

2.1.4.4 It is not allowed to remove the seals during operation.

2.1.5 Packaging

2.1.5.1 The product is packed in a package that ensures the safety of the product during storage and transportation.

2.1.5.2 Package marking meets the requirements of the assembly drawing for the package.

3 INTENDED USE

3.1 Operating limitations

3.1.1 The product is designed for round-the-clock continuous operation in outdoor conditions under the following climatic conditions:

- ambient temperature from -40 to + 60oC;
- atmospheric pressure not lower than 525 mm Hg. (70 kPa);
- relative humidity no more than 95%;
- lack of moisture condensation and aggressive impurities.

3.1.2 The maximum service life and constant readiness of the product for operation is ensured by:

- regular checking of the product technical condition;
- compliance with the measures for product operation preparing, provided for in clause 3.3;
- systematic control of the product operativeness, as indicated in clause 3.4.2;
- immediate elimination of malfunctions arising during operation;
- timely repair of the product in accordance with Section 5.

3.2 Unpacking and checking the contents

3.2.1 The product must be packed in a package.

3.2.2 The packed product must be stored in its original packaging under the conditions specified in Section 6 of this OM

3.2.3 Upon receipt of the product at the place of operating, it is necessary to:

- a) open the packing boxes;
- b) check the completeness of the product indicated in the VARSH.201219.009PS passport or in the label;
- c) make the necessary entries in the passport VARSH.201219.009PS

3.3 Preparation for use

3.3.1 Safety precautions during preparation for work

3.3.1.1 When preparing the product for operation, the safety measures specified in clause 3.5.1 should be observed.

3.3.2 Scope and sequence of external inspection

3.3.2.1 During the external inspection of the product before switching on, make sure that there are no external damages.

3.3.3 Installation sequence

3.3.3.1 The product is installed by the buyer himself.

3.3.3.2 The product is installed in the following sequence:

- 1) attach the product to the installation site, at the same time you can choose any position of the bracket that satisfies the method of fixing the cable;
- 2) mark the attachment points;
- 3) drill a hole in which the dowels should be installed;
- 4) fix the product on the surface with self-tapping screws;
- 5) connect the product to the video surveillance system by switching the network cable to the RJ-45 port;
- 6) connect the product to the power supply using a network cable, if the counterpart of the cable is connected to the PoE injector. If power supply using PoE technology is not possible, then the product must be powered from an external power supply $12V \pm 0.25V$ (not included in the delivery set);
- 7) point the product to the video surveillance object;
- 8) if the product is equipped with a motorized varifocal lens, adjust the viewing angle directly at the installation site. To do this, you need to use the web interface.

3.4 Prestarting procedures

3.4.1 Preparing the product for operation before electric power supply includes:

- checking the reliability of fixing the product in place;
- checking the reliability and correctness of connecting all cables, as well as the absence of damage to the cables;

- holding for 1 hour to heat the device if it was transported or stored at negative temperatures (up to -50° C).

3.4.2 Switching sequence and functional check

3.4.2.1 Before turning on the product, perform the actions described in clause 3.3 (Preparation for use).

3.4.2.2 The power supply to the product starts immediately after connecting the power cables to the DC connector or to the RJ-45 connector if the device is powered using a PoE injector.

3.4.2.3 Malfunctions detected during the start-up process, as well as if it is impossible to eliminate the malfunctions described in clause 5.3, are the basis for transferring the product for repair.

3.4.3 Shutdown sequence

3.4.3.1 To cut off the power supply to the product, pull out the wire from the DC connector or from the RJ-45 connector if it is used to supply power.

3.5 Product use

3.5.1 Security measures

3.5.1.1 Operation of the product should be carried out by engineering and technical personnel with special training in the field of computer technology.

3.5.1.2 When equipping the workplace, preparing for work and operating the product, it is necessary to comply with safety requirements when working on installations with voltages up to 1000 V.

3.5.1.3 The following rules should be observed, when using the product:

- check the correct function and operativeness of the product before starting work, as indicated in clause 3.4.2;
- turn on and off the product as indicated in clause 3.4.2;

3.5.2 Using

3.5.2.1 Prepare the product for use in accordance with clause 3.3 and turn on the product as indicated in clause 3.4.2

3.5.2.2 The start-up of the product is carried out automatically after power supply without intervention of the service personnel.

3.5.2.3 The product has a static IP address 192.168.5.190, by which it can be found on the network.

3.5.2.4 Connect directly to the PC after setting a static address on it.

3.5.2.5 Log into 192.168.5.190 through a web browser and enter the password.

3.5.2.6 The product has a standard account named "admin" and password "en123456". After the first authentication in the web interface, it is recommended to change the account name and password for further work.

3.5.2.7 The settings for the operation of the product and the viewing of video data are performed in the web interface.

3.5.2.8 Description of the product settings and operation actions is presented in Appendix B "Product web interface".

3.5.3 Procedure in the event of product failure

3.5.3.1 The employee who ensures the operation of the product, in case of a breakdown, should report any problems that have occurred to the technical support service of the manufacturer.

3.5.3.2 If the product has not fully recovered, try to find the fault using the recommendations of the table Error! Reference source not found.

3.5.3.3 Information about failures and performed replacements should be recorded in the product passport.

4 MAINTENANCE

4.1 General instructions

4.1.1 Maintenance of the product is carried out in order to maintain it in working condition, to maintain technical characteristics and reliability indicators specified in clause 1.2.

4.1.2 Maintenance of the product is performed by the service personnel and at the expense of the operating organization.

4.1.3 Maintenance of the product is carried out according to the schedule drawn up and approved by the consumer, taking into account the requirements of this section of the OM.

4.1.4 Maintenance of the product is carried out by the customer's service personnel, certified for knowledge of safety precautions during operator work on installations with voltages up to 1000 V, who have studied this OM and trained in the use of computer technology.

4.1.5 The product subject to maintenance must have a complete set of hardware, a complete set of operational documentation and consumables used for maintenance.

4.1.6 The product is subject to quarterly technical maintenance.

4.1.7 The faults identified during maintenance should be eliminated in accordance with section 5.

4.2 Safety measures

4.2.1 Safety measures during maintenance of the product must comply with the requirements of subsection 3.3 of this OM.

4.3 Maintenance procedure

4.3.1 Technical maintenance of the product is presented in Table 8.

Table 8 - Quarterly product maintenance

Item	Name of the object of maintenance and work	Note
Cleaning the product from dust	Cleaning of the lens and external surfaces is carried out by wiping with a soft cloth soaked in a special degreaser. Using a coarse cloth may cause scratching. DO NOT USE TECHNICAL ALCOHOL TO CLEAN THE LENS	Materials: –special cleaning agent; - napkins made of non-woven material, microfiber or artificial suede

4.4 Function check of the product

Function check of the product is carried out by an employee of the operating company according to the following method:

- 1) connect the product to power supply and Ethernet;
- 2) make sure that the power indicator located on the RJ-45 connector is blinking green. If the connector is hidden among communications (for example, in the ceiling), then go to step 3);
- 3) open the web interface of the product on the display device and log in;
- 4) set the required settings for the video stream(s);
- 5) save the settings;
- 6) make sure the video data occurs in the web interface.

The product is considered to be operational if the settings are adjusted and saved, and the video stream is broadcast in real time in the product web interface.

5 RUNNING MAINTENANCE

Running maintenance of the product is not provided.

5.1 General characteristics of faults

5.1.1 Normal operation of the technical means of the product is possible only with strict observance of the operating rules and with timely maintenance.

5.1.2 The main causes of malfunctions include:

- non-observance of the rules of operation, transportation and storage;
- untimely and poor-quality maintenance of equipment and untimely elimination of identified faults;
- mechanical damage resulting in cable breakage;
- contact failures in various circuits and connectors due to contamination, oxidation and burning of surface contacts or insufficiently tight connection;
- breakage of the 12 V power supply or PoE injector.

5.2 Failure detection

5.2.1 For quick failure detection, operating personnel need to know the structure and principles of the product.

5.2.2 It is prohibited to open and make any changes to the product in failure correction.

5.2.3 Failure correction is carried out by means of external inspection.

5.2.4 During an external inspection you should:

- inspect a failed product for mechanical damage, traces of oxidation, burning and contamination of electrical contacts and connections;
- make sure the integrity of the product body and the reliability of the connection of cables with the product connectors

5.3 Typical malfunctions and methods of their elimination

5.3.1 Description of typical product malfunctions is presented in Table 9.

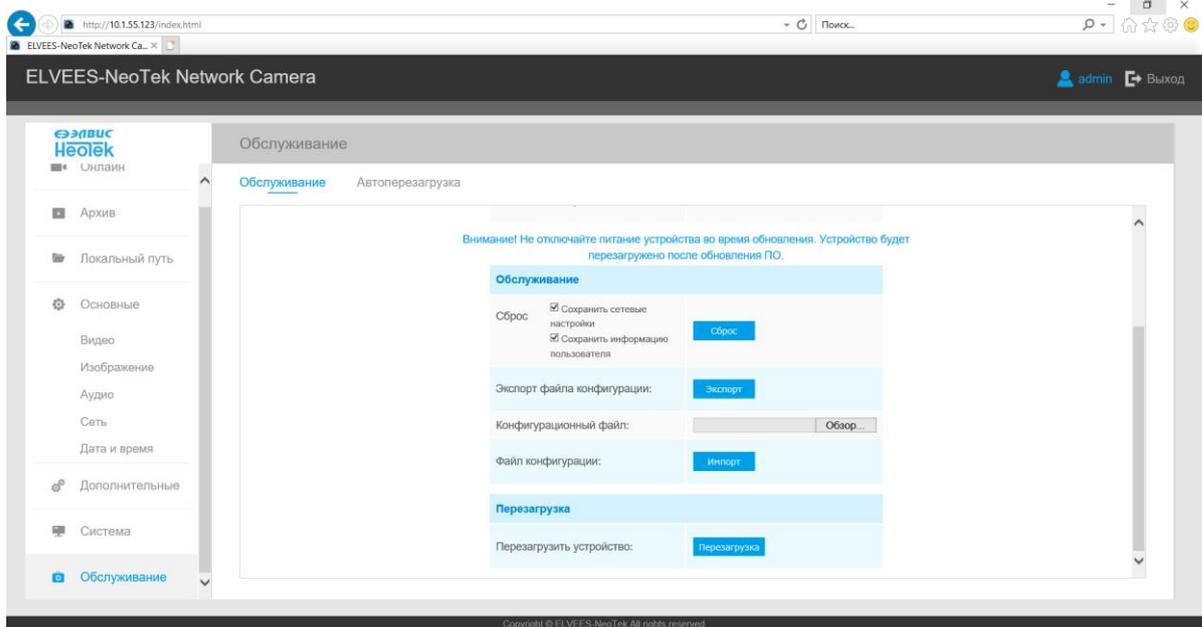
Table 9 - Typical malfunctions of the product

Malfunction	Source	Remedy
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No video image in the web interface	Product malfunction	Reboot the product programmatically (in the web interface) or by removing and connecting the power cable. If it does not help, save the settings and reset to factory settings (resetting the network configuration is not necessary), then import the settings.
	Required web browser plugins not installed	Install the plugins suggested by the browser.
License plate not recognized	Lens out of focus	Enable automatic focus or set manually.
	Recognition region is not set	In the Additional settings >> LPR >> Settings tab, set the recognition region.
	No license	Enter the license key on the tab: Additional settings >> LPR >> Settings
The camera is not visible on the network	No connection	Check connections
	The network settings are incorrect	Reset the camera to factory settings. Respecify the settings.
	Damaged cable	Replace cables, check the correctness of the cable preparation.

5.3.2 Software reset.

Go to the Maintenance tab and click the reset button for a software reset.



5.3.3 Hard reset.

Step 1: Press the reset button and hold, then turn on the camera and the IR LEDs will flash;

Step 2: Keep pressing the reset button until the IR LEDs stay always on;

Step 3: Release the reset button, the camera will start reset;

Step 4: It will take 1 ~ 3 minutes to complete the reset and the IP address will turn to 192.168.5.190 (If the IP address is not changed to 192.168.5.190, please try again from step 1);

Step 5: Change your local IP address again to the required one.

6 STORAGE

6.1 The product should be stored in a heated and ventilated warehouse:

- in the manufacturer's packaging at an ambient temperature from +5 to + 50°C and relative air humidity up to 80% at +25° C;
- without packaging at an ambient temperature of +10 to + 50° C and a relative air humidity of 80% at + 25° C.

6.2 The storage of the product must be carried out in compliance with the requirements of the manipulation signs applied to the packaging.

6.3 The storage room should be free of dust, acid and alkali fumes, corrosive gases and other harmful impurities that cause corrosion.

6.4 The shelf life of the product in a sealed package should be no more than 7 years with re-preservation and maintenance every 3 years.

7 TRANSPORTATION

7.1 The product must be transported in packaging at an atmospheric pressure of at least 60 kPa (450 mm Hg), at an ambient temperature of -25° C to +50° C.

7.2 When transporting the product, the requirements of the handling signs applied to the packaging must be observed.

7.3 During transportation, the packaging with the product must be securely fastened to the means of transportation.

7.4 The climatic conditions for transportation in containers must be:

- ambient temperature from -50 to +50 ° C;
- relative humidity 98% or less (at a temperature not higher than 25 ° C);
- atmospheric pressure from 84 to 106.7 kPa (from 630 to 800 mm Hg).

7.5 Cargo handling operation must be carried out in compliance with safety regulations.

7.6 After transportation in below-freezing temperatures, the product will be ready for operation within 1 hour at temperatures down to -50 ° C.

8 RECYCLING INFORMATION

8.1 The product does not contain elements that are hazardous to the environment, therefore no special measures are required for the disposal.

8.2 The amount of nonferrous metals and precious materials contained in imported components is determined based on actual data obtained during disposal in operating organizations.

Appendix A
List of accepted abbreviations

PoE – Power over Ethernet

IR – Infrared

OM - Operation Manual

TFC – temperate and frigid climate

Appendix B

Product web interface

B.1 Login to the web interface

To enter the product web interface, you must:

- 1) Enter the IP address "192.168.5.190" in the address bar of the web browser.

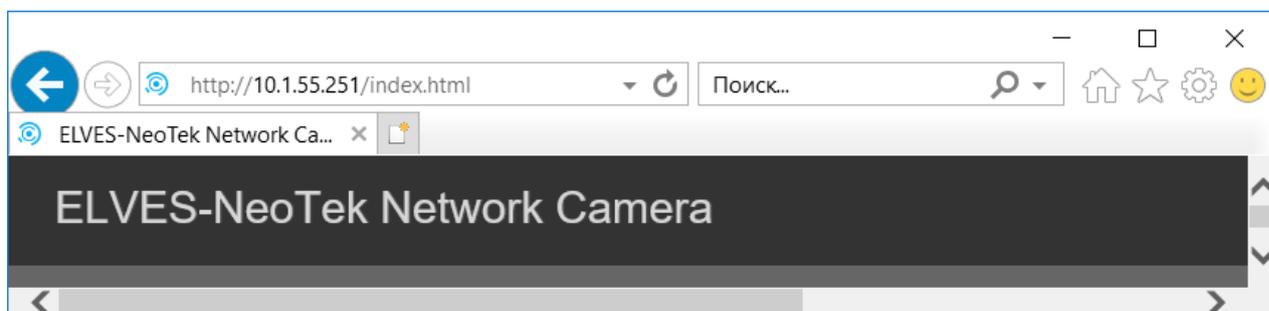


Figure B.1 - Entering the IP address in a web browser

As a result, an authentication window will appear.

- 2) enter the data of the standard account:
 - a) the name "admin" in the "Username" field;
 - b) password "en123456" in the "Password" field.

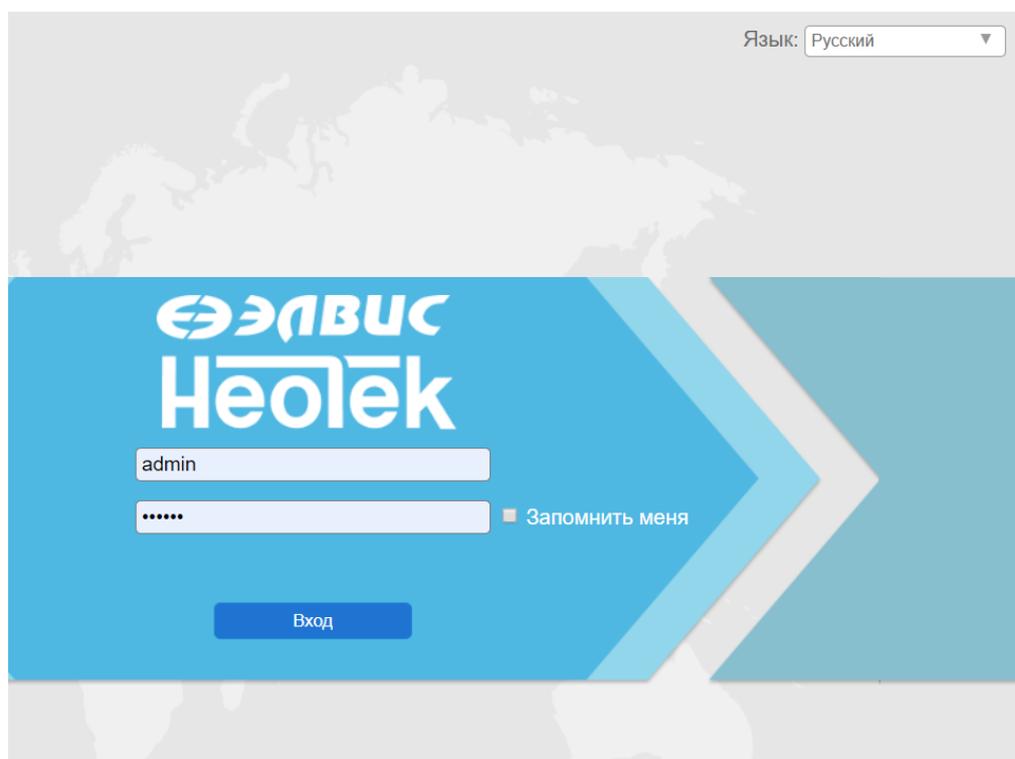


Figure B.2 - Authentication window

3) choose a language

4) click the Login button.

This will open the View tab of the product web interface.

B.2 Setting the parameters of the product

The settings for product operation are in the Configuration tab, which includes the tabs Live video, Playback, Local Settings, Basic Settings, Advanced Settings, System, Maintenance, (fig. B.3).

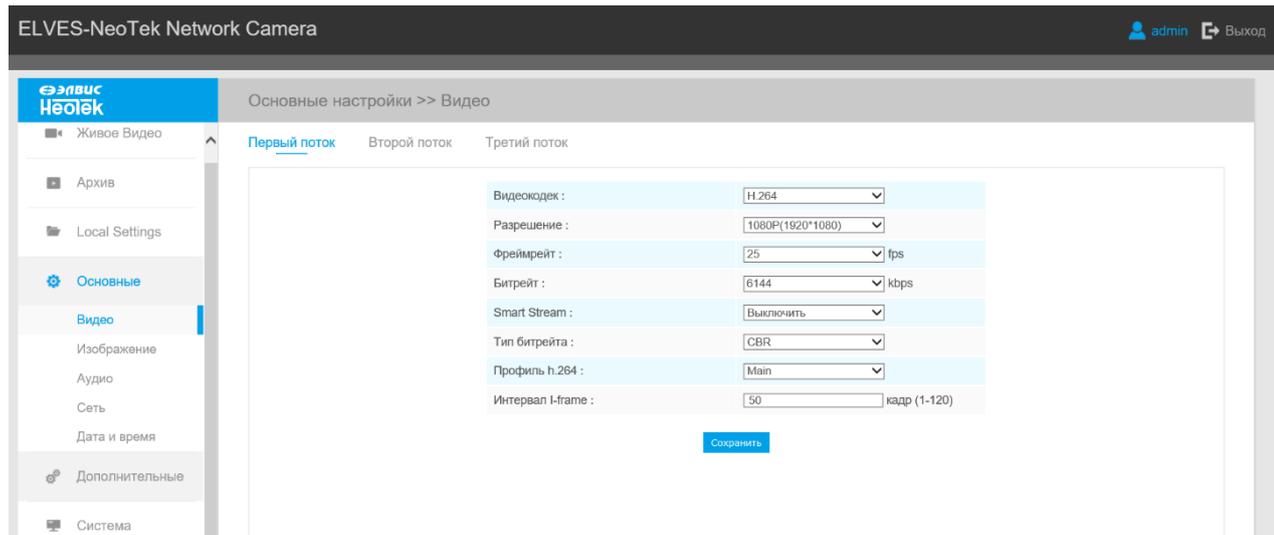


Figure B.3 - Basic settings Tab

Each tab contains additional tabs with settings. The active additional tab is marked with a dot, the inactive one - in white. To save the settings made in each additional tab, click the Save button (Fig. B.4).

Текущее системное время	
Дата:	<input type="text" value="08/05/2019"/>
Время:	<input type="text" value="11:22:59"/>
Установить системное время	
Часовой пояс:	<input type="text" value="3 Russia (Moscow)"/>
Переход на летнее время:	<input type="text" value="Отключить"/>
Синхронизировать с NTP:	<input checked="" type="checkbox"/> Интервал: <input type="text" value="1 Часов"/>
<input checked="" type="radio"/> Синхронизировать со временем ПК	
Дата:	<input type="text" value="08/05/2019"/>
Время:	<input type="text" value="11:22:59"/>
<input type="radio"/> NTP сервер	
<input type="radio"/> Вручную	
<input type="button" value="Сохранить"/>	

Figure B.4 - Saving settings

B.2.1 Live Video

The Live video tab contains buttons for moving to the choice of stream, transmission protocol and video quality.

The Live video tab is shown in Figure B.5.

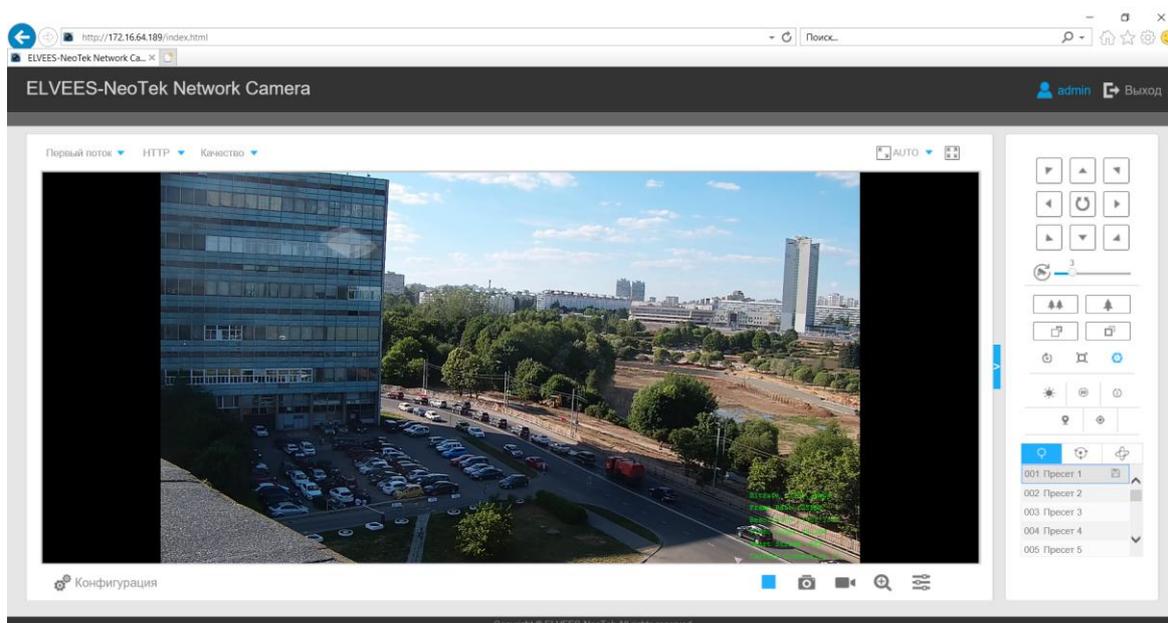
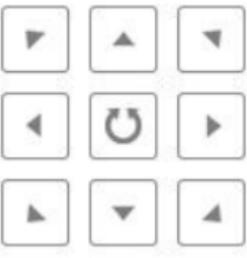


Figure B.5 - Live video tab

Table B.1 - Buttons of the Basic settings tab

Button	Description
Primary Stream	Choose the Stream (Primary/Secondary/Tertiary) to show on the current video window.
	Selecting the transmission protocol: TCP: More reliable connection; UDP: More instantaneous connection, but if you cannot get the live view successfully, please turn into TCP connection; HTTP: Faster and safer connection especially in Internet environment.
Fluency	Least Delay: The most instantaneous mode; Balanced: A balanced mode between Least Delay and Best Fluency, maintains the fluency while keeps an acceptable delay; Best Fluency: The most fluent mode;
	Click to display images at a window size.
	Click to display images at a real size.
	Click to display images at full-screen.
	When recording, the icon will turn red.
	When an alarm of Smart Event was triggered, the icon appears.
	When an alarm of Motion Detection was triggered, the icon appears.
	Except for the two kinds of alarms above, when other alarms were triggered, the icon appears.
 Configuration	Click to access the configuration page.
	Stop
	Audio On/Off
	Snapshot
	Start/Stop Recording
	Digital Zoom
	Turn on / off the loudspeaker
	Video control (zoom, focus, brightness, contrast, sharpness, noise reduction)
	Navigation buttons are used to control the direction of the PTZ camera. The rotation button is used for automatic reversal.

	To select camera rotation speed from 1 to 10
	Zoom out / zoom in
	Adjust focus of the lens
	Auxiliary Focus and Lens Initialization, automatic iris control
	Turn on / off the flashlight
	<p>3D positioning function:</p> <p>Left-click on the image, the corresponding position will be moved to the center of the image.</p> <p>Hold down the left mouse button and drag the mouse to the lower right or upper right corner of the image, you can see a blue rectangle. The corresponding position will be moved to the center of the image and enlarged.</p> <p>Hold down the left mouse button and drag the mouse to the lower left or upper left corner, you can see a blue rectangle. The corresponding position will be moved to the center of the image and enlarged.</p> <p>The larger the rectangle, the smaller the increase / decrease</p>
	Turn on patrolling.
	Turn on/off Auto Return.
	Turn on the tracking. The auto return point will be the currently displayed image.
	Preset. This is the predefined position of the image. You can press the call button from the preset list to quickly jump to the desired image position.
	Patrol. It is a memorable series of preset functions. It can be configured and recalled in the patrol settings list. You can configure up to 8 patrols, and each patrol can be configured with 48 presets. Before configuring a patrol, make sure to set the presets you want to add to the patrol.
	Pattern. It is a memorized series of pan, tilt, zoom and preset functions. It can be called in the template settings interface.

B.2.2 Playback

The Playback tab contains buttons for moving to the choice of stream, transmission protocol and video quality.

The Playback tab is shown in Figure B.6.

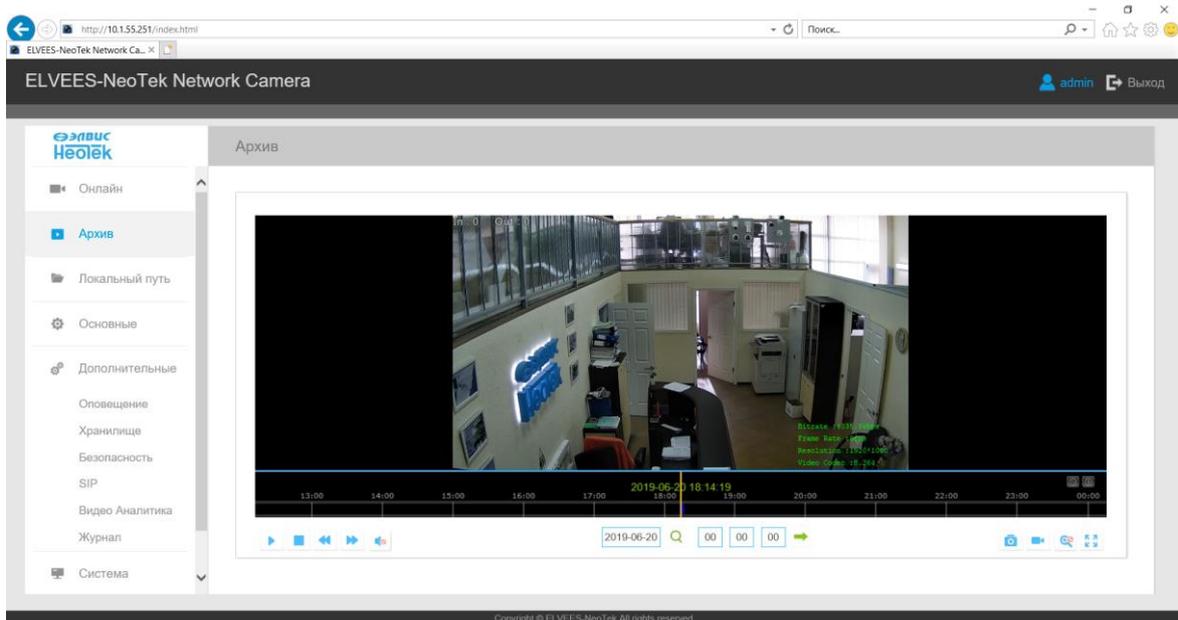


Figure B.6 - The Playback tab

Description of the Playback tab is presented in Table B.2.

Table B.2 - Buttons of the Playback tab

Button	Description
	Enable recording playback
	Disable playing a recording
	Backwind
	Skip forward
	Turn on / off sound
	Select recording date
	Select recording time
	Take a screenshot
	Start recording video
	Zoom
	Stretch to full screen

B.2.3 Local Settings Tab/ Local path

The Local path tab contains buttons to go to the choice of stream, transmission protocol and video quality.

The Local path tab is shown in Figure B.7.

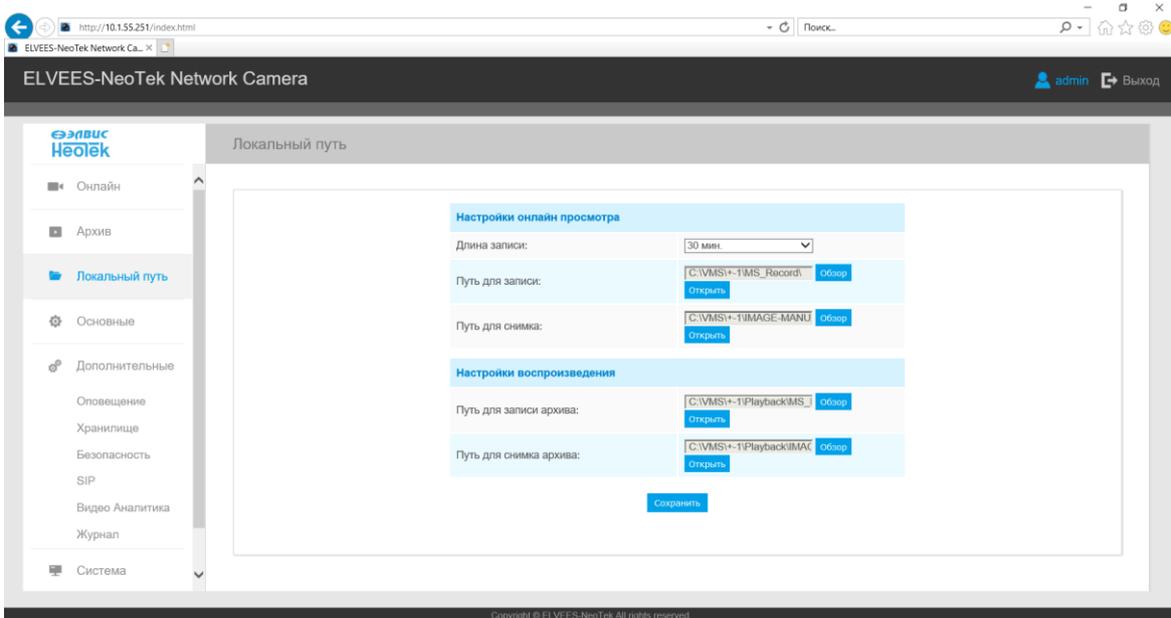


Figure B.7 - Local path Tab

Description of the Local path tab is presented in Table B.43.

Table B.3 - Buttons of the Local path tab

Button	Description
Record length	Select the size of the saved video in minutes (5, 10, 15, 20, 25, 30)
Recording path	Specifying the path to save video files
Shot path	Specifying the path to save screenshots
Archive recording path	Specifying the Playback Path for Saved Video Files
Archive snapshot path	Specifying the Playback Path of Saved Images
Save	After each change, press to save the settings.

B.2.4 Basic Settings Tab

Basic Settings Tab contains buttons to navigate to the video, audio, network, date and time settings that you want to change.

The Basic settings tab is shown in Figure B.8.

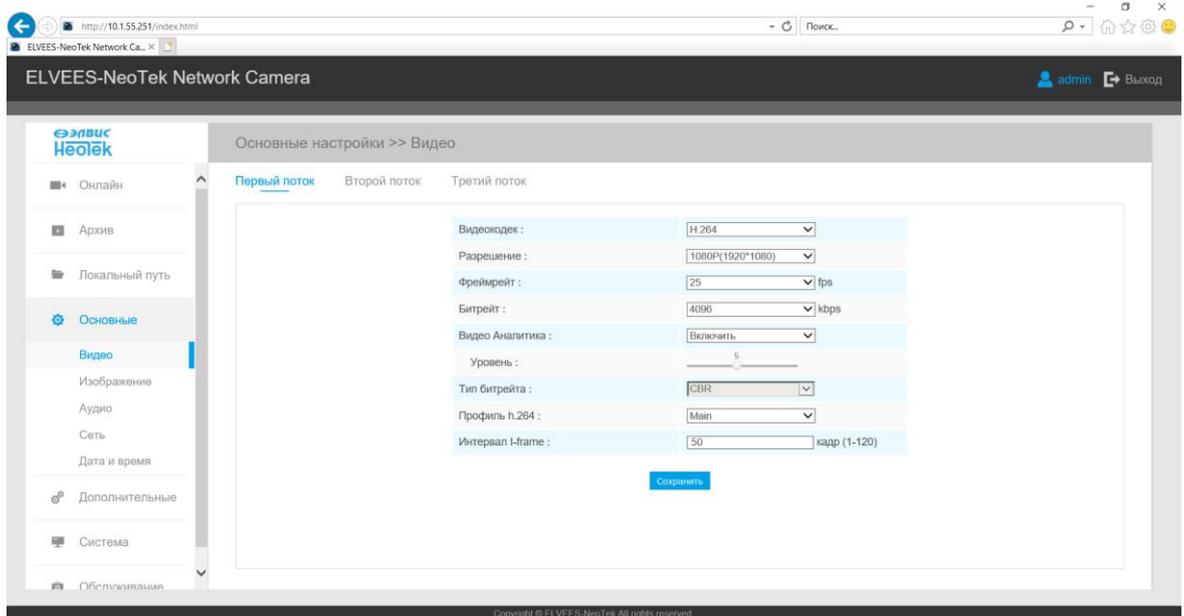


Figure B.8 - Basic settings Tab

Description of the System tab is presented in Table B.4.

Table B.4 - Buttons of the Basic settings tab

Button	Description
Video	Video stream control, enable / disable, resolution, etc.
Image	Controls day / night mode, white balance, IR balance, stabilization, on-screen text font, etc.
Audio	Control of audio I / O, gain, sample rate, audio file manager, etc.
Network	Network settings management
Date&Time	Setting date and time, NTP servers.

B.2.4.1 Video

Stream parameters can be set in this module, adapting to different network environments and demands.

The Video tab is shown in Figures B8 and B.9.

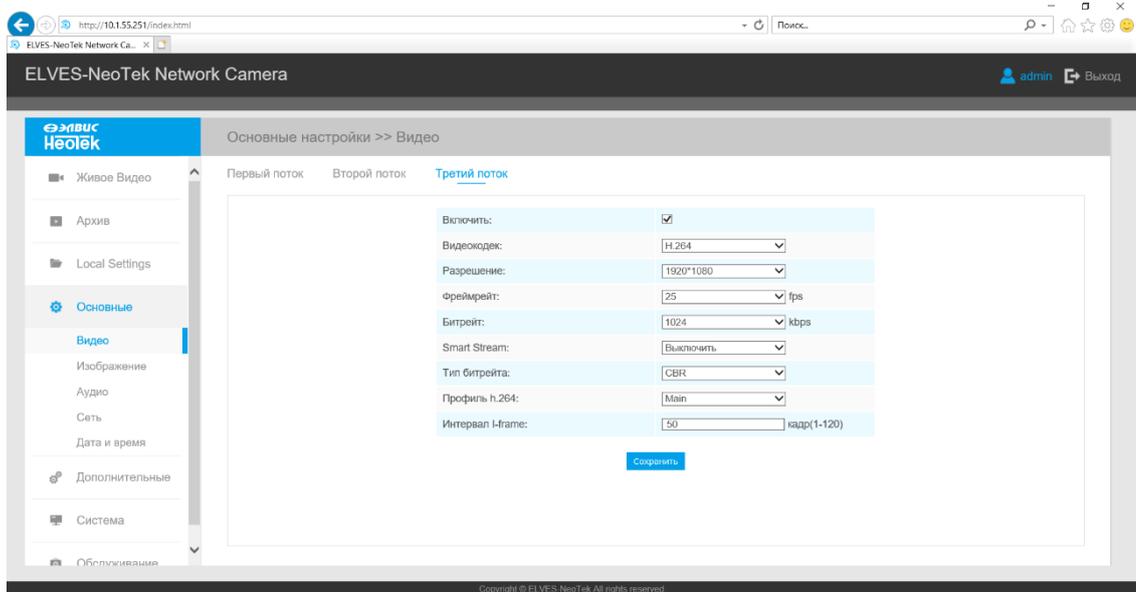


Figure B.9 - Video tab

Description of the Video tab is presented in Table B.4.1

Table B.4.1 - Buttons of the Video tab

Button	Description
Turn on/off:	Turn on / off stream. Refers to the second and third stream.
Video Codec:	Video codec selection (H.264, H.265, MJPEG)
Frame Size:	Primary Stream: 5M(2592*1944), 5M(2560*1920), 5M(2560*1440), 4M(2592*1520), 3M(2304*1296), 3M(2048*1536), 1080P(1920*1080), 2M(1600 *1200), 1.3M(1280*960), 720P(1280*720), D1(704*576). Secondary Stream 704*576, 640*480, 640*360, 352*288, 320*240, 320*192, 320*176. Tertiary Stream, if available: 1920*1080, 1280*720, 704*576, 640*480, 640*360, 352*288, 320*240, 320*192, 320*176
Фреймрейт:	To select the number of frames to be changed in 1 second. The lower the frame rate, the more the video image “slows down” during broadcast.
Bit Rate:	Transmitting bits of data per second, this item is optional only if you select the H.265/H.264
Smart Stream:	Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images, and it is a 10-level adjustable codec. It is optional to turn On/Off Smart Stream mode. Level: Level 1~10 are available to meet your need.
Тип битрейта:	The video compression setting includes the choice of the bit rate type - Variable VBR or Constant CBR.
Image Quality	Low/Medium/High are available, this item is optional only if you select VBR.

JPEG Quality	Low/Medium/High/Higher are available, this item is optional only if you selected the MJPEG
Profile	The option is for H.264, Main/High/Base can be selected according to your needs.
I-frame Interval	The number of "key" frames that contain macroblocks, compressed independently of other frames from 1 to 120 in H.264, H.265 video codecs

B.2.4.2 Image

The Image tab contains buttons for accessing on-screen display settings, day / night settings, white balance control, image stabilization, and other display settings that you need to change.

The Image tab is shown in Figure B10.

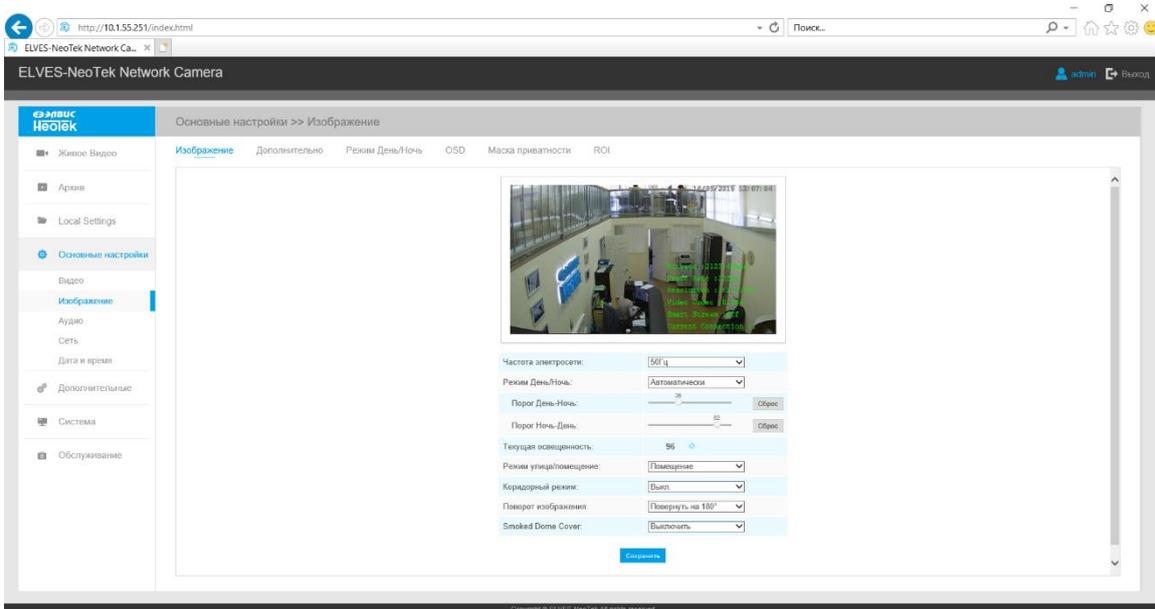


Figure B.10 - The Image tab

Description of the Image tab is presented in Table B.4.2

Table B.4.2 - Buttons of the Image tab

Tab	Button	Description
Image	Power Line Frequency	60Hz flicker for NTSC and 50Hz flicker for PAL.
	Day/Night Mode	There are several parameters such as Exposure Level, Maximum Exposure Time and IR-CUT Interval, etc, associated with this mode Night Mode: Shown in live view based on Night Mode settings Day Mode: Shown in live view based on Day Mode settings Auto Mode: Shown in live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or Night Mode to Day Mode

Tab	Button	Description
		Customize: Shown in live view based on your own settings' time to start/end Night Mode
	Current illumination	The value of the light sensor, allows you to navigate when setting the automatic mode of the Day-Night Threshold and Night-Day Threshold
	Smart IR Mode	With the combination of the High Beam and Low Beam, The IR LEDs technology has been upgraded to provide better image clarity and quality regardless of the object distance. Also, the Low Beam and High Beam's brightness can be adjusted manually or automatically on the basis of the Zoom ratio. Moreover, with the IR anti-reflection panel, the infrared light transmittance is highly increased. Support to set the strength of the IR to Auto Mode or Customize to achieve the best effect.
	IR Strength Value	IR illumination level of near and far range
	Level of the flashlight brightness	Controls the brightness level of the flashlight.
	Outdoor/Indoor Mode	Select indoor or outdoor mode. Allows you to select the appropriate exposure level, maximum exposure time and IR-CUT interval.
	Corridor Mode	There are three options available, you can select one to meet your need Off: Keep the image in normal direction Clockwise 90°: Rotate the image by 90° clockwise Anticlockwise 90°: Rotate the image by 90° anticlockwise
	Image Rotation	There are four options available, you can select one to meet your need Off: Keep the image in normal direction Rotating 180°: Upside down the image Flip Horizontal: Flip the image horizontally Flip vertical: Flip the image vertically
	Lens distort correct	For the Fisheye series only, turn on/off the distortion removal from the fisheye lens.
	Smoked Dome Cover	This function is only for Dome-series. If Dome is equipped with a Smoked Dome Cover, enable this function to display a normal image.
Enhancement	IR Balance Mode	There is an option to turn On/Off the IR LED. IR Balance Mode would avoid the problem of overexposure and darkness.
	White Balance	To restore white objects, removed color distortion caused by the light of the environment Auto White Balance: This option will automatically enable the White Balance function

Tab	Button	Description
		<p>Manual White Balance: Set Red Gain Level and Blue Gain Level manually.</p> <p>Incandescent Lamp: Select this option when light is similar with incandescent lamp</p> <p>Warm Light Lamp: Select this option when light is similar with warm light lamp</p> <p>Natural Light: Select this option when there is no other light but natural light</p> <p>Fluorescent Lamp: Select this option when light is similar with Fluorescent Lamp</p> <p>Schedule mode: Select this option that you can customize the schedule to enable/disable above modes</p>
	Defog Mode	Better image effect in foggy weather
	Reduce Motion Blur	Enable this function to reduce the motion blur of objects effectively
	Exposure Mode	<p>Allows you to set the exposure time:</p> <p>Auto Mode: The camera will adjust the brightness according to the light environment automatically;</p> <p>Manual Mode: The camera will adjust the brightness according to the value you set, you can set the exposure time from 1~1/100000s, the higher the value is, the brighter the image is;</p> <p>Schedule Mode: You can customize the schedule to enable/disable Auto Mode and Manual Mode.</p>
	BLC Region	<p>Increasing the exposure level, objects of observation become brighter and clearer, but bright areas become even brighter.</p> <p>Off: Calculate the full range of view and offer appropriate light compensation</p> <p>Customize: This option enables you to customize inclusive or exclusive region manually</p> <p>Centre: This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation</p>
	Wide Dynamic Range	<p>This function which can capture and display both bright and dark areas in the same frame enables details of objects in both bright and dark areas to be visible.</p> <p>Off: Disable WDR function</p> <p>On: Enable the WDR, there are Low/High/Auto three levels</p> <p>Customize: Customize the schedule to enable/disable the WDR function and set the levels with Low/High/Auto</p>
	Wide Dynamic Level	Set WDR with Low/High/Auto level
	Anti-flicker Level	Reduce flickers that appear on screen in some lighting conditions
	High Light Compensation	<p>Off: Disable HLC function</p> <p>General Mode: Enable the general mode of HLC, and there is a setting for HLC Level</p>

Tab	Button	Description
		Enhanced Mode: Enable the enhanced mode of HLC, and there is a setting for HLC Level
	HLC Level	Use the slider to select the HLC level. When using cameras with the license plate recognition function and the HLC function for fixing the license plate, the IR illumination must be turned off or reduced. The plates are covered with reflective paint, the backlight will reflect from the license plate in the direction of the camera, and the HLC will mask the plate.
	Day Enhancement Mode	BLC/WDR/HLC are available.
	Night Enhancement Mode	BLC/WDR/HLC are available.
	Schedule Setting	Customize the schedule to enable/disable BLC/WDR/HLC mode.
Day/Night Mode	Exposure Level	Level 0~10 are available to meet your need
	Minimum Shutter	Set the minimum Shutter to 1~1/100000s
	Maximum Shutter	Set the maximum Shutter to 1~1/100000s
	Limit Gain Level	Set the Gain level from 1 to 100
	IR-CUT Latency	The interval time of switching one mode to another
	IR-CUT	Turn on or turn off IR-CUT
	IR LED	Turn on or turn off IR-LED
	Color Mode	Select B/W or Color mode under Day/Night mode
OSD	Video Stream	Enable to set OSD for primary stream/secondary/ tertiary stream
	Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date
	Font Color	Enable to set different color for title and date
	Show Video Title	Turn on / off Video Title
	Video Title	Customize the OSD content
	Text Position	OSD display position on the image
	Добавить дату	Включить/выключить отображение даты
	Date Position	Date display position on the image
	Date Format	The format of date
	Copy to Other Streams	Copy the settings to other streams

Tab	Button	Description
Privacy Mask	Enable	Check the checkbox to enable the Privacy Mask function
	Type	Select the color to use for the privacy areas
	Clear All	Clear all areas you drew before.
ROI	Enable	Turn on / off the region of interest, highlight the area that is of greatest interest with the cursor to improve the quality of this particular area, which allows you to save traffic, since the areas not selected will go in the most compressed form. You can select up to 3 areas.
	Video Stream	Choose the Video Stream.
	Clear All	Remove all ROI.

B.2.4.3 Audio

The Audio tab contains buttons to go to the audio settings that you want to change.

The Audio tab is shown in Figure B11.

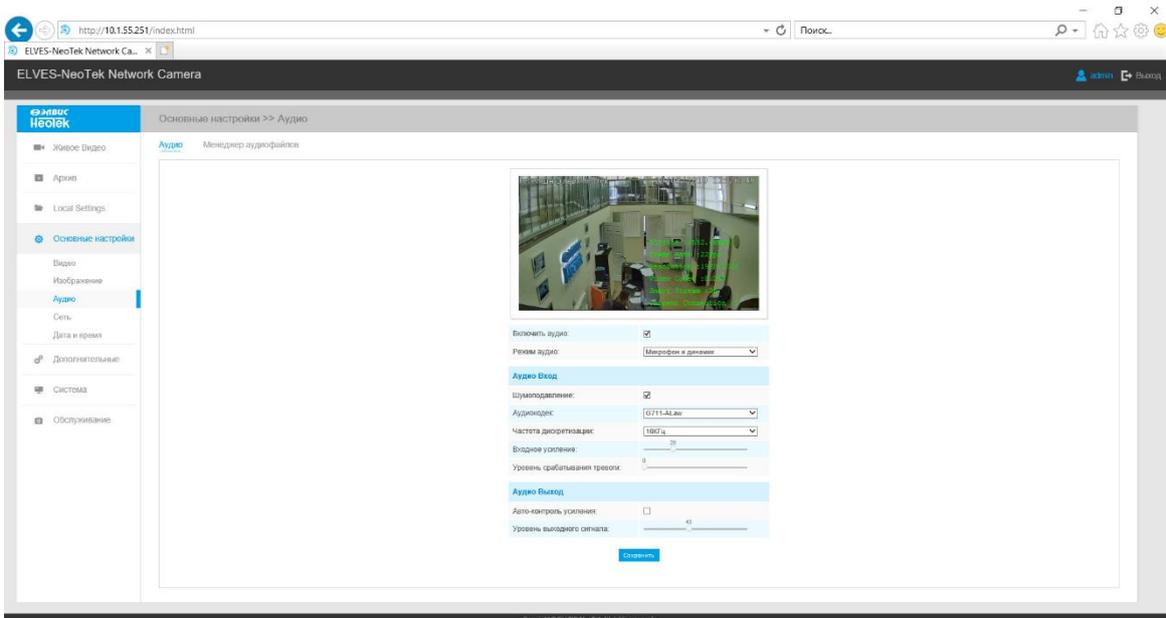


Figure B.11 - The "Audio" tab

Description of the Audio tab is presented in Table B.4.3

Table B.4.3 - Buttons of the Audio tab

Tab	Button	Description
Audio	Enable Audio	Turn on/off the Audio
	Audio Mode	Selecting audio device: Microphone only / Speaker only / Microphone and speaker
	Denoise	Turn on / off noise reduction. When enabled, allows you to filter out noise.

Tab	Button	Description
	Encoding	Select audio codec: G711-ULaw/G711-ALaw/AAC LC
	Sample Rate	Select Audio Bit Rate: 8кГц/16кГц
	Input Gain	Microphone gain from 0 to 100
	Alarm Level	Alarm will be triggered if voice alarm is enabled and input gained volume is higher than the alarm level, 1-100
	Auto Gain Control	Speaker gain.
	Output Volume	Speaker volume.
Audio File Manager	Audio File Storage Type	Choosing a storage location for audio files: Flash: Internal camera memory SD: On the camera's SD flash card.
	Audio File Name	Audio File Name
	Audio File	Link to the folder with audio files from where you want to download files.

B.2.4.4 Network

The Network tab contains buttons to go to the network settings that need to be changed.

The Network tab is shown in Figure B12.

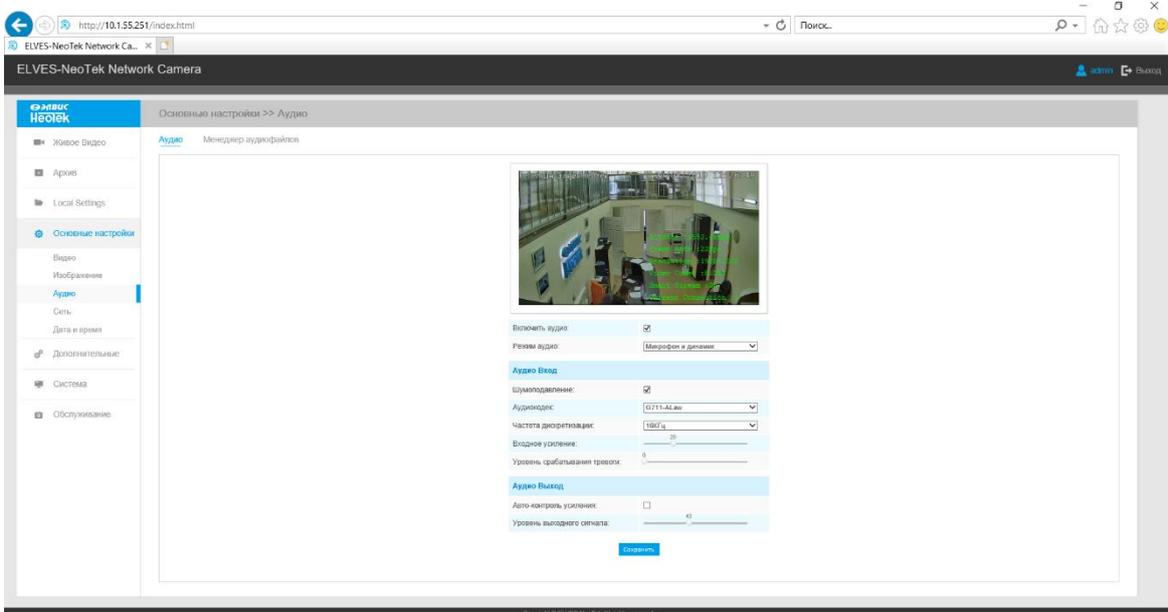


Figure B.12 - Network tab

Description of the Network tab is presented in Table B.4.4

Table B.4.4 - Buttons of the Network tab

Tab	Button	Description
TCP/IP	Get IPv4 address automatically	Get an IP address from a DHCP server automatically
	Use fixed IPv4 address	Use fixed IPv4 address
	IP address	Specify static IPv4 address
	IPv4 Subnet Mask	Specify the subnet mask of the camera
	IPv4 Default Gateway	Specify default router
	Preferred DNS Server	Specify default DNS server
	IPv6 Mode	Selecting the IPv6 type: Manual / SLAAC / DHCPv6
	IPv6 Address	Specify static IPv4 address
	IPv6 Prefix	Specify IPv6 Prefix Length
	IPv6 Default Gateway	Specify default IPv6 router
HTTP	HTTP Enable	Start or stop using HTTP
	HTTP Port	Web GUI login port, the default is 80, the same with ONVIF port.
	HTTPS Enable	Start or stop using HTTPS
	HTTPS Port	Web GUI login port via HTTPS, the default is 443
	Sertificate	Allows you to reset the certificate to the default.
	Atributes	Information about the recipient of the certificate, the issuer, the validity period.
	Installation Type	Select a certificate, specify the data in the window that opens: Create Certificate: Generate a self-signed certificate Install from file: Install ready-made certificate Create Certificate Request: Create Certificate Request
RTSP	RTSP Port	The port of RTSP, the default is 554. To get detailed information and type of a line, click «  »
	Playback Port	The port of playback, the default is 555. To get detailed information and type of a line, click «  »
	RTP Packet	Choice between quality and speed

Tab	Button	Description
	Multicast Group Address	IPv4 адрес для мультивещания. По умолчанию 239.6.6.6
	QoS DSCP(0~63)	Channel priority level - from 0 to 63, encoding priority (the higher the number, the more important the traffic)
UPnP	Enable UPnP	Enable / Disable UPnP protocol for easy implementation
	Enable Port Mapping	Check the box to enable port mapping
	Name	The name of the device detected online can be edited
	Type	Select automatically and get the corresponding HTTP and RTSP port or set the port settings manually
	HTTP	Specify external and internal ports, check the status.
	RTSP	Specify external and internal ports, check the status.
	Playback	Specify external and internal ports, check the status.
DDNS	Enable DDNS	Enable / disable dynamic DNS. It is recommended to enable and use UPnP ports specifically for use with DDNS
	Provider	Get support from DDNS provider: ddns.milesight.com, freedns.afraid.org, dyndns.org, www.no-ip.com, www.zoneedit.com. You can also customize the provider for DDNS.
	External HTTP Port	Specify default port 80
	External RTSP Port	Specify default port 554
	External Playback Port	Specify default port 555
Email	Recipient Email Address1	Email address to receive video files
	Recipient Email Address2	
	User Name	The sender's name. It is usually the same as the account name
	Sender Email Address	Email address to send video files attached emails
	Password	The password of the sender
	SMTP Server	The SMTP server IP address or host name(e.g. smtp.gmail.com)
	SMTP Port	The default TCP/IP port for SMTP is 25(not secured). For SSL/TLS port, it depends on the mail you use

Tab	Button	Description
	Encryption	No encryption / SSL / TLS
FTP	Server Address	Specify the FTP server address to send alarm video to FTP server,
	Server Port	Specify the port of the FTP server.
	User Name	User name used to log in to the FTP sever
	Password	User password
	Storage Path	Storage Path where video and image will be uploaded to the FTP server. Four FTP storage path types are available, including Root Directory, Parent Directory, Child Directory and Customize
	Alarm Action File Name	Choose the default (YYYY-MM-DD) or customize the alarm action file name.
	Timing Snapshot File Name	File Name semantics: YYYY-MM-DD/ MM-DD-YYYY/ DD-MM-YYYY/ Customize
VLAN	VLAN Enable	Enable / disable virtual network
	VLAN ID	Network name from 1 to 4096
	VLAN IP	IPv4 virtual network address
	VLAN Netmask	Virtual network mask
	VLAN Gateway	Virtual network gateway address
PPPoE	Enable PPPoE	Enable / disable secure point-to-point protocol for modem connection.
	Dynamic IP	IPv4 address
	User name	Enter Login
	Password	Enter Password
	Confirm Password	Confirm the password
SNMP	SNMP V1 Enable	Enable / Disable SNMP protocol without security support
	SNMP V2c Enable	Enable / Disable SNMP with Access Password
	SNMP V3 Enable	Enable Disable SNMP with HTTPS Encryption

Tab	Button	Description
	Write Community	Password for recording. "public" – as a default - R / O rights, it is recommended to change the password immediately.
	Read Community	Read password. "private" – as a default - R / W rights, it is recommended to change the password immediately.
	Level of Security	auth, priv: Authenticated and encrypted auth, no priv: Authenticate without encryption no auth, no priv: No authentication and no encryption.
	SNMP Port	SNMP port, default 161
802.1x	Enable 802.1x	Enable / Disable 802.1x
	Protocol	EAP-MD-5 (message digest) challenge is a type of EAP authentication that provides basic EAP support
	Eapol Version	Choosing a protocol that determines how you encapsulate
	User Name	Login
	Password	Password
	Confirm Password	Confirm the password

B.2.4.5 Date&Time

The Date&Time tab contains buttons for navigating to the date and time settings that you want to change.

The Date&Time tab is shown in Figure B.13.

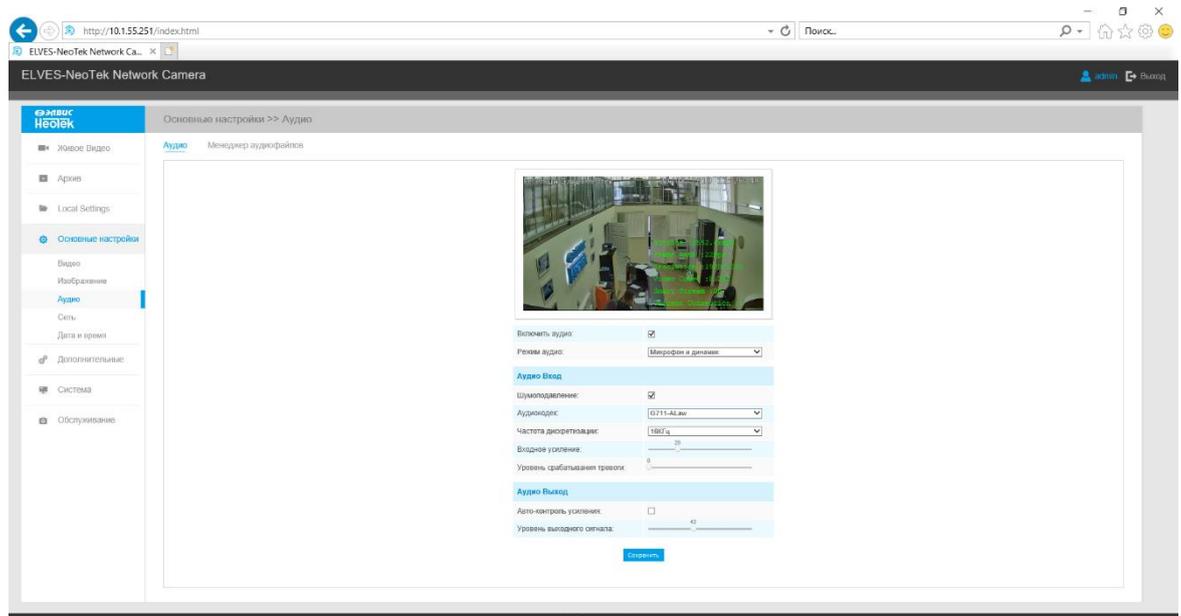


Figure B.13 - Date and time Tab

Description of the Date&Time tab is presented in Table B.4.5

Table B.4.5 - Buttons of the Date&Time tab

Tab	Button	Description
Date&Time	Date	Current date
	Time	Current system time
	Time Zone	Choose a time zone for your location
	Daylight Saving Time	Enable the daylight saving time/Auto
	NTP Sync	Synchronization of the system time with the specified interval from 1 hour to 30 days.
	Synchronize with computer time	Synchronize the time with your computer
	NTP server	Synchronize the time with NTP server
	Manual	Set the system time manually

B.2.5 Advanced Settings

The Advanced Settings tab contains buttons Alarm, Storage, Security, SIP, Video Content Analysis, PTZ, Logs.

B.2.5.1 Alarm

The Alarm tab is shown in Figure B.14.

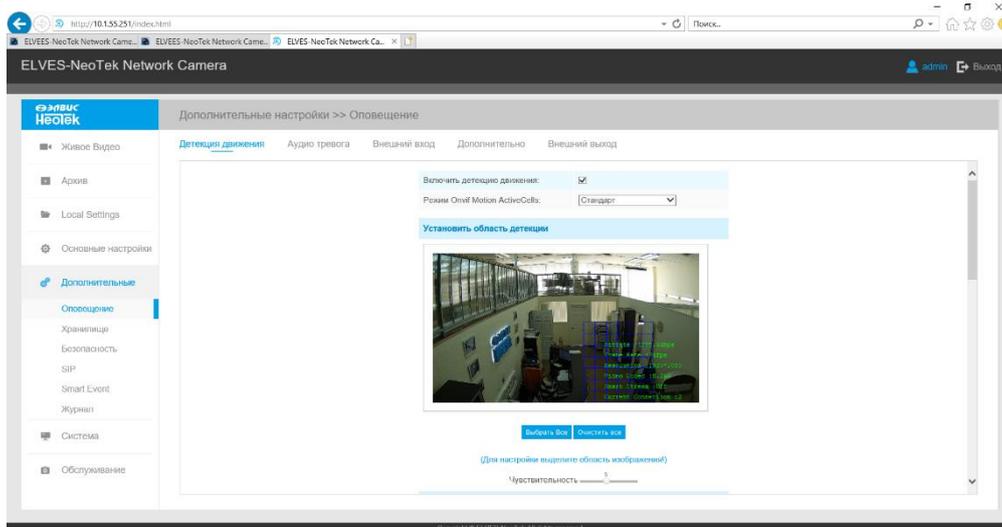


Figure B.14 - Alarm Tab

Description of the Alarm tab is presented in Table B.5.1

Table B.5.1 - Buttons of the Alarm tab

Tab	Button	Description
Motion Detection	Enable Motion Detection	Check the box to enable motion detection
	Onvif Motion ActiveCells Mode	Select a mode - standard or compatibility. If you are using third-party motion detection software, set the compatibility mode.
	Set Motion Region	Indicate the area (s) of motion detection on the image using the cursor.
	Select All	Click the button, the motion in the area will be detected
	Clear All	Click the button, the area drawn before will be removed
	Sensitivity	Sensitivity level, 1~10
	Schedule Settings	Indicate operating time.
	Alarm Action	Selecting a notification when an alarm is triggered.
	Save into SD card:	Select file format: AVI, JPG or both
	Save Into Storage	Select file format: AVI, JPG or both
	Upload Via FTP	Select file format: AVI, JPG or both
	Upload Via SMTP	File format: JPG
	External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration
	Play Audio	If the camera equips with Speaker, you can enable the action after configuring the audio speaker
	Alarm to SIP Phone	Support to call the SIP phone after enable the SIP function
	HTTP Notification	Send HTTP event notification. Specify the URL, username and password, example: <code>http://ip:8601/Interface/Cameras/MotionDetection/Notify?Camera=CameraName</code> HTTP Name: admin (логин камеры) HTTP Password: en123456 (пароль камеры)
	Flashlight	Turns on the flashlight when an alarm event occurs. For PTZ series camera only.
	PTZ movement	When a motion detector is triggered, allows the camera to follow the object. Disables on-touch patrol. For PTZ series camera only.
	Alarm actions	Selecting an action when alarm is triggered.

Tab	Button	Description
	Alarm recording	Select video recording time interval from 5 to 30 seconds
	Pre-recording	Select the video recording time interval preceding the event from 0 to 10 seconds.
	Snapshot:	Select the number of snapshots for an alarm event
	Snapshot Interval:	Choose the time interval between shots.
	External Output Action Time	Set the time interval for the alarm output from 1 to 999 seconds.
	Audio Action Settings:	Set the audio schedule to trigger different audio files and action times in different time, which is corresponded to alarm action.
	Play Audio Interval	Auto / 10 seconds / 30 seconds / 1 minute / 5 minutes / 10 minutes
	Flashlight mode	Flash: The white LED will flash continuously when an alarm event occurs; Normal: The white LED will be on steadily when an alarm event occurs.
	Blinking interval	Flash duration: Flash mode - from 1 second to 10 seconds; Normal mode - from 1 second to 60 seconds.
	Effective flashlight mode	Normal / Lighting / Manual
	Proportional zoom speed	Zoom speed selection
	PTZ Motion Recovery Time	Duration of one alarm. Should be no less than the flashlight's operating time.
Audio Alarm	Enable Audio Alarm	Check the box to enable.
	Schedule settings	Indicate operating time.
	Alarm Action	Selecting a notification when an alarm is triggered.
	Save into SD card:	Select file format: AVI, JPG or both
	Save Into NAS	Select file format: AVI, JPG or both
	Upload Via FTP	Select file format: AVI, JPG or both
	Upload Via SMTP	File format: JPG
	External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration
	Play Audio	If the camera equips with Speaker, you can enable the action after configuring the audio speaker
	Alarm to SIP Phone	Support to call the SIP phone after enable the SIP function

Tab	Button	Description
	HTTP Notification	Send HTTP event notification. Specify the URL, username and password, example: http://ip:8601/Interface/Cameras/MotionDetection/Notify?Camera=CameraName HTTP Name: admin (логин камеры) HTTP Password: en123456 (пароль камеры)
	Flashlight	Turns on the flashlight when an alarm event occurs. For PTZ series camera only.
	PTZ movement	When a motion detector is triggered, allows the camera to follow the object. Disables on-touch patrol. For PTZ series camera only.
	Alarm actions	Selecting an action when alarm is triggered.
	Snapshot:	Select the number of snapshots for an alarm event
	Snapshot Interval:	Choose the time interval between shots.
	External Output Action Time	Set the time interval for the alarm output from 1 to 999 seconds.
	Audio Action Settings:	Set the audio schedule to trigger different audio files and action times in different time, which is corresponded to alarm action.
	Play Audio Interval	Auto / 10 seconds / 30 seconds / 1 minute / 5 minutes / 10 minutes
External Input	Enable External Input	Enable Alarm Input. Select Normal, High or Low. You can also observe the current state of the input.
	Schedule Settings	Indicate operating time.
	Alarm Action	Selecting a notification when an alarm is triggered.
	Save into SD card:	Select file format: AVI, JPG or both
	Save Into NAS	Select file format: AVI, JPG or both
	Upload Via FTP	Select file format: AVI, JPG or both
	Upload Via SMTP	File format: JPG
	External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration
	Play Audio	If the camera equips with Speaker, you can enable the action after configuring the audio speaker
	Alarm to SIP Phone	Support to call the SIP phone after enable the SIP function
	HTTP Notification	Send HTTP event notification. Specify the URL, username and password, example: http://ip:8601/Interface/Cameras/MotionDetection/Notify?Camera=CameraName HTTP Name: admin (логин камеры) HTTP Password: en123456 (пароль камеры)
		Alarm actions

Tab	Button	Description
	Alarm recording	Select video recording time interval from 5 to 30 seconds
	Pre-recording	Select the video recording time interval preceding the event from 0 to 10 seconds.
	Snapshot:	Select the number of snapshots for an alarm event
	Snapshot Interval:	Choose the time interval between shots.
	External Output Action Time	Set the time interval for the alarm output from 1 to 999 seconds.
	Audio Action Settings:	Set the audio schedule to trigger different audio files and action times in different time, which is corresponded to alarm action.
	Play Audio Interval	Auto / 10 seconds / 30 seconds / 1 minute / 5 minutes / 10 minutes
Exception	Alarm Type	Alarm type selection: Network Disconnected, IP Address Conflict
	Enable Network Disconnected Alarm	Select enable / disable alarm
	Enable IP Conflict Alarm	Select enable / disable alarm
	Save into SD card:	Select file format: AVI, JPG or both
	External Output	Setting the alarm output when an event occurs, select the normal state, you can also observe the output state in the window
	Play Audio	If the camera equips with Speaker, you can enable the action after configuring the audio speaker
	Alarm actions	Selecting an action when alarm is triggered.
	Alarm recording	Select video recording time interval from 5 to 30 seconds
	Pre-recording	Select the video recording time interval preceding the event from 0 to 10 seconds.
	Snapshot:	Select the number of snapshots for an alarm event
	Snapshot Interval:	Choose the time interval between shots.
	External Output Action Time	Set the time interval for the alarm output from 1 to 999 seconds.
	Audio Action Settings:	Set the audio schedule to trigger different audio files and action times in different time, which is corresponded to alarm action.
Play Audio Interval	Auto / 10 seconds / 30 seconds / 1 minute / 5 minutes / 10 minutes	
External Input	Normal Status	Select the default alarm output state: Open / Grounded
	Current Status	Displays the current output position

The Storage tab is shown in Figure B.15.

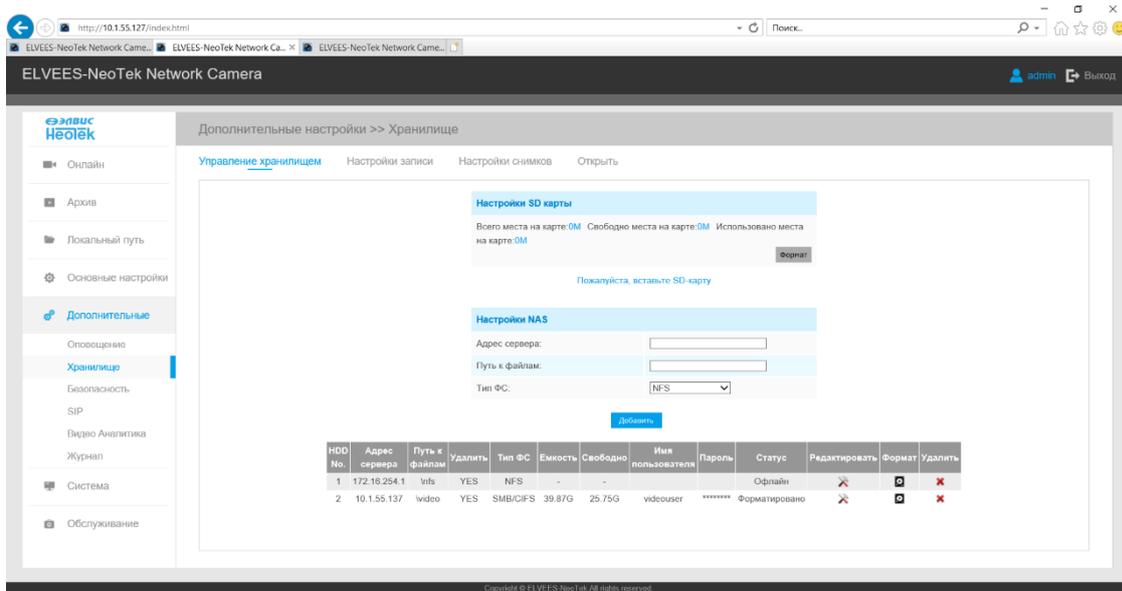


Figure B.14 - The Storage tab

Description of the Storage tab is presented in Table B.5.2

Table B.5.2 - Buttons of the Storage tab

Tab	Button	Description
Storage Management	SD Card Settings	SD card storage management, information about data storage device.
	Format	Format SD card, the files in SD card will be removed
	Mount	Mount/Dismount SD card
	Delete	Enable cyclic storage, when the free disk space reach at a certain value, it will automatically delete the files at certain percentage according to your settings
	NAS Settings	The network disk should be available within the network and properly configured to store the recorded files, etc. No more than 5 NAS servers can be connected to one camera.
	Server Address	IP address of NAS server
	File Path	Input the NAS file path, e.g. «\Video»
	Mounting Type	NFS and SMB/CIFS are available
	User Name	SMB/CIFS server login
Password	SMB/CIFS server password	
Record Settings	Enable Recycle Storage	Enable/Disable Recycle Storage, if you enable this option, it will delete the files when the free disk space reach a certain value.
	Schedule Settings	Indicate operating time.

Tab	Button	Description
Snapshot Settings	Enable Timing Snapshot	Enable photographing at the specified time interval
	Interval	Milliseconds / seconds / minutes / hours / days
	Save into Storage	When NAS server is specified, it allows you to save on the server.
	File Name	File name selection: Date and time / Enter the name manually. Photo format JPG. If Date & Time is selected, each picture will be unique. If selected manually, the file will be overwritten.
	Upload Via FTP	When FTP server is specified, it allows you to save on the server.
	Upload Via SMTP	When mail is configured, it allows you to send to the specified email address.
	Schedule Settings	Indicate operating time.
Open	<p>Files will be displayed on this page if you have configured the option to save to SD card or NAS server. You can set a schedule every day for video recording and save the video files to a specified location.</p> <p>(Note: files are visible after the SD card is inserted. Do not insert or pull out the SD card when the power is on.)</p> <p>Videos are sorted by date. Select the file type and start / end time to search for files. The files will be displayed under the corresponding date, from here you can copy and delete files. You will be able to view the archives in SD card or on ftp server, for example, ftp: // username: password@192.168.5.190 (user, username and password are the same as the camera account).</p>	

B.2.5.3 Security

The Security tab is shown in Figure B.16.

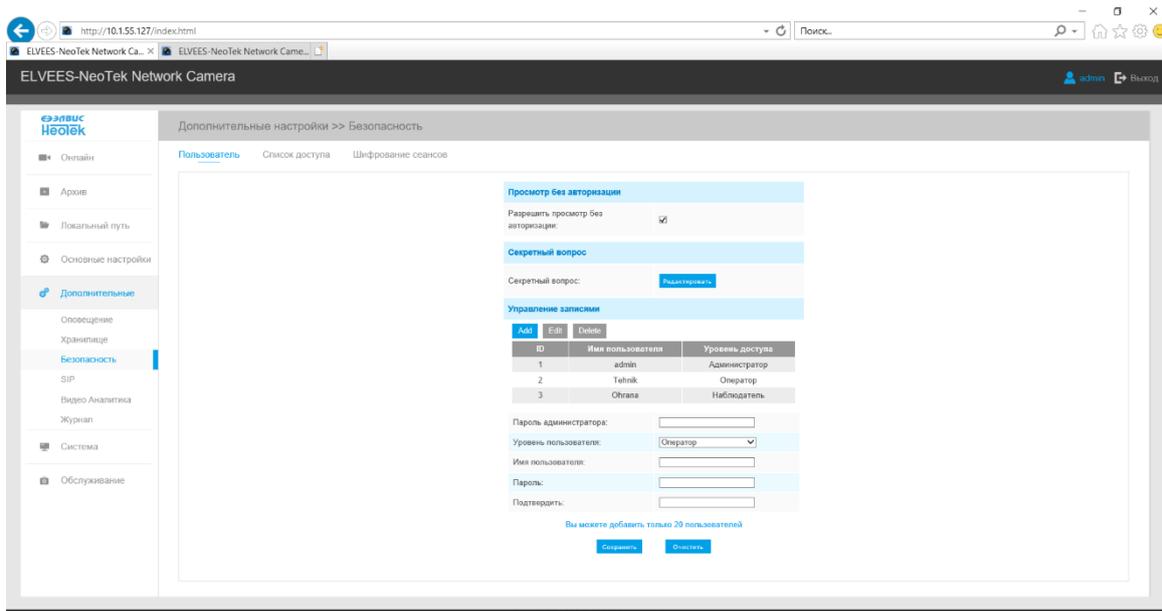


Figure B.16 - Security Tab

Description of the Security tab is presented in Table B.5.3

Table B.5.3 - Buttons of the Security tab

Tab	Button	Description
User	Allow anonymous viewing	Check the box to enable visit from whom doesn't have account of the device
	Security Question	Click Edit button to set three security questions for your camera. In case that you forget the password, you can click Forget Password button on login page to reset the password by answering three security questions correctly.
	Account Management	Click Add button, it will display Account Management page. You can add an account to the camera by entering Admin Password, User Level, User Name, New Password, Confirm, and edit user privilege by clicking . The added account will be displayed in the account list. Admin Password: You can add an account only after you enter the correct admin password User Level: Set the privilege for the account. Administrator / Operator / Observer User Name: Input user name for creating an account. Password: Input password for the account. Confirm: Confirm the password
	Administrator	Administrator can manage all device configurations including: change user password, add or remove users (the default user "admin" cannot be deleted)
	Operator	Operator can manage all configuration pages except user page
	Observer	Observer cannot change the camera settings.
Access List	Maximum number of concurrent streaming	Select the maximum number of concurrent streaming. Options include No Limit, 1~9
	IPv4 Access List	Add: address, network and range. IP Address: Enter the address to access the device
	Enable Access List Filtering	Ability to access or restrict access for certain IP addresses
	Filter type	Allow / Deny
SSH	Enable SSH	Secure Shell (SSH) has many functions: it can replace Telnet and also provides a secure channel for FTP, POP, even for PPP.
	SSH Port	Specify SSH Port

B.2.5.4 SIP

The Session Initiation Protocol (SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks. This page allows user to configure SIP related parameters. Cameras can be configured as SIP endpoint to call out when alarm triggered; or allow permitted number to call in to check the video if the video IP phone is used. There are two ways to get video through SIP, one is to dial the IP address directly, the other is account registration mode, the details are as follows:

Прямой режим IP:

IP Direct mode

Dial on the camera's IP address directly through SIP phone, so you can see the video.

(Note: SIP phone and the camera should in the same network segment).

Account registration mode

- 1) Before using the SIP, you need to register an account for the camera from the SIP server;
- 2) Register another user account for the SIP device from the same SIP server;
- 3) Call the camera User ID from the SIP device, you will get the video on the SIP device.

The SIP tab is shown in Figure B.17.

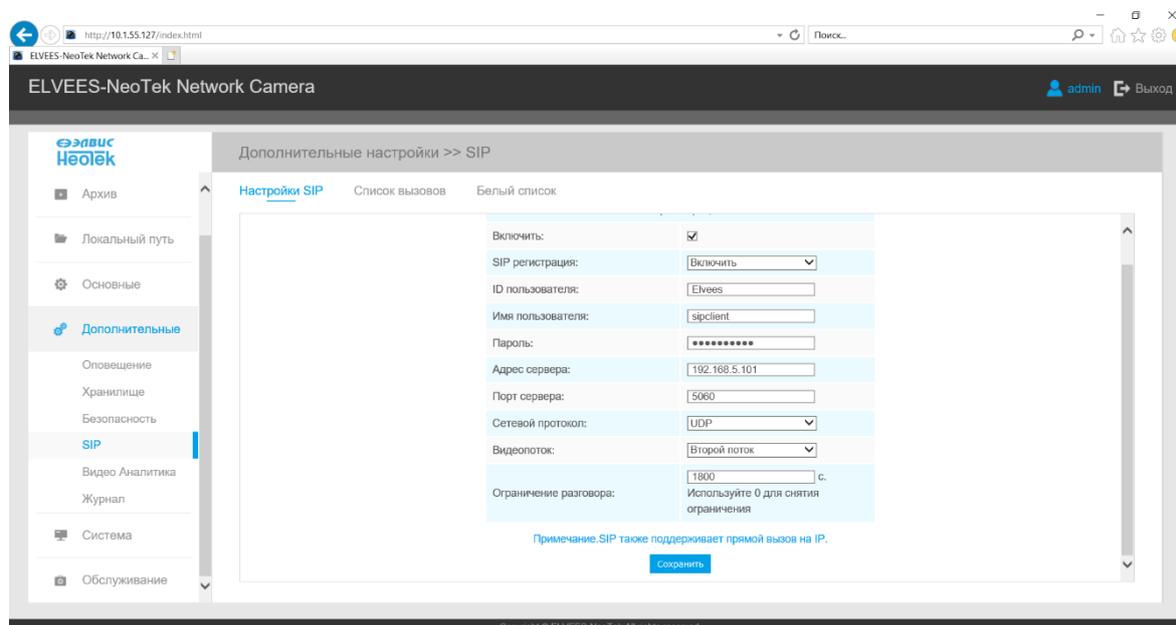


Figure B.17 - The "SIP" tab

Description of the SIP tab is presented in Table B.5.4

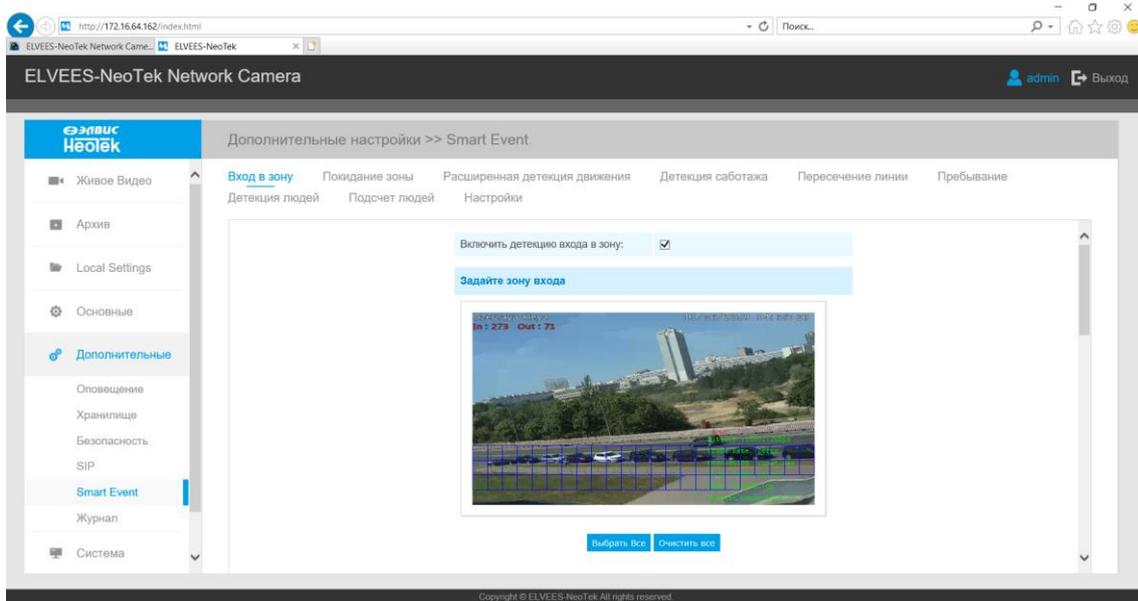
Table B.5.4 - Buttons of the SIP tab

Tab	Button	Description
SIP Settings	Enable	Start / stop SIP protocol
	Register Mode	Select enable / disable. Enable means the mode of using the SIP protocol with the registration of the Account. Disable refers to Direct IP mode, use the IP address to call.
	User ID	SIP ID
	User Name	SIP account name
	Password	SIP account password
	Server Address	Server IP address
	Server Port	Server port
	Connection Protocol	UDP/TCP
	Video Stream	Choose the video stream
	Max Call Duration	The max call duration when use SIP . 0 - unlimited.
Alarm Phone List	Phone Type	Phone Number(Call by phone number) & Direct IP Call (Check to accept peer to peer IP call).
	To Phone Number/ IP Address	Call by phone number or IP address.
	Remark Name	Display name.
	Duration	The time schedule to use SIP.
White List	Phone Type	Phone Number(Call by phone number) & Direct IP Call Enter phone number or IP address
	Enable White List Number Filter	When enabled, only the designated phone number or IP address can visit.

B.2.5.5 VCA

VCA is used in a wide range of domains including entertainment, health-care, retail, automotive, transport, home automation, safety and security. VCA provides advanced, accurate smart video analysis for network cameras. It enhances the performance of network cameras through 8 detection modes: Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering, Human Detection, People Counting.

The VCA tab is shown in Figure B.18.



8.2.1 Figure B.18 – VCA Tab

Description of the VCA tab is presented in Table B.5.5

B.2.5.5.1 Region Entrance

Region entrance helps to protect a special area from potential threat of suspicious person's or object's entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.

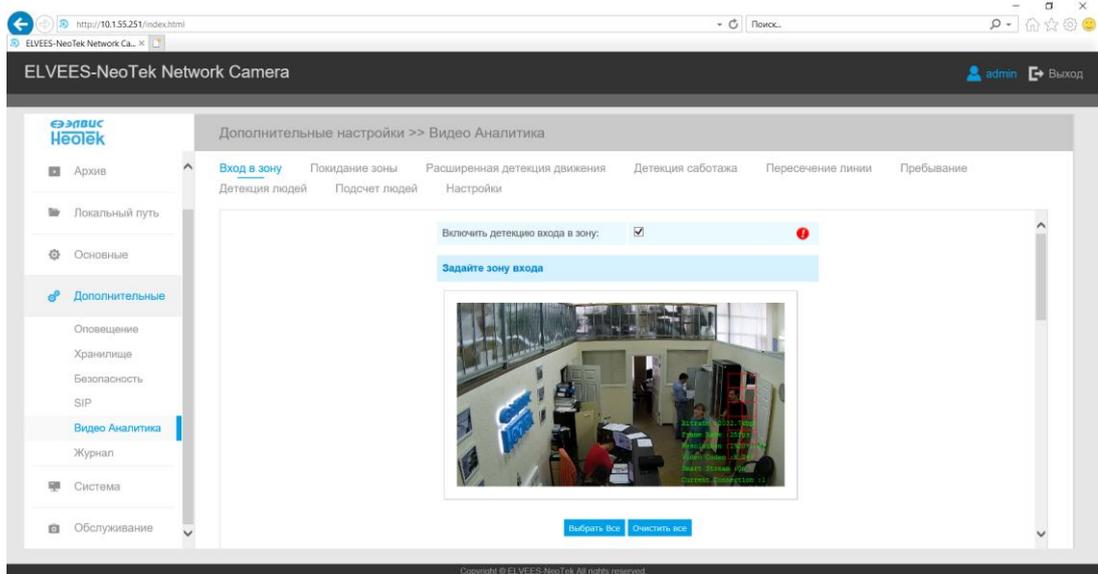
Step1: Set entrance detection region;

Step2: Set detection schedule;

Step3: Set alarm action;

Step4: Set alarm settings;

Step5: Save settings.



B.2.5.5.2 Region Exiting

Region exiting is to make sure that any person or object won't exit the area that is being monitored. Any exit of people or objects will trigger an alarm.

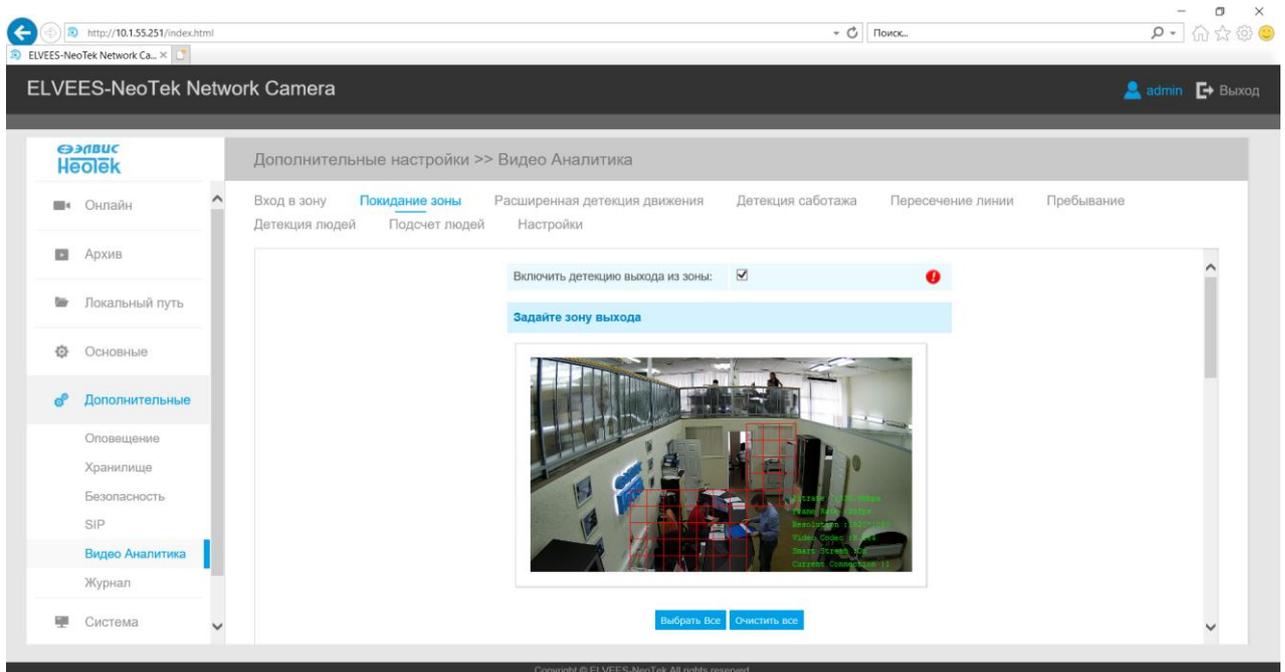
Step1: Set entrance detection region;

Step2: Set detection schedule;

Step3: Set alarm action;

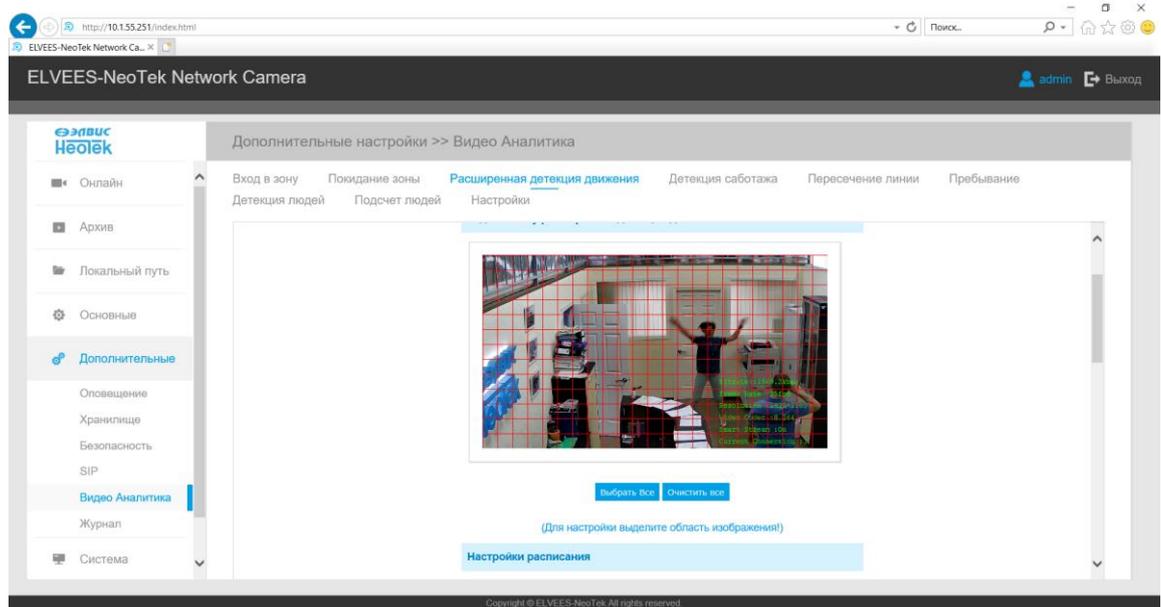
Step4: Set alarm settings;

Step5: Save settings.



B.2.5.5.3 Advanced Motion Detection

Different from traditional motion detection, Advanced Motion Detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.



Step1: Set advanced motion detection region;

Step2: Set detecting sensitivity. When the sensitivity level is low, a little movement will not trigger an alarm;

Step3: Set detection schedule;

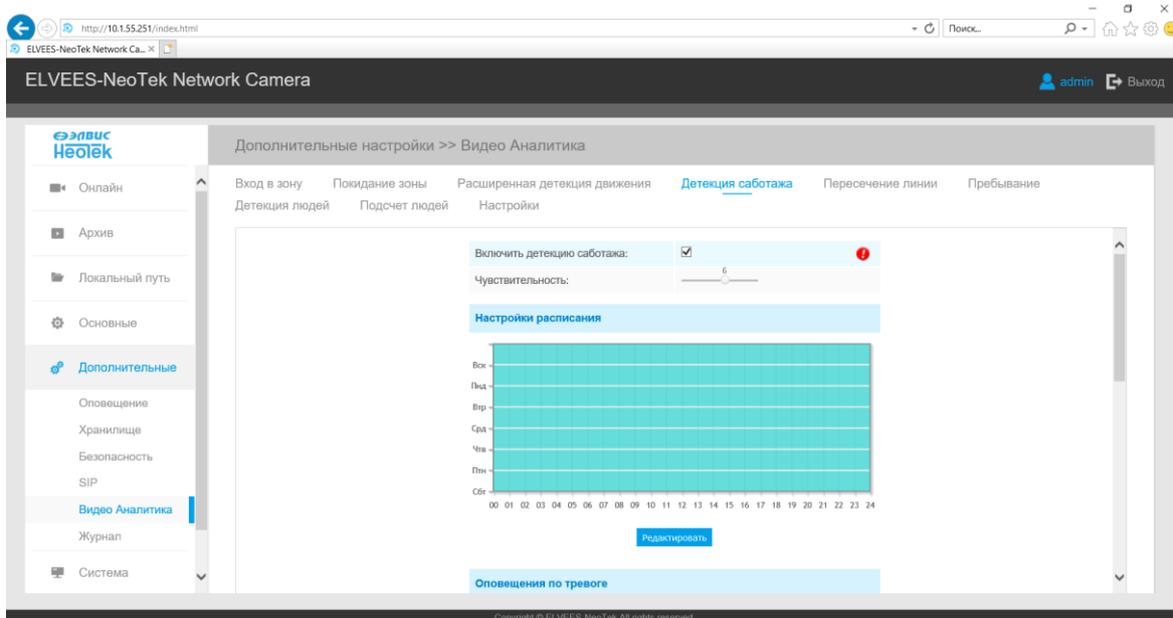
Step4: Set alarm action;

Step5: Set alarm settings;

Step6: Save settings.

B.2.5.5.4 Tamper Detection

Tamper Detection is used to detect possible tampering like the camera being unfocused, obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur.



Step1: Set detecting sensitivity. When the sensitivity level is low, a little movement will not trigger an alarm;

Step2: Set detection schedule;

Step3: Set alarm action;

Step4: Set alarm settings;

Step5: Save settings.

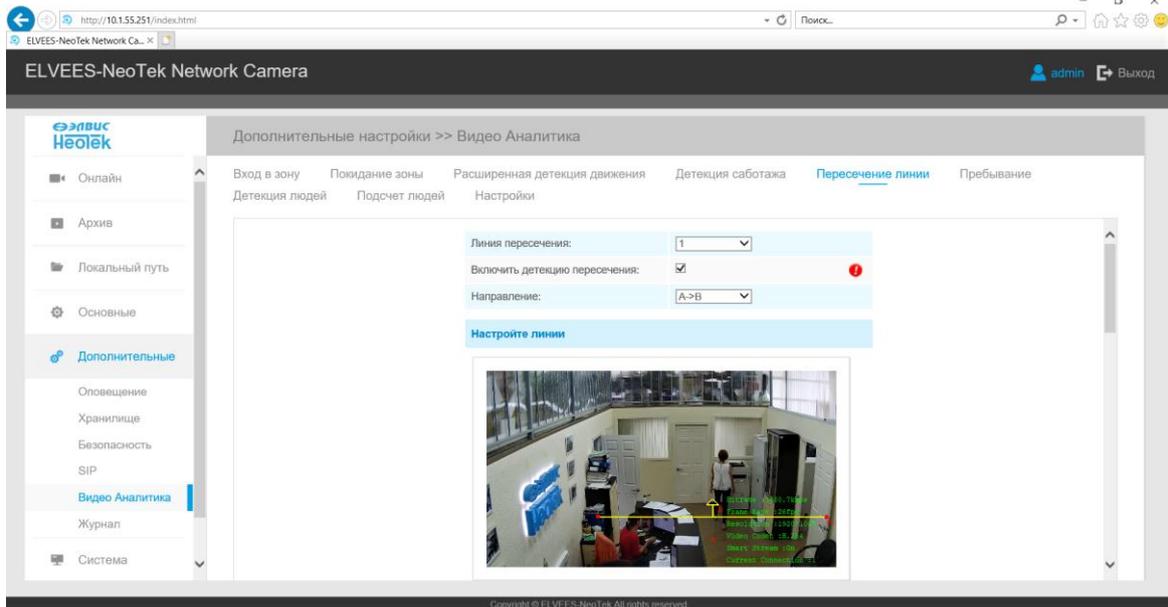
B.2.5.5.5 Line Crossing

An event will be triggered every time when the camera detects objects crossing a defined virtual line. Camera allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm.

“A→B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered.

“B→A” vice versa.

“A ↔ B” means that the alarm will be triggered when objects cross line from either side.



Step1: Select the number of detection lines, from 1 to 4;

Step2: Draw detection lines;

Step3: Set detection schedule;

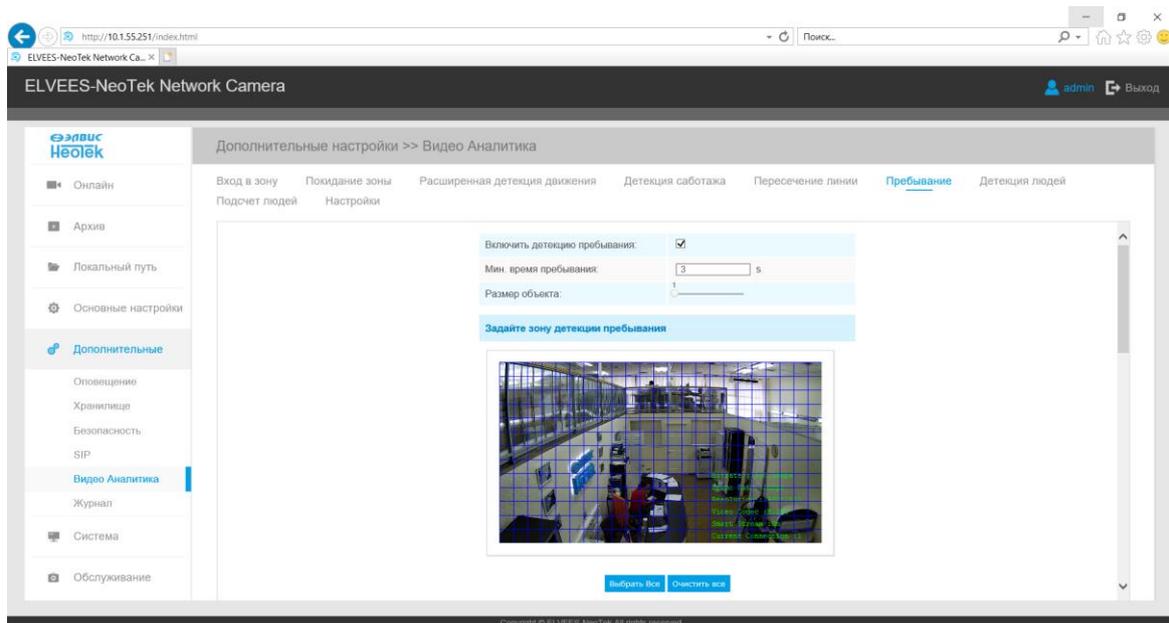
Step4: Set alarm action;

Step5: Set alarm settings;

Step6: Save settings.

B.2.5.5.6 Loitering

When objects are loitering in a defined area for a specific period of time, it would trigger an alarm.



Step1: Mark the region of interest on the image;

Step2: Specify the minimum loitering time, from 3 to 300 seconds;

Step3: Specify the minimum size of a detected object;

Step4: Set detection schedule;

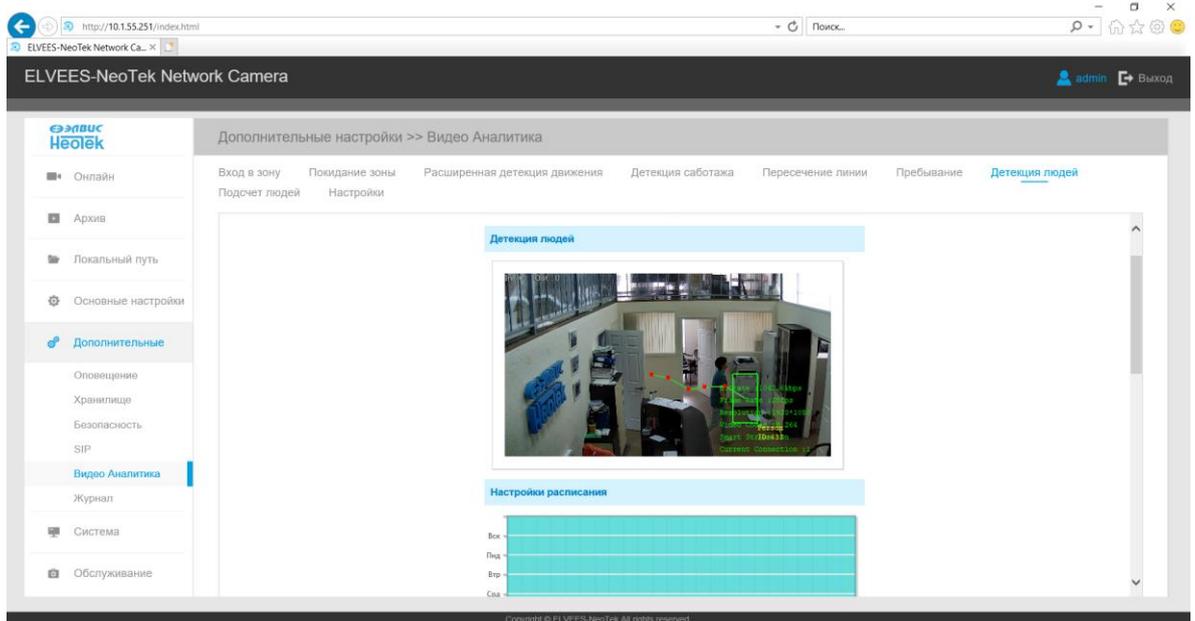
Step5: Set alarm action;

Step6: Set alarm settings;

Step7: Save settings.

B.2.5.5.7 Human Detection

Human detection is used for figuring out whether an object is a human or not. Once human detection is enabled, when there is an object appearing in the detecting area, an ID will show on the frame. If the object is a person, it will mark as “person”. When the Show Tracks is enabled, the tracks of the moving object will show on the screen.



Step1: Set detection schedule;

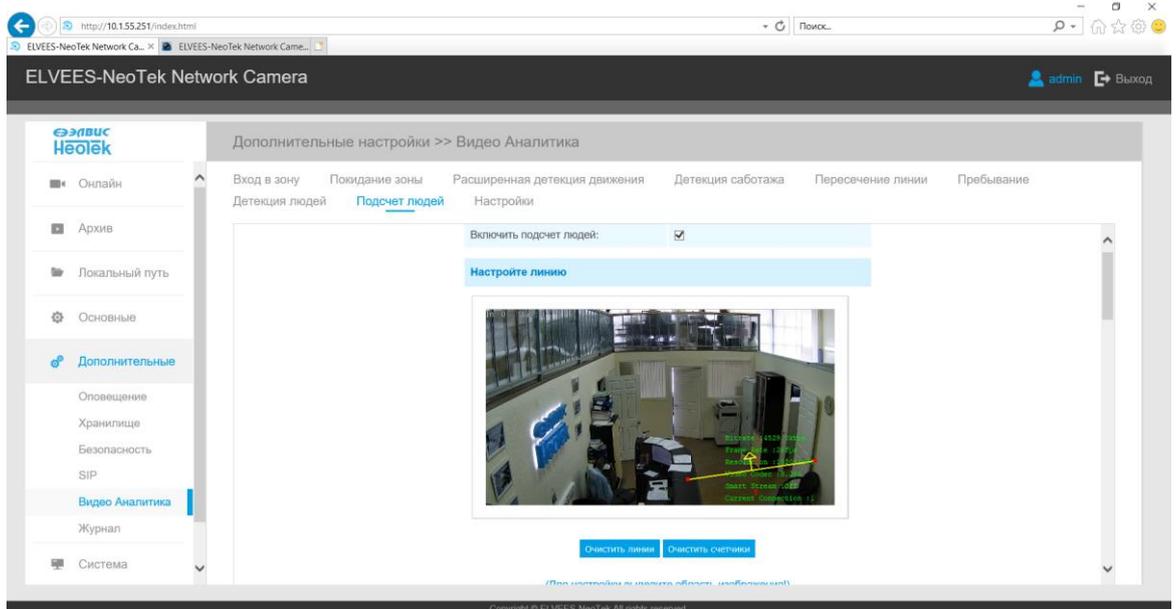
Step2: Set alarm action;

Step3: Set alarm settings;

Step4: Save settings.

B.2.5.5.8 People Counting

People counting is able to count that how many people enter or exit during the setting period.



Step1: Set detection line;

Step2: Set detection schedule;

Step3: Set counting OSD;

Step4: Click “Edit” to check the counting logs, the data log can be exported to FTP/ SMTP/ SD Card/NAS server;

Step5: Set the alarm output for the threshold of the number of people: arrived, left, capacity, total;

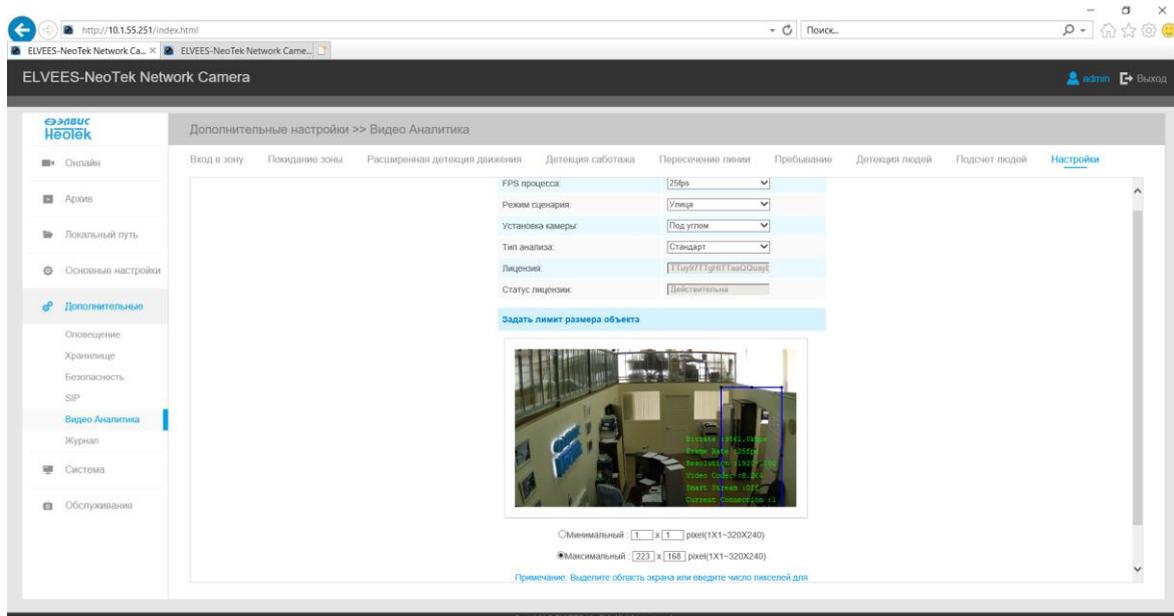
Step6: Set alarm action;

Step7: Set alarm settings;

Step8: Save settings.

B.2.5.5.9 Settings

VCA tab settings Manager. Allows you to customize the minimum and maximum objects. Select a frame on the image or specify the number of pixels for the minimum and maximum object. Select the data processing speed, camera settings, analysis type (standard, advanced), entering the Video Analytics license and its status (valid, invalid).



B.2.5.6 PTZ

Allows you to configure the functions and parameters of the pan / tilt / zoom of the VisorJet Smart PTZ series cameras. PTZ parameters mainly include Basic Parameters, Auto Return, PTZ Restrictions, Home Position, Privacy Mask, Scheduled Tasks, Auto Tracking, Configuration Reset, RS485 (Speed PTZ) interface.

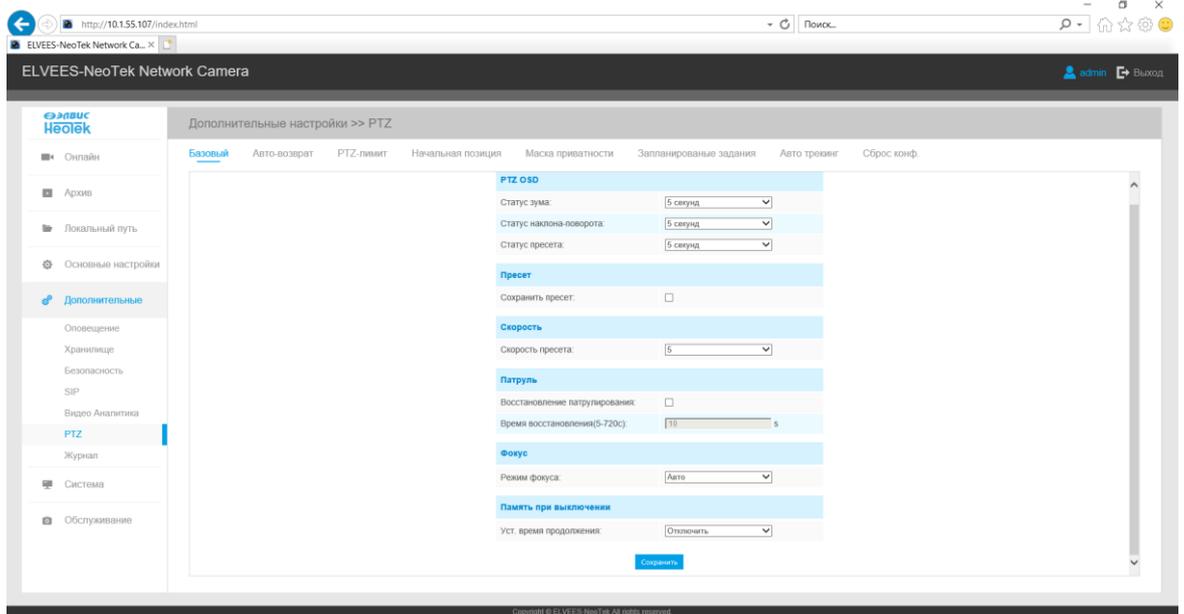


Table B.6.1 - Buttons of the "PTZ" tab

Tab	Button	Description
Basic	Zoom status	Adjust the scaling options. States: always closed / always open / 2sec / 5sec / 10sec
	Tilt-turn status	Adjust the incline settings. States: always closed / always open / 2sec / 5sec / 10sec
	Preset status	Adjust the panning parameters. States: always closed / always open / 2sec / 5sec / 10sec
	Save preset	If enabled, the image of the preset position will be shown immediately instead of broadcasting the display of the path to the preset position.
	Preset speed	Preset Speed: Levels 1 ~ 10 are available. Manual speed: defines the manual control speed, only for Speed PTZ: Low / Medium / High. Sweep Speed: Determines the auto sweep speed. Level 1 ~ 10 is available for Speed PTZ only.
	Patrol recovery	Restoring a preset series of functions after manually operating the camera.
	Recovery time (5-720s)	Set the patrol recovery time, from 5 to 720 seconds.
	Focus mode	Three focusing modes are available: auto / semi-automatic / manual. Minimum Focus Distance: Set the minimum focus distance to adjust the focus step: 1 / 1.5 / 3/6/10/20 meters, only for Speed PTZ.
Set time to continue	If the camera stops working for any reason, its position will be recorded. And it will resume its position after power on. You can set the resume time to 30 seconds, 60 seconds, 300 seconds, or 600 seconds to record the position.	

Tab	Button	Description
Automatic return	Enable	Allows the PTZ camera to automatically return to the preset home position after a period of delay. Check the box to enable
	Delay	Set the delay time for starting the auto-return mode, 5-720s.
	Auto-return mode	The preset point will take effect at startup
	Auto-return ID	Select a preset point in the list, press the "call" button to check the location. You can also select your current location.
PTZ limit	Limit mode	The PTZ camera can be programmed to move within a configurable range (left / right). Manual limit: on the control panel, pressing the right / left buttons will prevent the camera from turning beyond the specified limits. Scan Limit: In scan mode, will prevent the camera from turning beyond the specified limits.
	Enable	When pressing, set the extreme positions of the left and right limits, press, OK and save.
	Mode status	Shows the status: limited or not.
Starting position	Install	Set the starting position of the camera, to which it will return after performing manual or automatic adjustments.
	Clear	Delete memorized position
	Activation	Set the starting position
Privacy mask	Add to	Allows you to cover some areas in the image with a mask and prevent surveillance and recording in these areas. The mask area does not move when you move the camera. A maximum of eight mask areas can be specified.
	Clear	Remove mask from current image
	Delete everything	Remove all masks, including those not included in the image.
Scheduled tasks	Enable Scheduled Tasks	Setting up the automatic execution of a specific action in a user-defined period of time
	Close / Auto / Preset / Patrol / Pattern / Check.	Select a task from the pop-up menu or check the box in the graphic display of the task to the right of the schedule: Close / Auto / Preset / Patrol / Pattern / Check. The scheduled tasks function takes precedence over the Auto-return function. When these two functions are set at the same time, only the scheduled tasks function takes effect.
	Schedule settings	Set a schedule and task details. The time of each task cannot be overlapped. Up to 10 tasks can be configured for each day.
	Recovery time	Set the recovery time for the task (from 5 to 720 seconds). You can also set the idle time before the PTZ camera starts the task.
Autotracking	Enable	Allows you to rotate the camera automatically to track moving objects.

Tab	Button	Description
	Sensitivity	Set the sensitivity of motion detection, from 1 to 10.
	Max Tracking Time	Set the maximum tracking time from 5 to 300 seconds. When the time elapses or the subject disappears, the camera will return to its original position (Auto return)
Reset configurations		Delete tasks page.
RS485	Protocol	Selecting the RS485 protocol
	Frequency	Selecting the transmission frequency
	Number of bits	Number of information bits
	Stop bit	Selecting the stop bit

B.2.5.7 LPR tab (available after purchasing especial license, only for models VJS-B620-2-LPR, VJS-B622-2-LPR, VJS-B603-2-LPR, VJS-P612-2-LPR). LPR automatically detects and captures a license plate in real time, compares it to white and black lists, then generates an alert and performs an action such as raising / lowering a barrier.

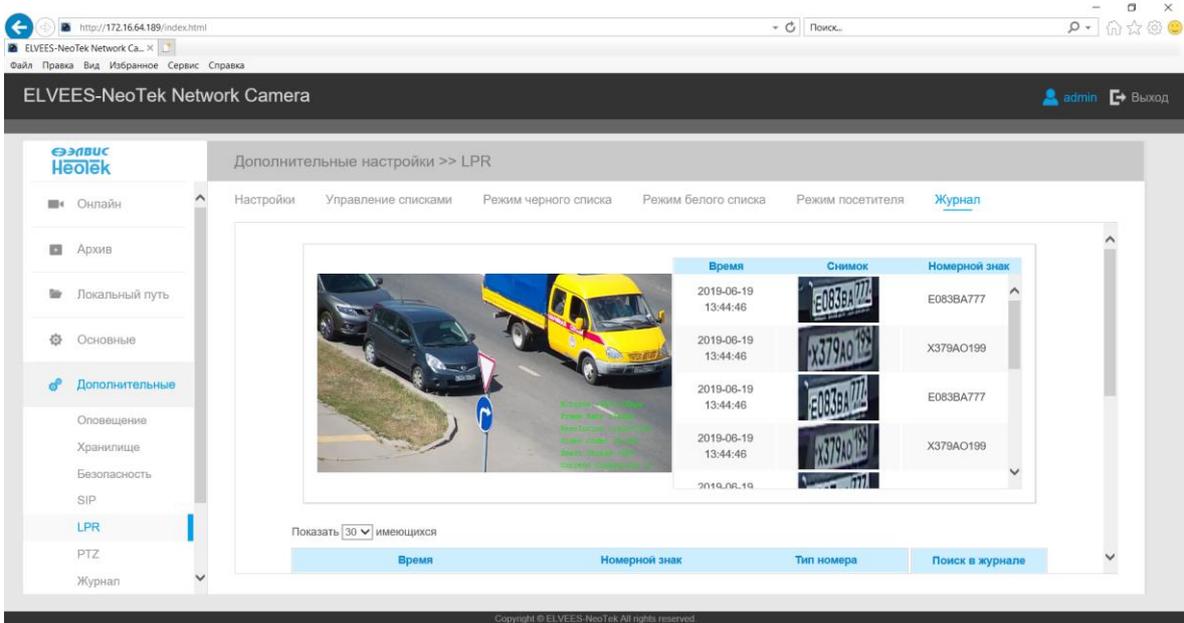


Table B.6.1 - Buttons of the LPR tab

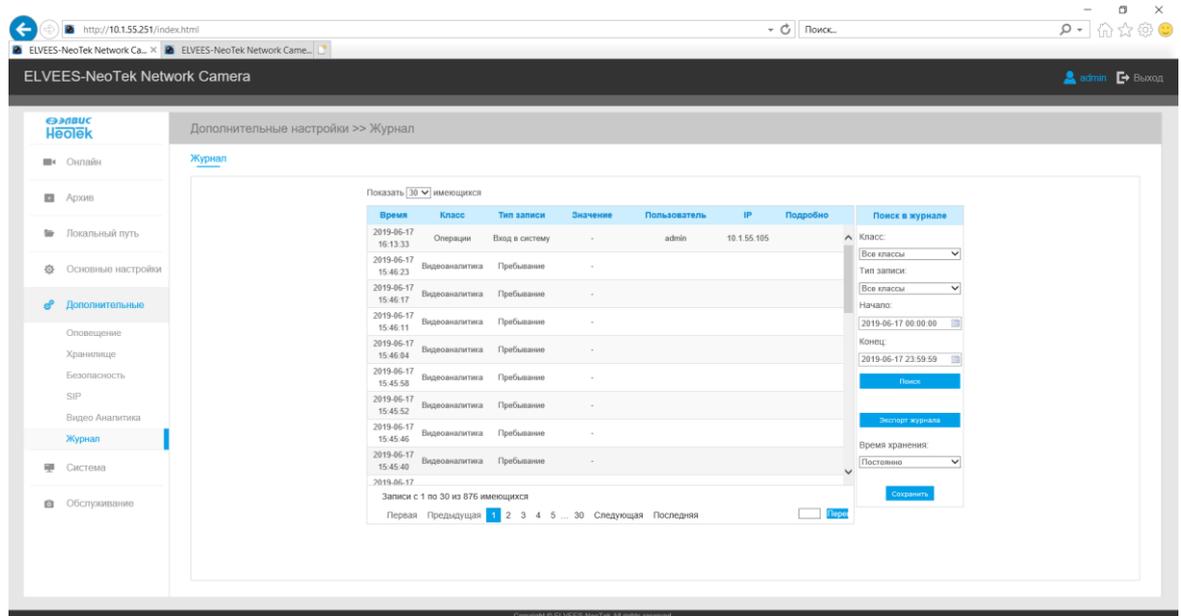
Tab	Button	Description
Settings	Enable License Plate Recognition	Adjust the scaling options. States: always closed / always open / 2sec / 5sec / 10sec
	License	Field for entering the license key. It also displays the active license key.
	License Status	Valid / Invalid.

Tab	Button	Description
	Processing Resolution	Selecting Image Resolution
	Effective Region Settings	Configure the LPR detection regions for the current area
	Effective Time	Indicate operating time
	Enable LPR Messages Post	Allows you to transfer information to third-party devices.
	Type	RTSP/TCP
List Management	Add License Plate	Select the license plate type as black or white, enter the license plate, click the Add button, the license plate will be added successfully.
	Batch Upload	Download the license plate list in CSV (UTF-8) format. By pattern: Type, Plate White, K935XX190 Black, B442CK178
	List Search	Displays the list of license plates: All / black / white
	Export List	Click the "Export List" button to export the license plate in the current list to a csv form locally.
Black List Mode	Enable Black List Mode.	Enable/ disable Black List Mode
	Schedule Settings	Set a schedule for detections
	Alarm Notification	Selecting a notification when an alarm is triggered.
	Alarm actions	Selecting an action when alarm is triggered.
White List Mode	Enable White List Mode	Enable/ disable White List Mode
	Schedule Settings	Set a schedule for detections
	Alarm Notification	Selecting a notification when an alarm is triggered.
	Alarm actions	Selecting an action when alarm is triggered.
Visitor Mode	Enable Visitor Mode	Enable/ disable Visitor Mode
	Schedule Settings	Set a schedule for detections
	Alarm Notification	Selecting a notification when an alarm is triggered.
	Alarm actions	Selecting an action when alarm is triggered.
List		Displays video from the camera in real time and shows the detected recognized license plates.

Tab	Button	Description
	Search	Displays a list (Time, License plate, License plate type) of recognized license plates: All / black / white / visitor
	Export Journal	Allows you to save the RPO journal in CSV (UTF-8) format. By pattern: Time, Plate, Type 2019-06-19 17:17:22, K935XX19, Visitor 2019-06-19 17:17:22, A621TP190, Visitor

B.2.5.6 Logs

The logs tab contains the information about the time and IP that has accessed the camera through web, events, operations, notifications, video analytics.



B.2.6 System

The System tab has all information about the camera model, device version, software version, MAC address, number of alarm inputs / outputs, operating time. Also allows you to change the device name.

The System tab is shown in Figure B.B.

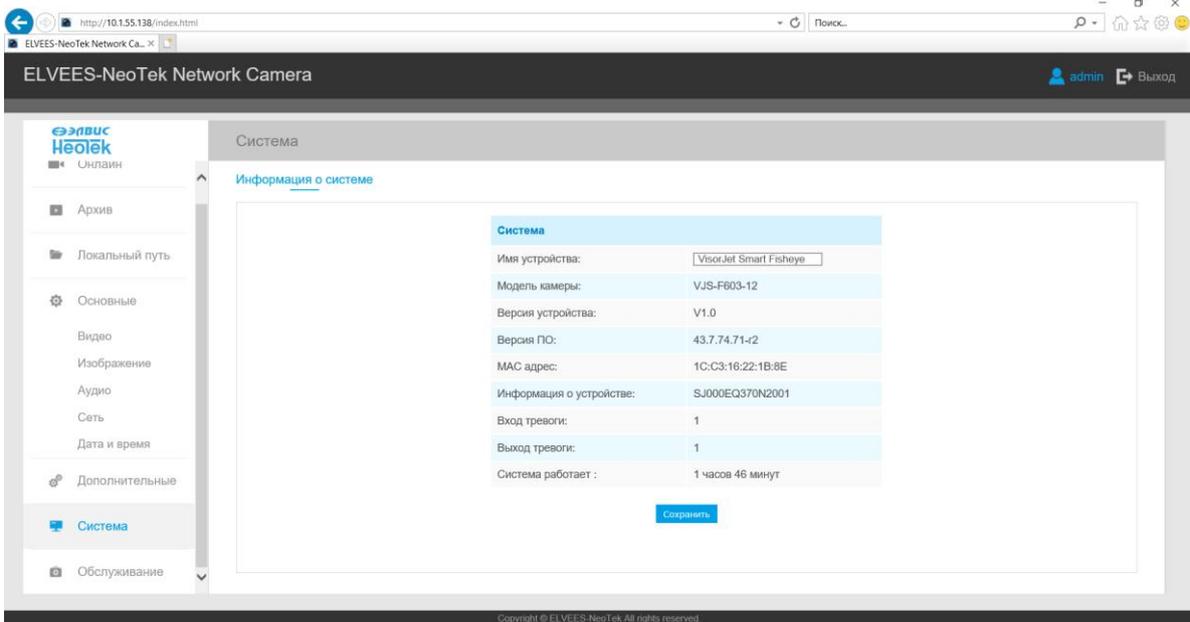


Figure B. - System tab

Description of the System tab is presented in the table

Table B.6 - Buttons of the System tab

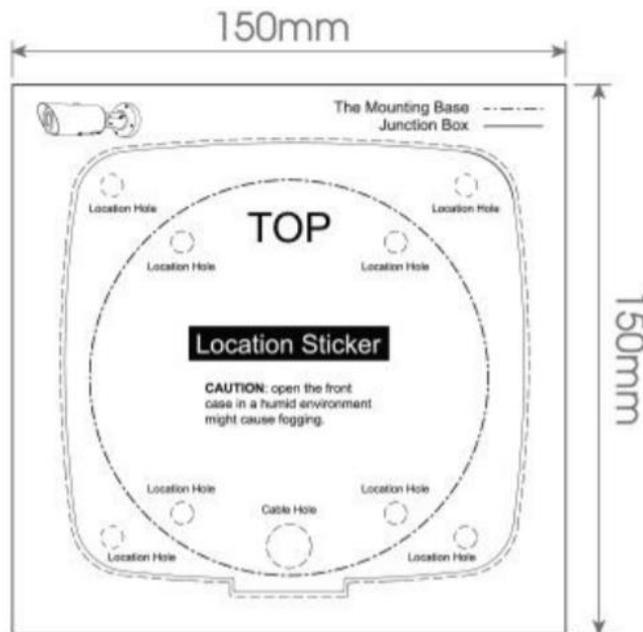
Tab	Button	Description
Device Information	Device Name	The device name can be customized. It will be seen in file names of video files
	Product Model	The product model of the camera
	Hardware Version	The hardware version of the camera
	Software Version	The software version of the camera can be upgraded
	MAC Address	Media Access Control address
	Device Information	The device information, including information about alarm I/O and clipper chip
	Alarm Input	The number of Alarm Input interface
	Alarm Output	The number of Alarm Output interface
	Uptime	The elapsed time since the last restarted of the device

Appendix C

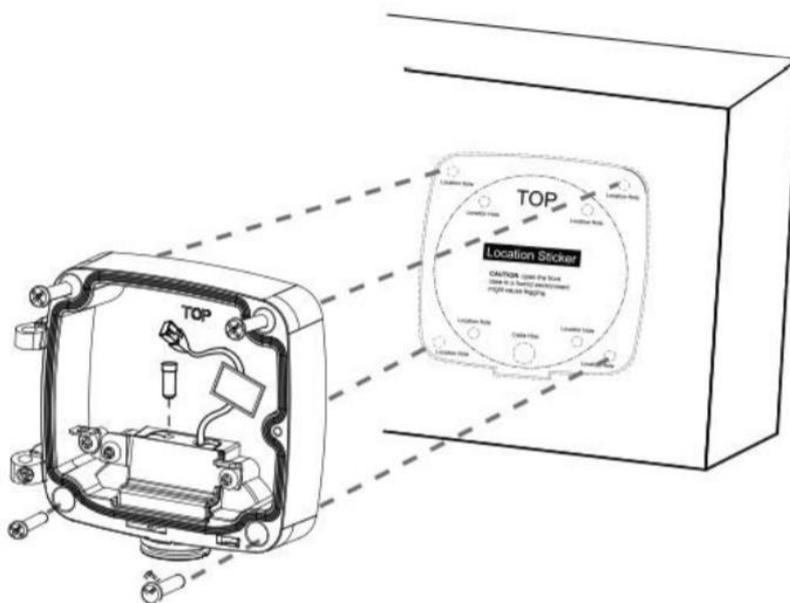
Installation recommendation

C.1 Mounting the VisorJet Smart Bullet Series, Models VJS-B620-2-LPR, VJS-B620-2, VJS-B621-2, VJS-B620-5, VJS-B621-5.

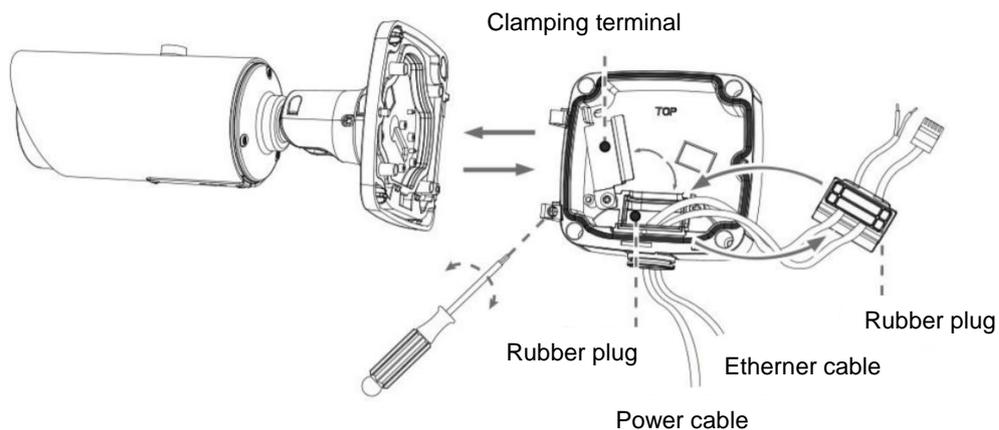
Step 1: Attach the sticker in the place for installing the camera;



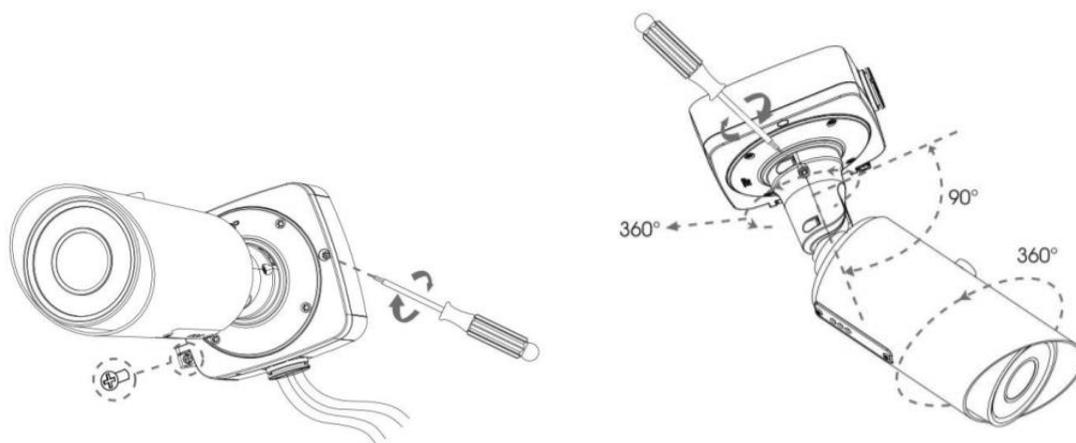
Step 2: Remove the clamping terminal on the back cover of the junction box and cut a hole on the rubber plug, pass the cables through the hole, then attach the back cover to the sticker;



Step 3: Place the front cover at an angle of about 90 ° to the back cover. Pay attention to the TOP marks. The TOP of the camera must be aligned with the TOP of the junction box;



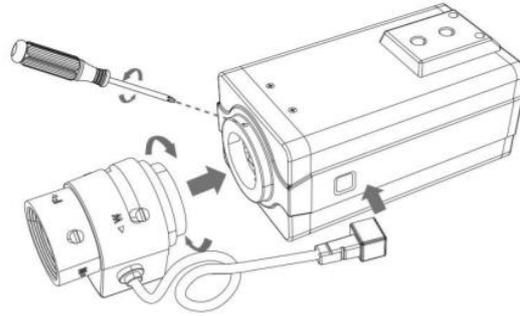
Step 4: Adjust the length of the cables, connect them to the corresponding interfaces and fix with the clamp. Close the junction box and tighten the screws. Please remember to install the rubber plug when the holes are not in use;



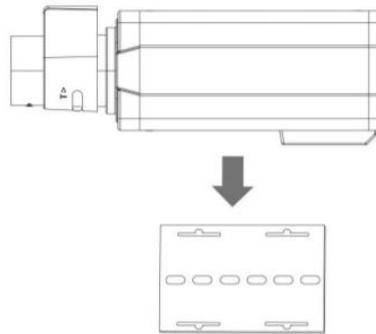
Step 5: adjust the shooting direction and fix the set screw tightly.

C.2 Mounting the VisorJet Smart Bullet Series, Model VJS-B622-2-LPR.

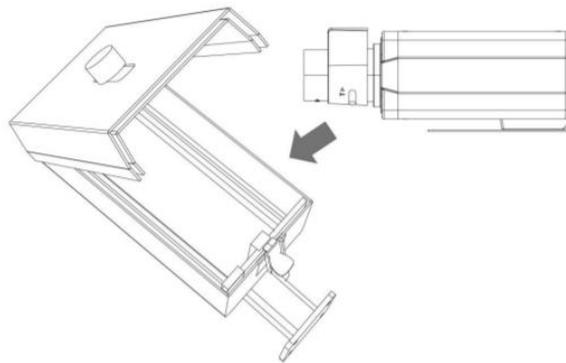
Step 1: Install the lens and iris control cable, then tighten the screw;



Step 2: Connect the cables. Attach the camera to the mounting plate.

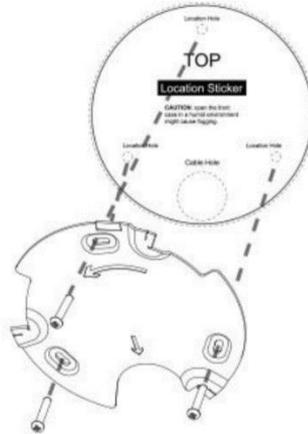


Step 3: Install the camera into the housing;

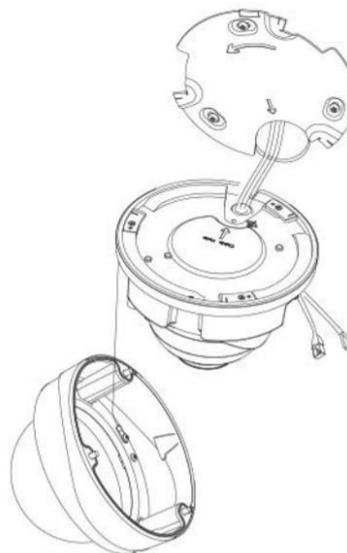


C.3 Installation of the VisorJet Smart Dome series, models VJS-D620-2, VJS-D621-2, VJS-D620-5, VJS-D621-5.

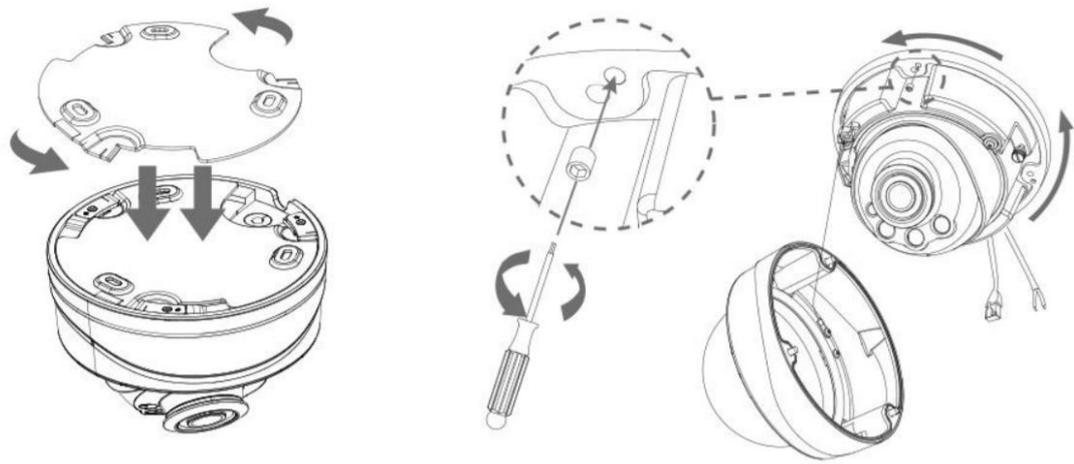
Step 1: Loosen the screws on the dome cover and remove it. Loosen the set screw and remove the bracket, fix the bracket where the camera is to be installed.



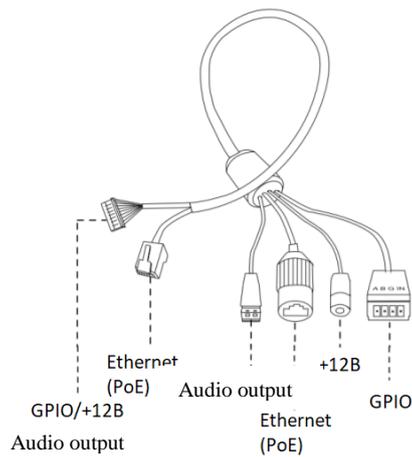
Step 2: Loosen the fixing screw and open the camera body. Unscrew the watertight connector in the cable entry hole and then thread the cables through the cable entry hole;



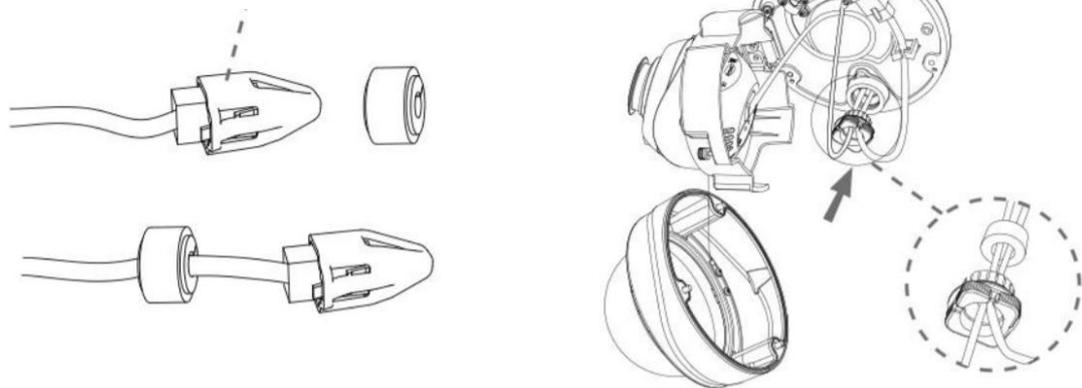
Step 3: Rotate the camera clockwise and then fix the camera to the bracket with the fixing screw;



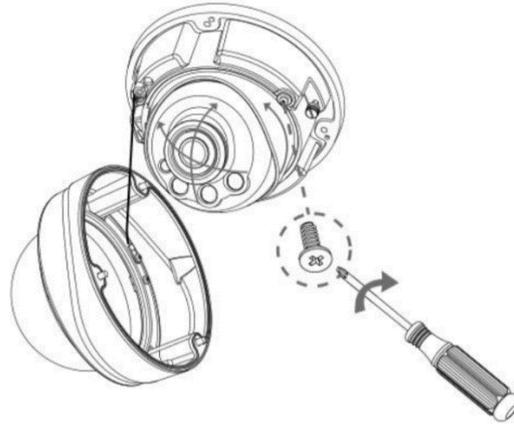
Step 4: Thread the cables through the white rubber ring and the black rubber plug in sequence (place the punching cap on the Ethernet connector and thread the cable through the white rubber ring from the large hole to the small one). Align the ring and plug, screw them into the cable entry hole. Connect the cables to the corresponding connectors, then attach the camera body to the base;



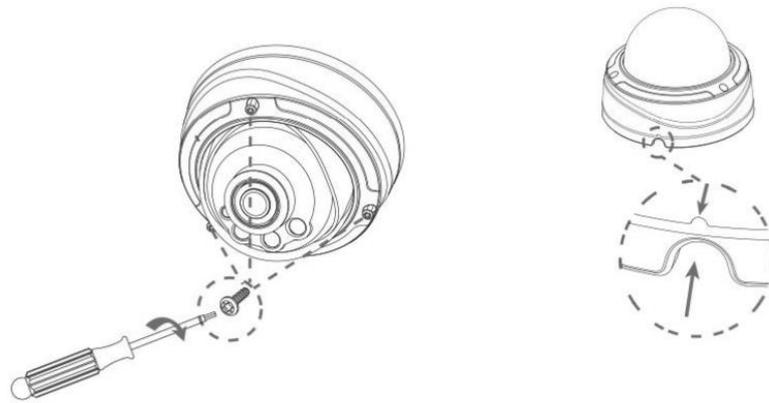
Punching cap



Step 5: Loosen the clamping screw, adjust the camera lens in the desired direction. Tighten the clamping screw to secure the lens;



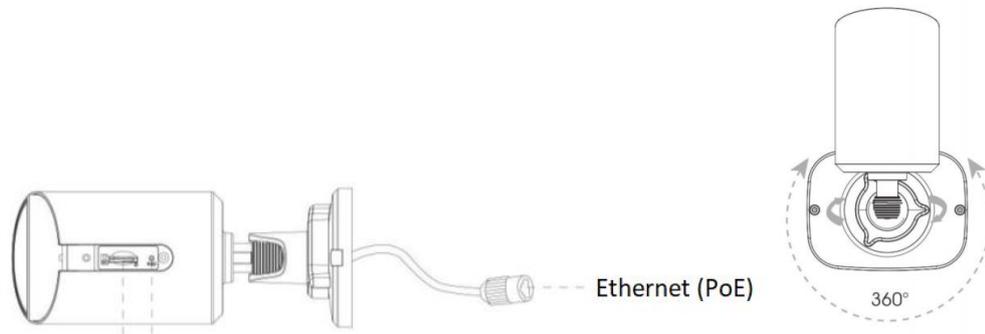
Step 6: Attach the dome cover and make sure the groove above is aligned with the below one as shown in the picture, then fix the camera tightly.



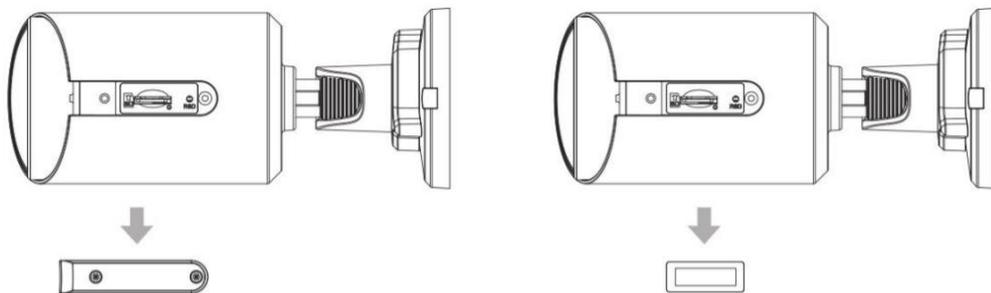
C.4 Mounting the VisorJet Smart Bullet mini Series, Models VJS-B603-2, VJS-B603-

5

Lead out the Ethernet cable and fix the camera where it should be installed using screws or self-tapping screws.



Loosen the screws to access the SD card slot. Fasten the screws after installing the SD card.

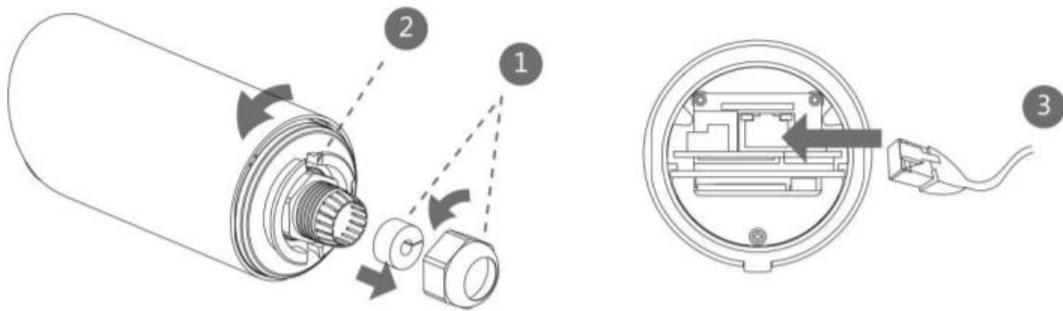


C.5 Mounting the VisorJet Smart Bullet mini series, model VJS-B603-2-LPR

Step 1: Unscrew the plastic connector, and then remove the rubber seal and the cap nut of the waterproof connector;

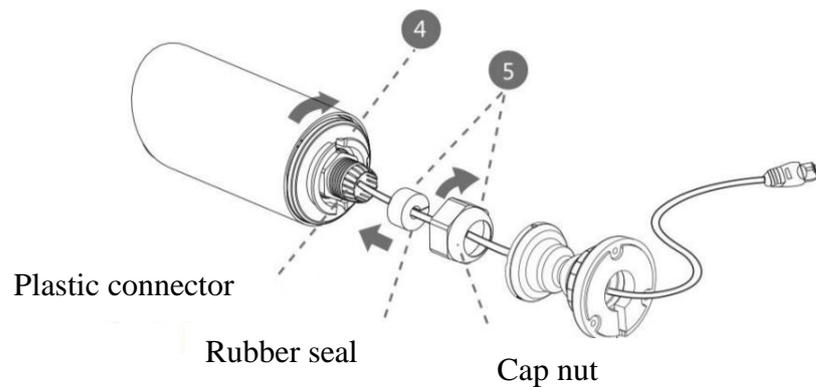
Step 2: Unscrew and open the back cover, then insert the microSD / SDHC / SDXC card;

Step 3: Pass the Ethernet cable through the center of the bracket, cap nut, rubber seal and back cover;

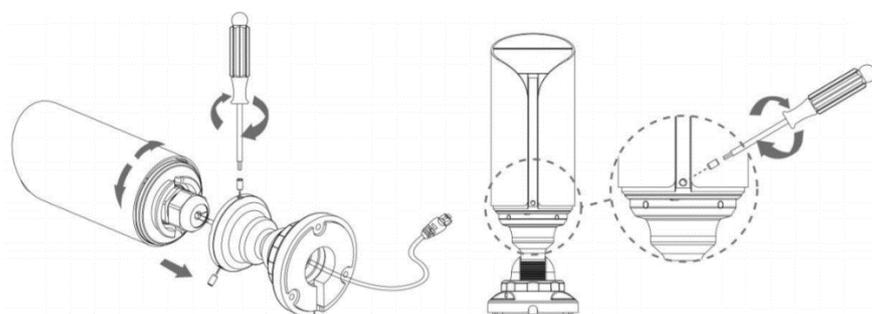


Step 4: Install and tighten the back cover;

Step 5: Tighten the plastic connector, the rubber seal and the cap nut of the waterproof connector;

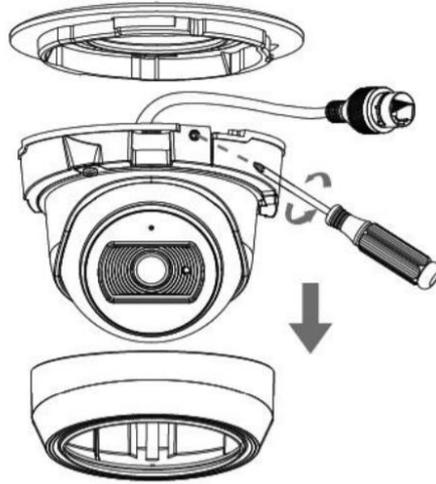


Step 6: Connect the bracket and the camera, rotate the bracket and fix it with screws;

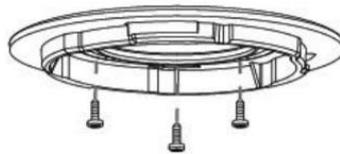


C.6 Mounting the VisorJet Smart Dome mini series, model VJS-D603-2

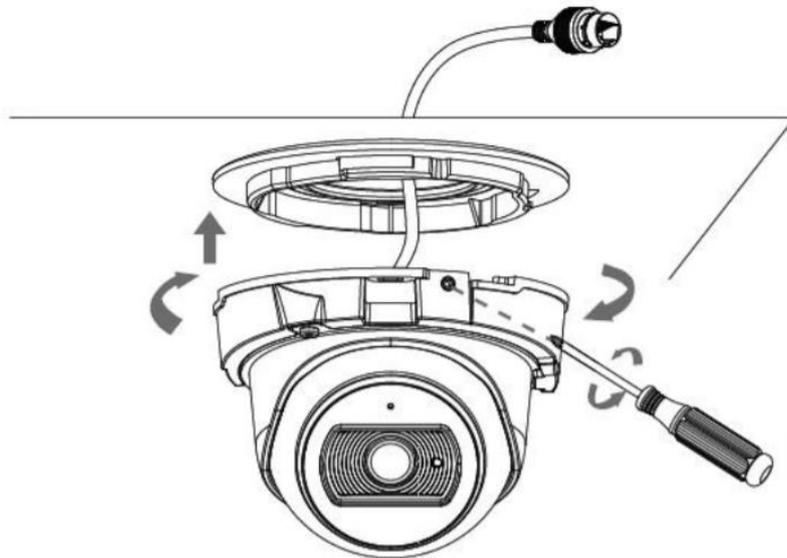
Step 1: Remove the dome cover, loosen the set screw and remove the bracket;



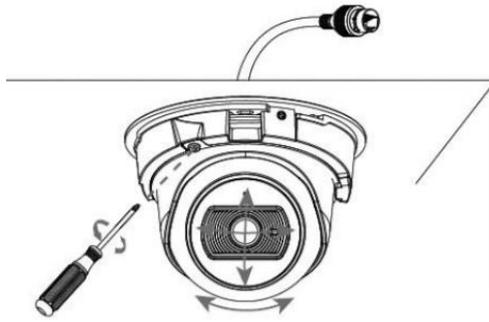
Step 2: Fix the bracket in the position where the camera is going to be installed.



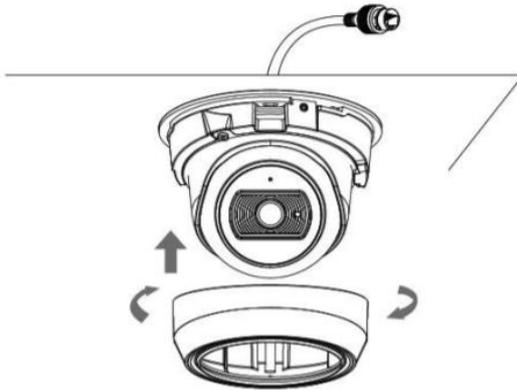
Step 3: Connect the cable, rotate the camera to the bracket and tighten the set screw;



Step 4: Loosen the clamping screw and adjust the shooting direction, tighten the clamping screw;

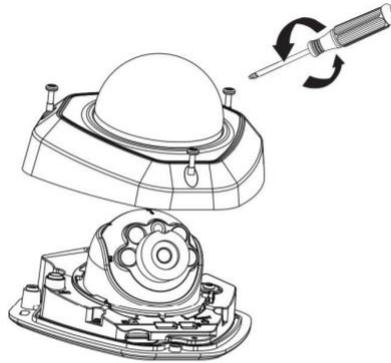


Step 5: Attach the dome cover.

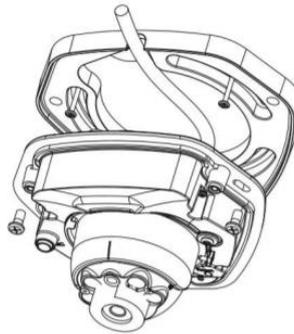


C.7 Mounting the VisorJet Smart Dome mini series, model VJS-D603-5

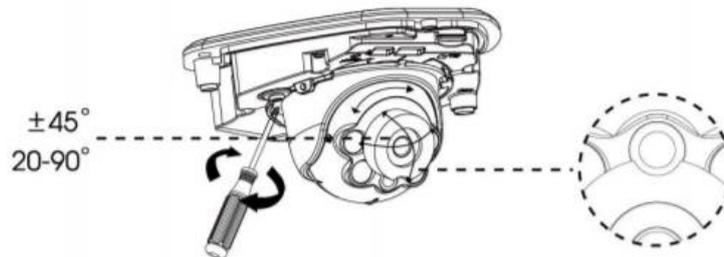
Step 1: Remove the camera cover;



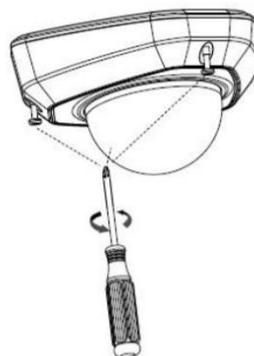
Step 2: Fix the camera to the ceiling or wall using screws. Connect the cables;



Step 3: Loosen the clamping screw to adjust the angle of the lens, then tighten it;

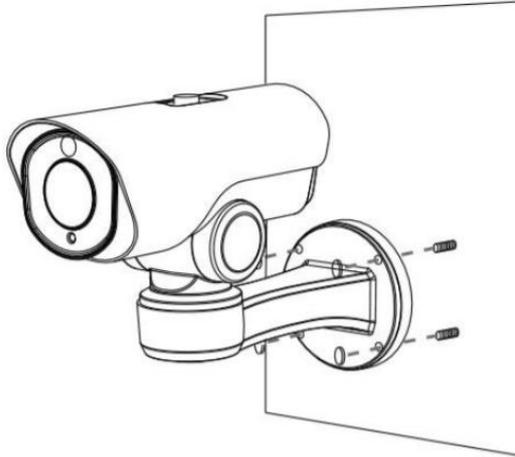


Step 4: Close the camera cover.

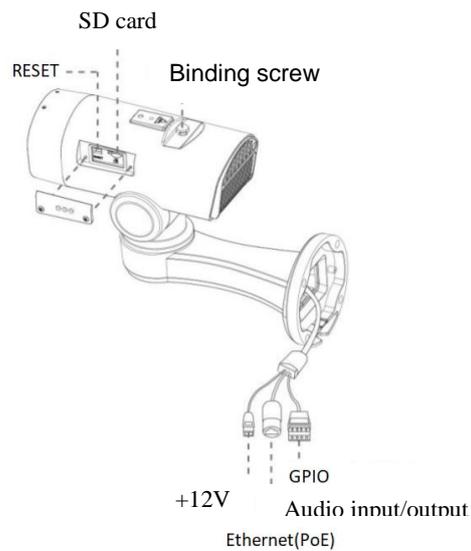


C.8 Mounting the VisorJet Smart PTZ Series, Models VJS-P612-2-LPR, VJS-P612-5

Lead out the cables and fix the camera where it should be installed using screws or self-tapping screws.



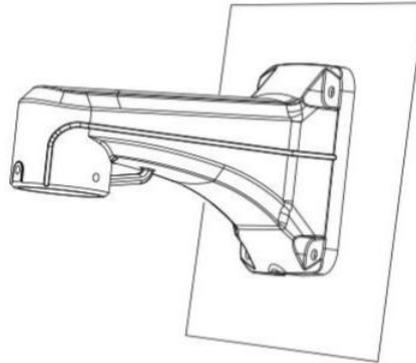
Loosen the screws to access the SD card slot. Fasten the screws after installing the SD card.



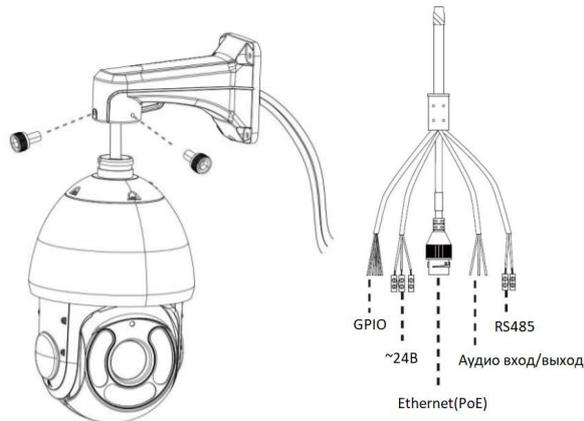
C.9 Mounting the VisorJet Smart Speed PTZ Series, Model VJS-P622-5

Step 1: Check the condition of the wall or ceiling. Make sure there is sufficient strength to avoid crushing. It must support eight times the weight of a camera;

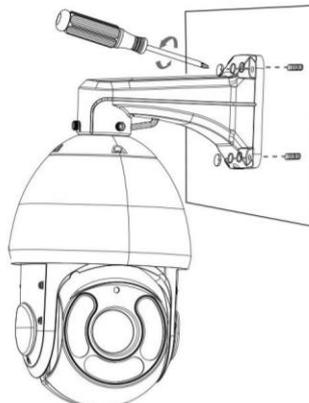
Step 2: Drill 4 holes on the wall;



Step 3: Lead out the cables through the bracket. Align the bracket with the threaded holes of the camera body and secure them. ATTENTION! For safe installation, secure the camera with a steel cable to the bracket.

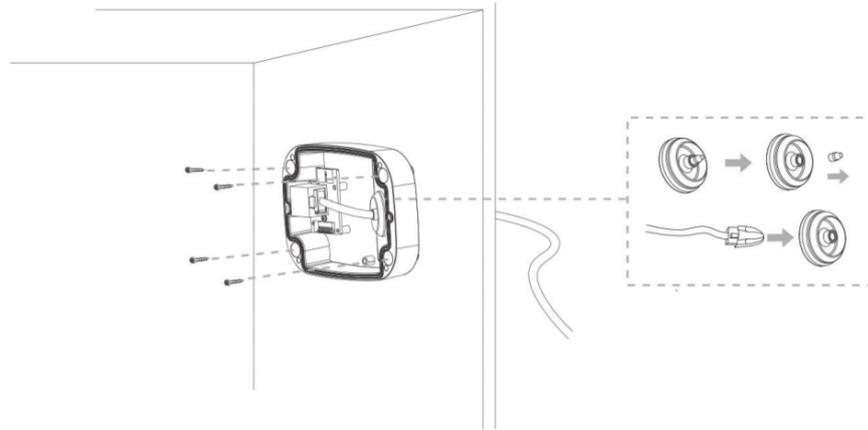


Step 4: Make sure the camera body is properly installed on the bracket, and align the bracket with the holes on the wall, then tighten the screws.

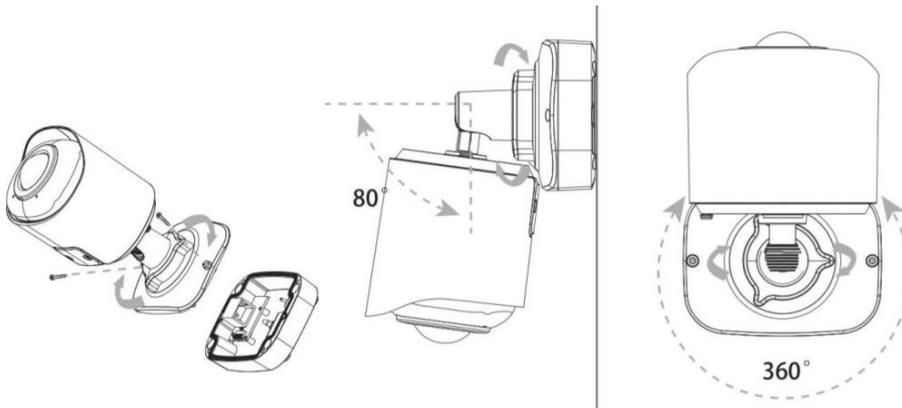


C.10 Mounting the VisorJet Smart Fisheye Series, Model VJS-F603-5

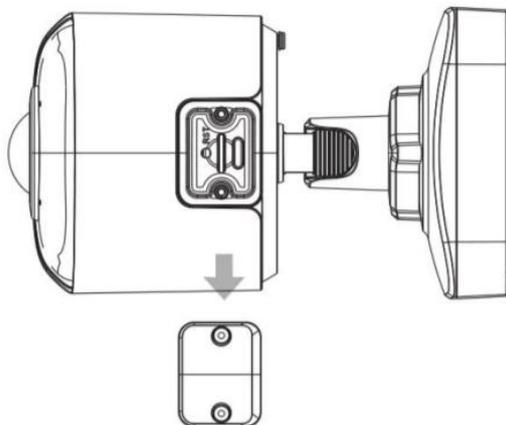
Step 1: Connect the cables to the corresponding interface on the back cover of the junction box. Then fix the back cover in the position in which it should be installed;



Step 2: When the front cover is securely attached to the back cover, the camera will be powered from the wall outlet. Adjust the shooting direction and lock by turning the locking ring.



Loosen the screws to access the SD card slot. Fasten the screws after installing the SD card.

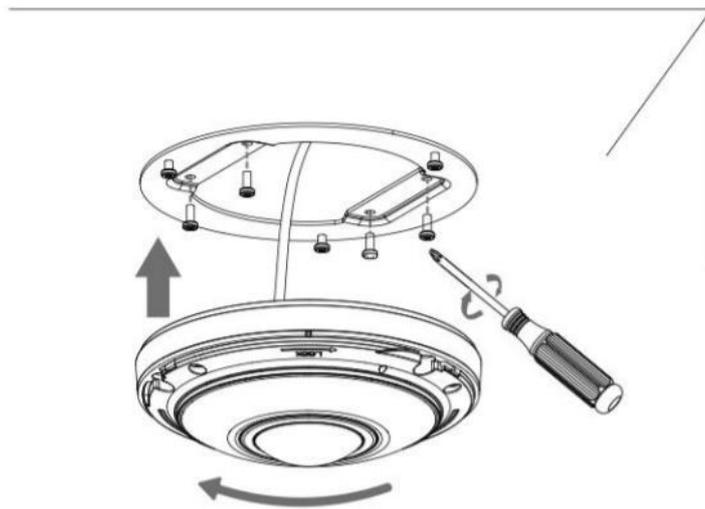


C.11 Mounting the VisorJet Smart Fisheye series, model VJS-F603-12

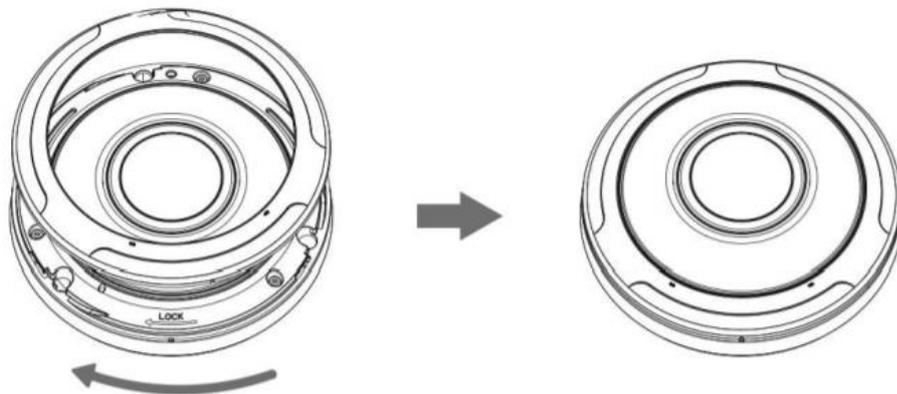
Hold the camera and turn the top cover counterclockwise and then remove it:



Step 1: Attach the bracket to the ceiling or wall where the camera will be installed. Then fasten the screws. Connect the cables, rotate the camera to the bracket clockwise and tighten the set screw;

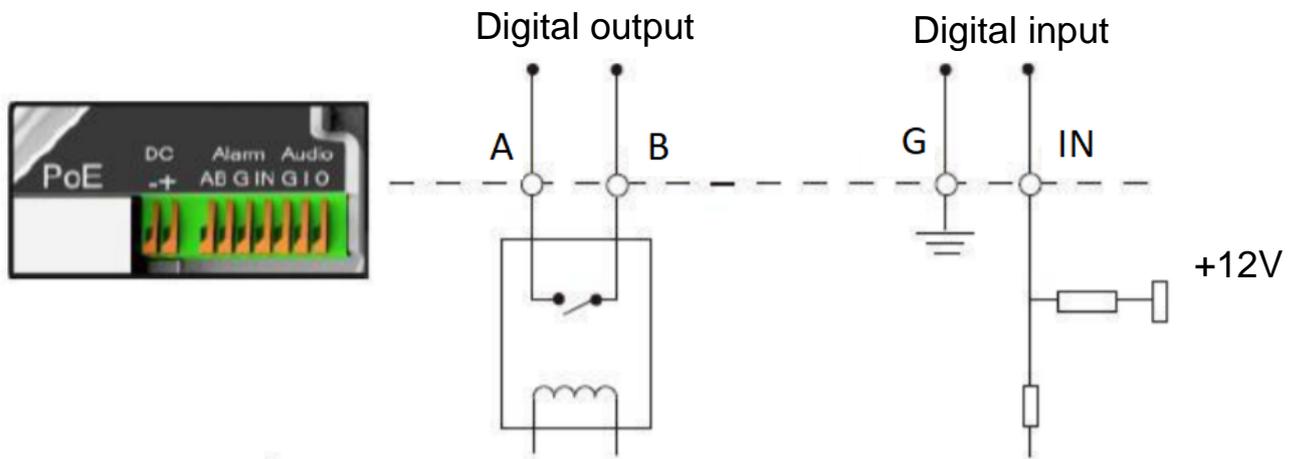


Step 2: Rotate the cover clockwise until the anchor points are aligned.



C.12 Connecting alarm sensors

The general connection diagram of alarm sensors and warning devices is shown in the figure:



GPIO	Assignment
A, B	output, dry contact, 24V 1A, normally closed / normally open, selectable in the web interface;
G	Digital ground;
IN	input, <12V, pull-up to + 12V / open collector.

C.13 Mounting the moisture-proof connector

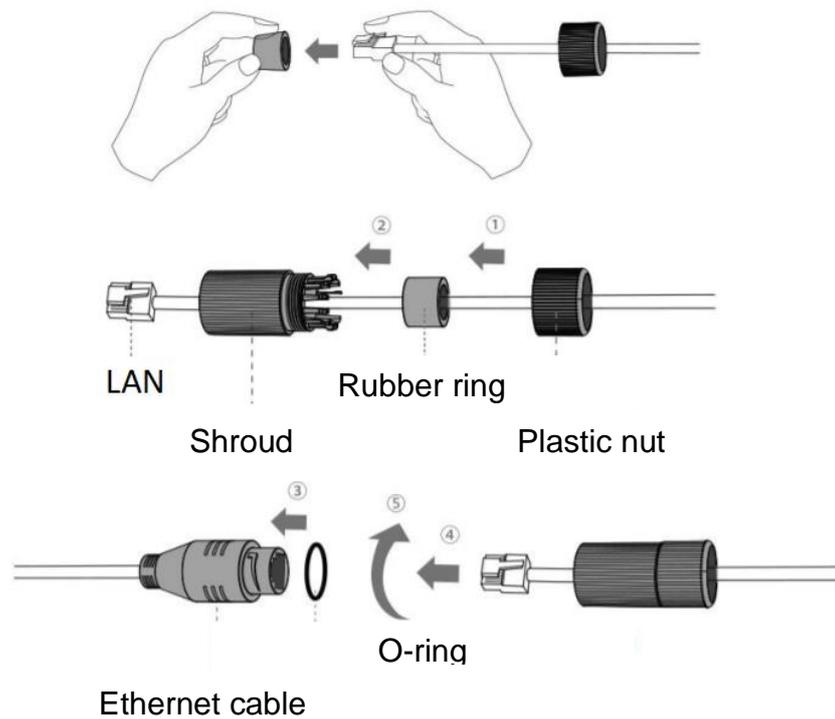
Step 1: Pass the Ethernet cable through the plastic nut, rubber ring and shroud;

Step 2: Insert the rubber ring into the shroud;

Step 3: Screw the nut onto the shroud;

Step 4: Place the O-ring on the network port connector;

Step 5: Connect the RJ45 to the network port connector, tighten the bolt and the connector.



Please wrap the entire Ethernet cable connection tightly with blue tape to better prevent moisture penetration.