

# IZ600F User Guide

## Bullet ALPR Camera



**⚠ CAUTION**

Inex products must be mounted as described in their Installation Guides. If not, moisture problems may occur - which are not covered by the warranty.

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# 1. Related Documents and Software

Table 1. Related Documents and Software

Doc. No.	Title
<a href="#"><u>IZ600F-MAN-002b</u></a>	IZ600F Installation Guide
<a href="#"><u>IZ600F-TECH-004</u></a>	IZ600F Quick Start Guide
<a href="#"><u>IZ600F-REV-x-TDSHEET</u></a>	IZ600F Technical Data Sheet
<a href="#"><u>MOUNT-IZ600F-PRSNT-010</u></a>	IZ600F Camera Mount Installation documentation
<a href="#"><u>IZ Discovery Utility</u></a>	IZ Discovery Utility software components
<a href="#"><u>IZDISCOVERY-MAN-001</u></a>	IZ Discovery User Guide
<a href="#"><u>RoadView Documentation</u></a>	RoadView Documentation
<a href="#"><u>End User Agreement</u></a>	Inex Technologies End User Agreement
<a href="#"><u>IZL-MAN-002</u></a>	IZL Illuminator Series User Guide
<a href="#"><u>IZODPUG-4G-REV-x-TDSHEET</u></a>	IZODPUG/4G AI Outdoor Data Processing Unit: Technical Data Sheet
<a href="#"><u>IZIDPUG-x-MAN-001</u></a>	IZIDPUG Indoor AI Data Processing Unit: Installation and User Guide
<a href="#"><u>IZPWRDIN-REV-x-TDSHEET</u></a>	IZPWR DIN Rail Mount Power Supplies Technical Data Sheet
<a href="#"><u>NDAA-NB-COC-001</u></a>	NDAA Section 889 Certification of Compliance

## 2. Applicability

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This document was written based on IZ600F firmware version 4.53-301-rp\_ZA. Later versions may require changes to this document.

## 3. Training and Support

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### 3.1. Training

This document does not take the place of training by Inex Technologies' certified specialists. Contact Inex Technologies to schedule training.

### 3.2. Support

If you have any questions, please contact our support team via our [Inex Technologies Website](#).

## 4. Product Description

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### 4.1. Overview

The IZ600F camera is suitable for parking, access control and security applications, with different models available for different illumination requirements.

It has a rugged, all-weather, IP67-compliant, waterproof, vandal-proof housing and a protective sunshade.

### 4.2. Package Contents

Carefully unpack the contents of the camera package.

The package includes:

- IZ600F, Bullet ALPR Camera with 3-axis bracket
- LAN cable connector (field mountable)
- 3 mm Allen/hex key for pan/tilt/roll adjustment
- Screws and anchors to attach the camera to a wall or surface

#### **i** NOTE

If any parts are missing or damaged, please contact Inex Technologies.

### 4.3. Dimensions

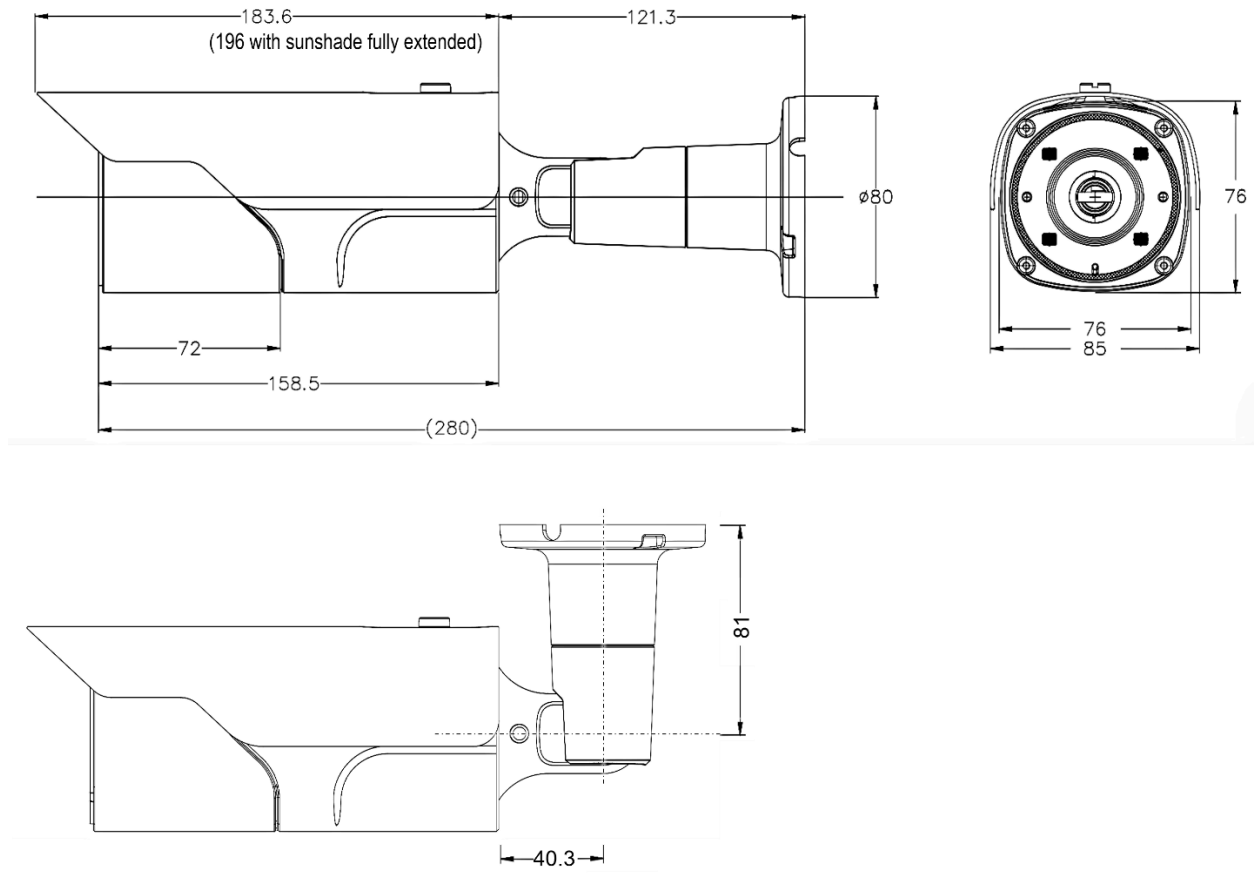


Figure 1. IZ600F Dimensions (mm)

## 4.4. Specifications

The following Figure illustrates the distances and resulting plate images mentioned in the specifications table.

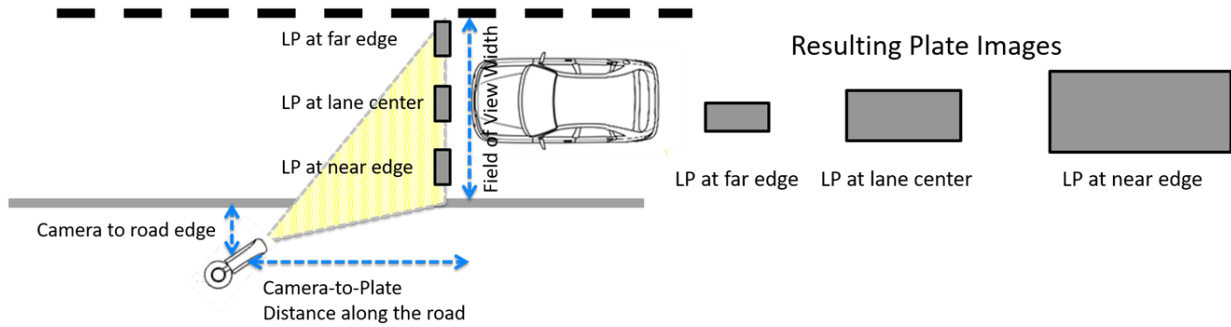


Table 2. Technical Specifications

Item	Specification	
LPR Imaging	Field of View (FOV)	12 ft (H) x 8 ft (V) (3.7 x 2.4 m)
	Camera to Road Edge distance	1.6 ft (0.5 m) - (typical recommended distance)
	Camera height	1.6-4.9 ft (0.5-1.5 m) - (typical recommended height)
	Camera-to-Plate Distance along the road	5-70 ft (1.5-21 m) (When installed at the recommended height and Camera to Road Edge distance)
	Pixels Per Plate width (US style plates)	Image center - 150 Near Edge - 170-260 Far edge - 80-160 (When installed at the recommended height and Camera to Road Edge distance)
	Pixels Per Plate width (EU style plates)	Image center - 275 Near Edge - 280-430 Far edge - 140-265 (When installed at the recommended height and Camera to Road Edge distance)
Vehicle Speed Range	Up to 60 mph (0-97 km/h)	
LED Illumination	Built-in Illuminator	<ul style="list-style-type: none"> <li>IZ600F-IR: 4 Power Infrared LEDs</li> <li>IZ600F-DR: 4 Power Deep Red LEDs</li> </ul>
	Beam Angle	60°x60°

Item		Specification
Image	Day/Night Mode	Day/Night/Auto
	Day/Night Switch	IR Cut Filter with auto switch
	Image Sensor	1/2.8", 3.21M, Progressive Scan CMOS
	Sensor Model	Sony IMX123
	Image Setting	Rotate Mode, Saturation, Brightness, Contrast, Sharpness
	Max. Resolution	2065 (H) × 1553 (V) (approximately 3.21 MP)
	Min. Illumination	Color: 0.05 lux, B&W: 0 lux
	Shutter	Auto, Manual (1/30 - 1/32000)
	Noise Reduction	2D-DNR/3D-DNR
	Wide Dynamic Range (WDR)	True WDR, 120 dB
Lens	Lens	5 - 50 mm, Motorized Zoom and Auto-focus
Video	Video Compression	H.264, H.265, Motion JPEG (MJPEG)
	Video Streaming	Motion JPEG and H.264 Triple Streaming (Simultaneously); Independently controllable frame rate and bandwidth
	Resolution	3 Megapixels - 2048 (H) x 1536 (V)
	Quality Control	Low Compression, highest, high, normal, low, lowest
	Bit Rate Control	VBR, CBR (H.264 only, 32K~12Mbps)
	Frequency Control	60hz, 50hz
	Frame Rate	30 fps @ 2048 x 1536
Network	Supported Protocols	HTTP, RTP/RTSP(Uni/Multicast), TCP/IP(v4/v6), UDP, FTP, Telnet, HTTPS, RARP, PPPoE, SNMP, PAP, CHAP, DHCP, NTP, SMTP client, uPnP
	Dynamic IP	Dynamic DDNS Support
	Security	IP filtering, HTTPS, Encrypted and Basic Authentication

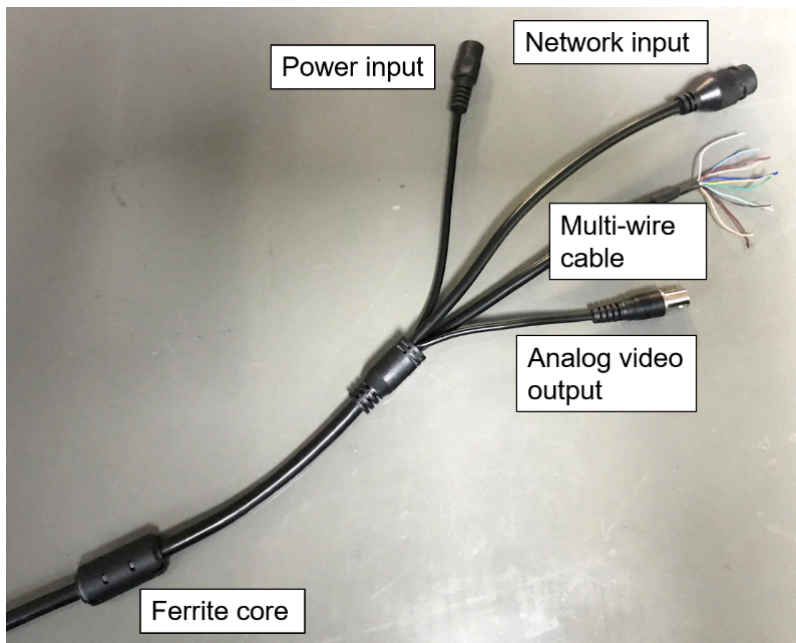
Item		Specification
Environmental	Ingress Protection	IP67
	Operating Temperature	-4 °F to 140 °F (-20°C to 60 °C)
	Humidity	10% - 90% RH
Certifications	EMC	FCC Part 15, subpart B; CE
	Interoperability	ONVIF compliant, Profile S
	Impact Protection	IK10-rated housing (Vandal-proof)
	RoHS	RoHS
	Eye Safety	Exempt
	NDA	NDA Section 889 compliant
Physical	Dimensions (W x H x D)	(including sunshade fully extended) 3.2" x 3.3" x 12.5" (82 mm x 83 mm x 317 mm)
	Weight	~2.76 lbs (~1,250 g)
	Color	White
Interface	Ethernet	10/100 BaseT Ethernet auto sensing
	Connectors	<ul style="list-style-type: none"> <li>• 1 x Ethernet (RJ-45 Female)</li> <li>• 1 x Power (DC barrel jack - Female)</li> <li>• Multi-wire (see the wiring assignments table)</li> </ul>
Power	Power Supply	12 VDC (male barrel connector required) or PoE+ (802.3at)
	Power Consumption	<ul style="list-style-type: none"> <li>• Color mode - 5 Watts</li> <li>• B/W mode with LED on - 10-12 Watts</li> </ul>
Accessories Included		Camera mount, 3x axes
		Sunshade, adjustable



Item	Specification
Accessories Available	Junction Box
	POE Injector
	Network Switch
	<u>Pole mount adaptor</u>
	Different <u>power supply</u> options available
	<u>IzL Series Illuminator</u>

#### 4.5. Connectors and Wiring Assignments (Pinout)

Table 3. Connectors



Connectors
Power input (for 12 VDC) - female barrel connector 5.5 mm outer diameter, 2.1 mm inner pin diameter
RJ-45 network input connection
Multi-wire cable (not used)
Analog video output (BNC connector)

## 5. Required/Optional Accessories (Not Included)

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### 5.1. Required Accessories

Surge protection must be provided on all power, network and data cables

All network cable extensions and repeaters must be shielded.

- Power supply:
  - 12VDC, 1.2 Amp power supply, with male barrel connector (5.5 mm outer diameter, 2.1 mm inner diameter), or
  - PoE+ (IEEE 802.3at) switch capable of providing 12VDC at 1.2 Amp



*Figure 2. Male Barrel Connector*

- Waterproof junction box for the camera's power and LAN connections
- Waterproof insulating tape (such as butyl tape)
- Network cabling (typically CAT 5e/6 cable) and switch. The total length of the cable from the network switch to the camera should not exceed 328 feet (100 meters).
- Laptop computer to use for calibration and configuration, with the following requirements:
  - Windows 10 or above - with .NET 4.5 enabled in "Windows Features"
  - Chrome or Microsoft Edge browser
- A list of accessories that can be supplied by Inex can be found at the end of the Specifications (see Section 4.4).

## 5.2. Optional Accessories

- Pole mount adapter (PMA) - see the Mounting Hardware documentation (see Section 1)
- External Illuminator - Can be used to enhance overview vehicle image quality, for front and/or rear capture. It is recommended to use an illuminator power supply separate from the camera's supply.
  - Mount illuminators at an appropriate distance away from their associated camera(s), according to the objectives of your project. Contact Inex for guidance/training.
  - Position the illuminator so you can aim it at the place where vehicles pass for recognition - while minimizing the glare into drivers' eyes. In most cases, however, white illuminators are mounted to be aimed at the rear of vehicles. Illuminator aiming is most effective at night.

## 6. Recognizing Devices with IZ Discovery

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The IZ Discovery utility discovers all active devices connected to the network, and displays a list of their network parameters. These devices can include cameras and computers.

See the IZ Discovery User Guide (see Section 1).

## 7. Configuring Camera Settings

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See your camera's Installation Guide for detailed instructions (see Section 1.)

## 8. Using RoadView

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RoadView is advanced ALPR software that reads license plates using sophisticated image recognition algorithms, and creates LPR Events.

### 8.1. Determining the IP Address of the RoadView Computer with IZ Discovery

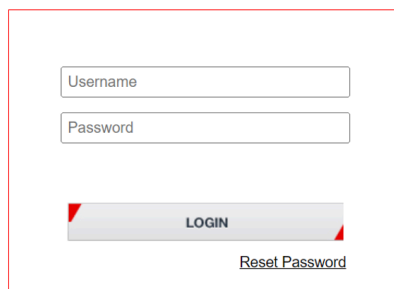
See the IZ Discovery User Guide (see Section 1).

### 8.2. Logging In

1. Open a browser (Chrome or Microsoft Edge). Type in the IP address of the RoadView computer. For example:

192.168.5.110

2. You will see the login screen. Enter the default username and password (root, root):



The image shows a login interface with two text input fields labeled 'Username' and 'Password'. Below these fields is a grey button with the text 'LOGIN' and a red triangle on the left side. To the right of the button is a link labeled 'Reset Password'.

*Figure 3. Logging In to RoadView*

3. You should see the RoadView Live (Journal) tab. See the RoadView ALPR User Guide for instructions for configuring and using RoadView (see Section 1).

### 8.3. Logging Out

See the RoadView ALPR User Guide (see Section 1) for logout instructions, using the multi-line drop-down menu icon in the upper right corner of the screen.

## 9. Maintenance

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### 9.1. Checking Mounting Screws

It is recommended to check all mounting screws for proper tightness once every two years.

### 9.2. Cleaning the Camera

Do not use solvents or strong abrasive detergent when cleaning the camera. Use a soft dry cloth to clean the ALPR camera's front glass when it is dirty. If the dirt has hardened, remove it using mild soap and water, and then wipe the front window gently.

## 10. Notices

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### 10.1. Inex Technologies End User Agreement

Be sure to read the following document that explains important information about your agreement with Inex. [Inex Technologies End User Agreement](#)

### 10.2. Safety Precautions

#### **⚠ CAUTION**

WHEN INSTALLING THE UNIT IN YOUR SYSTEM, BEWARE OF RISK OF ELECTRICAL SHOCK.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

#### **! IMPORTANT**

This product must be used in compliance with local laws and regulations.  
All network cable extensions and repeaters must be shielded.  
Power undervoltage, overvoltage and/or incorrect polarity will damage the unit and will void the warranty.

- Read this guide carefully before installation, and keep it for future reference.
- Do not disassemble the camera. Repair or replacement of parts for this camera should be supplied by Inex Technologies, and installed by qualified service personnel.
- Handle and store the camera with care. Do not drop the camera or subject it to physical shock.
- The sensor can be burned out by a laser beam. When any laser equipment is in use, you must ensure that the surface of the sensor will not be exposed to a laser beam.
- You must provide adequate protection to prevent water (e.g. rain) from entering the camera.
- Do not touch the sensor or lens with your fingers.

- Do not use the camera or external illuminator units outside of their temperature, humidity and power source ratings as noted in their respective technical specifications.
- To avoid heat accumulation/overheating, use sufficient ventilation in the unit's operating environment.
- It is your responsibility to ensure that all wires connected to Inex Technologies' products have appropriate surge protection. Any damage due to electrical spikes (for example, lightning) is not covered by the warranty.
- Do not connect several devices to one power adapter since adapter overload may cause overheating or a fire hazard.
- Stop using the unit immediately if it emits smoke, or if you notice an abnormal smell or sound. In such cases, please contact us. Do not attempt to repair the unit by yourself!

### 10.3. Regulatory Notices

-  **FCC Conformance:**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

-  **EU Conformity Statement:**

This product and - if applicable, the supplied accessories - are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, and the RoHS Directive 2002/95/EC.

-  **IP67 Ingress Protection:**

This product conforms to the IP67 standard.

-  **IK10:**

This device's casting/housing conforms to the IK10 impact standard (Vandal-proof).

-  **ONVIF:**

This device is ONVIF compliant (Profile S).

## 10.4. Documentation Notices

Inex Technologies reserves the right to improve and enhance its product offerings. Thus, the illustrations and descriptions presented in this manual may differ in some respect from the products you receive.

Technical specifications are subject to change without notice.

In addition, please note that some figures are not drawn to scale, in order to illustrate the addressed issue more effectively.

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## 11. Document Change History

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Date	Change
2023-03-23	<ul style="list-style-type: none"><li>• FOV now appears in specification table</li><li>• Added Note in IZ Discovery section to remind user that a camera's IP address can also be changed via the camera's configuration application.</li><li>• Added basic instructions for using RoadView</li></ul>

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