INEX TECH Documents

IZIDPUG Installation and User Guide

Indoor AI Data Processing Unit

Table of Contents

1. Recommended Reading/Related Documents

Table 1. Related Documents

Doc. No.	Title
IZIDPUG-REV-xx-TDSHEET	IZIDPUG Technical Data Sheet (Rev. B)
IZ Discovery Utility	IZ Discovery Utility software components
IZDISCOVERY-MAN-001	IZ Discovery User Guide
RoadView Documentation	RoadView Documentation
End User Agreement	Inex Technologies End User Agreement
NDAA-NB-COC-001	NDAA Section 889 Certification of Compliance

2. Training and Support

2.1. Training

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

2.2. Support

If you have any questions, please contact our support team via our Inex Technologies Website.

3. Checklist

- ✓ Prepare components and tools
- ✓ Plan your site
- ✓ Prepare cables
- ✓ Install components
- ✓ Connect components (wiring)
- ✓ Power up and set up IP
- ✓ Verify system operation

4. Prepare Components and Tools

4.1. Package Contents

Carefully unpack the contents of the IZIDPUG package.

Figure 1. Package Contents

The package includes:

- An IZIDPUG Indoor AI Data Processing Unit
- Power adapter

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

4.2. Required Accessories/Tools (Not Included)

- Network surge protector/arrestor on all network cables (see Section 5)
- Network (LAN) cabling (typically CAT 5e/6 cable, with metal-body RJ45 connectors. The total length of the cable should not exceed 328 feet (100 meters). **See Section 6 for important LAN cable information.**
- Tools for building LAN cables (wire stripper, crimp tool, etc.) and RJ45 connectors with metal bodies.

NOTE

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.

4.3. Laptop Computer

- You will need to provide a laptop computer to use for configuration. If you will be using the laptop outdoors, the screen must be able to be seen in strong sunlight. Required software:
    - Windows 10 or above - with .NET 4.5 enabled in "Windows Features"
    - Chrome or Microsoft Edge browser

4.4. Dimensions and Mounting Holes

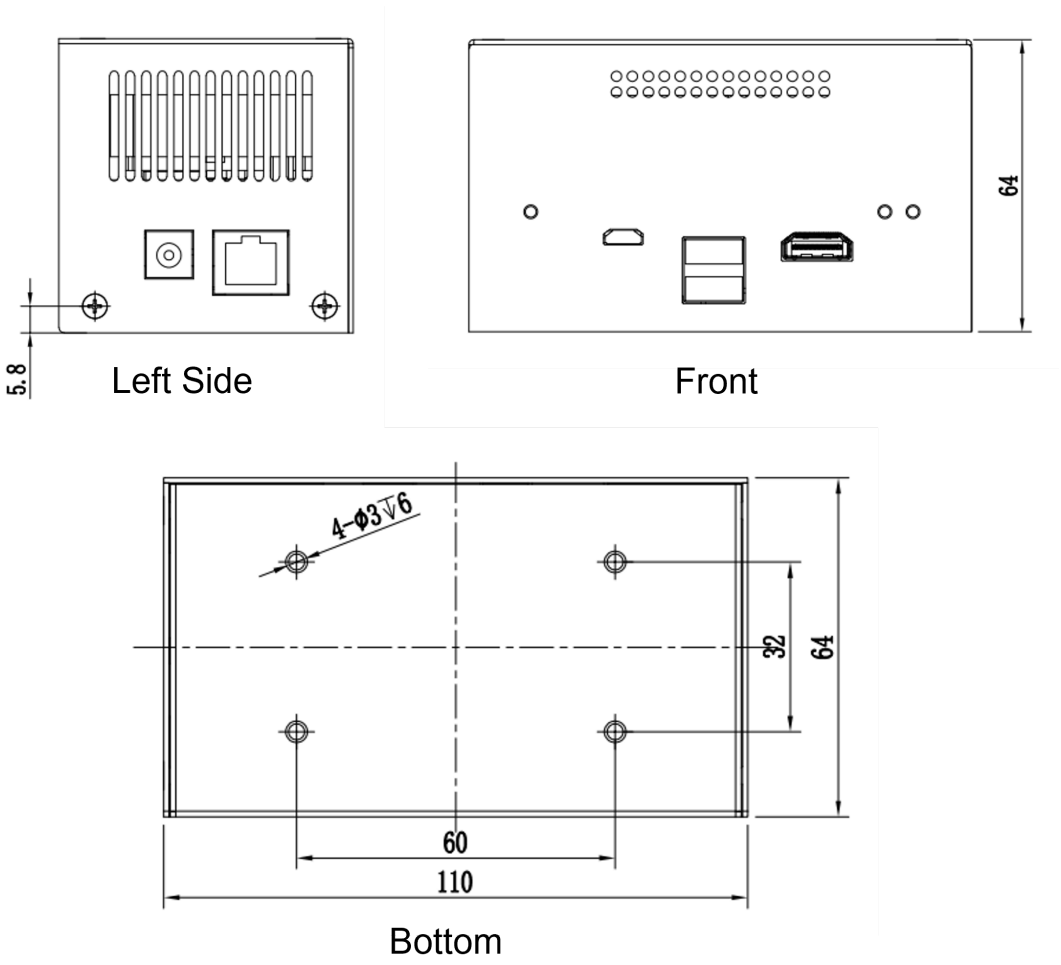

Figure 2. Dimensions and Mounting Holes (mm)

4.5. Specifications

Table 2. IZIDPUG Technical Specifications (Rev. B)

Item		Specification		
Supported Analytics	LPR Analytics	Plate Recognition, State Identification, Plate Type		
	Vehicle Analytics	Vehicle Detection, Classification, Color, Make; Vehicle Without Plate		
Integrated Cameras	Inex Cameras	IZ600F, IZB600F		
	3rd Party Cameras	Any camera which supports the RTSP streaming protocol and H.264 encoding can be integrated with this AI Data Processing Unit		
Processing Power	Processing Power (fps)	40		
Number of Cameras Supported	Triggering Modes:	**Triggered**	**Non-Triggered**	**On-Demand**
	< 20 mph (32 km/h)	8	4	4
	20-40 mph (32-64 km/h)	8	2	2
	40-80 mph (64-128 km/h)	8	1	1
Video Input	Streaming Protocol	RTSP		
	Video Compression	H.624		
	Video Resolution	Up to 3 MP		
Supported Protocols (for additional protocols, see the RoadView documentation)	Inex HTTP API	LPR Events are reported via protocols such as the Inex HTTP API protocol. Each LPR Event includes metadata and associated images.		
	Inex Discovery	The Inex Discovery Protocol is used by the IZ Discovery utility to find all devices connected to the LAN. IZ Discovery also enables display and editing of each device's network settings.		
AI Processor	GPU	NVIDIA Maxwell architecture with 128 CUDA® cores		
	CPU	Quad-core ARM Cortex-A57 MPCore processor		
	RAM	4 GB 64-bit LPDDR4, 1600MHz 25.6 GB/s		
	System and Data Storage	250 GB		

Item		Specification
Environmental	Operating Temperature	32°F to 113°F (0°C to 45°C); 0.2-0.3m/s air flow; according to GB/T 2423-2008
	Storage Temperature	-13°F to +176°F (-25°C to +80°C)
	Humidity	10% - 90% RH, non-condensing
	Vibration	1 Grms,10Hz~150Hz, 3 Axis; according to GB/T 2423.10-2008
	ESD	Touch 4KV, Air 8KV; according to IEC 61000-4-2, Level 3
	TVS	1 KV
Certifications	EMC	FCC Part 15, subpart B; CE
	RoHS	EU RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU (RoHS 2.0)
	NDAA	NDAA Section 889 compliant
Physical	Dimensions (W x H x D)	4.33" x 2.52" x 2.52" (110 x 64 x 64 mm)
	Weight	1.05 lbs (475 g)
	Color	Black

Item			Specification
Interfaces	Front Panel	POWER	Press button once for power on; hold for hard reset (turns power off then on again)
		RECOVERY	(Not for user)
		RESET	Press button to reset the unit
		HDMI	HDMI 2.0, Type A, 5V, 1A
		USB 2.0	USB 2.0, Type A, 5V, 1A
		USB 3.0	USB 3.0, Type A, 5V, 1A
		Micro USB	Flashing port, 5V, 1A
	Left Panel	DC 12V	Power interface; male barrel socket, 12 VDC input
		LAN	1 Gigabit Ethernet port
	Back Panel	Power LED	Carrier board status indicator: • Yellow: Power on • White: System on • Red: System error
		Status LEDs	System status indicator: • Blue: System on • Red: System off
		Micro SD slot	TF socket; for TF card 3.3 V, 1 A
Power	Input		12 VDC
	Typical Power Consumption		18 W
Accessories	Accesories Included		12 VDC power adapter

4.6. Interfaces and Indicators

4.6.1. Front Panel

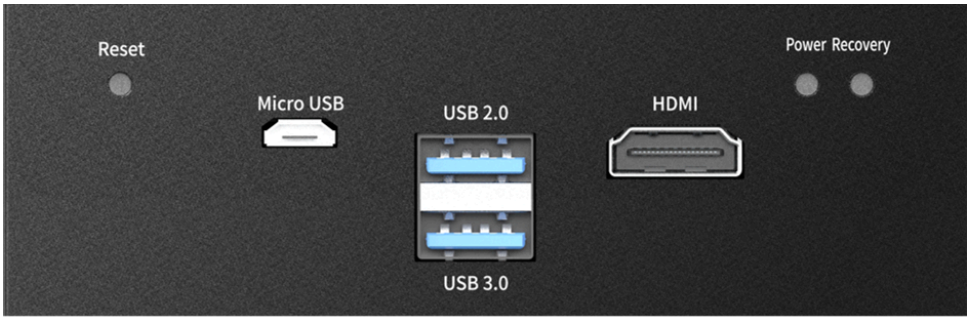

Figure 3. Front Panel

4.6.2. Left Panel

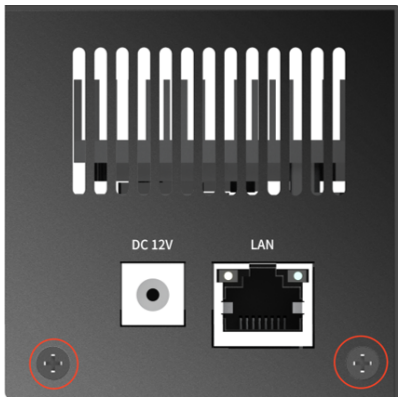

Figure 4. Left Panel

4.6.3. Back Panel

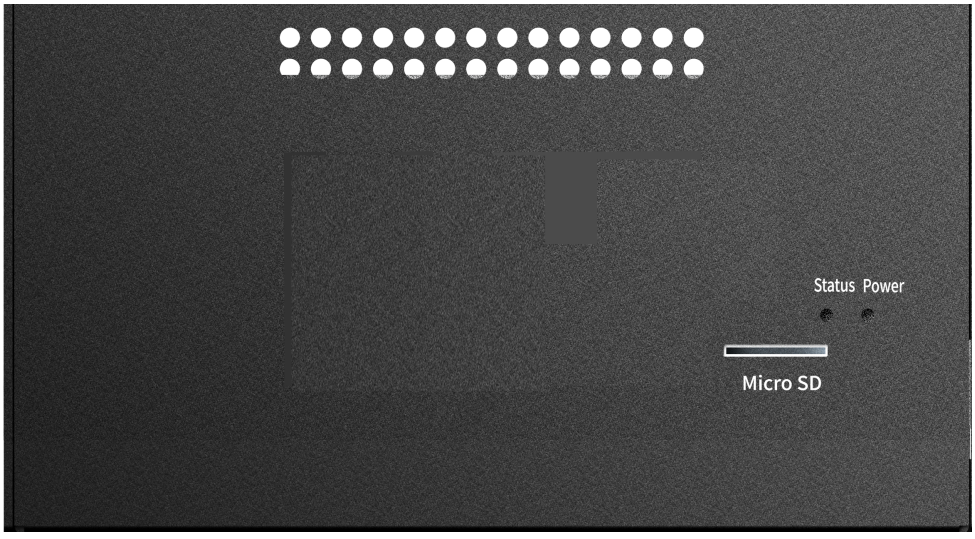

Figure 5. Back Panel

5. Plan Your Site

Table 3. Installation Considerations

Item	Considerations
Surge Protection	• You must use a network surge protector/arrestor on all power, network and data cables
Correct, Stable and Sufficient Power	• Power undervoltage, overvoltage and/or incorrect polarity will damage the unit and will void the warranty. • Stable power at the correct level must be supplied to each camera and IZIDPUG, even when under a heavy processing load.
Cable Extensions IMPORTANT All network cable extensions and repeaters must be shielded.	• LAN - Use only CAT 5e/6 cable for any extensions added to the LAN cable. The total length of the cable should not exceed 328 feet (100 meters).
Camera Configuration and Mounting	• Refer to the relevant installation and configuration documentation for your camera(s). The cameras should be configured, mounted and connected to the LAN before mounting and configuring the IZIDPUG.

6. Prepare Cables

IMPORTANT

If you are building your own LAN cables, you must use RJ45 connectors with metal bodies. You must ensure that there is conductivity between the bodies of the connectors at each end of the cable. You can do this by extracting the cable's shield wire before attaching the connector to the cable, and then soldering the shield wire to the body of the connector (see the following Figures).

If you are using prefabricated CAT 5e/6 cables with metal-body RJ45 connectors, the shield wires have typically already been connected to each connector body. However, you must still check that there is conductivity between the bodies of the connectors at each end of the cable.

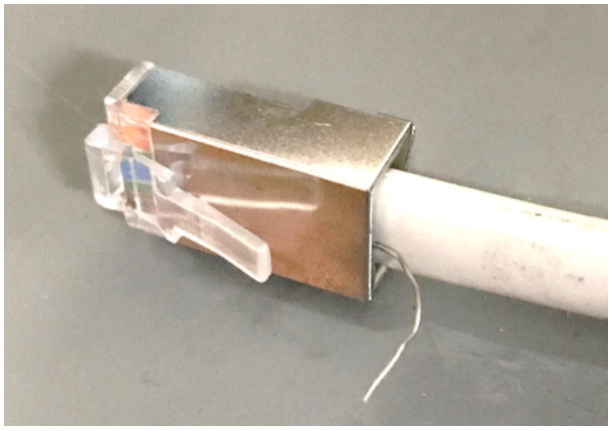

Figure 6. LAN Cable: Extracting the Shield Wire

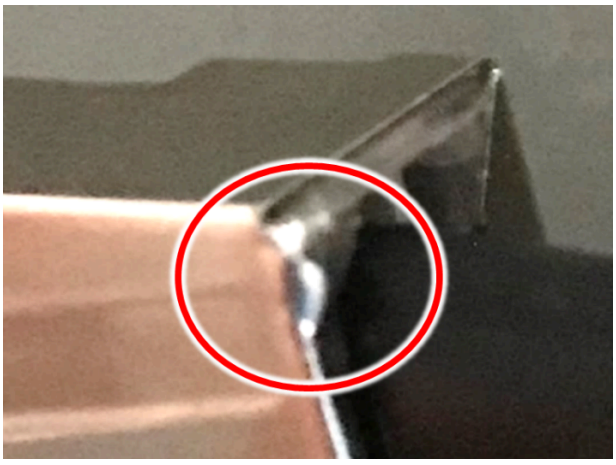

Figure 7. LAN Cable: Shield Wire Soldered to Connector Body

7. Connect Components (Wiring)

WARNING

Power undervoltage, overvoltage and/or incorrect polarity will damage the unit and will void the warranty.

Turn off/disconnect the any external (AC) power supplies before connecting cables.

IMPORTANT

All network cable extensions and repeaters must be shielded.

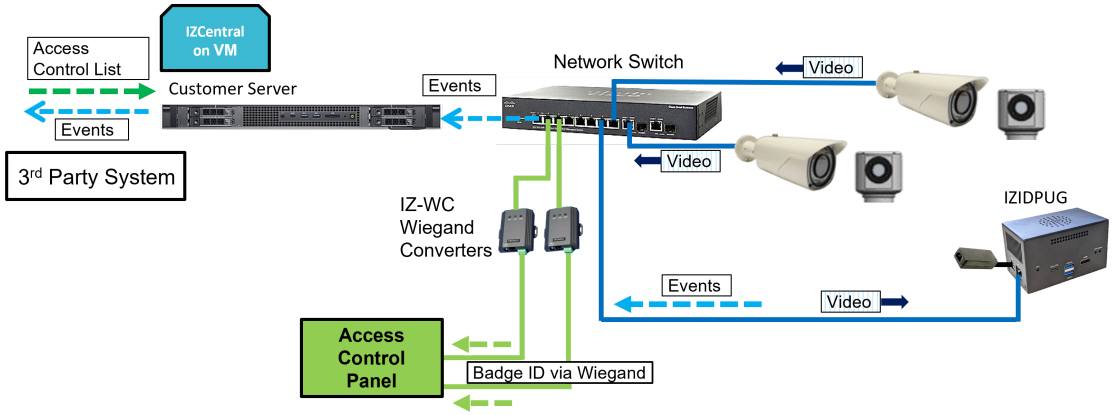

Figure 8. Typical Wiring Diagram for Access Control

NOTE

Events can be sent to IZCentral using the Inex HTTP API.

Events can be sent to 3rd party systems using the Inex HTTP API and/or the Inex ZAP Protocol (see the RoadView ALPR User Guide for configuration details). See Section 1.

8. Power Up and Set Up IP

8.1. Reserving IP Addresses in your Network

The IZIDPUG and cameras have been pre-configured with default IP addresses. You will probably need to change these addresses to conform to the requirements of your network. Be sure that you have IP addresses reserved for all components of your ALPR system (IZIDPUG and cameras).

8.2. Connecting the Power

WARNING

If any power cables were lengthened, ensure that all components receive exactly their rated voltage.

Power undervoltage, overvoltage and/or incorrect polarity will damage the unit and will void the warranty.

Stable power at the correct level must be supplied to each component, even when under a heavy processing load.

1. Connect the AC power to the IZIDPUG's power supply
2. Plug the barrel connector into the IZIDPUG
3. Press the POWER button on the front panel
4. Verify that the IZIDPUG has started to operate properly (see Section 8.3)

8.3. Verifying Initial Operation

With power applied, you should see that:

- The Power and Status LEDs on the back panel light up (see Section 4.6.3)
- The LAN connector LEDs on the left panel light/flash to indicate network activity (see Section 4.6.2)

If the LEDs do not light as expected check if:

- The cable(s) are carrying power all the way to reach the unit.
- The LAN cable is connected properly to the unit.

8.4. Set Up IP

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) for instructions on how to change the unit's IP address.

8.5. Using RoadView

8.5.1. Logging In

1. Open a browser (Chrome or Microsoft Edge). Type in the IP address of the IZIDPUG. For example: 192.168.5.110
2. You will see the login screen. Enter the default username and password (root, root):

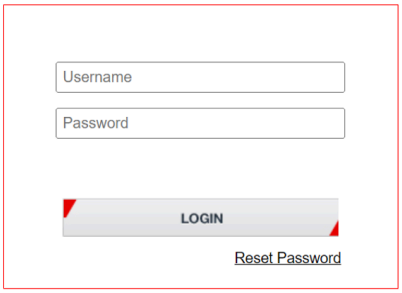

Figure 9. Logging In to RoadView

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).

8.5.2. 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. Verify System Operation

- Using a license plate mounted in a lab, or by driving a vehicle through the lane, verify that an Event is generated with the correct plate read (recorded in the RoadView Live (Journal) tab - see the RoadView ALPR User Guide). See Section 1.
- Once the lane is active, verify that Events are being generated for each vehicle passing each camera, and that the recognition has sufficient accuracy and confidence.

10. Notices

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 unit. Repair or replacement of parts for this unit should be supplied by Inex Technologies, and installed by qualified service personnel.
- Handle and store the unit with care. Do not drop the unit or subject it to physical shock.
- You must provide adequate protection to prevent water (e.g. rain) from entering the unit.
- Do not use the unit outside of its temperature, humidity and power source ratings as noted in its 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.

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.

11. Document Change History

Date	Change
2022-12-07	• Initial version
2023-03-22	• IZ Discovery now covered in a separate document in the Related Documents section
2023-12-13	• Updates to specification table
2024-07-01	• Converted to online version

Doc. No. IZIDPUG-MAN-002 Ver. 2025-07-17