INEX TECH Documents

IZA500G/GR User Guide

ALPR All-in-one AI Camera System

Table of Contents

1. Recommended Reading/Related Documents

Table 1. Related Documents

Doc. No.	Title
IZA500G-GR-MAN-002b	IZA500G/GR Installation Guide
IZA500G-GR-TECH-001	IZA500G/GR Quick Start Guide
IZA500G-REV-xx-TDSHEET	IZA500G Technical Data Sheet
IZA500GR-REV-xx-TDSHEET	IZA500GR Technical Data Sheet
MOUNT-MAP-PRSNT-011	Product-to-Mount Mapping
Mounts	Mounting Hardware documentation
IZ Discovery Utility	IZ Discovery Utility software components
IZDISCOVERY-MAN-001	IZ Discovery User Guide
RoadView Documentation	RoadView Documentation
EULA-400-DOC-001	Software End User License Agreement (includes list of open source software)
IZL-MAN-002	IZL Illuminator Series User Guide
IZPWRDIN-REV-x-TDSHEET	IZPWR DIN Rail Mount Power Supplies Technical Data Sheet
IZIO-6060-MAN-001	IZIO Digital I/O Controller Installation and User Guide
IZxPOE-DIN-REV-xxx-TDSHEET	IZxPOE DIN Rail Mount Gigabit PoE++ Injector Technical Data Sheet
LOOP-DTCR-L-MAN-001	LOOP-DTCR-L Loop Detector Installation and User Guide
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. Product Description

3.1. Overview

The IZA500G/GR ALPR All-in-one AI Camera System is suitable for parking, car wash, access control and security applications, with different models available for different distances and illumination requirements.

LPR and overview images are captured from dual motorized zoom lenses, then processed by a fast AI GPU. Illumination can be provided from built-in multi-flash illumination or external illuminators. A variety of mounting options are also available.

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

3.2. Package Contents

Carefully unpack the contents of the ALPR Camera System package.

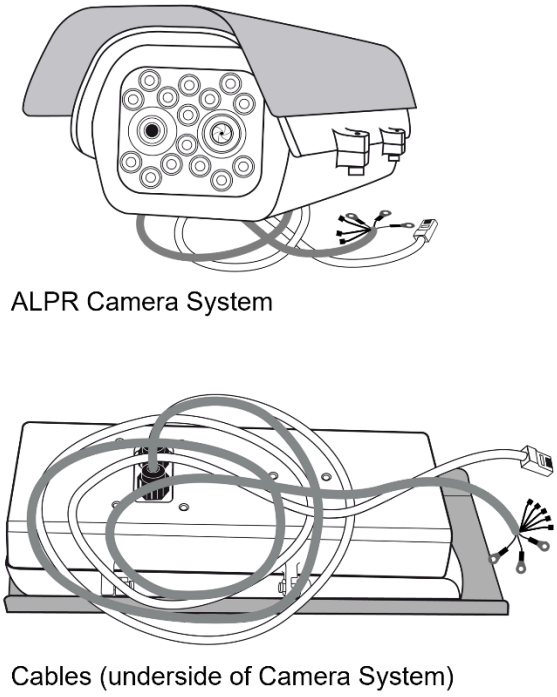

Figure 1. Package Contents

3.3. Dimensions

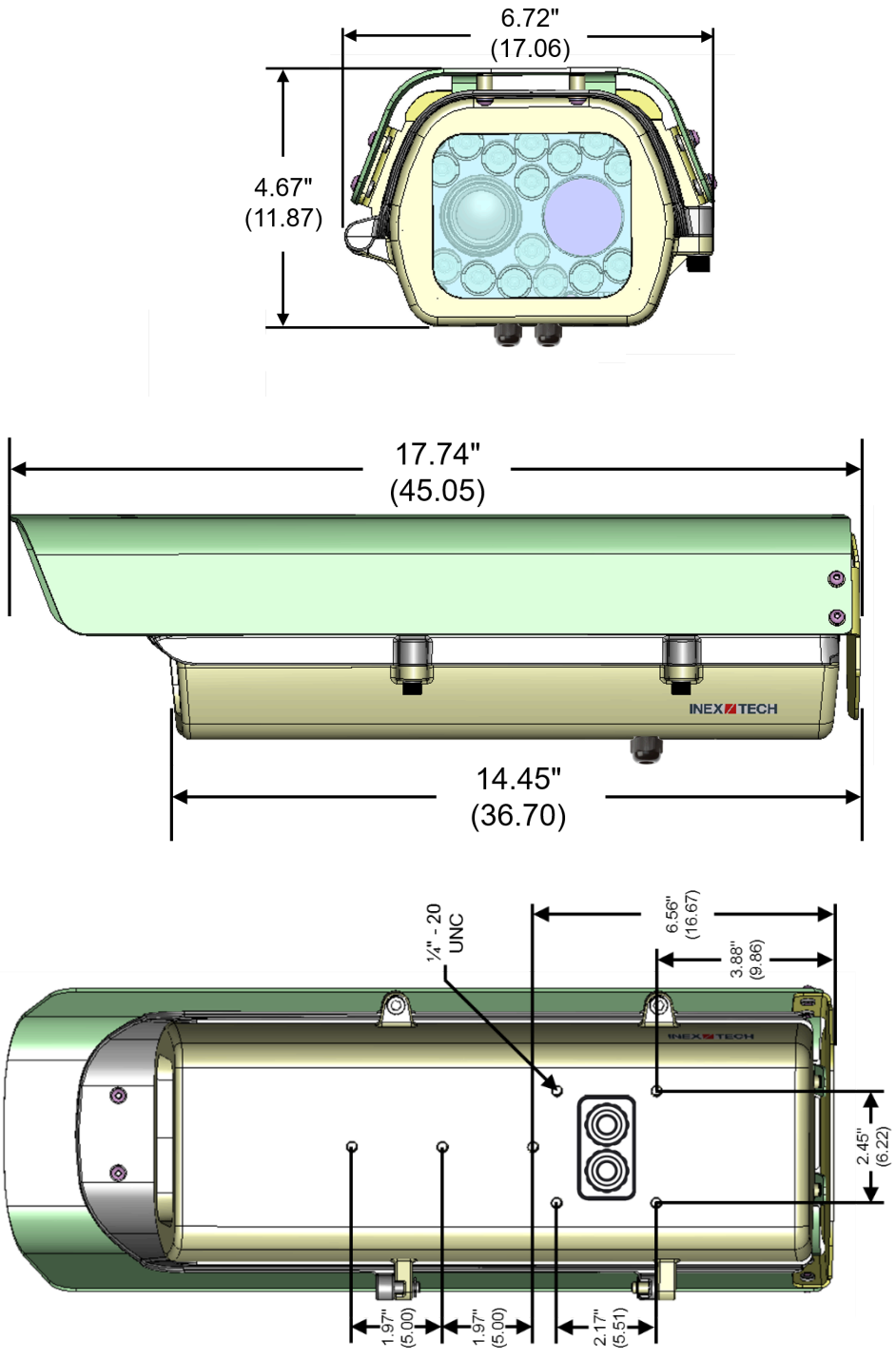

Figure 2. Dimensions

3.4. Specifications

Table 2. IZA500G Technical Specifications

Item		Specification
Supported Analytics	LPR Analytics	Plate Recognition, State Identification, Plate Type
	Vehicle Analytics	Vehicle Detection, Classification, Color, Make; Vehicle Without Plate
Field of View (FOV)		12 ft (H) x 8 ft (V) (3.7 x 2.4 m)
Max Vehicle Speed		Up to 80 mph (129 km/h)
LPR Capture Distance* (for U.S.A. plates)		• S - Short distance, 5-35 ft (1.5-11 m) • L - Long distance, 30-70 ft (9-21 m)
LPR Illumination	Number of LEDs	• DR, IR - 15 high power LEDs • DRW, IRW - 10 high power LEDs
	Wavelength	• DR - Deep Red • IR - Infrared
	Beam Angle	• S - 40°x16° • L - 15°x15°
LPR Camera	Shutter Type	Global
	Sensor	Sony IMX265
	Resolution	2 MP - 1920 (H) x 1080 (V)
	Lens	• S - 6-22 mm; Motorized Zoom and Auto-focus • L - 12-40 mm; Motorized Zoom and Auto-focus
	Video Compression	MJPEG, H.264, H.265
	Video Streaming	RTSP Protocol

Item		Specification
OV Illumination	Number of LEDs	• DR, IR - No visible light LEDs • DRW, IRW - 5 high power LEDs
	Wavelength	• DR, IR - N/A • DRW, IRW - Visible, Warm White
	Beam Angle	• S - 40°x16° • L - 15°x15°
OV Camera	Shutter Type	Rolling
	Sensor	Sony IMX290
	Resolution	2 MP - 1920 (H) x 1080 (V)
	Lens	• S - 5-50 mm; Motorized Zoom and Auto-focus • L - 5-50 mm; Motorized Zoom and Auto-focus
	Video Compression	MJPEG, H.264, H.265
	Video Streaming	RTSP Protocol
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 Storage	MicroSD, 64 GB
	Data Storage	eMMC, 12 GB
	RTC Battery	Maintains real-time clock date and time for 4-6 hours
		Rechargeable; Full charge-up time: 12 hours

Item		Specification
Environmental	Ingress Protection	IP67
	Operating Temperature	-22°F to 140°F (-30°C to 60°C)
	Storage Temperature	-22°F to 158°F (-30°C to 70°C)
	Humidity	0% - 90% RH, non-condensing
Certifications	EMC	FCC Part 15, subpart B; CE
	Interoperability	ONVIF compliant, Profile S
	RoHS	RoHS
	Impact Protection	IK10-rated casting (Vandal-proof)
	Eye Safety	IEC62471 Group 1
	NDAA	NDAA Section 889 compliant
Physical	Dimensions	(W x H x D) 6.7" x 4.7" x 17.7" (171 x 119 x 451 mm)
	Weight	9.0 lbs (4.1 kg)
	Color	White
Interface	Ethernet	GigE Ethernet (10/100/1000M)
	Cables	LAN - 6.6 (2 m) cable included with camera, terminated with a male RJ-45 connector; can be extended with: CAT 6, shielded Ethernet cable, 4 pairs, 22 AWG, max. length 328 ft (100 m), OD 5.5-7.9 mm
		Power/Signals (PAS) - 6.6 (2 m) cable included with camera; can be extended with: 22 AWG, OD 3.0-7.3 mm • 3-wire power cable, shielded with a polyethylene jacket; ends terminated with metal rings • Digital input (trigger) signal wires and relay output connections (see next items)
	Digital Inputs (Trigger)	• Trigger Dry: White (+), Green (-) • Trigger Wet: Green (+5-12 V), Blue (GND)
	Relay Output	• Dry Contact Relay: Brown (NO), Orange (C)

Item		Specification
Power	Input Voltage	24 VDC +/- 10%, Class 2 Low-Voltage
	Power Consumption	25 W
Accessories Included		Sunshade
Accessories Available		DIN Rail Mount Power Supplies (IZPWR)
		Digital I/O Controller (IZIO)
		Different mount options available
		External Illuminator (IZL Series)

* LPR Capture Distance is measured from camera to plate

Table 3. IZA500GR Technical Specifications

Item		Specification
Supported Analytics	LPR Analytics	Plate Recognition, State Identification, Plate Type
	Vehicle Analytics	Vehicle Detection, Classification, Color, Make; Vehicle Without Plate
Field of View (FOV)		12 ft (H) x 8 ft (V) (3.7 x 2.4 m)
Max Vehicle Speed		Up to 40 mph (64 km/h)
LPR Capture Distance* (for U.S.A. plates)		5-40 ft (1.5-12 m)
LPR Illumination	Number of LEDs	• DR, IR -15 high power LEDs • DRW, IRW - 10 high power LEDs
	Wavelength	• DR - Deep Red • IR - Infrared
	Beam Angle	40°x16°
LPR Camera	Shutter Type	Rolling
	Sensor	Sony IMX290
	Resolution	2 MP - 1920 (H) x 1080 (V)
	Lens	5-50 mm; Motorized Zoom and Auto-focus
	Video Compression	MJPEG, H.264, H.265
	Video Streaming	RTSP Protocol
OV Illumination	Number of LEDs	• DR, IR - No visible light LEDs • DRW, IRW - 5 high power LEDs
	Wavelength	• DR, IR - N/A • DRW, IRW - Visible, Warm White
	Beam Angle	40°x16°

Item		Specification
OV Camera	Shutter Type	Rolling
	Sensor	Sony IMX290
	Resolution	2 MP - 1920 (H) x 1080 (V)
	Lens	5-50 mm; Motorized Zoom and Auto-focus
	Video Compression	MJPEG, H.264, H.265
	Video Streaming	RTSP Protocol
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 Storage	MicroSD, 64 GB
	Data Storage	eMMC, 12 GB
	RTC Battery	Maintains real-time clock date and time for 4-6 hours
		Rechargeable; Full charge-up time: 12 hours
Environmental	Ingress Protection	IP67
	Operating Temperature	-22°F to 140°F (-30°C to 60°C)
	Storage Temperature	-22°F to 158°F (-30°C to 70°C)
	Humidity	0% - 90% RH, non-condensing

Item		Specification
Certifications	EMC	FCC Part 15, subpart B; CE
	Interoperability	ONVIF compliant, Profile S
	RoHS	RoHS
	Impact Protection	IK10-rated casting (Vandal-proof)
	Eye Safety	IEC62471 Group 1
	NDAA	NDAA Section 889 compliant
Physical	Dimensions	(W x H x D) 6.7" x 4.7" x 17.7" (171 x 119 x 451 mm)
	Weight	9.0 lbs (4.1 kg)
	Color	White
Interface	Ethernet	GigE Ethernet (10/100/1000M)
	Cables	LAN - 6.6 (2 m) cable included with camera, terminated with a male RJ-45 connector; can be extended with: CAT 6, shielded Ethernet cable, 4 pairs, 22 AWG, max. length 328 ft (100 m), OD 5.5-7.9 mm
		Power/Signals (PAS) - 6.6 (2 m) cable included with camera; can be extended with: 22 AWG, OD 3.0-7.3 mm • 3-wire power cable, shielded with a polyethylene jacket; ends terminated with metal rings • Digital input (trigger) signal wires and relay output connections (see next items)
	Digital Inputs (Trigger)	• Trigger Dry: White (+), Green (-) • Trigger Wet: Green (+5-12 V), Blue (GND)
	Relay Output	• Dry Contact Relay: Brown (NO), Orange (C)
Power	Input Voltage Options	• No model suffix: 24 VDC +/- 10%, Class 2 Low-Voltage • With P24 model suffix: 24 VDC +/- 10%, Class 2 Low-Voltage or PoE++ IEEE 802.3bt (Type 3, Class 6)**
	Power Consumption	30 W
Accessories Included		Sunshade

Item	Specification
Accessories Available	DIN Rail Mount Power Supplies (IZPWR)
	DIN Rail Mount Gigabit PoE++ Injector** (IZ1POE, IZ2POE, IZ4POE)
	Digital I/O Controller (IZIO)
	Different mount options available
	External Illuminator (IZL Series)

* LPR Capture Distance is measured from camera to plate

** Works with standard PoE++ switches, or an Inex IZxPOE PoE++ injector

3.5. LAN and Power/Signals Cable Details

NOTE

The trigger wires have the same functions and colors as shown here, but the label on the cable may be worded differently.

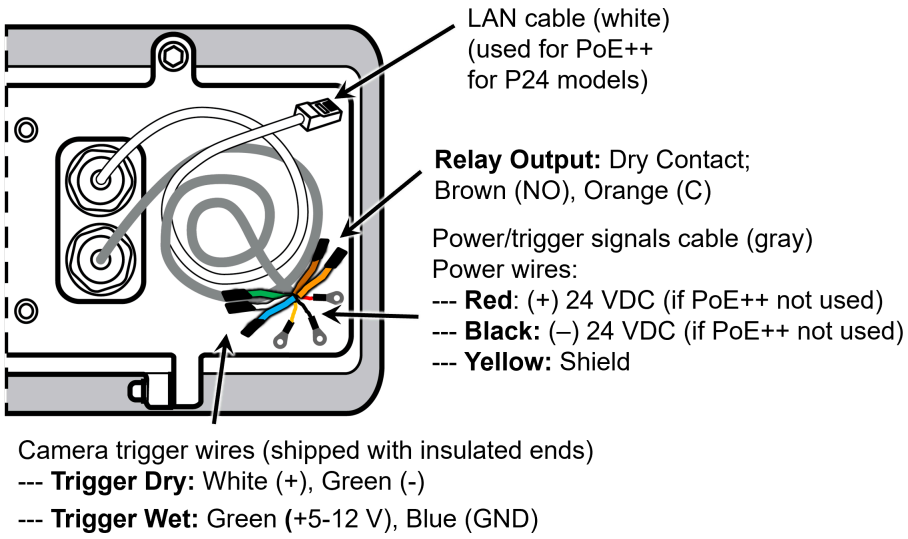

Figure 3. Cable Details

3.6. Required Accessories

- The following accessories can be supplied by INEX/TECH:

Table 4. Required Accessories

Item	Notes
24 VDC power supply (if the IZA500GR PoE++ option is not used; voltage-adjustable)	INEX/TECH model power supply. (If you use an external illuminator, it is recommended to use an illuminator power supply separate from the Camera System's supply.)
Gigabit PoE++ Injector	Used for IZA500GR P24 models when using PoE++ power input with a non-PoE++ network switch; alternatively, connect directly to the Camera System from a standard PoE++ network switch
Mounting Hardware (pan-tilt-roll bracket)	Typically on wall or pole; see the Mounting Hardware documentation for details (see Section 1)

3.7. Optional Accessories

For documentation and part numbers, see Section 1 and Section 3.4.

- IZIO Digital I/O Controller
- Loop Detector
- External Illuminators

4. Recognizing Devices with IZ Discovery

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).

5. Using RoadView

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

5.1. Determining the IP Address of the RoadView Computer with IZ Discovery

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

5.2. 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):

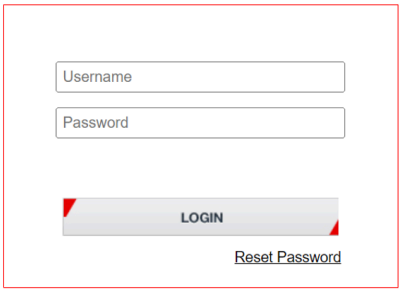

Figure 4. Logging In to RoadView

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).

5.3. 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.

6. Troubleshooting and Maintenance

6.1. Troubleshooting

See the RoadView ALPR User Guide (see Section 1).

6.2. Checking Mounting Screws

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

6.3. Cleaning the ALPR Camera System

Do not use solvents or strong abrasive detergent when cleaning the Camera System. Use a soft dry cloth to clean the ALPR Camera System'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.

7. Notices

7.1. 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

7.2. 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 ALPR Camera System or external illuminator units. Repair or replacement of parts for this ALPR Camera System and its external illuminator units should be supplied by Inex Technologies, and installed by qualified service personnel.
- Handle and store the ALPR Camera System and external illuminator units with care.
- You must provide adequate protection to prevent water (e.g. rain) from entering the ALPR Camera System.
- Do not use the ALPR Camera System 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!

- **Eye Safety: The following precautions must be observed:**
  - Do not stare directly into the front of the ALPR Camera System while it is operating.
  - IZA500G/GR - IEC62471 Group 1:

7.3. 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).

7.4. 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.

8. Document Change History

Date	Change
2023-07-24	• Removed references to Video Analytics Data Sheet from Related Documents and spec. tables; made reference to RoadView documentation generic • Added IZ Discovery User Guide to Related Documents; removed IZ Discovery sections and referred user to Related Documents
2024-10-29	IZA500G: • Input voltage now only 24VDC only (without additional 48VDC as previously) • Power input option of PoE+ (P48 models) removed • Model number deletions to accommodate changed power options IZA500GR: • Power input option of 48VDC/PoE+ (P48 models) removed; P24 models remain • Model number deletions to accommodate changed power options
2025-07-08	• Replaced new version (2.2) of IZxPOE in wiring diagrams • Update to IZA500GR Rev. F4: Added text throughout explaining that the IZA500GR can now connect directly to a standard PoE++ switch • Update to IZA500GR Rev. F4: Added PoE++ IEEE 802.3bt (Type 3, Class 6) to PoE types supported • Update to IZA500GR Rev. F4: Power consumption now 30 W instead of 25 W

Doc. No. IZA500G-GR-MAN-002a Ver. 2025-07-14