



Global CAM-LTE

User manual

ver. 1.0

**GSM LTE wireless transmitter for transmission of signals
from IP cameras via the Internet**

Thank you for choosing the GlobalCAM-LTE. We trust that its unique features will come in very handy. Please, read this instruction manual to ensure safe operation and maximise efficiency of the device.

The contents of this manual comprise proprietary information of CAMSAT and are intended only for use by purchasers of the equipment described herein. In order to copy or use any part of this manual for purposes other than the application or maintenance of the described equipment, it is required that the customer should first obtain a written consent from CAMSAT.

Safety and maintenance tips

Safety and maintenance tips

In order to safely use our device, you should read and observe the tips contained in this instruction manual.

The **GlobalCAM-LTE** module is maintenance-free. We recommend installing it on a stable structure and connecting its power cables in a manner which would prevent them from being accidentally damaged by the operator or any bystanders.

Safety tips

This device has been designed and manufactured with the utmost care for the safety of its installers and users. For safety reasons, observe all the guidelines in this manual and peripheral devices' manuals, such as the PC or IP camera. Before installing the device, carefully read the entire instruction manual. Ensure safe working conditions. The user's own modifications of the device will prevent its legal use and render the warranty null and void. The device has passed through the mandatory compliance assessment and it meets basic requirements in the European New Approach Directives. The product is CE-marked.



Note: This device can operate within the frequency and power ranges which might be contradictory to laws applicable in selected countries.



Do not approach the device when it is on at the distance below 30 cm.

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R&TTE declaration of conformity

This device meets requirements of the European directive on radio equipment, telecommunications terminals as well as on their mutual identification and compatibility (Directive 1999/5/CE of the European Parliament and the Council of Europe, March 1999).

The GlobalCAM-LTE module is compliant with provisions related to the safety in using electrical devices. Observe the following guidelines:

- the power outlet must be earthed in compliance with applicable provisions, before transferring the device or performing any other technical operations, disconnect the power supply,
- do not use any damaged or worn power supply cables, as they pose a threat to the user's safety,
- installation works must be performed by sufficiently qualified technicians, do not use the device in locations where flammable substances are kept,
- secure the device so that children or unauthorised persons should not gain access to it,
- make certain that the device has been reliably fixed,
- the device is off only after disconnecting its power supply cables and the cables between it and other devices,
- if the device is transferred to a room where the temperature is higher than where it has previously been kept, water vapour may condensate inside its casing, which will prevent its proper use (Wait until the condensed water evaporates).

Distances and interferences

- The transmission distance may vary, depending on the frequency, environment, radio waves, buildings, weather conditions, etc.
- When the transmitter is near such equipment as the TV set, R-LAN wireless network, another transmitter, or when it is placed between other radio devices, then the video stream may be interrupted or the devices might even lose the connection. If this occurs, increase the distance between the interrupted devices and the transmitter.
- The signal reception may vary, depending on the transmitter's working height and angle. If the signal reception is not stable, optimise the antenna settings.
- Meteorological radars operating within the frequency ranges of 5,250-5,350 MHz and 5,650-5,850 MHz have the highest priority. These radars can interrupt the device operation or even prevent it entirely

WARNING

The antennas used for the transmission from this transmitter must be installed according to the instruction manual and they must be placed at least 30 cm from all persons. The transmitter is not compatible with another antenna nor transmitter.

GlobalCAM-LTE

GSM LTE wireless transmitter for transmission of signals from IP cameras via the Internet.

GlobalCAM-LTE is a wireless transmitter for three IP cameras that transparently transmits all signals from IP cameras via the GSM LTE network. Thanks to GlobalCAM-LTE, HD images from IP cameras can be picked up anywhere in the world via the Internet.

The most important features of the GlobalCAM-LTE module:

- easy configuration
- GlobalCAM-LTE can work from any locations within the GSM 4G range
- built-in two omnidirectional LTE antennas
- IP65 outdoor housing resistant to weather conditions

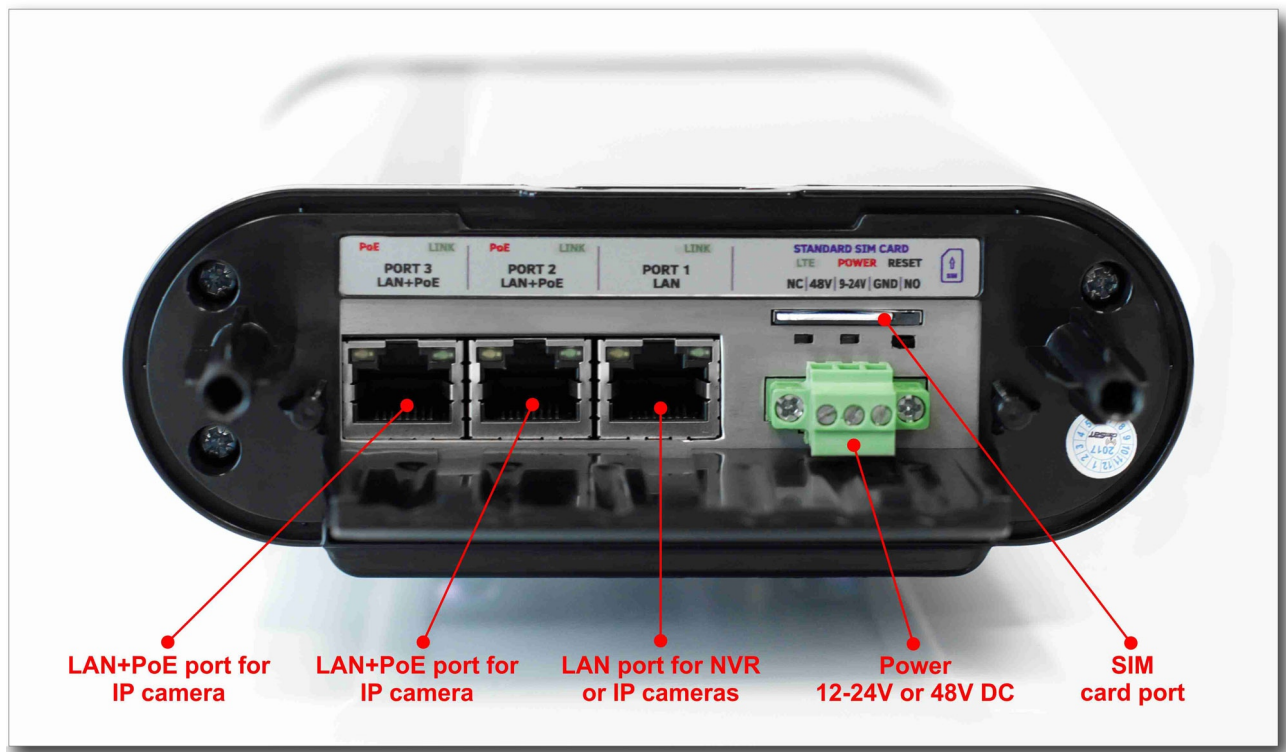
Contents of the package:

- GlobalCAM-LTE x 1 pcs
- Mounting x 1 piece
- Manual and CE Declaration of Conformity

Specification

Transmission speed	up to 100 Mbps (download) and up to 50 Mbps (sending)
Work frequencies	FDD LTE: B1/B3/B5/B7/B8/B20 WCDMA: B1/B5/B8 GSM: 850/900/1800/1900MHz
Number of SIM card sockets	SIM x1
LAN outputs	3 x RJ45 Ethernet 10/100 Base-TX
Number of LAN PoE ports	2 x (przy zasilaniu DC 48-57V)
Built-in antennas	360 MIMO omnidirectional
Configuration	Through the www panel (port 80 from LAN, port 8008 from WAN)
Power output for cameras	Passive PoE48V, Moc: 25,5W (only using a 48V power supply)
Power supply	DC 9-57V
Power consumption	6W
Fixing	Uchwyt cybantowy na rurę 35-55 mm lub opaski zaciskowe
Working temperature	-20°C ÷ 70°C
Dimensions	140 mm x 200 mm x 45 mm
Protection class	zewnętrzne IP 65
Warranty	2 years

Description of LED connectors and indicators



OPIS ZŁĄCZ ORAZ WSKAŹNIKÓW LED

DC IN PoE 48V – alternative DC48V power input, the voltage connected here will appear on the LAN port contacts; leave unconnected when using the **DC IN 9-24V** input

GND – ground of power (minus the power supply)

DC IN 9-24V – basic DC9-24V power input; leave unconnected in the case of using the **DC IN PoE 48V** input

RESET - button used to reset the radio module to the default settings

STATUS – a **red** LED indicating the status of the device, flashes during startup

LINK – a **green** LED that indicates the connection status, blinks when establishing a connection

SIM – SIM card slot

PORT 1, PORT 2, PORT 3 - AN ports for connection to the recorder or for connection of IP cameras.

-**Green LED** indicates data transmission.

-**Orange LED** indicates POE48V power output.

Preparation for work of the device

It is recommended that the first start-up and configuration of the system be carried out in a workshop environment over short distances. This can save a lot of valuable time when configuring many different cameras on the site.

1. Remove the bottom cover, and then insert the SIM card that you have received from your cell phone operator.
We recommend a SIM card with a fixed IP address and no data limits, e.g. CAMSAT cards "simCAM" - more at www.camsat.com
2. Connect the 9-48V DC power supply to the power contacts in the green EDG connector. Select the appropriate contacts depending on the voltage used.
3. Connect the computer with the network cable to the LAN port 1.
4. Wait for the device to start up until the red Status LED stops flashing.

Basic configuration

1. Log into the GlobalCAM-LTE transmitter from a computer with a set IP address from the same subnet. Default IP address: **192.168.1.234**, password: **camsat**
2. Go to **Step 1 - CONFIGURATION> Basic**
 - a) Enter the correct PIN code, APN access point name, user name and password received from your network operator. If you do not need to configure some items leave the fields empty.

The screenshot displays two configuration sections. The top section, 'Internet / WAN', contains fields for Pincode (1234), Mobile ISP (Custom), APN (data), User Name (xxxx), and Password (xxxxxxxx). Each field has a corresponding 'Enter' button. The bottom section, 'Local Network / LAN', contains fields for Router IP (192.168.1.234) and Subnet Mask (255.255.255.0), each with a corresponding 'Enter' button.

Internet / WAN	
Pincode:	1234
Mobile ISP:	Custom
APN:	data
User Name:	xxxx
Password:	xxxxxxxx

Local Network / LAN	
Router IP:	192.168.1.234
Subnet Mask:	255.255.255.0

Set the target IP address of the GlobalCAM-LTE transmitter with the corresponding subnet mask. Enter the address of the GlobalCAM-LTE transmitter in the default gateway address field in the configuration of all network devices that will use the Internet through this device (IP cameras, recorder, etc.).

- b) Confirm the configuration with the **Save changes** button, and then restart the device.

3. Go to **Step 2 - FIREWALL> Port Forwarding**

Launching can be carried out in two ways:

a) **Method 1**

Commissioning with one camera or one recorder.

A very simple method that redirects all ports to only one camera

IP. Note: this method only works with one IP camera or one other device connected to GlobalCAM-LTE. In case there are more cameras or other devices in the network, this method is not recommended.

Check the option "**Use all ports forwarding (DMZ)**" and enter the IP address of the DVR or camera below that will be connected to the GlobalCAM-LTE transmitter. Selecting this option will forward all network ports only to this device, allowing access to all services through a public WAN IP address.

All Ports Forwarding(DMZ)

Use all ports forwarding (DMZ): ☒

IP address:

Enter IP address of camera or video recorder.

b) **Method 2**

Advanced commissioning - one, two or more network devices.

The method of port forwarding for more cameras or where other IP devices are available in the network to be connected. This method gives a greater possibility to manage and secure the LAN.

Use the "**Port Forwarding**" or "**Port Range Redirection**" option to indicate the appropriate ports on all network devices.

Complete the list of ports by entering the ones you want to access from the public WAN IP address. Choose the name and protocol, enter the port number in the "**From Port**" fields from the WAN "**To IP**" and "**To port**" in the LAN network. The port number in the "**From Port**" field from the WAN network can not be repeated.

Example configuration for two IP cameras (HTTP 80 and RTSP 554 ports):

Individual Port Forwarding

Forward Individual Ports From WAN to LAN:

Description (optional)

Protocol

From Port

To IP

To Port (optional)

Add

Description	Protocol	From Port	To IP	To Port	Enabled		
Dahua RTSP	both	554	192.168.1.108	554	<input checked="" type="checkbox"/>	Edit	Remove
Dahua HTTP	TCP	80	192.168.1.108	80	<input checked="" type="checkbox"/>	Edit	Remove
Dahua TCP	TCP	37777	192.168.1.108	37777	<input checked="" type="checkbox"/>	Edit	Remove
Dahua UDP	UDP	37778	192.168.1.108	37778	<input checked="" type="checkbox"/>	Edit	Remove

Each subsequent camera should have a different external port number in the "**From Port**" field from the WAN, e.g. the next unused port.

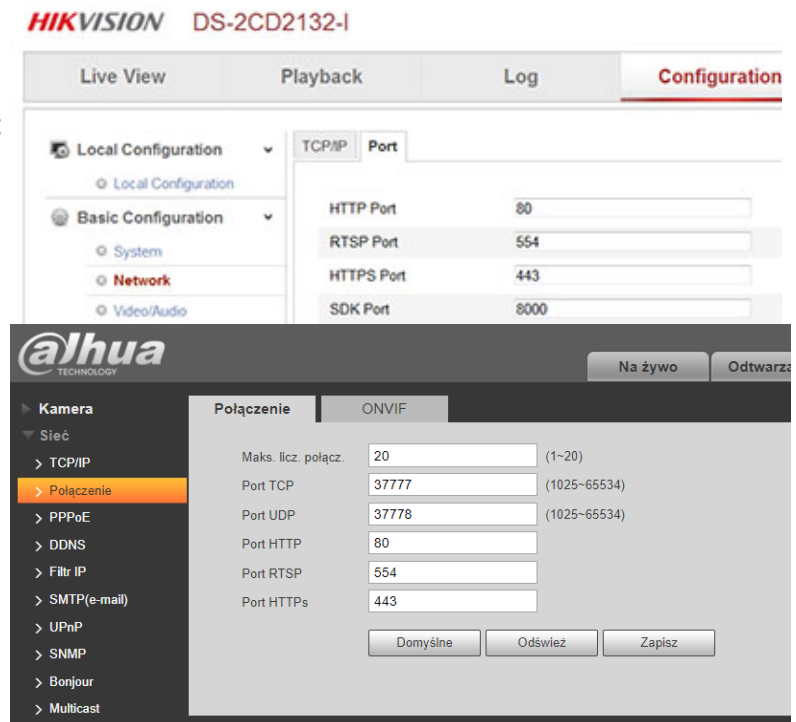
WARNING:

Some cameras require additional ports to be forwarded for all functions work properly, for example:

- default HikVision camera ports:
port HTTP 80; port HTTPS 443;
port RTSP 554;
port SDK/Server 8000,

- default Dahua camera ports:
port HTTP 80; port HTTPS 443;
port RTSP 554; port TCP 37777;
port UDP 37778.

The corresponding port number can be found in every IP camera. For the sake of all options, please redirect all ports from each IP camera.



c) Confirm the configuration with the **Save changes** button.

4. Check in the **Overview** tab whether the connection has been established, and then save the **"WAN IP address"** visible on the SIM card.



5. Go to the configuration of your IP camera (or recorder) in order to connect it to the Internet. Enter the IP address of the GlobalCAM-LTE transmitter (default 192.168.1.234) in the camera in the gateway field.

An exemplary configuration from the Dahua camera:

Adres IP	192 . 168 . 1 . 108
Maska podsieci	255 . 255 . 255 . 0
Brama domyślna	192 . 168 . 1 . 234
Preferowany DNS	8 . 8 . 8 . 8

WARNING: Device without correct configuration of the default gateway address will not connect to the internet, so we will not have access to the device despite the correct configuration of port forwarding.

6. Check the connection by accessing network devices via the Internet using the SIM card address (visible in the **"WAN IP address"** field in the Status tab) and a forwarded port from the redirects tab in the **"From Port"** field from the WAN.
(e.g. <http://17.18.2.2:80/>)



Additional settings

- **Password change** - protect the GlobalCAM-LTE transmitter from unauthorized access and be sure to change the password to your own, multi-character with uppercase and lowercase letters and numbers. Go to **System> Router Access**, and then enter a new password. Confirm the change with the Save changes button.
- **Transfer limits** - to protect the costs and amount of data transferred from SIM cards it is possible to allocate the appropriate transfer lock. More in the tab **Firewall> Quotas**.
- **DHCP server** - devices that do not have a fixed IP address in the local network require a DHCP server that can be enabled in the **Configuration> DHCP** menu.
- **Access restrictions** - You can block access to the internet selected devices that have been connected to the same local network (also at selected times). Configuration of functions in **Firewall> Restrictions**.
- **Connection monitor** - the transmitter is able to monitor the connection status with the selected one device, and then perform the selected action. Configuration can be found in the **Configuration> Ping Watchdog** tab.
- **Interface language** - You can change the interface language to English in **System settings> Languages**.
- **Graphs** of consumption of data transfer can be found in the **Status> Bandwidth usage** tab.
- **User manual** is available directly from the device in the **System tab> Instruction (Quick start)**.

Montage

For mounting on a mast, use the included equipment. The GlobalCAM-LTE module should be securely attached to the mast by firmly tightening the mounting screws. Insert the mounting brackets into the appropriate holes in the rear part of the device body and screw them tightly. We use a cybantel holder that is located in set. Then connect the power cords together with the power supply.

Ethernet cables should be connected to surge protection device. Pole should be grounded. Warranty does not cover damage caused by improper handling of device.

Do montażu urządzenia można zastosować nasze akcesoria:

A) Wall mounting with Left / Right adjustment

B) Wall or column mounting with Left / Right adjustment and + -20-degree Top / Bottom

A) MTS-1D



B) MT-2D



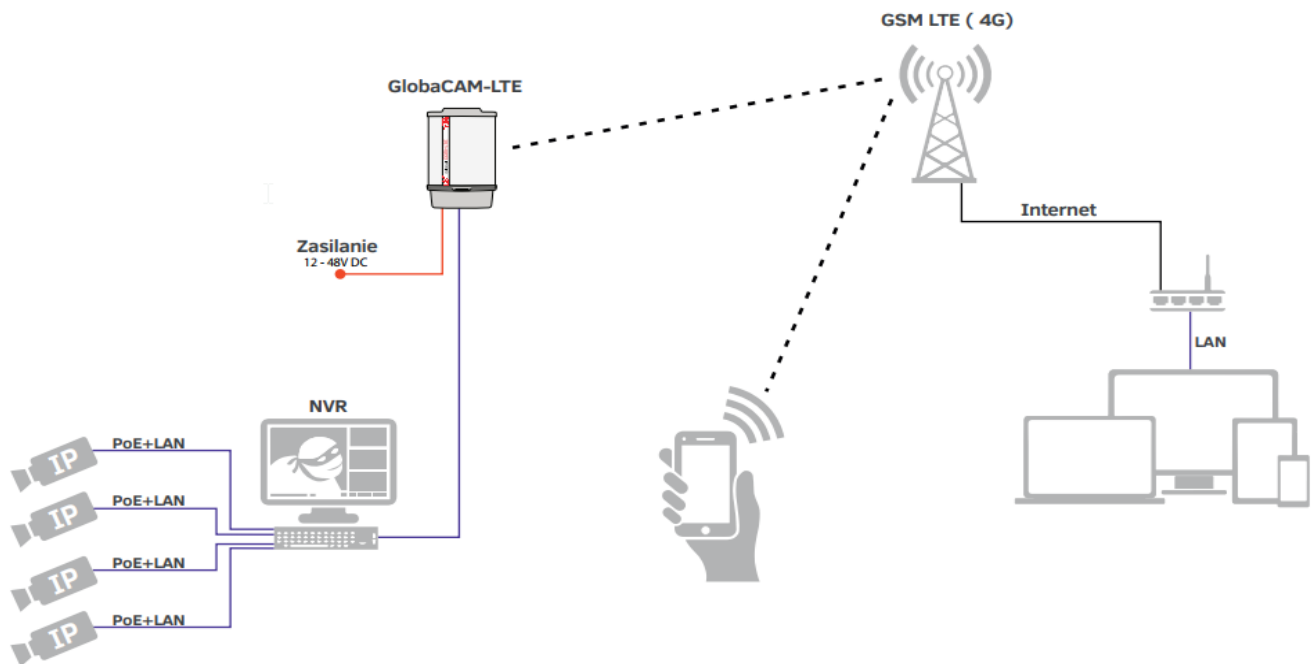
Connection and start-up

It is recommended that the first start-up and configuration of the system be done in workshop conditions (without prior hanging on the object). This can save a lot of valuable time when configuring many different cameras.

Examples of GlobalCAM-LTE connections in CCTV applications:

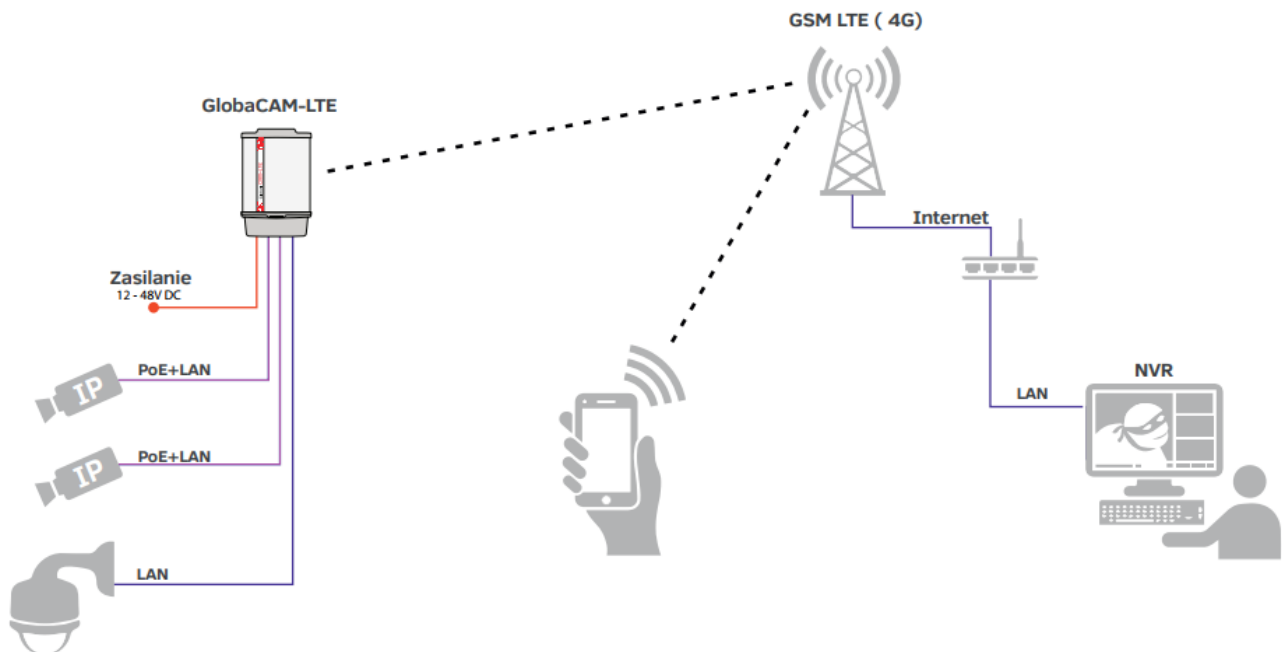
a) Transmission for viewing the image from the NVR recorder .:

- Connect the power supply from **12-24V DC** or **48V DC** and **GND** to the contacts in the power connector.
- Connect the recorder or camera with a LAN cable to the LAN 1 port.

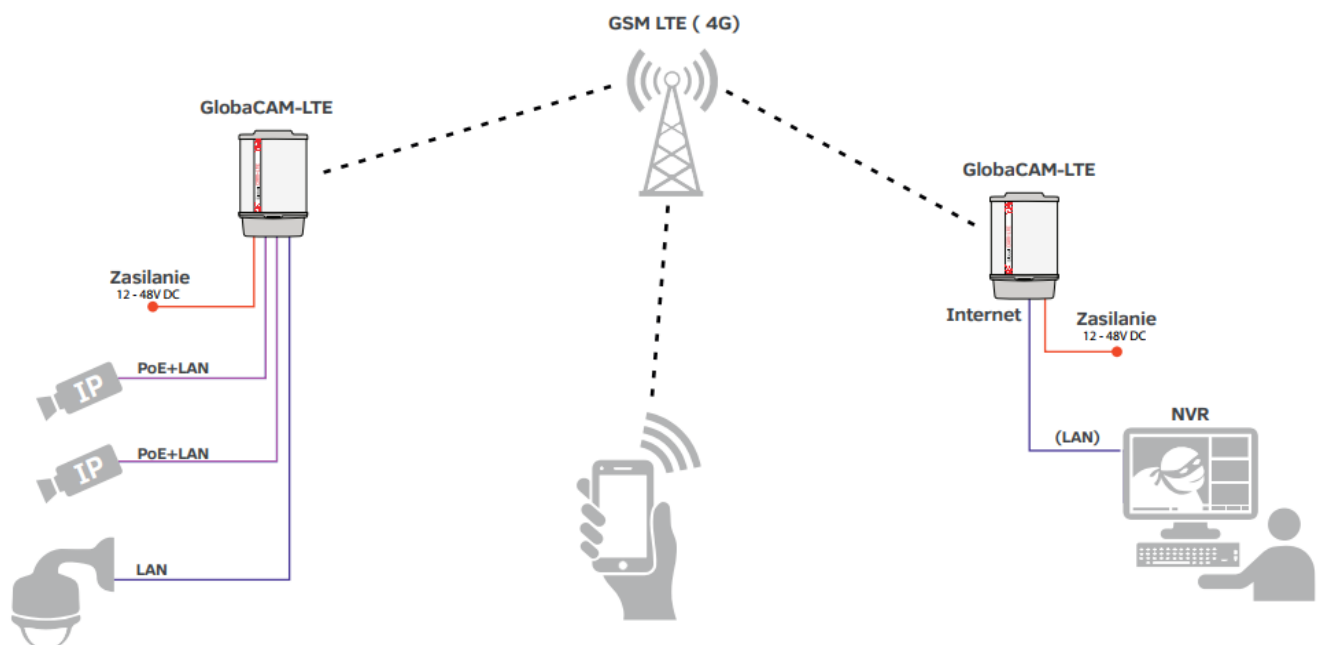


b) Image transmission from 3 IP cameras to the NVR

- Connect the **DC48V** power supply to the **DC IN PoE 48V** and **GND** contacts in the power cube
- Connect PoE IP cameras using network cables to LAN 2 and LAN3 ports that have a PoE power output.
- IP camera with its own power supply (without PoE), connect to the LAN port



c) Transmission of 3 IP cameras to the NVR via the additional Global-CAM-LTE transmitter serving as an Internet access point for the NVR:



Warranty

General warranty terms

The device is supplied with a standard warranty card. The manufacturer declines all other warranties. In no case the producer is liable for any damages (including, without limitation, consequential, special, or incidental damages, or damages for loss of profits, business interruption, loss of business information or other pecuniary loss) arising out of the use or inability to use this product, even if the manufacturer has been advised of the possibility of such damages.

Camsat grants a 24 month warranty for the GlobalCAM-LTE transmission kit

1. If the device is not be operating properly, make sure, before returning the device for servicing, that everything was done according to the operating manual
2. If the faulty device is returned or send in for repairs, a thorough written description of the signs of the device's faulty operation, including the operating environment and the manner in which they appear, should be enclosed
3. The prerequisite for exercising the warranty rights is enclosing the proof of purchase, including the purchase date and description of damage, with the faulty device
4. Warranty repairs cover only faults occurring due to reasons inherent to the sold device
5. Warranty repairs will be carried out in the shortest possible amount of time not exceeding 14 days, counting from the moment of accepting the device for servicing If parts need to be imported, the repair deadline may be extended After the repairs have been carried out, the warranty period will be extended by the repair time
6. The warrantor is not responsible for the loss of the device configuration settings resulting from device repair or malfunction
7. The warrantor may refuse to carry out warranty repairs or terminate the warranty if it is determined that the seals placed on devices or components comprising it are damaged
8. All remarks concerning the service and resulting from the warranty are made only in the service of the Camsat company.

The warranty does not cover

1. Mechanical damage of devices and failures occurring due to fortuitous events, such - cal substances.
2. Damage occurring due to: improper handling of the device, using the device against its intended use or the operating manual, customer's negligence, improper use
3. Claims on account of the technical parameters, if they are consistent with those indicated by the manufacturer
4. Marks created during usage, such as scratches, soiling and localised wear are not covered by warranty In cases not regulated by the terms of this warranty sheet, the appropriate provisions of the Civil Code are applicableDevice

Warranty does not cover the traces generated during operation as scratches, dirt, wipe.

Declaration of conformity



DEKLARACJA ZGODNOŚCI DECLARATION OF CONFORMITY

Niżej podpisany, reprezentujący firmę:
The undersigned representing the manufacturer:

CAMSAT Przemysław Gralak
ul. Ogrodowa 2a, 86-050 Solec Kujawski
Polska/Poland

niniejszym deklaruję z pełną odpowiedzialnością, że urządzenie:
herewith declares under our sole responsibility that the product:

Nazwa urządzenia: **Nadajnik do kamer IP GlobalCAM-LTE**
Product name: GlobalCAM-LTE transmitter for IP cameras

Typ: **GlobalCAM-LTE, GlobalCAM-LTE/SMA**
Model:

Jest zgodny z wymaganiami dyrektyw:
It complies with:
RED:2014/53/UE(2014/53/EU)

oraz spełnia wymagania następujących norm
to which this declaration relates is in conformity with the following harmonized standards

1. Wymagania zdrowotne i bezpieczeństwa artykuł 3.1a (*article 3.1a*)
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013
EN 62311:2008
2. Wymagania ochronne dotyczące kompatybilności elektromagnetycznej artykuł 3.1b (*article 3.1b*)
EN 301 489-1 V2.1.1
Draft EN 301 489-52 V1.1.0
Draft EN 301 489-19 V2.1.0
3. Poziom skutecznego wykorzystania radiowego spektra częstotliwości artykuł 3.2 (*article 3.2*)
EN 301 908-1 V11.1.1
EN 301 908-2 V11.1.1
EN 301 908-13 V11.1.1
EN 301 511 V12.5.1*
Draft EN 303 413 V1.1.0*

**Note: This is a non-harmonized radio standard accepted by the RED (Radio Equipment Directive)*



Miejscowość i data:
Place and date
Solec Kujawski 13.11.2017

Osoba odpowiedzialna: **Przemysław Gralak**
Name of responsible person
Stanowisko: **właściciel/owner**
Position
Podpis/Signature

CAMSAT Gralak Przemysław declares that the product series GlobalCAM-LTE meets the essential requirements and other relevant provisions of Directive 1999/5 / WE. The device is CE marked, which indicates compliance with the guidelines of the Directive. The device can be sold and used for transmission in the 5 GHz band. The frequency range can be adjusted using the settings in accordance with legal regulations in every country. It is your responsibility to be adequate settings of the complying with the applicable laws in the country or region.

Device disposal



The mark presented to the left informs that this electrical or electronic device, after its use has ended, cannot be thrown together with household refuse. The device should be delivered to a specialised collection point. Detailed information about the closest collection point is available from local authorities.

The proper disposal of this device allows for preserving precious resources and avoiding the negative impact on health and environment, which may be endangered if the waste is handled improperly. Improper waste disposal is subject to penalties provided for in the appropriate regulations.

Producer
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