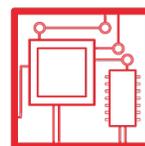

ZyKlop Family Product presentation

Ermetris creating simplicity

January 2022

Our Solutions



Passenger counting solutions

We provide passenger counting solutions for buses and trains in order to provide information about occupancy of vehicle and statistics.



Passenger information systems

Ermetris provides products for entertainment system fully EN50155 qualified, we supply from the driver control panel to the cabin displays in several format.



Public address solutions

Ermetris provides audio products fully EN50155 qualified with a digital audio quality, with extensive use of power over ethernet and VOIP standard.

Our Products



Ermetris the railway specialist

Our Customers search for high specialization they want not just a product but also services (customized product and engineering service) and information that you can provide. Our constant collaboration with the leader suppliers of technologies in the transportation market allows us to be always updated on the new technology trends and anticipate the demand of the services and products to our customers.

Smart audio systems (Core Business PA)

Ermetris provides audio system products supporting the customer on the software integration using standard VOIP SIP components or custom protocol. Our range of products cover the most of components for a complete public address solution .

Our standard products are ready to use (plug and play) and plus we can provide also custom system in terms of software, mechanics and hardware.

Innovative infotainment systems

In an age when everything is connected, mobility and connectivity goes hand in hand. Being informed, "Connected mobility" is the new challenge facing public transportation today and in the future. Ermetris offers many solutions to this challenge.

Ermetris has developed a product range for passenger infotainment system that includes intelligent display with different dimensions from 10.4" to 20", single side or double side. All our display have x86 CPU inside to help the software integration with our customer Passenger Information System.

Our products

What we offer



ON board computer



Passenger emergency intercom



Digital gooseneck



17" infotainment display



SIP VOIP gateway



Analog gooseneck



Driver MMI 10,4" MVB



Zyklop passenger counter



Double side flat monitor 18,5"



Quad side monitor 2x20" intelligent display



Efesto termoscanner



Double side monitor 20"



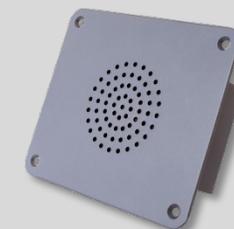
Magneto



SIP VOIP intelligent handset



SIP VOIP audio amplifier 50 W



Amplifier cab loudspeaker

Ermetris products for Railway

Three families of customizable products



EG DIONE
passenger information system

It's a family of Railway Display for Passenger information system and for cabin crew, Products are based X86 processor, Double side displays, Driver display with Ethernet communication on M12 D code, MVB, Serial ports, On board computers.



EG ZYKLOP
counting sensor

Zyklop Automatic Passenger Counter is an electronic device powered by Ermetris for monitoring the passage of people equipped with artificial intelligence. Zyklop is composed of two hardware parts, an APC (automatic passenger counting) procession unit, and a VDU (video detection unit).

www.automatic-passenger-counter.com



EG ARES
public address

It's a family of Railway Smart Handsets, Emergency Intercoms, Amplifiers. Intelligent gooseneck, UIC568 to Sip gateway, SIP server and loudspeaker amplified.



In Greek and Roman mythology the Cyclopes are giant one-eyed creatures.
In Hesiod's Theogony, they are the brothers: Brontes, Steropes, and Arges, who provided Zeus with his weapon the thunderbolt.

In Homer's Odyssey the brethren of Polyphemus encountered by Odysseus.



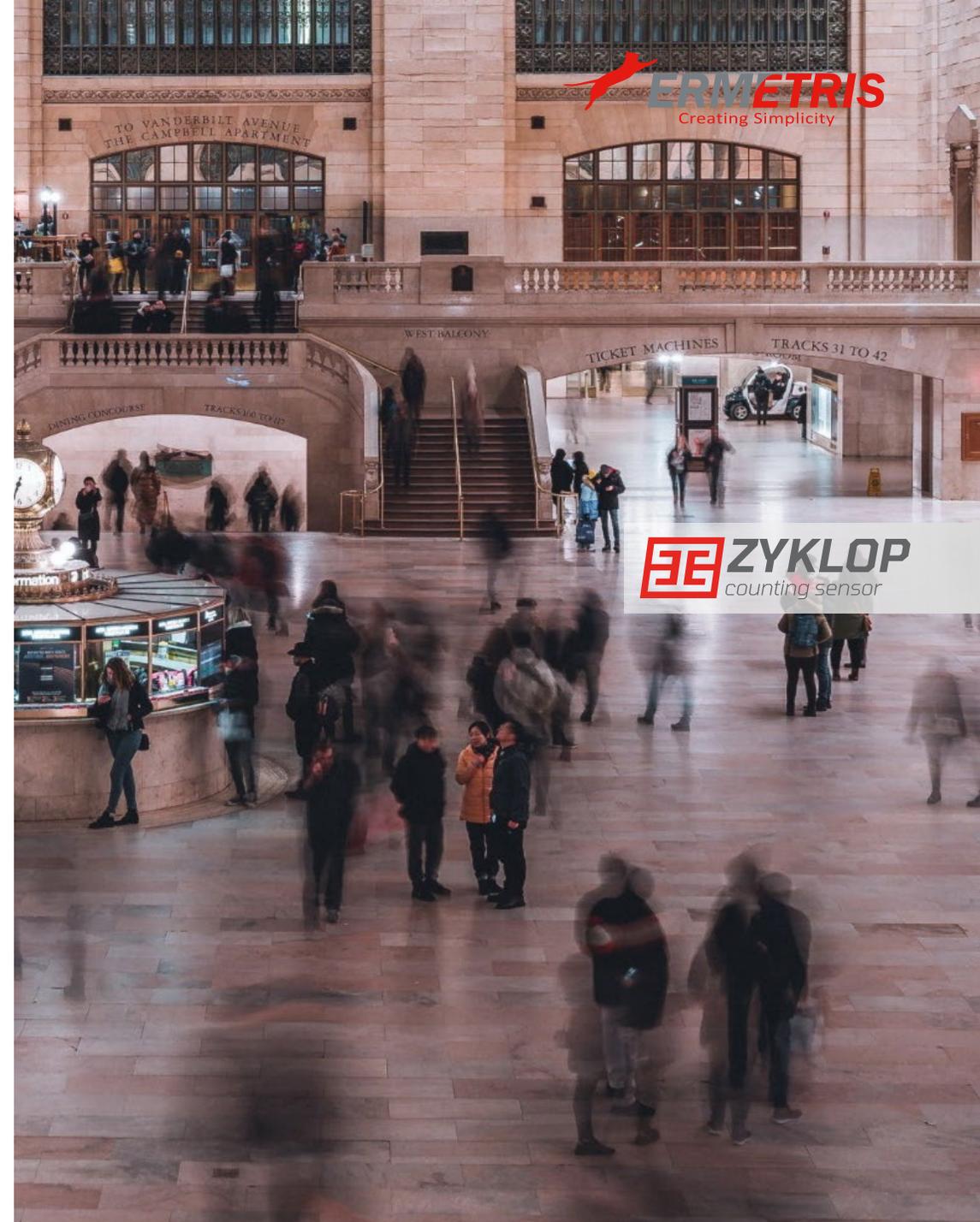
That's the reason why the Ermetris new Passenger Counter Sensor is named Zyklop.

The unique APC with artificial intelligence

Zyklop the most intelligent device in the market

What the customer need?

- ✓ Accuracy: the customer would like to have 99% real accuracy even on short routes with 50 people getting on the vehicle. The customer perceives an accuracy of 90% not useful, if the accuracy is 95% perceives the passenger count as an instrument of pure statistics on large numbers for which it does not give it great economic value and tends to spend as little as possible.
- ✓ Many manufacturers promise 98% but with **ZyKlop is the only Passenger Counter Sensor which can guarantee a real 98% also on limited numbers without any correction.**
- ✓ Standard wiring. ZyKlop has RS485 , Ethernet and WiFi for Configuration.
- ✓ Easy Maintenance, installation and calibration : all systems on the market must be calibrated several times a year (once every 3 or 6 months), moreover during the assembly phase on the vehicle a complicated initial calibration must be made. All this generates costs that are not quantifiable in the economic offer phase and that the customer finds himself at a later time. ZyKlop as no need of calibration.
- ✓ Easy to fix and Assembly , only in some points above the door and very critical: if the installation of a few centimeters is wrong, the system does not work. ZyKlop thanks to his Artificial Intelligence Technology doesn't need of particular placing.



ZK-2000 features

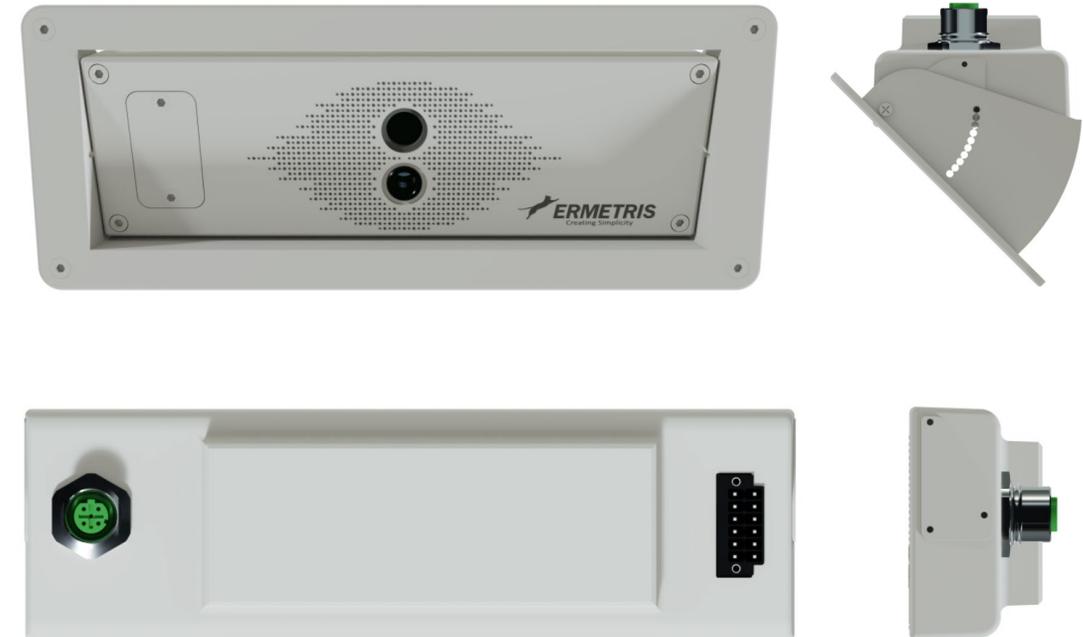
Zyklop-2000 new product on transportation application all in one

New Zyklop all in one , with camera integrated and termoscanner (optional) sensor inside for more accuracy when there is only one per person per time to pass through the gate.

Technical feature:

- 1 connector M12 D code for **Ethernet**
- 1 connector 12 pin, for: 1 digital Input , 1 x **RS485** and power
- Processor: ARM iMX8MM Quad 1GB RAM /8GB flash
- **Door contact** (to disable the counting when the door is closed)
- Artificial Intelligence hardware accelerator
- 98% accuracy
- **Night vision** functionality
- **Recording** video for debug
- **Wifi** for configuration
- Housing: Aluminium case
- Termoscanner sensor (optional)
- Power supply:
 - 24Vdc (range 16.8 ~ 36Vdc)
 - max power consumption: 1 A at 24 Vdc

 **ZYKLOP**
counting sensor

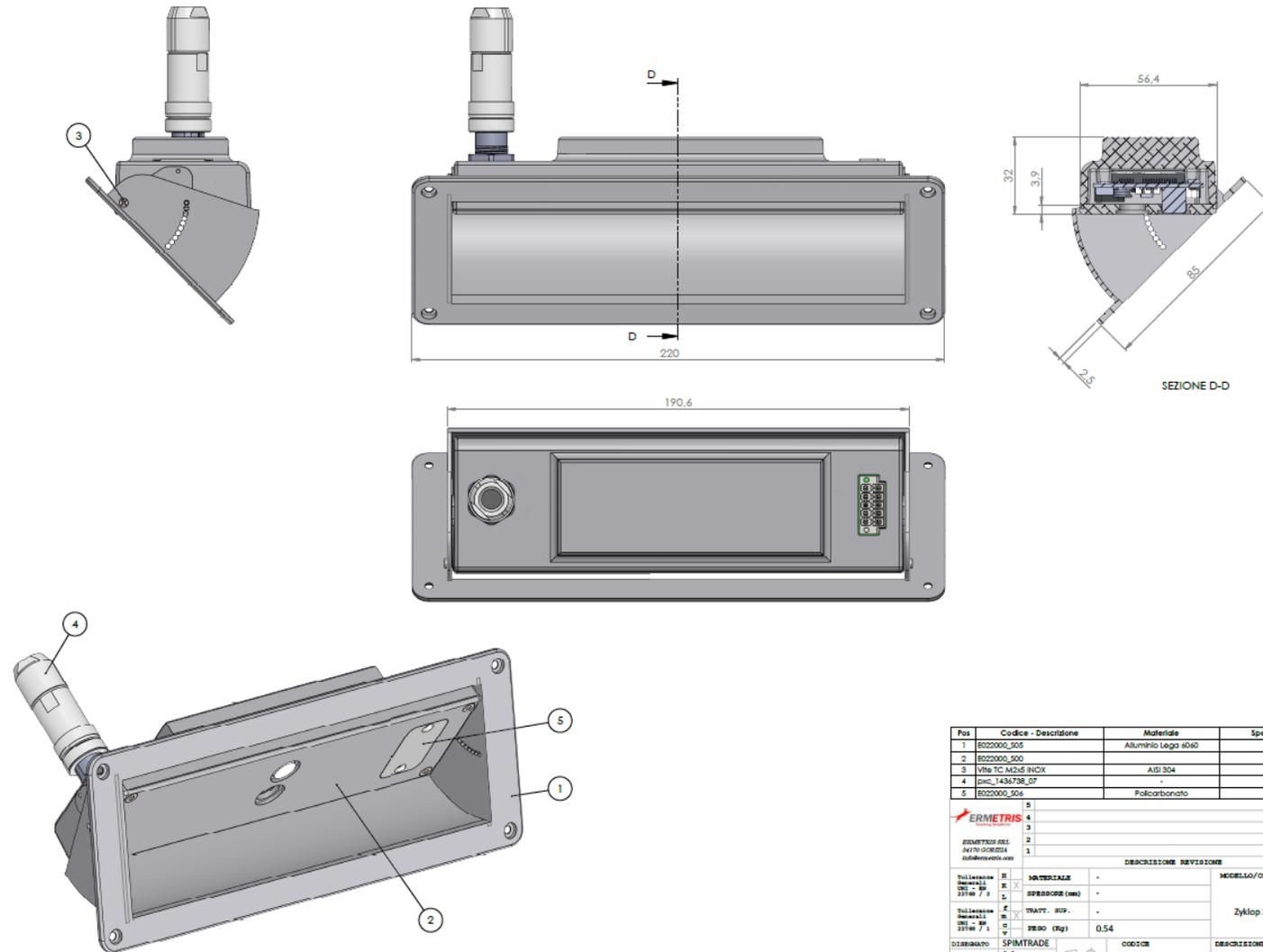


Performance video https://www.youtube.com/watch?v=q7KpE_3M1VY

<https://www.automatic-passenger-counter.com/people-counting-sensor/>

Mechanical dimensions

Zyklop-2000 new product on transportation application all in one



Pos	Codice - Descrizione	Materiale	Spessore	Q.tà
1	E022000_S05	Aluminio Lega 6060	-	1
2	E022000_S00	-	-	1
3	Vite TC M4x5 INOX	ASSI 304	-	2
4	plac_1436738_07	-	-	1
5	E022000_S06	Polycarbonato	1.5	1

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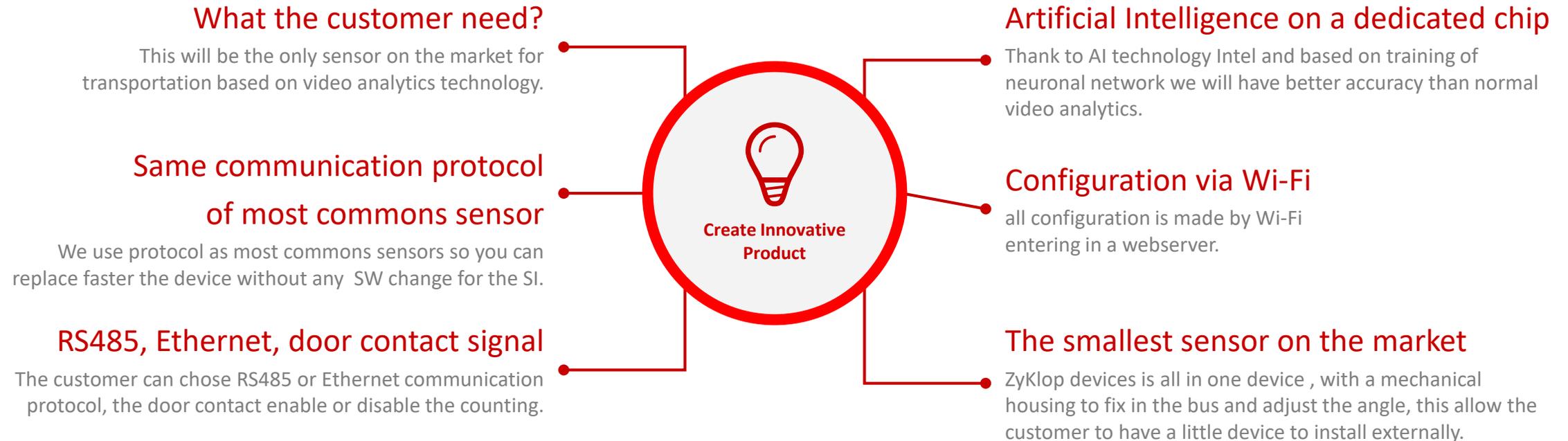
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Zyklop-2000 key features

Specification



Zyklop configuration

Home counting overview

- ✓ Thanks to a web server inside the device you can configure it easily with WiFi connection and you can see live image to test the accuracy and configuration.
- ✓ Home page: you can see the counting , camera video, door status and you can record video inside the device or in an external USB
- ✓ **Recording feature:** thanks to the recording feature the customer can take video of is particular situation and send to Ermetris which can verify the accuracy and possible problem of configuration, giving feedbacks and adjustment to the customer by remotely



The screenshot displays the Zyklop web interface. At the top, there is a navigation menu with 'HOME', 'NETWORK', 'VIDEO', 'I/O', and 'SYSTEM'. The right side of the header shows 'ZYKLOP MAC: FC:EE:E6:33:B3:E0 FW: V00.04' and the 'ERMETRIS' logo. The main content area is divided into three sections: 'LIVE VIEW' on the left, which shows a camera feed of a door; 'COUNTS' on the right, displaying 'Incoming: 51' and 'Outgoing: 50' with a 'RESET COUNTERS' button; and 'DOOR STATE' on the right, showing 'Status: CLOSE'. Below these is a 'RECORDING' section with 'Save Location:' set to 'Internal' (selected) and 'USB' (unselected), and buttons for 'START REC', 'STOP REC', and 'DOWNLOAD REC'.

Zyklop configuration

Network Tab



- ✓ In the network tab customer can set the network features

HOME NETWORK VIDEO I/O SYSTEM ZYKLOP MAC: FC:EE:E6:33:B3:E0 FW: V00.04

ZYKLOP counting sensor **ERMETRIS** Creating Simplicity

<-> Wired LAN Configuration ^

Static DHCP

Hostname Zyklop_245b28	IP Address 192.168.1.157	Subnet Mask 255.255.255.0	Gateway 192.168.1.255	MAC Address 46:5e:2b:24:5b:28
---------------------------	-----------------------------	------------------------------	--------------------------	----------------------------------

Apply Undo Changes

Wireless LAN Configuration ^

SSID Zyklop_33b3e0	IP Address 10.0.0.1	Subnet Mask 255.255.255.0	Gateway 0.0.0.0	MAC Address fc:ee:e6:33:b3:e0
-----------------------	------------------------	------------------------------	--------------------	----------------------------------

Active Network Services ^

SSH

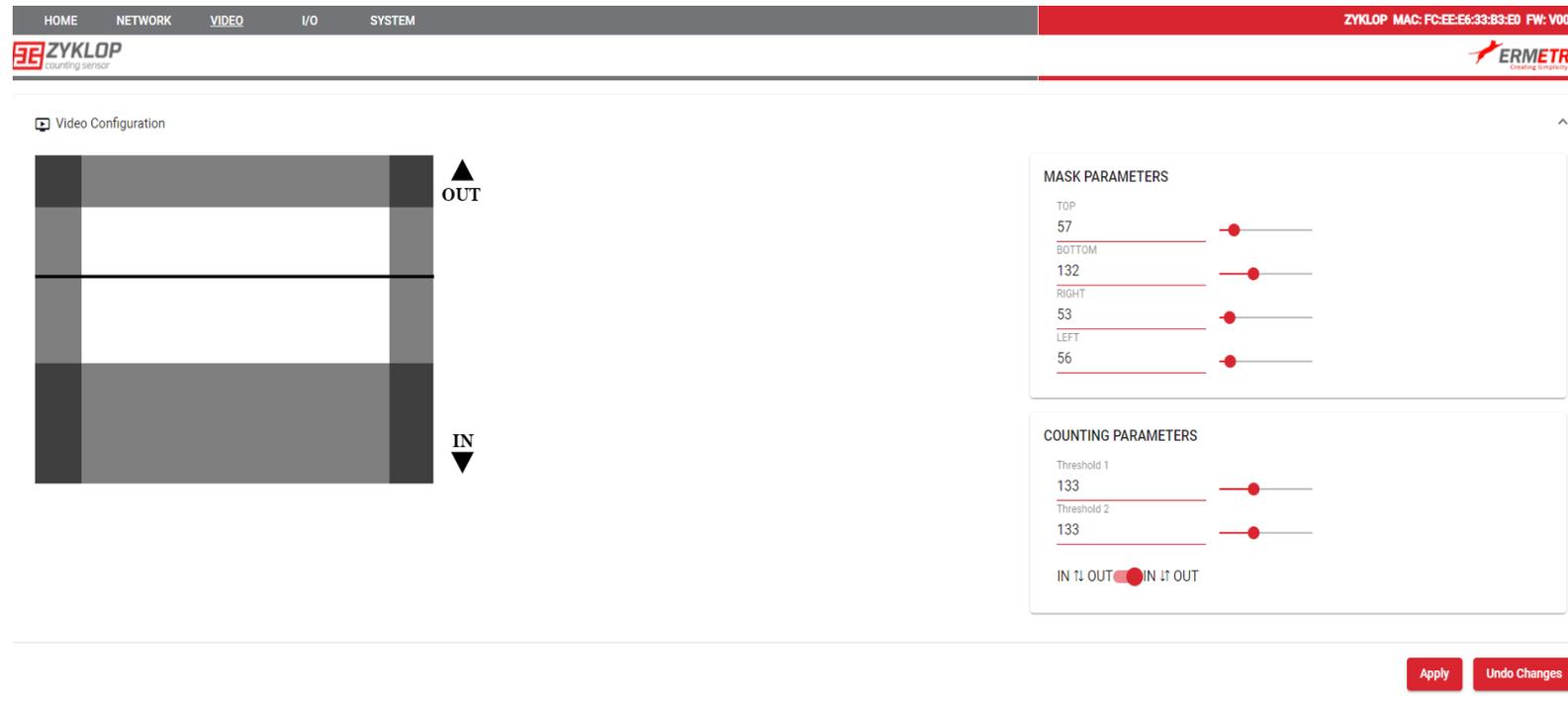
Apply Undo Changes

Zyklop configuration

Mask and threshold parameters



- ✓ On the Video tab , customer can set the mask parameter and configure In out direction and Threshold of counting



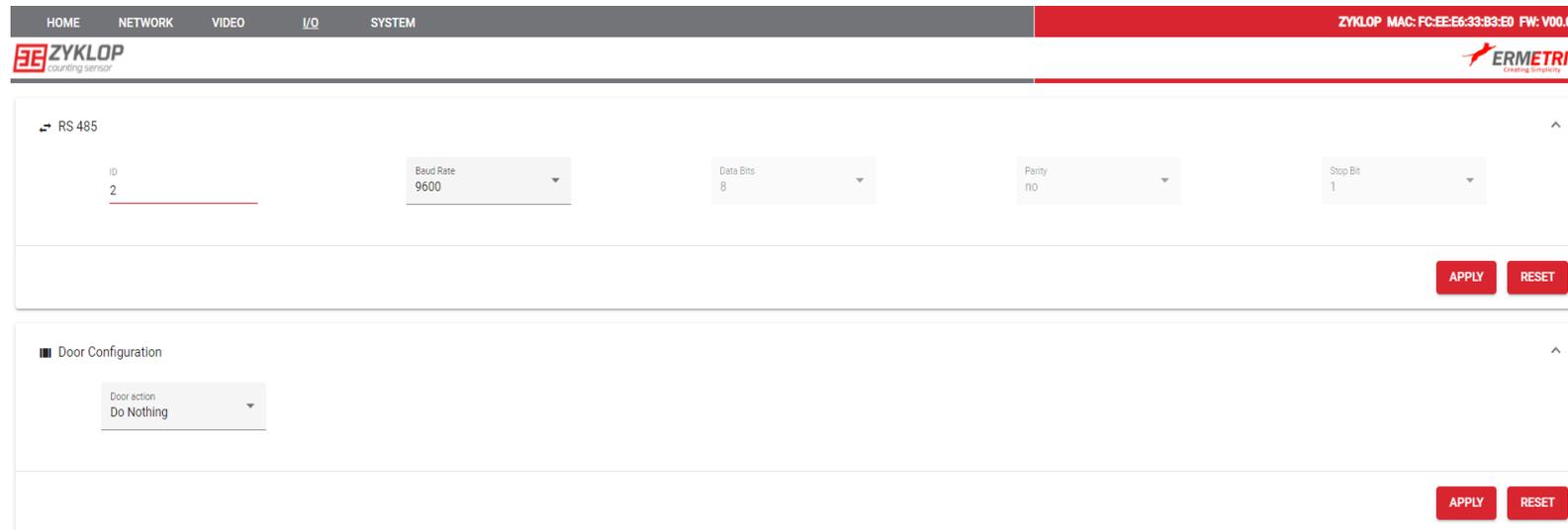
The screenshot displays the Zyklop configuration web interface. At the top, a navigation bar includes 'HOME', 'NETWORK', 'VIDEO', 'I/O', and 'SYSTEM'. The 'VIDEO' tab is selected. The top right corner shows 'ZYKLOP MAC: FC:EE:E6:33:B3:E0 FW: V00.04'. The main content area is titled 'Video Configuration' and features a central video frame with a grey mask. The mask has a white horizontal bar across the middle. To the right of the frame, there are two arrows: an upward-pointing arrow labeled 'OUT' and a downward-pointing arrow labeled 'IN'. To the right of the video frame, there are two configuration panels. The 'MASK PARAMETERS' panel includes sliders for 'TOP' (57), 'BOTTOM' (132), 'RIGHT' (53), and 'LEFT' (56). The 'COUNTING PARAMETERS' panel includes sliders for 'Threshold 1' (133) and 'Threshold 2' (133). At the bottom of the configuration area, there is a radio button selection for 'IN || OUT' (selected) and 'IN || IN'. At the bottom right, there are 'Apply' and 'Undo Changes' buttons.

Zyklop configuration

I/O tab



- ✓ On the I/O tab , customer can set the RS485 parameter and configure the door Input configuration



The screenshot displays the configuration interface for a Zyklop counting sensor. At the top, a navigation bar includes 'HOME', 'NETWORK', 'VIDEO', 'I/O', and 'SYSTEM'. The 'I/O' tab is selected. The top right corner shows the device information: 'ZYKLOP MAC: FC:EE:E6:33:83:E0 FW: V00.04'. The interface is divided into two main sections:

- RS 485:** This section contains five configuration fields: 'ID' (set to 2), 'Baud Rate' (set to 9600), 'Data Bits' (set to 8), 'Parity' (set to NO), and 'Stop Bit' (set to 1). 'APPLY' and 'RESET' buttons are located at the bottom right of this section.
- Door Configuration:** This section contains a single dropdown menu for 'Door action', which is currently set to 'Do Nothing'. 'APPLY' and 'RESET' buttons are also present at the bottom right of this section.

Zyklop configuration

System tab

- ✓ On the System tab , customer can :
 - ✓ Reboot the system
 - ✓ Reset restore parameters
 - ✓ Download configuration file
 - ✓ Load configuration file
 - ✓ Download log file
 - ✓ Upgrade the firmware
 - ✓ Set date/time and password

HOME	NETWORK	VIDEO	I/O	SYSTEM	ZYKLOP MAC: FC:EE:E6:33:B3:E0 FW: V00.04
					
Reboot					▼
Reset/Restore Parameters					▼
Download Configuration File					▼
Load Configuration File					▼
Download Log File					▼
Upgrade					▼
Set system password					▼
Date/Time Settings					▼

Performance comparison Stereoscopic product vs Zyklop 1000

Configuration tab

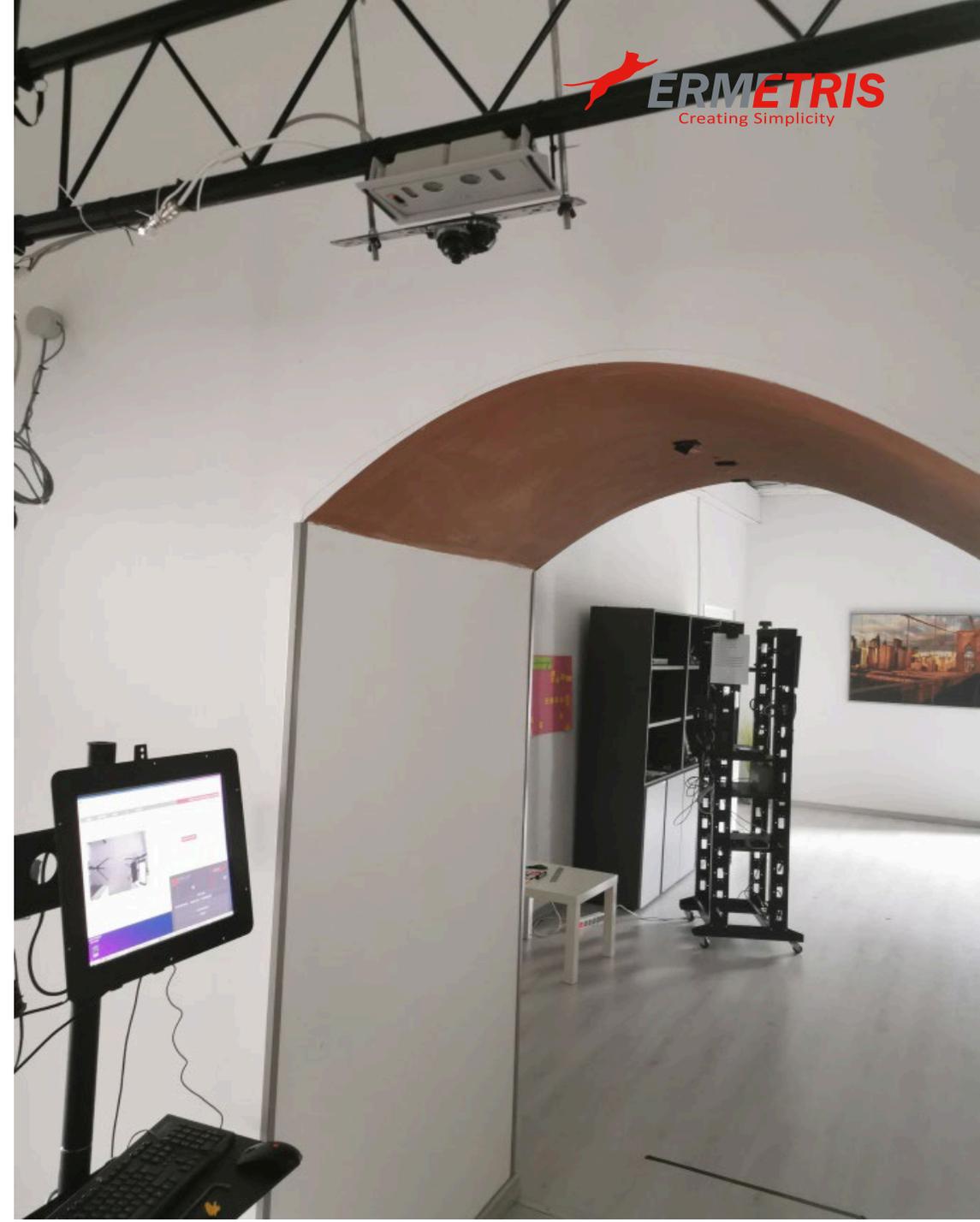
Ermetris ZyKlop, lost only one people
in incoming direction

Zyklop error: 1% incoming, 0% out coming

Stereoscopic product error: **2% incoming, 5% outcoming**

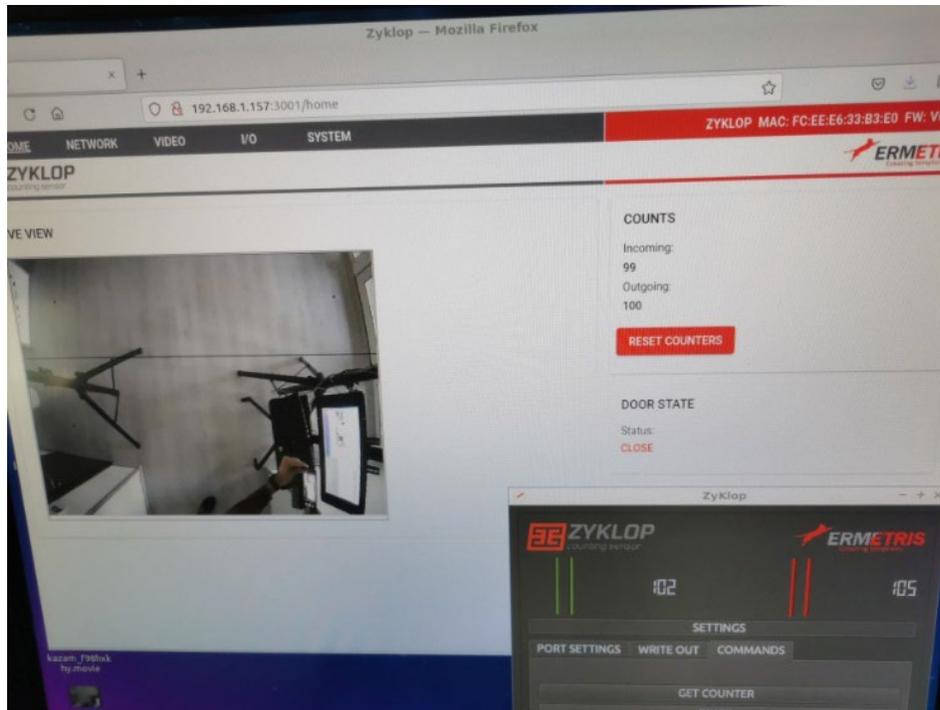
Same behavior is observed in different condition
Or crowding situation.

In very low night condition **stereoscopic product has an
error around 15%**, ZyKlop is not affected of this condition.



Performance comparison Stereoscopic product vs Zyklop 1000

Configuration tab



Stereoscopic sensor count double or no count in some light condition and when people raise the hands

Performance video
<https://bit.ly/3saOSn5>



ZYKLOP
counting sensor

Our Target Market

Who will be our customer?

Train Builder

They buy our sensor to mount on the train but not connected to any solution, the final customer will decide how to manage it

10%

Municipalities

The municipalities can buy from us only the sensor and give it to SI or software house to implement the solution for passenger counting

20%

50%

System Integrators

They buy our sensor to connect to a Control unit and develop the passenger counting solution

20%

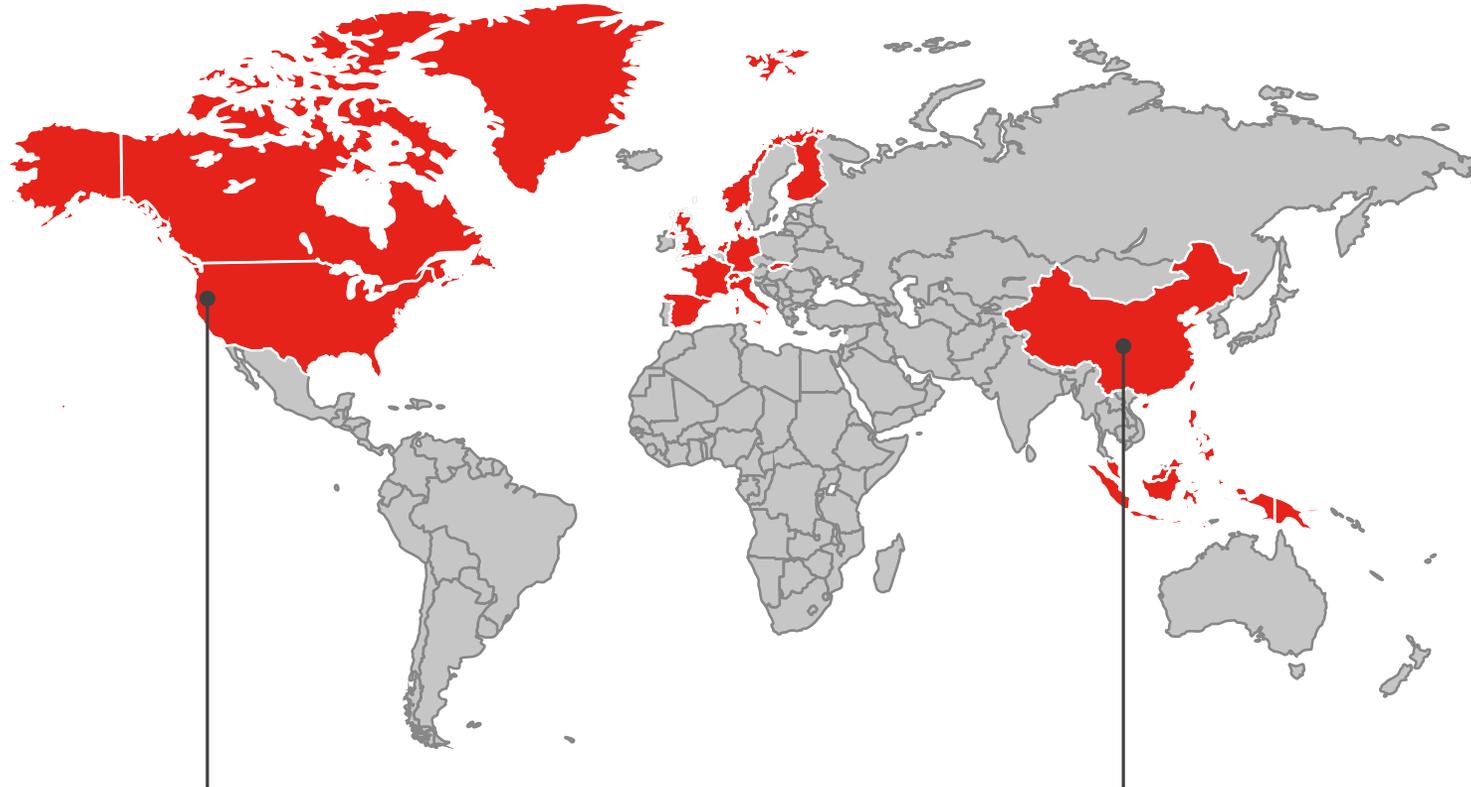
Bus manufacturer

They buy our sensor to mount on the train but not connected to any solution, the final customer will decide how to manage it



We are present worldwide

A company with global reference



Buy America

We have partners to produce in USA.

Support in Asia

We have local partners in Asia

Our main customers

Products and maintenance services



Thank You

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January 2022