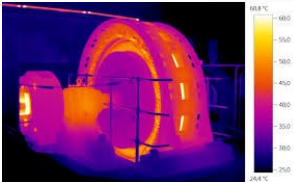# DATASHEET

TRX

AISI 316L stainless steel Thermal camera

Security applications: series 300IP-600IP

Radiometric applications: series 320IP-640IP
(thermographic)

IP 67 STANDARD

P⏻E

maintenance free

Thermal cameras provide an ideal solution, as compared to visible-light cameras, for detecting people and objects in low light or bad weather conditions. They create images based on the heat emitted by any object, vehicle or people. Thermal imaging is not affected by light conditions such as shadows, back lighting, darkness and even camouflaged objects, providing images that allows the operators to detect and act during suspicious activities, 24 hours per day and 7 days per week.

Global Proof offers to the market a wide range of professional products both for the *video surveillance* sector and for the *radiometric* one, where it is necessary to measure temperatures (thermography).

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The **TRX** series thermal cameras can be divided into 2 main categories:

- VIDEO SURVEILLANCE
- RADIOMETRIC (thermographic)

Each category has respectively 2 *IP* models

Application	Model	Resolution	Format
VIDEO SURVEILLANCE	TRX300IP	384x288	IP
	TRX600IP	640x480	IP
RADIOMETRIC (thermographic)	TRX320IP	384x288	IP
	TRX640IP	640x480	IP

TRX thermal cameras are supplied with "Athermalized" lens with different FOV. The big advantage of the "Athermalized" lens is that the focus remains unchanged even after a long period of use or in case of big variations of temperature during the day.

"Athermalized" lens are widely used in security and surveillance applications because the focus adjustment is not necessary and the depth of field is very deep if compared to standard Germanium lenses.

The following table shows the FOV of our thermal cameras for video surveillance and of the radiometric ones, with the different focal lengths of the "Athermalized" lenses.

Athermalized lens	TRX300IP TRX320IP		TRX600IP TRX640IP	
Focal Length	**HFOV (°)**	**VFOV (°)**	**HFOV (°)**	**VFOV (°)**
7.5mm f1.23	47,1°	36.2°	71.9°	57.1°
8.5mm f1.24	42.0°	32.1°	65.2°	51.3°
13mm f1.03	28.2°	21.3°	45.4°	34.9°
14.2mm f1.25	25.9°	19.5°	41.9°	32.0°
19mm f1.03	19.5°	14,7°	32.0°	24.2°
25mm f1.20	14.9°	11.2°	24.5°	18.5°
35mm f1.14	10.7°	8.0°	17.7°	13.3°

Specifications are subject to change without notice, weights and dimensions are indicative.   *rev. 4420*

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All the radiometric models of the TRX series features the latest versions of the thermal image sensors, that are: *QVGA Gen2* and *VGA Gen2*. These sensors have an excellent *NETD* value (amount of infrared radiation required to produce an output signal equal to the systems own noise).

By increasing the performance, the TRX cameras provides more detailed features as regards alert settings and ROI (regions of interest) settings that were previously available only in the thermal sensor

The TRX thermal cameras are completely managed by the thermal imaging analyzer on PC. Users who want to develop their own thermal imaging analyzer or include their thermal cameras into their own software will be provided with a Windows SDK, C++ code.

Radiometric IP thermal cameras
(IP thermal cameras that detect the temperature of up to 10 ROI)

TRX320-IP and TRX640-IP thermal cameras are particularly indicated for the following applications:

• Fire prevention (detection) in large areas: wildfire, waste management, biomass storage areas, etc.
• Preventive maintenance in industrial plants
• Intrusion detection (people, animals) in large areas
• Fire/intrusion detection in port basins

TRX320-IP e TRX640-IP are thermal IP cameras that trasmit video data and temperature alarm data simultaneously. These thermal network cameras have the same thermal core as TRH320 or TRH640 and have the following measurement ranges: <u>medical</u> detection mode (from +20°C to +50°C), <u>normal</u> detection mode (up to +120°C) and <u>high temperature</u> detection mode (up +500°C).

The models TRX320-IP and TRX640-IP are unique among thermal cameras: they transmit compressed video data and temperature alarm data that includes, as well: ROI position data, the position data of the spots that have generated a temperature alarm signal inside the ROI and the max. / min. / average temperature of each ROI, all simultaneously through IP network.

On the web browser of TRX320-IP and TRX640-IP cameras the user can set: up to 10 rectangular ROIs, the alarm temperature for each ROI (min. , max or average temperature) and isothermal color.

If the temperature of any spot inside the ROI exceeds or drops below the set up alarm threshold, the thermal camera transmits the temperature alarm data, together with the compressed video, to the VMS that is connected to the thermal camera.

The alarm data includes: ROI position data, isotherm video (where all the spots that have generated the alarm are expressed with the preset color) and temperature data of each ROI (max. / min. / average temperature).

In addition to the alarm data and the relevant activities to the VMS of the PC, the relating camera generates an alarm to the relais.

The web browser of TRX320-IP or TRX640-IP displays the picture in this way

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After setting the ROI area, the temperature of each ROI and the isothermal color, the setting values are transmitted to the relevant camera.

The size and the number of ROIs can be set up on the web browser of TRH320-IP or TRH640-IP:

1) The maximum number of rectangular ROIs is 10.
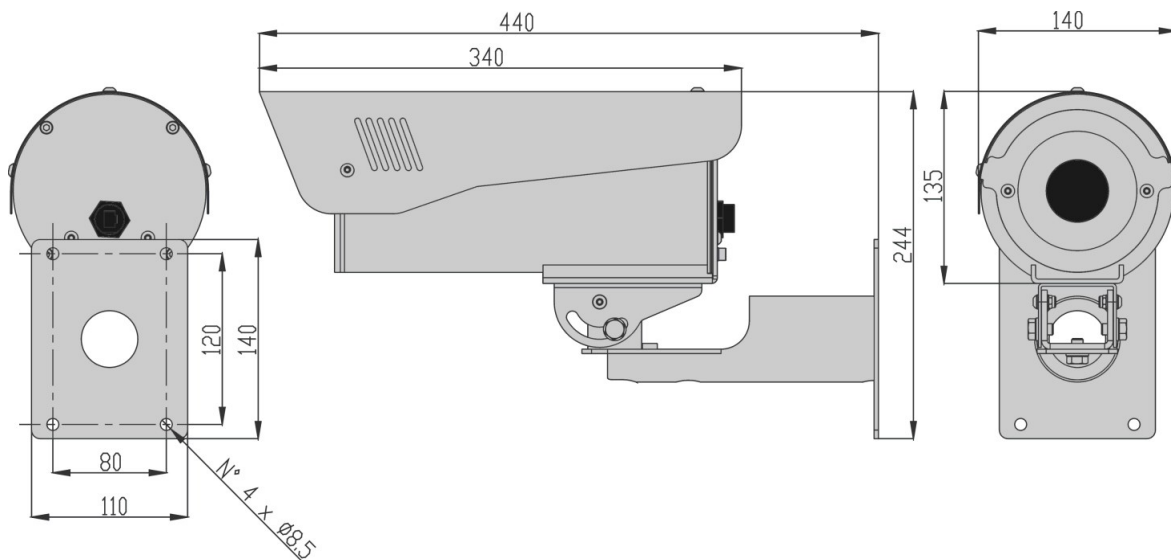2) Each ROI does not have maximum size limitations.

Model	TRX300-IP, TRX600-IP	TRX320-IP, TRX640-IP
Video		
Sensor	LWIR a-Si Uncooled Microbolometer 17µm	
Resolution (pixels)	384x288, 640x480	384x288, 640x480
Thermal sensitivity of the sensor (NETD)	50mK @ f1.0 30Hz 300K	
Spectral response	8-14 µm	
Video output	CVBS 1.0v Pk-Pk, 75Ω	
Optical lenses		
Focus	from 7.5mm to 35mm (fixed focal)	
Focus & Zoom control	Motorized focus and motorized zoom, by selecting "Focus +/-" or "Zoom In/out"	
Operations		
Camera characters	On/Off 20 characters, 5 lines	
Integrated motion detection	On/Off (3 rectangular areas)	
Frame rate	25/50Hz	
Brightness	Manual setting: 0~100	
Gain	Manual setting: 0~100	
Auto NUC (non-uniformity correction)	Off/Auto/Time/Auto+Time	
Digital zoom	1x/2x/3x/4x	

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Color variations (palette)	GREY, IRON, RAIN_V1, RAINBOW, HALF GREY, YELLOW, MIDGREY, FIRE, BLUE RED	
Heat threshold	0~100	
Image sharpening	On/Off (edge sharpness only)	
Digital noise filter (DNS)	SSNR (2D), Noise filter (On/off)	
Image rotation	Flip: On /Off, Mirror: On/Off	
Intelligent video analytics	Motion detection	
Alarm events	Motion detection	Temperature alarm/ Motion detection
Temperature alarm events	Not available	Up to 10 areas of interest (ROI), temperature setting in each one: max, min or average
Network		
Ethernet	RJ-45 (10/100Base-T)	
Video Compression Format	H.264 (MPEG4 part 10/AVC): Main/Baseline/High Motion JPEG	
Resolution	720x576, 640x480, 384x288, 720x480, 320x480	
Frame Rate	(H.264) 30IPS max a tutte le risoluzioni, (MJPEG) 15IPS max @640x480	
Smart Codec	Manual Mode (area based: 4ea,TBD)	
Video Quality adjustments	H.264: Compression level, Management of Target Bitrate level, MJPEG: quality adjustments	
Bitrate control modes	CBR o VBR, Motion JPEG: VBR (Bitrate range 128K~1M)	
Streaming	Multiple Streaming (upto 3 profiles), Max. Profiles:4, Fixed profiles (default):2	
IP	IPv4, IPv6	
Protocols	TCP/IP, UDP/IP, RTP(UDP),RTP(TCP), RTCP, RTSP, NTP, http, HTTPS, SSL, HDCP, PPPoE, FTP, ICMP, IGMP, ARP, DNS, DDNS, SMTP	
Security	IP Address Filtering User Access Log HTTPS(SSL) Login Authentication, Digest Login Authentication, 802.1x Authentication	
Streaming methods	Unicast/Multicast	
Max. User Access	Max 10 users access (TBD)	
Application Programming Interface	OnVif Profile S Ver 2.4	
Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Dutch, Portuguese, Turkish, Polish, Czech, Hungarian, Greek.	
Web Viewer	Supported OS: Windows XP/VISTA/7/8/8.1/10 Supported Browser: Microsoft Intenet Explorer (Ver. 9~11)	
Central management Software	SSM ver 1.0	
Environmental		
Operating temperature	from -20°C to +60°C (from -4°F to +140°F)	
Storage temperature	from -20°C to +70°C (from -4°F to +158°F)	

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Electrical	
Power supply	PoE (IEEE802.3atClass3)
Consumption	18W Max.
Meccanico	
Material	AISI 316L stainless steel electropolished
Weight	5Kg.

All the dimensions are expressed in millimeters

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