RHODIUM ULTRA
NDAA Compliant

NDAA COMPLIANT

RBUT TPC6457DLT-F

Thermal & Optical Bi-spectrum Bullet Network Camera

Key Features

- 640 × 512 resolution, 12 μm, VOx UFPA, NETD ≤ 50 mK

- Lens optional: Thermal - 9/15/25/35/50mm fixed; Visible - 4/6/10 to 30mm lens

- Detection capabilities: Human/vehicle, smoker, smoke & flame, fire point detection

- Intelligent analytics: Intrusion, single/double line crossing, loitering, wrong-way, people counting, enter/leave area detection, smart motion detection

- Support 3 temperature measurement rule types (spot, line, area)

- Temperature monitoring & alarm: -20°C to 150°C (-4°F to 302°F), Accuracy: ±2°C / ±2%

- Built-in speaker and strobe light; supports sound-light alarm

- Smart IR range up to 100m

- Support 12VDC/24VAC/PoE+ power supply

- IP66

Technical Specification

Camera	Thermal	Visible
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays	1/1.8" CMOS
Resolution	Sensor is 640×512, Image can be scaled up to 1920×1080	2688(H) × 1520(V)
Pixel Pitch	12µm	
Spectral Range	8 to 14µm	
NETD	≤ 40mK	
Min. Illumination		Color: 0.005Lux @(F1.6, AGC ON), B/W: 0.001Lux @(F1.6, AGC ON), 0Lux with IR
Shutter Speed		1/5 to 1/20,000s
Lens Type	Fixed	Fixed
Focal Length	9 mm, 15 mm, 25 mm, 35 mm, 50 mm	4mm, 6mm, 10 to 30mm optional
Max. Aperture	F1.0	F1.6
Focus Control	Fixed focal	4 mm / 6mm: Fixed focal 10 to 30 mm: Motorized focal
Field of View (FOV)	9 mm: H: 48°, V: 38° 15 mm: H: 29°, V: 23° 25 mm: H: 17°, V: 14° 35 mm: H: 12°, V: 10° 50 mm: H: 8°, V: 7°	4 mm: H: 87°, V: 47° 6 mm: H: H: 55°, V: 30° 10 to 30mm: H: 43.4° to 15.5°, V: 23.8° to 8.8°

IVS		
AI Multi-Target	Human and vehicle detection	Human and vehicle detection
Intelligent Analysis	Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection Support alarm triggering by specified target types (human and vehicle)	Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection Support alarm triggering by specified target types (human and vehicle)
Smoker Detection	Support	
Smoke and Flame Detection		Support
Fire Spot Detection	Support	
People Counting	Support	Support
Video and Audio		
Main Stream	1920×1080, 1280×1024, 1280×720, 640×512 @25fps	2688×1520, 1920×1080, 1280×720 @25/30fps
Sub Stream	D1, VGA, 640×512, CIF @25fps	D1, 640×360, CIF @25/30fps
Bit Rate Control	CBR/VBR	CBR/VBR
Bit Rate	Main Stream: 100Kbps to 8Mbps, Sub Stream: 100Kbps to 6Mbps	Main Stream: 200Kbps to 12Mbps Sub Stream: 100Kbps to 6Mbps
Smart Encode	Support	Support
Audio Compression	G.711 A-law, G.711 μ-law, RAM PCM	G.711 A-law, G.711 μ-law, RAM PCM

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Image

Image Setting	Brightness, Contrast, Sharpness	Brightness, Saturation, Contrast, Sharpness
Mirror	Horizontal / Vertical / Horizontal+Vertical	Horizontal / Vertical / Horizontal+Vertical
Pseudo-color Setting	Up to 17 colors (White-hot / Black-hot / Rainbow / Iron red / HSV /Bone / Cool / Copper / Fire-hot / Pink / Spring / Summer / Autumn / Winter / Jet / Flame / Rose -Bengal)	
FFC Control	Auto / Manual	
Gain Control		Auto / Manual
White Balance		Auto / Tungsten / Fluorescent / Daylight / Shadow
Day/Night		Day mode / Night mode / Time
Noise Reduction	2D/3D DNR	2D/3D DNR
Image Enhancement		WDR, HLC, BLC
Wide Dynamic Range		True WDR 120dB
OSD	Up to 8 OSD	Up to 8 OSD
Privacy Masking	Up to 4 areas	Up to 4 areas
Illuminator		IR Range: -4 mm: Up to 70 m (229.6 ft) -6 mm: Up to 80 m (262.5 ft) -10 to 30 mm: Up to 100 m (328.0 ft)

Thermal Function

Temperature Range	-20°C to 150°C (-4°F to 302°F)
Accuracy	±2°C / ±2%
Temperature Detection	3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).
Temperature Display	Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature
Image Fusion	Fusion view of thermal view and overlaid details of the optical channel

Event	
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection
Alarm Events	Alarm out, Audible alarm, Alarm record, SMTP, FTP upload
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast
Compatible Integration	ONVIF (Profile S/T/G/M), CGI, SDK
User/Host Level	Up to 10 users, 3 levels: Administrator, Operator, Media user
Security	IP address filter, encrypted HTTPS, Illegal login lock, IEEE 802.1x
Web Viewer	<IE11, Chrome, Firefox, Microsoft Edge
Interface	
Network Interface	1 Ethernet (10/100 Base-T) RJ-45 Connector
Audio Interface	1ch input, 1ch output
Built-in MIC	Support
Built-in Speaker	Support, Alarm sound transmission distance of 150m (492.13ft) (in a wooded environment)
Alarm Interface	2ch input, 2ch output
Analog Output	Support (Thermal imaging or Visible switchable)
RS-485	1
SD Card Slot	Support Micro SD card, up to 1TB
Reset Button	Support

General

Web Language	English, Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian. Default: English
Power Supply	12 VDC/24 VAC/PoE+ (802.3at)
Power Consumption	Max 25W
Working Temperature and Humidity	-40°C to 60°C (-40°F to 140°F) Less than 90% RH
Certifications	CE-EMC (EN 55032:2015+A1:2020, EN 55035:2017+A11:2020, EN 50130-4:2011+A1:2014, EN 61000-6-3:2007+A1:2011+AC:2012, EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019)) FCC (FCC 47 CFR 15, Subpart B, ANSI C63.4-2014)
Ingress Protection	IP66
Material	Metal
Dimensions	(327.4 to 347.4) × 140.04 × 120.72mm, (12.89 to 13.55) × 5.59 × 4.75 inch)
Net Weight	2.0Kg (4.41lb) with 50mm lens

Ordering Information

Model	Description
RBUT TPC6457DLT – F9	Thermal Focal Length: 9mm, Optical Focal Length: 4mm
RBUT TPC6457DLT -F15	Thermal Focal Length: 15mm, Optical Focal Length: 6mm
RBUT TPC6457DLT -F25	Thermal Focal Length: 25mm, Optical Focal Length: 10 to 30mm
RBUT TPC6457DLT -F35	Thermal Focal Length: 35mm, Optical Focal Length: 10 to 30mm
RBUT TPC6457DLT -F50	Thermal Focal Length: 50mm, Optical Focal Length: 10 to 30mm

Thermal DRI Range Table

Note: The table is only for reference and the performance may vary according to different environment.
Note: The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.
Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.
Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.
Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.

DRI Distance Table					
Focal Length	**9 mm**	**15 mm**	**25 mm**	**35 mm**	**50 mm**
Detection Distance (Humans: 1.8×0.5m)	375 m (1230.3 ft)	625 m (2,050.5 ft)	1,042 m (3,418.6 ft)	1,456 m (4,776.9 ft)	2,083 m (9,196.2 ft)
Detection Distance (Vehicles: 4×1.4m)	1,150 m (3,773 ft)	1,917 m (6,289.3 ft)	3,194 m (10,479 ft)	4,472 m (14,672 ft)	6,389 m (20,961 ft)
Recognition Distance (Humans: 1.8×0.5m)	94 m (308.4 ft)	156 m (511.8 ft)	260 m (853 ft)	365 m (1,197.5 ft)	521 m (1,709.3 ft)
Recognition Distance (Vehicles: 4×1.4m)	288 m (944.9 ft)	479 m (1,571.5 ft)	799 m (2,621.4 ft)	1,118 m (3,668 ft)	1,597 m (5,239.5 ft)
Identification Distance (Humans: 1.8×0.5m)	47 m (154.2 ft)	78 m (255.9 ft)	130 m (426.5 ft)	182 m (597.1 ft)	260 m (853 ft)
Identification Range (Vehicles: 4×1.4m)	144 m (472.4 ft)	240 m (787.4 ft)	399 m (1,309 ft)	559 m (1,834 ft)	799 m (2,621.4 ft)

Thermal Smart Detection Range Table

Note: The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

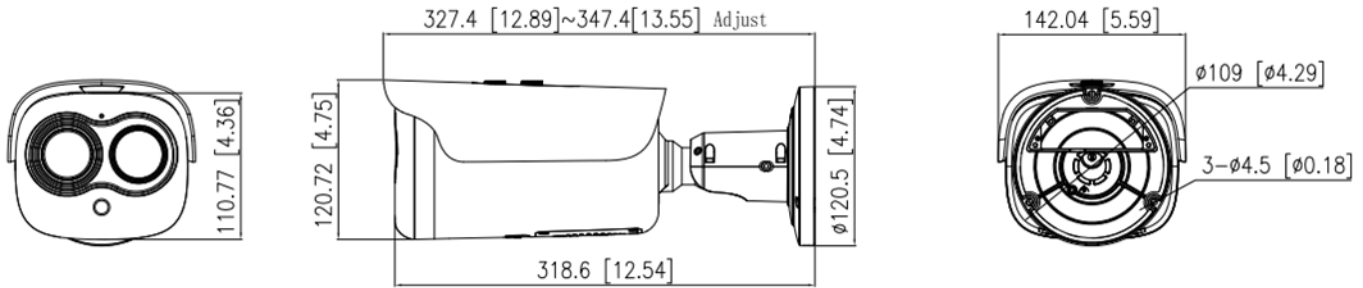| Detection Range Table					
Focal Length	**9 mm**	**15 mm**	**25 mm**	**35 mm**	**50 mm**
VCA Detection Distance (Human: 1.8 × 0.5 m)	47 m (154.2 ft)	84 m (275.6 ft)	145 m (475.7 ft)	188 m (616.8 ft)	280 m (918.6 ft)
VCA Detection Distance (Front/Rear of Vehicle: 4×1.5 m)	110 m (360.9 ft)	190 m (623.4 ft)	280 m (918.6 ft)	380 m (1,246.7 ft)	450 m (1,476.4 ft)
Temperature Measurement (Object: 1 × 1m)	150 m (492.1 ft)	250 m (820.2 ft)	417 m (1,368.1 ft)	583 m (1,912.7 ft)	833 m (2,732.9 ft)
Temperature Measurement (Object: 0.2 × 0.2m)	30 m (94.4 ft)	50 m (164 ft)	83 m (272.3 ft)	117 m (383.9 ft)	167 m (547.9 ft)
Fire Detection (Object: 1 × 1m)	375 m (1,230.3 ft)	625 m (2,050.5 ft)	1,042 m (3,418.6 ft)	1,458 m (4,783.5 ft)	2,083 m (9,196.2 ft)
Fire Detection (Object: 0.2 × 0.2m)	75 m (246.1 ft)	125 m (410.1 ft)	208 m (682.4 ft)	292 m (958 ft)	417 m (1,368.1 ft)

Visible DORI Range Table

Note: DORI (Detect, Observe, Recognize, and Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.
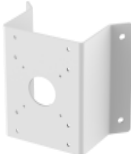
DORI Distance			
Lens	**4mm**	**6mm**	**10 to 30mm**
Detect	67.6 m (221.8 ft)	96.6 m (316.9 ft)	150 to 400 m (492.1 to 1,312.3 ft)
Observe	27 m (88.6 ft)	38.6 m (126.6 ft)	60 to 160 m (196.9 ft to 524.9 ft)
Recognize	13.5 m (44.3 ft)	19.3 m (63.3 ft)	30 to 80 m (98.4 to 262.5 ft)
Identify	6.8 m (22.3 ft)	9.7 m (118.4 ft)	15 to 40 m (49.2 to 131.2 ft)

Dimensions (mm)

327.4 [12.89]~347.4[13.55] Adjust

110.77 [4.36]

120.72 [4.75]

4.75

Ø120.5 [4.74]

4.74

318.6 [12.54]

142.04 [5.59]

Ø109 [4.29]

3-Ø4.5 [Ø0.18]

Accessories:
Optional

RSN-CBK645G Junction Box	RSN-CBK101A Pole Mount	RSN-CBK102A Corner Mount