SUNELL TPC6407 SERIES

Thermal Imaging Network Bullet Cameras (KT / KV Models)

GUIDE SPECIFICATION

Prepared in accordance with CSI MasterFormat® 2016

Division 28 – Electronic Safety and Security

Section 28 23 00 – Video Surveillance

Guide Specification – For Design and Planning Use Only

NOTE TO SPECIFIERS

This Guide Specification incorporates representative technical characteristics of the TPC6407KT-F and TPC6407KV-F models to assist Architects, Engineers, and Consultants during system design and product selection. It is not intended to serve as a contract document or compliance specification.

PART 1 – GENERAL

1.1 SUMMARY

This section provides guidance for specifying Sunell TPC6407 Series thermal imaging bullet cameras for perimeter protection, intrusion detection, fire monitoring, and thermal measurement applications.

1.2 APPLICATIONS

Typical applications include critical infrastructure protection, perimeter intrusion detection, early fire detection, industrial safety monitoring, and security surveillance in low-light or no-light environments.

PART 2 – PRODUCTS

2.1 EQUIPMENT

A. Manufacturer: Sunell International Ltd. (www.dsibenelux.nl)
B. Model: SN-TPC6407KT-F / SN-TPC6407KV-F
C. Alternates: SN-TPC6407KT-Fxx / SN-TPC6407KV-Fxx (lens dependent)

2.2 PRODUCT SERIES DESCRIPTION

A. The TPC6407 Series consists of fixed thermal imaging network bullet cameras utilizing uncooled vanadium oxide (VOx) thermal detector technology.
B. The series is designed to support perimeter security, thermal monitoring, and fire detection applications under low-visibility or no-light conditions.

2.3 MODEL VARIANTS

The TPC6407 Series is available in multiple model variants to address different application requirements:

A. TPC6407KT-F models are recommended for applications requiring temperature measurement, exception alarms, and early fire detection.
B. TPC6407KV-F models are recommended for general perimeter protection and thermal security monitoring where temperature measurement accuracy is not a primary requirement.

2.4 FUNCTIONAL OVERVIEW

A. Video Compression and Transmission

The camera shall support industry-standard video compression suitable for IP video surveillance systems. The camera shall support multiple simultaneous IP video streams with configurable encoding, resolution, frame rate, and bit rate parameters.

The camera shall support up to ten (10) independent video streams per channel. Maximum video resolution shall be 1280 × 720 pixels. The camera shall support frame rates up to 25 frames per second, depending on the selected resolution and configuration.

B. Intelligent Analytics

The camera shall support intelligent analytics functions. Analytics capabilities shall include intrusion detection, smart motion detection, single-line and double-line crossing, loitering, wrong-way detection,

and region-based enter and leave area detection.

The camera shall support classification of detected objects, including person and vehicle targets. People counting, smoking detection, and fire spot detection functions shall be supported where enabled by the selected model and configuration.

C. Visualization and Storage

The camera shall support multiple thermal color palettes to assist visual interpretation of thermal images.

The camera shall support onboard SD card storage with a capacity of up to 1 TB for local event recording.

2.5 REPRESENTATIVE TECHNICAL CHARACTERISTICS

2.5.1 THERMAL IMAGING PERFORMANCE (GUIDE)

A. Thermal detector: Uncooled vanadium oxide (VOx) thermal focal plane array with 12 µm pixel pitch
B. Spectral range: 8 µm to 14 µm
C. Thermal sensitivity (NETD): ≤ 20 mK
D. Available fixed thermal lenses: 9 mm, 15 mm, 25 mm, 35 mm, and 50 mm

2.5.2 Intelligent analytics

A. Intelligent analytics functions include intrusion detection, smart motion detection, single-line and double-line crossing, loitering, wrong-way detection, enter area, and leave area detection.
B. Classified object types are Person and Vehicle.
C. People counting, smoking detection, and fire spot detection functions are supported.

2.5.3 TEMPERATURE MONITORING CHARACTERISTICS

A. TPC6407KT-F models support temperature measurement using spot, line, and area rules with typical temperature measurement accuracy of approximately ±2 °C / ±2 %. Depending on configuration, temperature monitoring ranges may extend from –20 °C to 150 °C (–4 °F to 302 °F) or from 0 °C to 550 °C (32 °F to 1022 °F) for specific applications.
B. TPC6407KV-F models support temperature monitoring with typical accuracy of ±8 °C and a range -20°C to 150°C (-4°F to 302°F).

2.5.4 NETWORK AND SYSTEM INTEGRATION

A. Network interface: 10/100 Mbps Ethernet
B. Supported protocols: IPv4/IPv6, HTTP/HTTPS, RTSP, TCP/UDP
C. Interoperability: ONVIF Profiles S, T, G, and M

D. Edge storage support via built-in SD card slot

2.5.5 MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

A. Outdoor-rated metal housing

B. Ingress protection: IP66

C. Impact resistance: IK10

D. Operating temperature range: –40°C to 60°C (–40°F to 140°F)

E. Power options: 12 VDC / 24 VAC / PoE (802.3af)

PART 3 – EXECUTION

3.1 INSTALLATION CONSIDERATIONS

Camera placement, mounting height, and lens selection should be evaluated during the design phase to achieve desired detection and coverage performance.

3.2 SYSTEM INTEGRATION

TPC6407 Series cameras are intended for integration with IP-based video management systems supporting open interoperability standards.

END OF GUIDE SPECIFICATION