CELLA-256D

Confined-Space Dual-Spectrum Thermal Monitoring Camera

Overview

A compact dual-spectrum monitoring camera purpose-built for confined spaces. The 256×192, 12 µm LWIR channel with a 90°×64.2° wide field of view and 0.1 m minimum imaging distance sees inside electrical cabinets, cable mezzanines and battery racks where conventional cameras cannot focus, while the 2688×1520 visible channel with white-light illumination adds scene detail. PoE or DC 12 V power, IP67 protection and magnetic in-cabinet mounting make deployment inside energized enclosures practical.



256×192	2688×1520	±2 °C / ±2%	0.1 m
THERMAL	VISIBLE	TEMP. ACCURACY	MIN. FOCUS

Key Features

Built for confined spaces

- 0.1 m minimum imaging distance and a 90°×64.2° wide field of view cover switchgear interiors, cable interlayers and battery racks at close range.
- Compact 111.2×56×38.9 mm aluminum body at 335 g installs where full-size cameras cannot fit.
- Magnetic in-cabinet mounting plus wall and ceiling brackets; IP67-rated for harsh industrial environments.

Accurate radiometry

- Measurement accuracy ±2 °C or ±2% of reading (whichever is greater) across −20~150 °C or 0~550 °C ranges.
- Up to 10 point, 10 area and 1 line measurement rules with real-time alarm linkage.
- Supports self-trained custom AI thermometry models imported for non-contact precision measurement of specific targets.

Dual-spectrum fusion

- Thermal channel fuses visible-image detail for sharper thermal scenes; fusion blend ratio continuously adjustable from 0–100%.
- 16 palettes including white-hot, black-hot, iron-red and rainbow for fast hotspot identification.
- White-light supplementary illumination up to 3.5 m keeps the visible channel usable inside dark enclosures.

Typical Applications

Electrical Cabinet Monitoring

Cable Mezzanine & Trench

Battery Energy Storage

Confined-Space Fire Prevention

Technical Specifications

Thermal Imaging

Sensor type	Vanadium oxide uncooled FPA
Resolution	256×192
Pixel pitch	12 μm
Spectral range	8–14 μm
Frame rate	25 fps
Thermal sensitivity	NETD < 40 mK (@30 °C, F1.0)
Lens	2.1 mm, F1.0
Field of view	90°×64.2°
Spatial resolution	5.7 mrad
Min. imaging distance	0.1 m
Max. measurement distance	3 m (0.1×0.1 m target)
Palettes	16 (white-hot, black-hot, iron-red, rainbow, ice-fire, etc.)

Visible Imaging

Sensor type	1/5″ CMOS
Resolution	2688×1520
Field of view	96.9°×77.2°
Lens	1.4 mm, F2.2
Min. illumination	0.06 Lux (color)
Supplementary light	White light, up to 3.5 m
SNR	40.3 dB

Temperature Measurement

Measurement range	−20~150 °C or 0~550 °C
Measurement accuracy	±2 °C or ±2% of reading (whichever is greater)
Measurement rules	10 points, 10 areas, 1 line
AI thermometry	Custom-trained infrared measurement model import for target-specific precision measurement

Image & Video

Dual-spectrum fusion	Thermal fused with visible detail; blend ratio adjustable 0–100%
Information overlay	10 point / 10 area / 1 line temperature readouts
Video compression	H.265 / H.264
Concurrent preview	Up to 20 channels

Interfaces & Network

Network port	1× RJ45, 10/100/1000 M adaptive Ethernet
Network protocols	IPv4/IPv6, HTTP/HTTPS, 802.1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP/RTCP/RTP, TCP/UDP, IGMP, ICMP, DHCP
Programming interface	ONVIF; SDK (16/32-bit) with 256×192 radiometric data output
RS485	1 channel, MODBUS protocol
Alarm I/O	1 input (DC 0–3.3 V), 1 relay output
Client	Web browser / VMS client
Menu language	English / Chinese

Power & Physical

Power supply	DC 12 V or PoE (802.3af); 12 V adapter included
Power consumption	4 W typical, 5 W max
Operating conditions	−40 ~ +70 °C, <90% RH (accurate thermometry −20 ~ +60 °C)
Storage conditions	−40 ~ +70 °C, <95% RH
Protection rating	IP67
Housing	Aluminum alloy
Dimensions	111.2×56×38.9 mm (L×W×H)
Weight	335 g (455 g with pigtail)
Mounting	Back plate + bracket; in-cabinet magnetic, wall or ceiling mount
Accessories	Universal ball-joint bracket / wall-mount bracket (optional)

Specifications subject to change without notice. Values are based on the manufacturer's technical documentation; mounting accessories and cable options may be configured per project.

Rev. 1.0 · September 2026