

CLIP-ON THERMAL IMAGER · COTI

COTI-29 Pro Night Vision Thermal Fusion Attachment

Adds a thermal imaging channel to existing image-intensifier night vision devices — detect heat sources in total darkness, smoke and light concealment while retaining the target identification strengths of low-light vision.

640×512 Uncooled VOx detector · 12µm	35°×30° Thermal overlay FOV (wider than COTI-29A)	700 m+ Detection range (275 m recognition)	~65 g Device weight (~80 g with battery)
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Overview

The **COTI-29 Pro** is a **Clip-On Thermal Imager (COTI)** that attaches directly to the objective lens of night vision devices such as the PVS-14, DTNVS, RNVG, BNVD-1431 and PVS-31A via a quick-release clamping ring. It overlays a thermal image onto the existing night-vision picture — **no calibration required, install and use instantly** — without modifying the host device.

Compared with the previous-generation COTI-29A, the thermal overlay field of view is widened from 30° to **35°**, and the unit adds an **electronic compass** and **2.4G Bluetooth remote control** (optional GPS via remote cable), an upgraded imaging algorithm, a reinforced clamping ring and lens bezel, and a lighter housing of approx. 65 g. In total darkness, dust, fog and partially concealed scenes, the operator retains low-light observation while rapidly spotting heat-signature targets.

Gallery

COTI-29 Pro Current model



Device

Metal housing · reinforced structure



Accessories

Remote · ring mount · adapter



Mounted

Attached to NVD objective lens

COTI-29A Previous model



Device

Metal housing · quick-release ring



Mounted Binocular NVG with thermal fusion



Full Kit

Waterproof case · charger

Key Features

◆ 640×512 High-Resolution Core

Uncooled VOx detector, 12μm pixel pitch, F/1.0 optics. Human detection beyond 700 m; recognition at 275 m (target 1.7 m×0.5 m, P(n)=99%).

◆ 35° Wide Thermal Overlay

Covers nearly 90% of a 40° NVD field of view — significantly wider than the previous 30.5° — suited to close-quarters and highly dynamic scenarios.

◆ Ultra-Light • Helmet Friendly

Approx. 65 g without battery (80 g with battery), metal housing — minimal impact on helmet balance and long-duration wear.

◆ Three Display Modes

Highlight / Outline / Breath fusion modes with adjustable detection thresholds — switch between alert-style cueing and detail observation per mission.

◆ Compass + Bluetooth Remote

Built-in electronic compass for situational awareness; 2.4G Bluetooth remote for hands-free adjustment; optional GPS via remote cable. Brightness/contrast settings are remembered.

◆ No-Calibration Quick Mount

Quick-release ring clamp, ready to use without boresighting; auto-brightness, auto standby and auto shutdown. Approx. 3 h per CR123A (10 h with battery pack).

Fusion Display Modes



Highlight

Thermal spots overlaid as bright cues for rapid alerting and patrol search



Outline

Thermal edges outlined to preserve low-light detail — identification and observation combined



Breath

Pulsing thermal display makes weak-signature targets stand out — covert reconnaissance

Specifications • COTI-29 Pro

Detector Type	Uncooled VOx infrared detector
Detector Resolution	640 × 512
Pixel Pitch	12 μm
Lens Aperture	F / 1.0
Magnification	1×
Field of View (H×V)	35° × 30°
Display Modes	Highlight / Outline / Breath
Detection Range	700 m+ (human recognition 275 m, target 1.7 m×0.5 m, P(n)=99%)
Minimum Fusion Distance	10 m
Automatic Control	Auto-brightness / auto standby / auto shutdown / settings memory
Electronic Compass	Built-in (azimuth display)
GPS	Optional, via remote cable
Remote Control	2.4G Bluetooth remote
Power	1 × CR123A (approx. 3 h at 22°C) / optional external battery pack (approx. 10 h)
Operating Temperature	-40°C to +60°C
Ingress Protection	IP67 waterproof and dustproof
Weight	Approx. 65 g (without battery) / 80 g (with battery)
Dimensions	86 (L) × 65 (W) × 40 (H) mm
Compatibility	PVS-14 pattern optics (RNVG / DTNVS / 1431 / Nocturn etc.); L3Harris BNVD (PVS-31A, GPNVG) requires a separate adapter
Construction	Aluminum alloy + polymer composite; reinforced clamping ring and lens bezel

COTI-29 Pro vs COTI-29A Comparison

The previous-generation COTI-29A (640×512) serves as the comparison baseline.

Parameter	COTI-29 Pro (current)	COTI-29A (previous)
Detector	640×512 · 12μm · uncooled VOx	640×512 · 12μm · uncooled VOx (identical)
Thermal Overlay FOV	35° × 30° (wider)	30.5°
Display Modes	Highlight / Outline / Breath (new pulsing mode)	White Hot / Highlight / Outline
Electronic Compass	Built-in	None
GPS	Optional (remote cable)	None
Bluetooth Remote	2.4G Bluetooth remote (included)	None (on-device buttons)
Imaging Algorithm	Upgraded image processing	Previous-generation algorithm
Mount / Structure	Reinforced clamping ring and lens bezel	Standard clamping ring
Power	1 × CR123A (approx. 3 h) / battery pack (approx. 10 h)	17335 / 18650 Li-ion
Weight	~65 g (w/o battery) / 80 g (with battery)	78 g (w/o battery) / 110 g (with battery)
Detection Range	700 m+ (recognition 275 m)	Same class (series-rated figures)
Min. Fusion Distance	10 m	Series-rated figure
Protection / Temperature	IP67 · -40°C to +60°C	IP67 · -40°C to +60°C
Video / Data Interface	Power / Bluetooth remote / GPS cable	External power / analog video (PAL) / RS232
Key Upgrades	FOV 30.5°→35° · new compass / GPS / Bluetooth remote · approx. 13 g lighter (w/o battery) · fully upgraded algorithm and structural parts — apart from the retained video data interface, the current model improves on situational assistance and wearability across the board	

Applications

Night Ops / Entry Target cueing in darkness and smoke	Recon & Surveillance Light-concealment thermal detection and orientation	Law Enforcement Thermal cueing for night search and apprehension	Search & Rescue Missing-person searches; industrial night inspection
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In the Box

COTI-29 Pro Device With protective case	Bluetooth Remote 2.4G	Clamping Ring Mount Adjustable quick-release	CR123A Battery Cap Batteries not included
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This datasheet is for selection reference only; actual parameters subject to the product and its manual

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE