



The New Height of Off-Grid Security

Off-Grid Deployment Platform for Thermal Radar™ & Hydra™

Take Thermal Radar™ security where conventional power infrastructure can't easily go. Our vertical solar tower platform combines solar generation, energy storage and elevated equipment mounting in a single compact structure, providing a purpose-built, off-grid deployment option for Thermal Radar and Hydra.

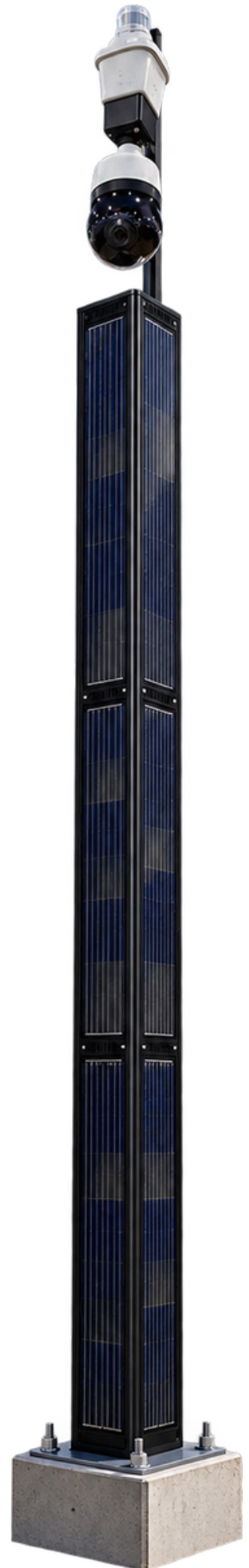
With solar photovoltaic cells integrated vertically into all four sides of the structure, the platform eliminates the large footprint typically associated with ground-mounted solar arrays while providing mounting heights of up to 25 feet.

Elevated Security. Integrated Solar. No Grid Required.



**THERMAL
RADAR™**
Visionary Thermal Detection

SOLAR SENTRY TOWER





Wide-Area Detection. Anywhere.

The Solar Sentry Tower brings together off-grid power, elevated deployment, and Thermal Radar's wide-area detection technology in one integrated solution.

By eliminating the need to extend utility power to the deployment location, Thermal Radar™ can be positioned based on security requirements, not simply where power happens to be available. The compact vertical design also reduces the space required for solar generation, opening new possibilities for remote, expansive, and infrastructure-constrained sites.

From the perimeter to critical assets within it, Solar Sentry Tower provides a new way to deploy 24/7 Thermal Radar security powered by the sun.

Where Risk Demands Security, Go Beyond the Grid.

Solar Sentry Tower expands where Thermal Radar™ can be deployed by combining vertical solar generation, integrated energy storage, and elevated wide-area security in a single purpose-built platform.

**No utility extension. No sprawling solar array.
A new level of deployment flexibility.**



SOLAR SENTRY TOWER

BUILT TO TAKE THERMAL RADAR™ OFF-GRID

Thermal Radar's new vertical solar deployment platform brings together wide-area thermal security and integrated renewable power in one purpose-built system. It provides the power, elevation, and infrastructure needed to extend security into locations where traditional powered installations may be difficult, disruptive or costly.

MORE HEIGHT. LESS FOOTPRINT.

Instead of adding a large ground-mounted solar array to power the security system, the approximately 12" x 12" structure becomes the solar collection surface itself. Solar photovoltaic cells are positioned vertically around the pole, creating a compact source of renewable energy while elevating Thermal Radar™ or Hydra up to 25 feet above the site.

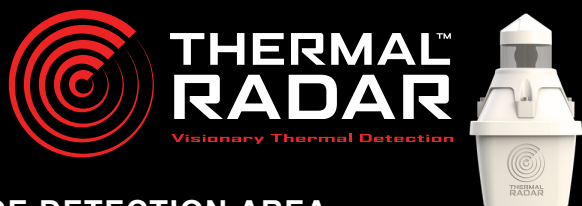
OFF-GRID BY DESIGN

Every deployment is engineered around the power requirements of the installed Thermal Radar™ or Hydra system, the geographic location and available sunlight. Solar photovoltaic cells integrated into the structure generate power throughout the day, while an internal LiFePO4 energy-storage system keeps the security system operating when sunlight is unavailable.

ENGINEERED FOR CONTINUOUS SECURITY

Thermal Radar™ doesn't stop when the sun goes down, and neither does its power source. Each system is designed around local winter sunlight conditions and the operating requirements of the installed technology to support reliable, year-round off-grid performance. Integrated battery storage can provide up to 5 days of backup during severe weather (site conditions based).

ONE PLATFORM. TWO THERMAL RADAR CONFIGURATIONS.



LARGE DETECTION AREA:

Unlike an active radar system that emits radio waves, Thermal Radar™ is a passive solution that can detect intruders and fires (optional) in a continuous 360° perimeter, up to 200 acres.

POWERFUL ONBOARD VIDEO ANALYTICS:

Simple, easy-to-use, edge-based analytics allow users to quickly identify intrusions over the entire 360° field of view. The "quick setup" feature provides perimeter protection within just a few minutes of deployment.

GUI & FLEXIBLE ALERT PLATFORM:

An intuitive, graphical user interface (GUI) affords end-users multiple options to customize each deployment environment. Thermal Radar creates a 360° view of a site and generates alerts/alarms through most major VMS platforms. Alerting functionality via text, email, or the VMS mobile application.



PTZ INTEGRATION:

Thermal Radar™ integrates with leading PTZ camera manufacturers.

DETECTION AND TARGETED SURVEILLANCE:

Combines the unparalleled detection capabilities of Thermal Radar™ with a laser-illuminated and/or infrared-capable Pan-Tilt-Zoom (PTZ) camera. The addition of the PTZ adds visual color verification of the threat.

SMART SURVEILLANCE:

Thermal Radar detects short- and long-range threats before, at, and within a perimeter. It then sends slew-to-cue commands to the PTZ for immediate optical confirmation and intelligence of the intruding target.



Why **Vertical** Solar Surveillance?

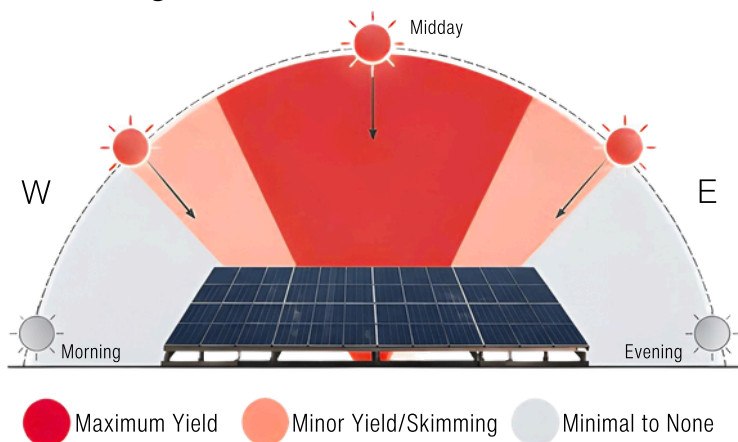
Solar Sentry Tower's vertical, four-sided design overcomes the limitations of traditional solar panels. By capturing sunlight from multiple directions throughout the day, it generates more consistent power, giving you reliable off-grid energy for 24/7 Thermal Radar™ operation.

The result is greater deployment flexibility and a compact, self-sustaining power source without the footprint, trenching, or utility approvals required by traditional solar.



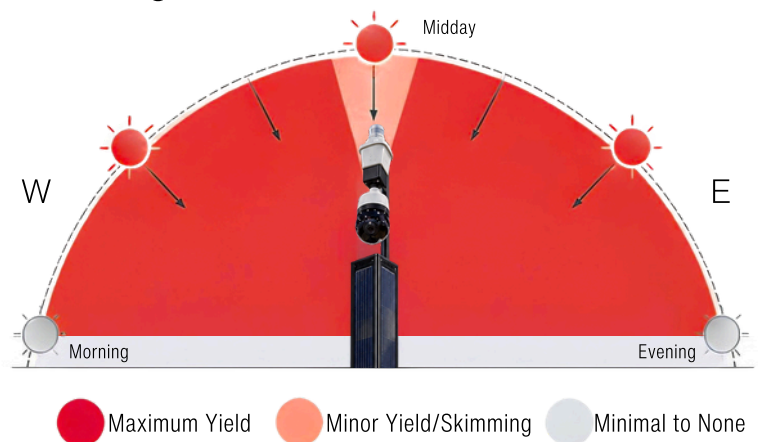
CONVENTIONAL SOLAR

Sunlight Yield



SOLAR SENTRY TOWER

Sunlight Yield



360° SOLAR GENERATION

Four-sided solar panels capture sunlight from multiple directions throughout the day.



COMPACT, INTEGRATED DESIGN

Solar generation, energy storage, and equipment mounting are built into a single, streamlined structure.



OPTIMIZED FOR WINTER

Vertical panels maximize solar collection when the sun is at its lowest in the sky, ensuring reliable year-round performance.



REDUCED WIND PROFILE

The vertical design significantly reduces wind drag compared to large, elevated flat-panel arrays.



LESS EXPOSURE TO DEBRIS

Vertical panels limit bird droppings and nesting, helping to maintain consistent energy generation.

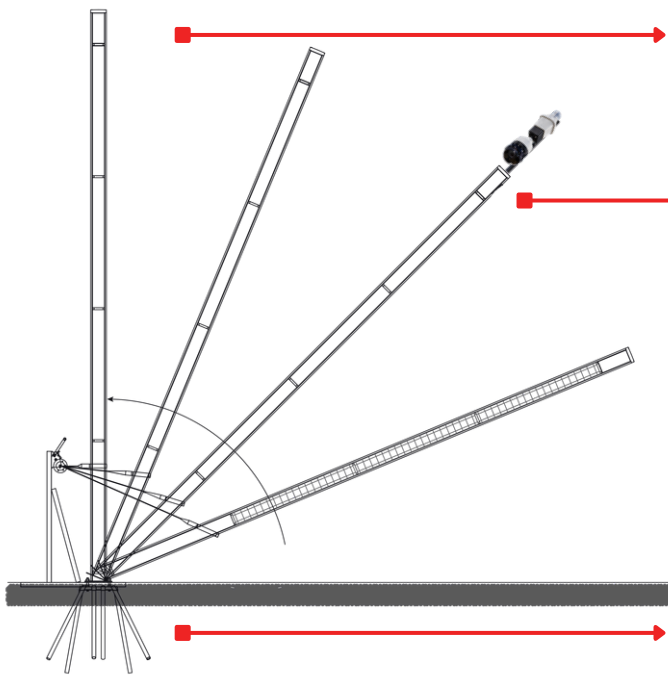


PURPOSE-BUILT FOR TECHNOLOGY

Engineered to meet the energy requirements of Thermal Radar™ or Hydra™, providing a reliable off-grid power source for continuous wide-area security.

Installed in Minutes

The Solar Sentry Tower can be installed using just a two-person team in under 60 minutes, so there's no need for a crane, heavy machinery, excavation, or disruption to underground utilities.



3

Winch pole into position with ease using the powered winch system and power drill. Bolt to base plate.

2

Attach Thermal Radar[™] to pole and pole hinged base attached to base plate.

1

Concrete free foundation base is jackhammered into ground using micropiles. Base plate attached.

Built to Last

The Solar Sentry Tower's glassless solar modules and vertical design make it durable, rugged, and vandal-resistant. Graffiti wipes off easily, panels will never shatter, and the glassless solar design is flame resistant.





Technical Specifications - Tower

GENERAL	
Energy Source	Solar Power
Operating Temperature	-20°F to +140°F*
Height	20ft - 25ft Nominal
Warranty	8 Years Limited Tower
System Voltage	12V _{DC} option for 3.5m systems, 24V _{DC} as standard
System Design Life	>15 years
POLE	
Material	Industrial grade aluminum
Coating	2-Step architectural anodize
Process	Extruded
Cross Sectional Dimensions (pole)	12in x 12in Nom.
Cross Sectional Dimensions (base)	21in x 21in Nom.
Estimated Life	~30 years
Foundation Options	Concrete-free foundation option available - <i>System also compatible with pad, pier, plinth concrete foundations.</i>
Color	Black - Other colors available - <i>MOQ and additional lead times apply.</i>
CONTROL BOX	
Control System	Maximum power point tracking (MPPT) - <i>Dual function/runtime option available.</i>
Voltage	12V _{DC} or 24V _{DC} dependent on system design - <i>Can be boosted to 36V, 48V etc. with required sourced accessories.</i>
Material	Powdercoated, galvanized sheet metal.
Terminal	12-18 gauge field terminal connections - <i>With lever blade disconnect & fuses in control box/inside top of pole.</i>
Remote Access	System diagnostic app available via Bluetooth - <i>Remote monitoring upgrade option available.</i>
ENERGY STORAGE SYSTEM	
Battery Type	Lithium Iron Phosphate LiFePO ₄
Battery Management	Proprietary battery management system
Combination Mode of Battery	8S (24V class) — parallel configuration proprietary
Battery Case Size	9.80 x 9.80 x 16.77 in (249 x 249 x 426mm) - <i>Excluding connectors and handles</i>
Battery Backup	5 days severe inclement weather - <i>Based on winter sun hours for location.</i>
Battery Voltage	Nominal 25.6V _{DC} (15ft+ systems)
Battery Insulation	Insulation protection
Battery Replacement	>8 years
System Weight	approx. 75 lbs (34 kg)
Case Material	Black industrial grade plastic
Operating Temperature	-4°F to +131°F (-20°C to 55°C)
Operating Humidity	5% to 99%
Operating Altitude	-1,312 to +13,123 ft (-400 to +4,000m)
Ingress Protection	IP67
Storage	Clean, dry space, store in dormant state
Nominal Capacity	135Ah
Nominal Energy	3,456Wh
Normal Operating Voltage	20V ~ 29.2V DC
Charging/Discharge Current	≤50A
Warranty	5 years limited*
SOLAR PANEL	
Technology	Monocrystalline solar photovoltaic cells
Encapsulant	Shatterproof glassless polymer
Power Output	Up to 1500W based on size and location
Connection	Waterproof 30A connection system
Life Expectancy	>10 years
DESIGN AND SERVICE	
Solar System Design	Designed for middle of winter conditions for geolocation
Base and Installation	Fixed stainless steel base, pole requires craning in position
Payload Installation	Mounting accessories available
Customization	Branded infill available - Sold separately, MOQ applies.

Technical Specifications - Thermal Radar™

	3-Series	6-Series
THERMAL IMAGER		
Type	Uncooled VOx Microbolometer	Uncooled VOx Microbolometer
Frame Rate	9Hz/60Hz	9Hz/60Hz
FPA Resolution	320	640
Image Bit Depth	2.3 - 16 bit thermal infrared	2.3 - 16 bit thermal infrared
Lens Focal Length	2.3mm -13.8mm	8.7mm - 24mm
Configuration	White hot or black hot configurable	White hot or black hot configurable
SPEED AND FIELD-OF-VIEW		
Rotation Speed	Between 15 and 60 RPM	Between 15 and 60 RPM
Image HFOV	360°	360°
Image VFOV	19° - 40°	14° - 39°
POWER REQUIREMENTS		
Input Power	IEEE PoE+ (802.3at) – LTPoE++ (90W)	IEEE PoE+ (802.3at) – LTPoE++ (90W)
Input Connection	RJ 45	RJ 45
Power Consumption	Less than 20 watts	Less than 20 watts
PROCESSOR AND ANALYTICS		
Processor	Quad Core 64-bit	Quad Core 64-bit
Memory	4GB Ram (Upgrade Available)	4GB Ram (Upgrade Available)
Embedded Analytics	Intrusion (Security) & Fire Detection	Intrusion (Security) & Fire Detection
Available Analytics	Optional Advanced AI-Powered Analytics for Enhanced Classification and Deeper Data Insights	
Detection Zones	Configurable areas of interest, exclusions, motion filters, skip stations, and priority zones	
COMMUNICATION/NETWORK SECURITY		
Ethernet	Autoswitch 100 Mbps–1 Gbps	Autoswitch 100 Mbps–1 Gbps
Network Security	HTTPS & TLS with password protection	HTTPS & TLS with password protection
ENVIRONMENTAL		
Operating Temperature Range	-35° to + 60° C (Up to 75° C Available)	-35° to + 60° C (Up to 75° C Available)
Storage Temperature Range	-35° to + 85° C	-35° to + 85° C
Protection Standard	IP67	IP67
PHYSICAL		
Dimensions	5.75" (W) X 7.075" (H) (146 mm X 197mm)	5.75" (W) X 7.075" (H) (146 mm X 197mm)
Weight	<7 lbs. (3 Kilos)	<7 lbs. (3 Kilos)
GENERAL		
PTZ Integration	PTZ Slew-to-Cue commands upon detection	PTZ Slew-to-Cue commands upon detection
VMS Integration	ONVIF compliant RTSP stream, alerts	ONVIF compliant RTSP stream, alerts
Warranty	2 Years	2 Years
RTSP VIDEO OUT		
Video Compression & Streaming	H.264	H.264
Resolution	Panoramic Stream Resolution 1080p	Panoramic Stream Resolution 1080p
Thermal Frame Rate	4 - 30 FPS	4 - 30 FPS

