

*Collision Avoidance and
Proximity Detection Systems*



Camera Systems, Lighting & Alarms

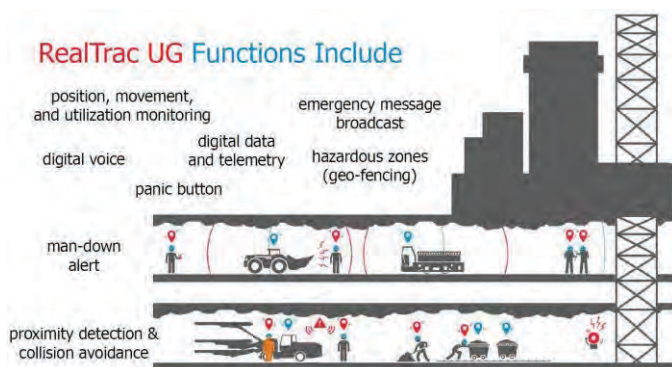
SAFETY & REMOTE VIDEO SYSTEMS FOR MINING EQUIPMENT & OPERATIONS

sales@provix.net • www.PROVIX.net • (888) 434-0253



Provox RealTrac CAS Proximity & Asset Tracking

Although mine worker fatalities have trended downward during the past 20 years across North America, collisions continue to pose a significant threat to the safety of personnel in mines. Ensuring worker safety near machines is a challenging problem and, in many cases, it is an industry-accepted practice to allow workers near moving machinery in order to perform their jobs. Proximity-monitoring and detection solutions have been proven to significantly limit these risks.



The Provox RealTrac Proximity detection and CAS system provides positioning, localization, alert notification, and tracking of people, equipment and other objects in underground and in surface mining operations. In addition, the RealTrac system is scalable to provide voice communication and data transmission between monitored objects as well as between system managers. Complete back and front office application software, site mapping, and AI and IOT functionality is fully enabled. Implemented at underground mines, open pits and industrial sites; RealTrac uses UWB Ultra-Wide band and UHF technology to provide positioning accuracy to within ten centimetres. Two-way tag communication enables operator awareness and pedestrian notification of equipment proximity.

The Benefits of RealTrac Collision Avoidance

- Long range – typically 50 to 100 metres and not line-of-sight dependent
- 360 degrees of protection at any visibility
- Dynamic safety zones, fully mine configurable
- Intelligent warnings, operator friendly
- Intelligent warnings, operator friendly
- Two-way warnings to pedestrians and operators
- Includes black box recording
- A part of an overall, consistent CAS/Monitoring/IoT system - Vehicle-to-Vehicle (V2V) and Vehicle-to-Person (V2P)

The Safety Zone Concept

1. IMPROVE SAFETY:

Staff Monitoring – Always Know Where Staff and Equipment is Located:

- Know location for urgency or emergency; and
- Assure correct evacuation.

Collision Avoidance- Proximity Detection and Collision Avoidance:

- Vehicle-to-Person (V2P) and Vehicle-to-Vehicle (V2V) protection;
- Operator alert for proximity and danger; and
- Equipment Slow-Down or stop in case of emergency

Victim Localization Provides a More Efficient Victim Search:

- Last known position; and
- Tag signal search assistance.

2. INCREASE EFFICIENCY:

- Equipment utilization Key Performance Indicators (KPI);
- Traffic management;
- Equipment remote control; and
- Time reduction to locate assets and equipment.

3. REALTRAC'S PROVEN RESULTS:

- Implemented at more than 50 sites (both Underground and Surface);
- Over 7,000 Tags in operation; and
- Ten-Year Operational History.

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Shut Down Rotating Equipment Automatically when Personnel are too close!



- ✓ Automatically shut down rotating equipment when personnel are too close
- ✓ Detection and shutdown zones can be configured to the specific application
- ✓ Personnel tags vibrate and light up when approaching equipment.
- ✓ Enhance site safety and efficiency
- ✓ Install on mining jumbos, bolters, hole drill rigs, and other large rotating, operating equipment
- ✓ Can be implemented on surface and underground



Contact PROVIX to discuss implementation of our Equipment Shutdown Solution + Collision Avoidance Systems for any application!

HEAVY VEHICLE COLLISION AVOIDANCE SYSTEM

Overview:

The Provix Collision Avoidance System (CAS) utilizes the latest Ultra Wide Band (UWB) technology for detection of personnel, vehicles and equipment.

UWB operates at the speed of light to instantly alert equipment operators and pedestrian personnel to an imminent Collision. If the operator does not react, the CAS can disconnect the throttle and apply brakes to stop forward or reverse movement. UWB is also very precise as to identifying the location of vehicle or personnel tags.

The UWB technology is capable of significantly reducing the risk of vehicle to vehicle collision (V2V), and vehicle to pedestrian collision (V2P). The system creates an invisible barrier to actively detect vehicles and/or pedestrians that are present in hazardous areas that could result in collision. This system is equipped with both audible and visual warning signals, and an adjustable caution range of 0.1m - 100m to ensure it meets the needs of operations of various sizes.

The PROVIX CAS system consists of 3 main components that are very simple to deploy:



Vehicle Detection Anchor: Ideal for deployment on Heavy Equipment and larger vehicles. The vehicle anchor will detect any approaching equipment, vehicles and pedestrians equipped with a tag or siren. It can activate audible and visual warnings for equipment operators, nearby pedestrians and other vehicles and equipment.

Helmet Tag: To be worn by pedestrians. The tags will vibrate and emit an audible tone to warn the pedestrian when CAS outfitted equipment and vehicles are nearby. Audible and visual alarms will sound on the equipment or vehicle when a personnel tag or other equipment or vehicles are detected.

Vehicle Tag: Permanent for company vehicle and equipment. Temporary magnetic tag for contractor vehicles.

CAS VEHICLE COMPONENTS



PRX-DMK-ANCHOR-R



Vehicle Anchor with Relay for PRX-DMK Series

- I/O power ports
- Supplied with top mount antenna
- Detection anchor module
- Vehicle Tag

PRX-DMK-BEACON



Red Strobe Light Beacon for PRX-DMK Series

- May be used for distance programming or engagement indicator
- Mounted with attached 65LB magnet
- External warning device

PRX-DMK-TAG-MAGMNT

Deployable Magnet Mount Tag and Temporary Contractor Tag



PRX-FLK-TAG-HELMET

Personnel Tag, Helmet Side Mount

- Personnel to Vehicle Helmet Side Mount
- Tag Internal Li-Ion rechargeable battery



PRX-FLK-TAG-BRIM

Personnel Tag, Helmet Brim Mount

- Personnel to Vehicle Helmet Mount Tag
- Internal Li-ion rechargeable battery



PRX-FLK-TAG-WRIST

Personnel Tag, Wrist Mount

- Personnel to Vehicle Wrist Mount Tag
- Internal Li-ion rechargeable battery

PRX-FLK-TAG-CHG10

10 Place Tag Charge Station



PRX-FLK-TAG-CHECK

Personnel Tag Check Station

- Personnel Tag Test Beacon to validate tag operation prior to use.
- 12 VDC input with 120 VAC power supply.

IN-CAB ALERT

Flashing Red Light with Audible Alarm





Industry Canada Approved Wireless

PRX-7M2.4SFMS1

Wireless Set, 1x heated cam/guard, 7" LCD, rx/tx (IC-CAN, 2.4ghz FHSS), 10ah Battery

7 inch Waterproof Wireless Monitor
 2.4 GHz FHSS
 720p/1080p HD, 4 Channel Capacity
 250 Meter Maximum Range
 10 Ah Li-ion Battery in Case
 6.5 hour Runtime
 2.5 hour Charge Time

Resin Case
 12 x 9 x 5.7 in L x W x H

Wireless Camera, 2.4 Hz FHSS
 720p HD, 130 degree view angle
 IP69K Waterproof Rating
 250 Meter Maximum Range

1-4 Cameras

Split Screen Quad Monitor

Fully Portable



PRX-RTI-SLOW-STOP

Brake/Throttle/Horn Interface



OVERRIDE 30 Seconds



Proviz/Spec Interface

- horn operation
- throttle control
- brake control

Yellow Warning Zone = Reduce throttle by x %, sound horn, activate strobe light

Red Emergency Zone = disconnect throttle, apply brakes, stop vehicle

Surface

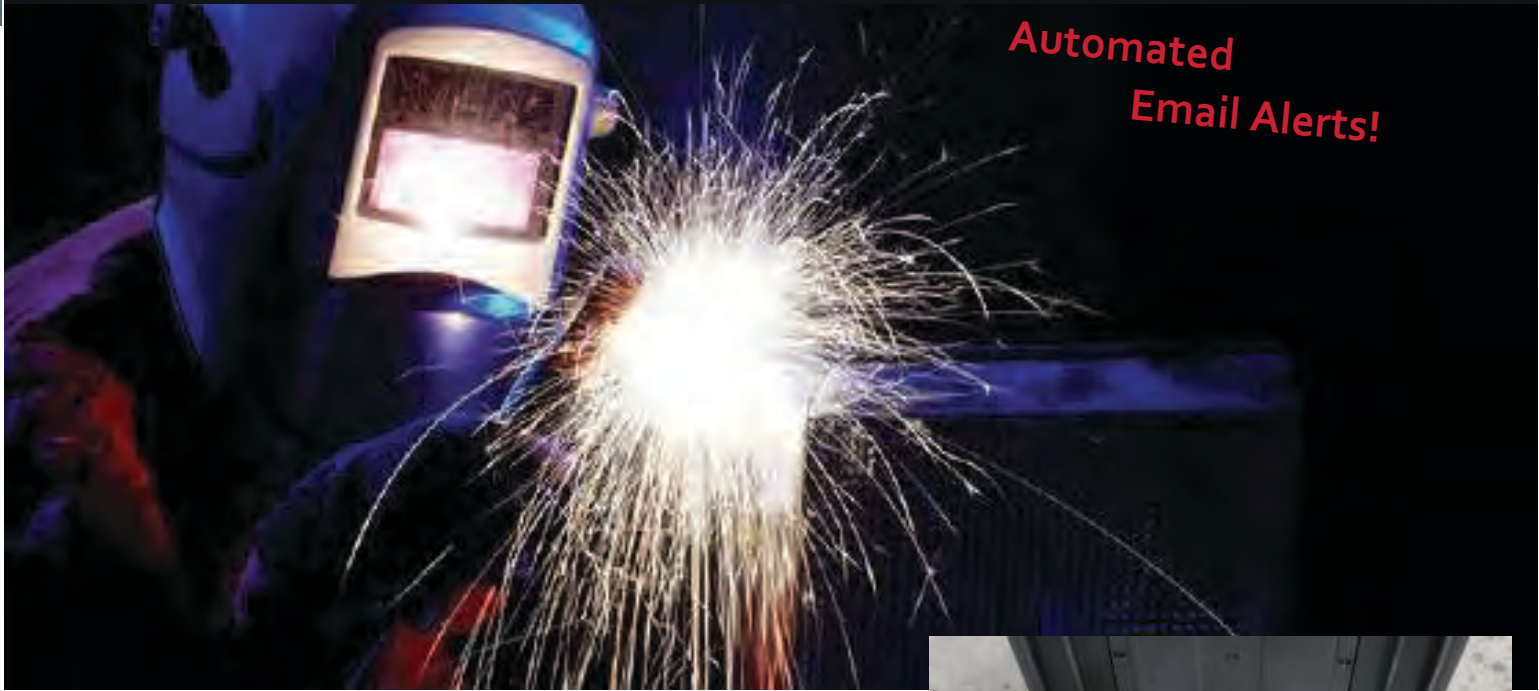


Underground





FireWatch and Temperature Monitoring System



FireWatch is a portable battery powered system that is used to monitor hot-work areas for any early signs of fire. This is done through a thermal imaging camera that is specifically designed for Heat (elevated temperature) and Fire Detection.



When excessive heat or flare-ups are detected by the thermal camera, the internal FireWatch alarms will go off. The alarms include a flashing white light, 80 dB beeping alarm, and an audible message declaring the presence of an abnormal temperature in the area. Email notifications can also be sent to maintenance and security as needed.



The camera system has integrated wireless connectivity to enable monitoring in "live view" and "live recording" from a computer or device with network connectivity.



With both thermal imaging and conventional video, confirmation of the nature of the alert notification allows for the appropriate level of response to be dispatched if fire flare up occurs.



No reason to leave a person on FireWatch when a thermal camera can do the job for you....
Constant monitoring with Instant notification allows for safer operations and reduced operating costs.



The fully self contained system has automated operation and packs down into a portable hard case that provides for quick and easy setup with 6Ah batteries for remote operation.



The FireWatch systems have a 256 GB internal storage that will automatically store the high resolution snapshots taken during alarm conditions. The temperature and hot-spot location are identified on each saved snapshot.

Landscape Flat Panel Enclosure

Flat Panel Enclosures Are A Great Option For Information Boards And Digital Advertising Displays.

Portrait Flat Panel Enclosures are easily positioned at eye level, making them ideal for information boards and digital advertising. Sealed to NEMA 4, the Flat Panel Enclosures can handle temperatures between -30° to +55° (with air conditioning) and are a comprehensive solution for display security.



At A Glance:

Size (HxWxD)Inches:	51.3 x 28.5 x 9.1
Material:	Powder Coated Mild Steel
Screen Size:	32" 42", 47", 52", 55", 60"
NEMA rating:	NEMA 3/4
Product Code:	PDS-42-W-P-US

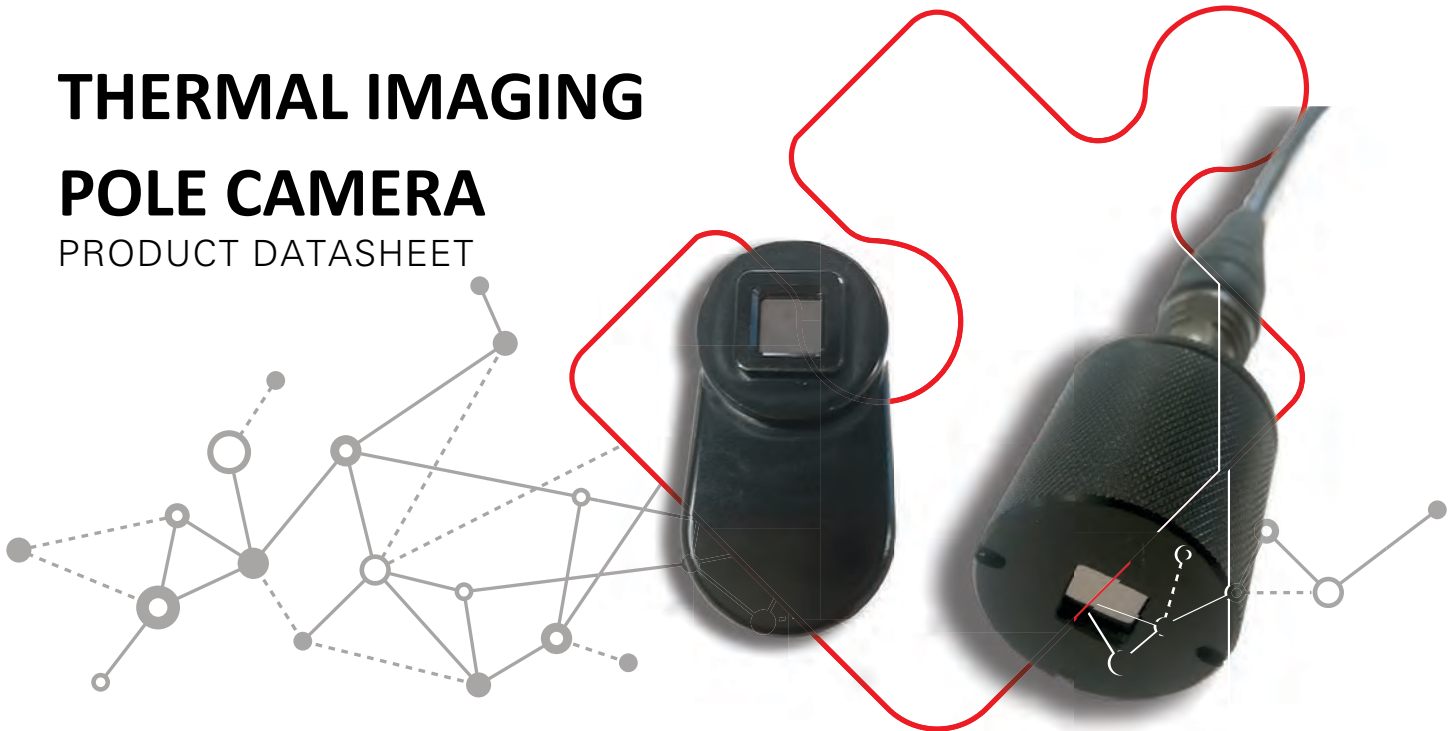
PDS Series Comparison Table

	Outdoor (standard)
Product Code	PDS-(size)-W-P-US-S
Temperature Range	-23°F to +93°F
NEMA Protection Rating	NEMA 4
Window Type	Anti-Reflective Polycarbonate

THERMAL IMAGING

POLE CAMERA

PRODUCT DATASHEET



RUGGED, COMPACT, HIGH-RESOLUTION THERMAL IMAGING

Utilizing innovative video processing software and comprehensive expertise of LWIR sensors, this rugged, compact plug and play thermal camera has been developed to provide thermal information for a wide range of applications.

Suitable for use day and night (thanks to its night vision capability), the camera not only measures the temperature but can also be used to detect humidity, liquid leakage and hot/cold spots in identified regions of interest (ROI).

Compact, lightweight and portable, the camera is quick to set up making it ideal for on-site inspections, easily getting around pipes and other obstacles to reveal what can't be seen with the naked eye, with amazing clarity, within a focal range of 1m to 20m

Images are processed through proprietary enhanced image processing software which is available as an intuitive and simple user interface for Android smartphones and tablets, enabling the probe to detect and display images and heat readings with an outstanding accuracy and sensitivity in a variety of different output modes, including NVG green, Mil-SPEC black/white and thermal red/orange.

APPLICATIONS

The compact design and rugged specifications make the thermal camera an invaluable tool across a wide range of applications, including:

CONSTRUCTION - helps you find electrical shorts, heat dissipation, humidity, moisture or leaking pipes before they become an issue or cause damage. Easily operated at a safe distance from the ROI.

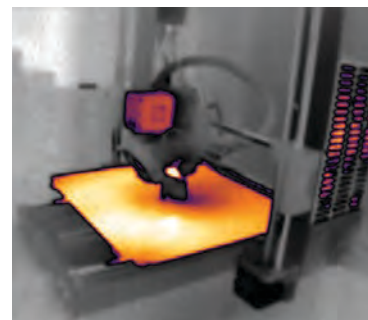
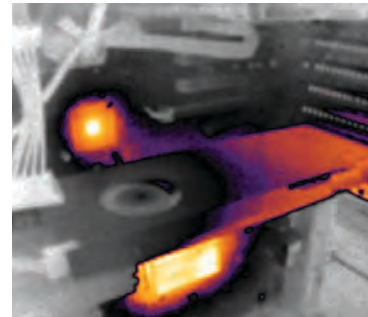
SECURITY - small and discreet, hand held or body worn, provides full awareness of an ROI. High quality imagery also enables identification and categorisation of stowaways/intruders.

SEARCH & RESCUE - location and identification of people and living assets in hazardous situations by detecting body heat.

PREVENTATIVE MAINTENANCE - prevention of failure is more cost effective, minimizing downtime and expensive callouts and repair costs. The probe can help you detect even the slightest changes in temperature allowing you to take action before damage occurs.

CAMERA: KEY SPECIFICATIONS

640 x 480px resolution (1024 x 768px augmented)
57° Field Of View (FOV)
-40°C to 580°C temperature measurement (Temperature measurement accurate +/- 2°)
0,15 to infinity distance
2.4cm x 2.7cm form factor
Functions day & night
IP65
Onscreen Orientation Indicator
Designed to meet EN55032



POLE SPECIFICATIONS

Carbon Fibre Pole
Available in 2m or 3m length
Case included



OPTIONAL Visible Low Light Camera (VLC)

- | | |
|--|---|
| <ul style="list-style-type: none"> • 1920 x 1080 pixels • Video output: MJPEG or H.264 at 1080p, 720p, 640 x 480, 640 x 360 • Resolutions up to full HD (1080p) at frame rates from 10 to 30 fps • 0.01 Lux, 4.3mm pinhole lens • 72° Field Of View (FOV) (up to 110° FOV available) • MJPEG and H.264 compression and streaming | <ul style="list-style-type: none"> • Robust IP65 sealed aluminium housing • USB 2.0 UVC V1.1 compliant interface • Operating Temperature: -20°C to +60°C • Low power consumption: 800mW @ 1080p, 30fps; 300mW @ 640x480, 10fps • Size: 46 x 26 x 23mm (L x W x D) • Weight: 29.0g • Designed to meet EN55032 |
|--|---|

COMPATIBILITY

The Thermal Imaging Camera utilizes an Android platform for type processing and image enhancements. The Android app utilizes a Linux SDK which can be incorporated into other Linux devices as required. iOS devices can also be supported if required.

LED Fully Lit Safety Whips



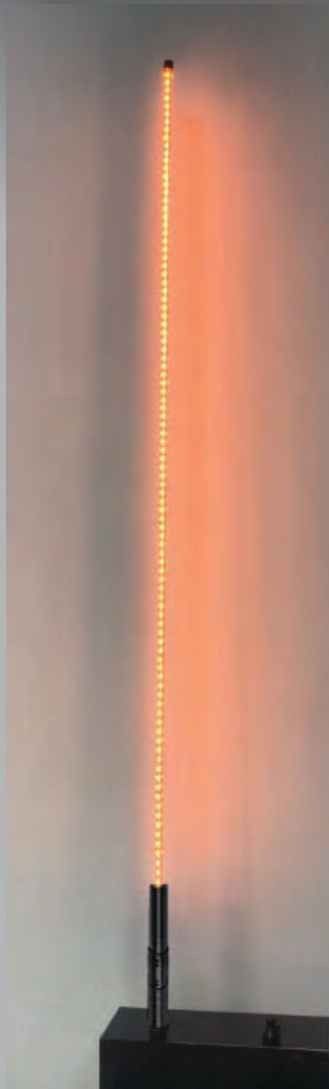
Mount Options



Quick Disconnect



Spring Base Permanent Mount



FEATURES

- Quick Disconnect Mount: 4ft, 5ft & 6ft
- Spring Base Permanent Mount: 8ft & 10ft
- Choice of Amber, Red, Blue, Green or White
- Working Temperature (down to -40°C)
- 12V DC operation



Flexible Clear Fiberglass Tube

Mounting Accessories

PRXEWR710



PRXEWR720



PRXEWR730



LED Safety Whips

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What's New

Mount Options



Top LED Light
(Removable & Replaceable)



Quick Disconnect
Spring Mount



FEATURES

Screw On Top LED Light

White Fiberglass Pole

Black Quick Disconnect

Electroplated Stainless Steel Spring Mount

Reflective Flag

Available in 6ft, 8ft & 10ft

Choice of Amber, Red, Blue, Green or White

Working Temperature: down to -40°C

12V DC operation



Mounting Accessories

PRXEWR710



PRXEWR720



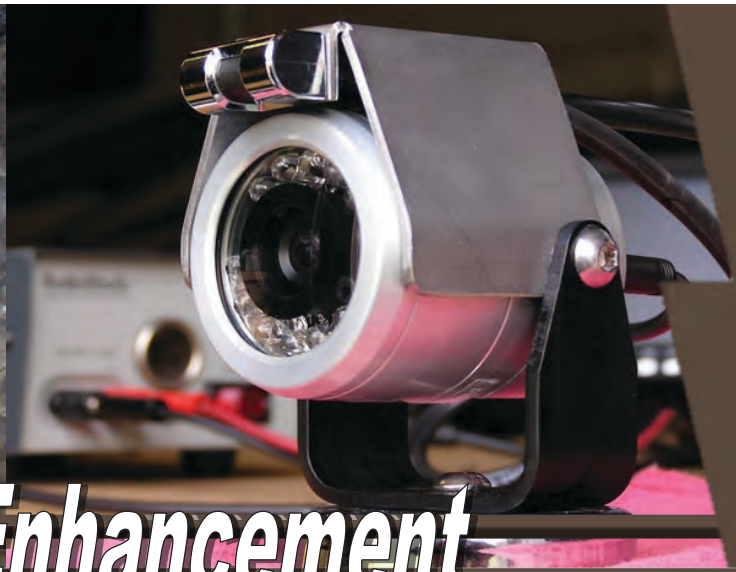
PRXEWR730



Camera Systems, Lighting & Alarms

- RealTrac Positioning Mine Management System
- Collision Avoidance Systems
- Remote Video
- Remote Video for Bolters
- Raised Bore Wireless Video
- Skip Camera
- Stope Inspection
- ITH Drill Positioning
- Pan-Tilt-Zoom (PTZ) Cameras for Face/ Back Bolting
- PTZ Cameras for any application
- Jumbo / Simba Boom Cameras
- Scoop Loader Cameras
- Haul Truck Cameras
- Loading Chute Cameras
- Crusher / Breaker Cameras
- Borehole / Bin Inspection Cameras
- Fork Lift Cameras
- Portable Camera Systems
- Tire Manipulator / Extractor Cameras
- TBM (Tunnel Boring Machine) Cameras
- IP Cameras for Automation and Tele-Remote Operation
- Mine Rescue / Fire and Emergency Cameras
- Mining Automation Video
- IP / Network Viewable
- Surface / Network Viewable Cameras
- Bin Inspection
- Blockhole Cameras
- Backfill Cameras
- Sandfill Cameras
- Excavator Camera System
- Skid Steer Camera System
- Grizzly Cameras
- Shotcrete Cameras
- Anfo Loader Cameras
- Mucking / Tramming Video
- Analogue and Digital IP Cameras for any application
- Inspection Camera Systems
- MSHA Approved Hardwired Communication Systems
- Explosion Proof Cameras
- Thermal Imaging Cameras
- Camera Wash
- RAM Mounting Systems





ProVix is Vision Enhancement

ANY TYPE OF CAMERA SYSTEM

- REMOTE VIDEO
- REMOTE VIDEO FOR BOLTERS
- RAISED BORE WIRELESS VIDEO
- SKIP CAMERA
- STOPE INSPECTION
- ITH DRILL POSITIONING
- PAN-TILT-ZOOM [PTZ]
- CAMERAS FOR FACE/BACK BOLTING
- PTZ CAMERAS FOR ANY APPLICATION
- JUMBO/SIMBA BOOM CAMERA
- SCOOP LOADER CAMERAS
- HAUL TRUCK CAMERAS
- LOADING CHUTE CAMERAS
- MINING AUTOMATION
- VIDEO
- IP/NETWORK VIEWABLE
- SURFACE VIEWING
- BIN INSPECTION
- BLOCKHOLE CAMERA
- BACKFILL CAMERA
- SANDFILL CAMERA
- GRIZZLY CAMERA
- SHOTCRETE CAMERA
- ANFO LOADER CAMERA
- MUCKING/TRAMMING VIDEO
- INSPECTION CAMERA SYSTEMS
- EXPLOSION PROOF CAMERAS
- THERMAL IMAGING CAMERA

PROVIX IN YOUR OPERATION?

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Safety and Remote Video Systems for Mining Operations





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Thermal and Overheat Camera System

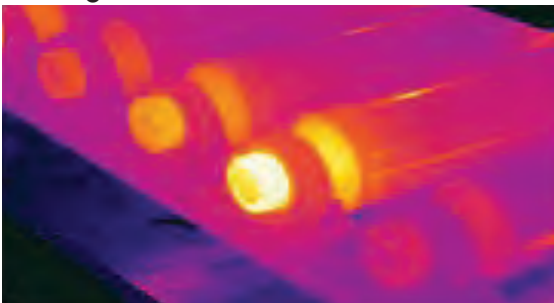
Avoid production stoppage with the PROVIX Thermal Monitoring & Overheat Warning Camera system. This self contained thermal camera system can be deployed for the continuous video observation of temperature sensitive machinery, electrical equipment, conveyors, bearings, crushers, breakers and any other device that can be affected by temperature extremes. Email alerts will stop over heat problems before equipment damage occurs.

- When specific temperature extremes, excessive heat or flare-up is detected by the FLIR thermal camera, notifications are sent to pre-established email addresses to alert personnel of the situation. At the same time a case mounted strobe light provides a local visual alert. The set point temperature threshold for alert and notification is user definable (default to 50C).
- This system is designed to be installed quickly and conveniently where AC power is available. An integrated laser pointer provides for easy camera alignment, quick deployment and connection to your Wi-Fi infrastructure. Optional Portable Battery Powered systems are available.
- Streaming video output means the thermal system can provide live video of any situation, equipment, process or location. Remote access to viewing the Real Time Video Feed at anytime is possible anywhere there is an internet connection, including smart phones, tablets or desktop computers. Fully customizable, the system is Ethernet/ IP and Modbus TCP compliant so analysis and alarm results can be easily shared to a PLC.

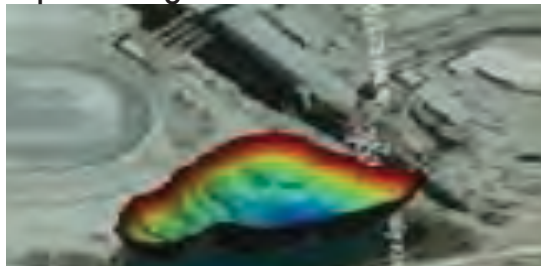


Cameras

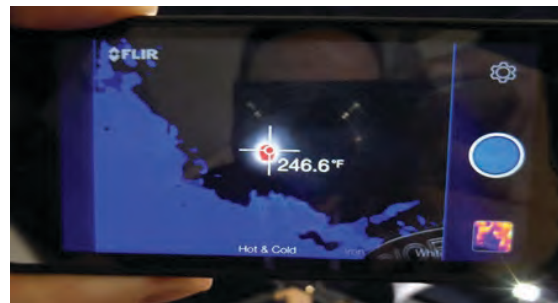
Bearing failure



Liquid leaking



Display specific temperature reading



Monitor conveyor bearings, sensitive electronics, crushers, breakers, high and low voltage installations, turbines, compressors, and any other electrical/ mechanical equipment that is heat sensitive. Identify potential heat related issues before they become overheated problems.

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Mining Camera System



Heated Camera



Waterproof Monitor

System Includes:

- One Reversing Camera with steel camera guard
- Rugged, heated camera shown on a waterproof/dustproof monitor when vehicle is put into reverse.



Additional Options

Wireless Loading Chute Camera

Part # RMG-HS7131TX9-120

- Wireless camera transmits real time video to the monitor in the truck as well as to control room operator of the loading station.



Camera Wash System

Part # PRX-EWASH-086

- Uses washer fluid for year round operation
- Easy to install
- 12 Volt High Pressure Pump
- 1 Gallon Reservoir with Mounting hardware
- Momentary Rocker Switch





Haul Truck Dual Camera System

Cameras

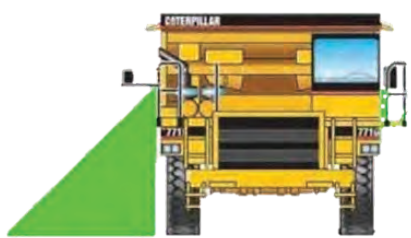


- One Reversing Camera with steel camera guard
- One Blind side Camera to enhance the operators vision on the blind side of the vehicle.
- Both rugged, heated cameras are reverse triggered shown split screen on a quad monitor

Waterproof Monitor



Two Heated Cameras in Steel Guards



Eliminates Blind Spots Behind and Beside Haul Trucks

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360° WATERPROOF HEAVY EQUIPMENT CAMERA SYSTEM

REMOTE WIRELESS VIDEO READY

Cameras



System Includes:

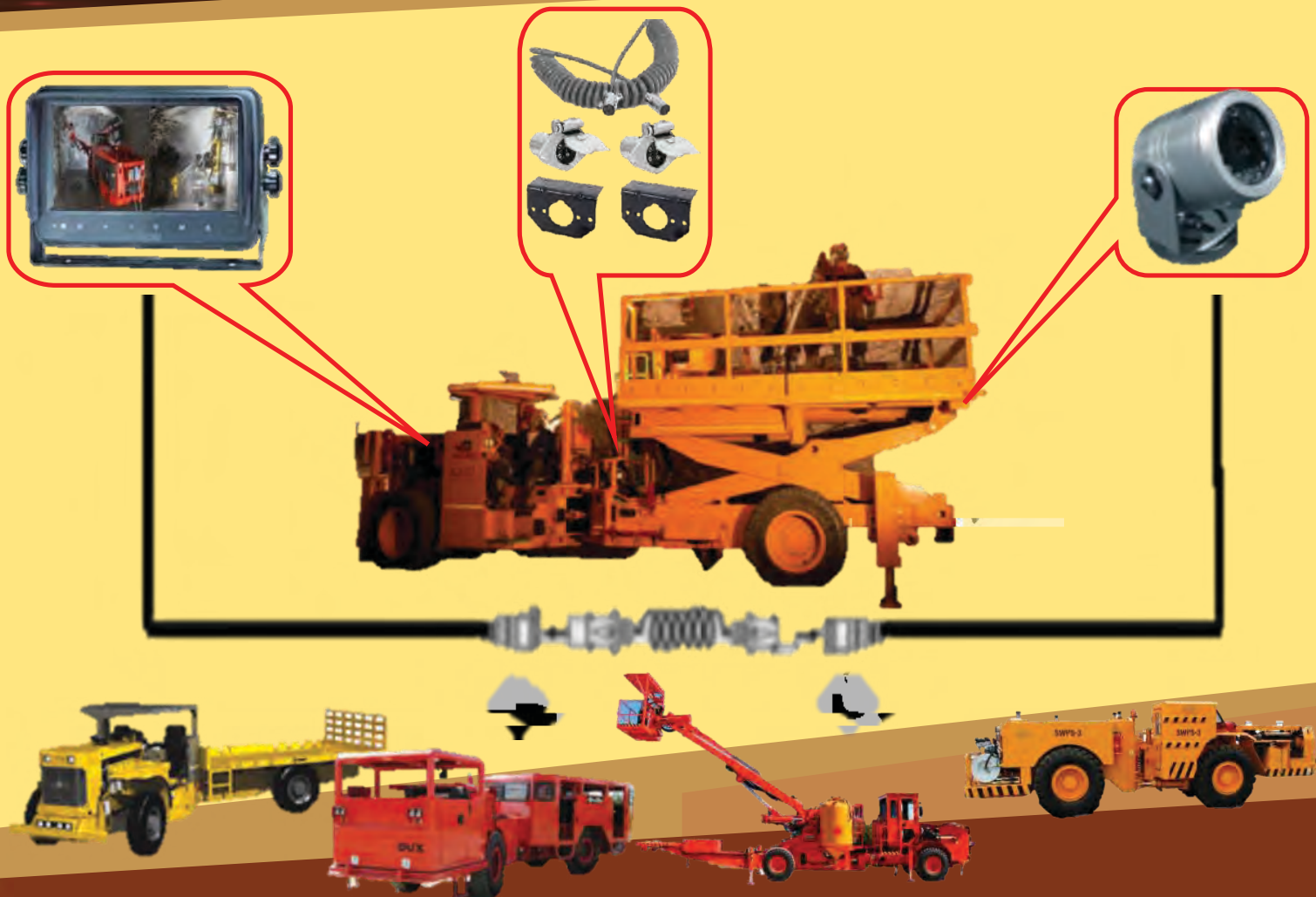
- Waterproof/Dustproof Monitor
- Rugged Cameras with image stabilizers - Perfect for remote Operation
- Hardwire distribution panel to standardize trigger connections and enable remote video

Add ons:

- Remote Viewing Station
- Camera Guards
- DVR
- Network Viewable



Cassette Camera System with Quick Disconnect



Cameras

Available for any application

- Enables the operator to see properly when reversing, providing the driver with a view of the area that is in proximity to the basket and boom.
- Accurate depth perception that enables the positioning of the basket to be adjacent to the desired work area.
- Protects the boom and basket from being damaged.
- Quick disconnect cable allows for simple switching of cassettes
- Universal truck side monitor mates with any cassette camera system
- Add up to 4 cameras
- 60' extendable cable for boom
- See the safety personnel while reversing

“FORKVIEW” WIRELESS CAMERA SYSTEM

Cameras



Tire Manipulator Camera System



Cameras

PROVIX Tire Manipulator Camera System allows operator to align and fit tires accurately without damaging the tire/studs/valve and eliminates the need for a fitter between the Tire Handlers' arms.

System includes:

- Heated waterproof camera equipped with LED infrared lighting
- Waterproof and dustproof monitor
- Rugged Camera Guard

Additional Options:

Add up to as many cameras as needed



Excavator Camera System



7" Color Monitor with Removable Sun Visor



Boom Camera with Photo-Chromatic Lens gives your camera its own set of sunglasses



Heated Rear-view Counterweight Camera with steel camera guard

- System is designed to eliminate blind spots, increase safety and improve productivity for the excavator operator.
- Reversing camera to enhance operators view of swing area
- Boom camera to view the operation of the excavator attachment; boring, ripping, crushing, cutting, lifting, etc.

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Crane Camera System



- Vision Enhancement
- Increased Productivity
- Overhead Safety
- Less Material Damage



Mining Automation: Using PROVIX IP Cameras for Remote Operation of Heavy Equipment and Process Monitoring

Cameras

PROVIX rugged machine mounted IP cameras transmit Real Time video to equipment operators for automated operations.

PROVIX IP cameras have low video latency allowing for real time remote viewing and operation.



System IP

Combine multiple IP cameras for safe efficient automated production.

Directed video can be viewed and accessed on the internal network, in the safe operator station, or from corporate headquarters.

Wireless radio transmitters are ruggedly designed to resist the various effects of harsh industrial environments.

Advanced wireless radio technology allows for reduced bandwidth consumption and built in stability.

High resolution cameras assist in identification, monitoring and enhanced production efficiency.

Variety of viewing options allows for permanent setup of monitors in a control room or in a safe operating station using a monitor in a protective case with battery pack.

Allow one operator to operate more than one piece of equipment safely and efficiently.

ONVIF compliant and Milestone software ready



Four PROVIX IP cameras on one of three loaders being run on teleremote by one operator at Fort Knox- Kinross Gold Alaska.



Operator is able to monitor each camera view, independently, on one of four large screens, allowing for safe efficient production. Actual photos from PROVIX IP cameras at Kinross.

OPTIONAL:

- Camwash
- Camera Guards

Loaded Cam



View your load level from the operator cab

For Monitoring Grizzlies, Loading Chutes, Crushers, Rockbreakers and more!



Weatherproof Rugged Wireless Camera

Enables both the truck operator and the control room operator to see a bird's eye view of the loading process.



Wall Monitor and Protective Enclosure: Enables the truck operator to see the loading process.



In Cab Dust/Waterproof Monitor

OR

Additional Options

Rugged Camera System

*Add up to four cameras



IP/Network Viewable

*Enables the process to be viewed within the control room and/or the network

- The loading zone is monitored by a wireless camera that transmits real time video to a wall monitor OR to an in cab monitor.
- This allows the driver to see the fill level in the dump box.
- The loading station operator can monitor the loading process and the position of the next truck in line.
- Loader operators can check breaker status or load level
- Control tower can verify load level and conveyor or chute status
- Enables the operator to control the throat gate and lip functions of the chute to safely load trucks, trams, ore cars or conveyors



Wireless Skip Camera

PROVIX.NET
Now I CAN SEE!

Cameras



15" LCD Monitor



Heavy Duty
IP Camera

(((5.8))) GHz	MIMO 802.11 a/n	300 Mbps	PoE	RANGE 200 FLOORS	P-MP	DUAL RUBBER DUCK ANTENNAS	IP-67	PLUG & PLAY OS	KIT
------------------	--------------------	-------------	-----	------------------------	------	------------------------------------	-------	----------------------	-----

SKIPCAMX1-TXRX - 5.8GHz 802.11a/n 300Mbps All-Weather Video - Range up to 2000 Feet

The **NEW** Wireless Skip Cam is a complete Point-to-Point / Point-to-MultiPoint digital video link with a range **up to 2000 Feet**. Camera allows hoistman and rigging team to monitor load and skip clearance to the shaft.

ADVANTAGES

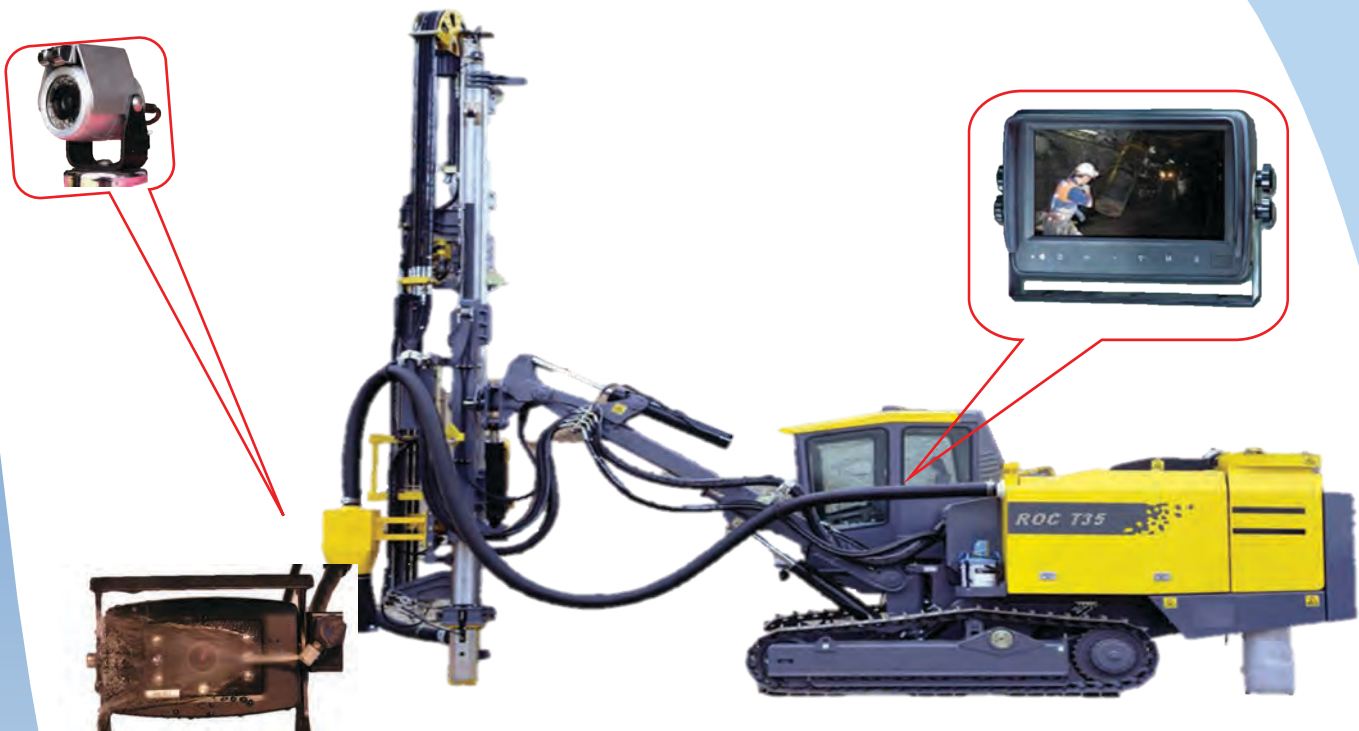
- Point-to-Point / Point-to-MultiPoint Capable **Up To 2000 feet**
- Blistering-Fast 300Mbps Data Rate for Real-Time Maximum Resolution
- 100% Performance & Customer Satisfaction Guarantee

"Quick-Release" Pedestal Mount allows for quick deployment and removal of camera and transmitter.



Self contained LIPO battery allows for full portability

Drill Camera Air/Wash System



- 7" Waterproof color monitor displays cam in cab
- Rugged 50 degree camera with Air & Wash System ensures the operator is drilling accurately
- Camera housed in rugged steel camera guard

- 1) Wireless monitor and battery pack with 20 hour run time for remote operation.
- 2) LED GoLight with Pan/Tilt controller in cab and handheld Wireless remote.
- 3) Rearview or Equipment Safety Cameras

PORTABLE REMOTE VIDEO SYSTEM



Industry Canada and FCC Certified Wireless Video System for Remote Operation

Two Fixed Wireless Equipment mounted cameras on Detachable Pedestal mounts.

75m cabled receiver range extender provides non line of sight viewing.

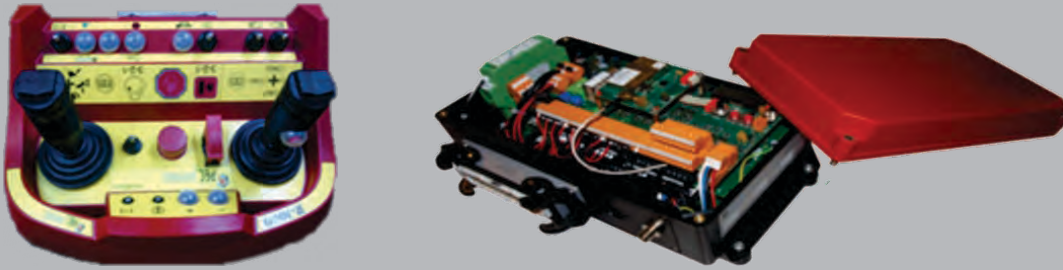
15" Metal Monitor in Pelican style case with camera control and battery.

24V machine connections or Lithium-ion battery packs for cameras.

Optional Wireless PTZ (Pan/Tilt/Zoom) Camera can be used for stope/brow Inspection or can be deployed on Equipment, Tripod, or back allowing for Birdseye view.

Remote Mucking Wireless Video system can provide both overhead and operator point of view.





R-1000 Remote Control System

Provix R-1000 radio remote control systems are engineered and manufactured in close co-operation with our worldwide based customers. These radio remote control systems are engineered to ensure safe and efficient remote operations. Our systems have been designed based on the most advanced technology and components.

R-1000

Digital functions - up to 64; and analog functions - up to 19.

Uses two Li-ion batteries with smart discharge and hot swap which is essential for battery optimization and continuous operation.

Perfect use for applications with many interconnected processes with guarantee of non-interrupted operation.

Suitable for harsh environment mining and maritime conditions.

High mechanical and chemical resistance due to the specific moulded housing.

TYPICAL APPLICATIONS

LHD Equipment, Blockholers, Jumbos, Long Hole Drills, Rockbreakers, Shotcrete Sprayers

Offshore: Oil Skimmers, Drilling Rigs, Catwalks, Raiser Chutes, Roughnecks, BOP, ROV

Systems, Pipe Handlers, A-frames

General Industry: Forestry Slashers, Dozers, Excavators, Recovery Vehicles, Concrete Pumps,

Conveyance, Fire Fighting Systems, Fueling Systems

Railway: Surface Locomotives, Underground Locomotives

FUNCTIONS

The R-1000 can be fitted with analog or digital joysticks, pushbuttons, toggle switches, and rotary switches to meet the exact customer requirement.

Safety features with E-stop, tilt switch, PTO deadman, on/off switch, horn, start warning.

Operator terminal layouts are configured according to the application and customer requirements.

Optional: LEDs and displays for feedback information

Optional: Shoulder Harness or CAT 500 Hz throttle available upon request

R-1000 PRODUCT OVERVIEW



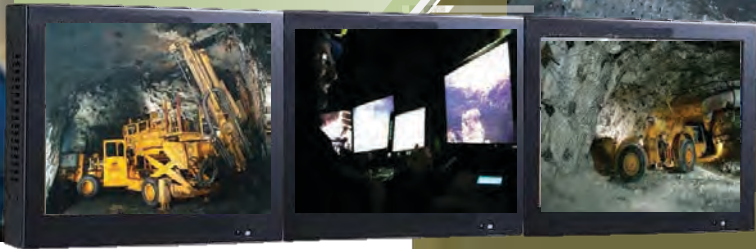
PTZ Rugged Robotic Camera For Bolting Operations



- Display Options:
- Network/IP Viewable at surface
 - Tethered Remote Viewing at Safe Operator Station
 - In Cab monitors for manned operation
 - Vibration Resistant
 - Waterproof
 - 360° / 300° Pan and Tilt
 - 36x Zoom



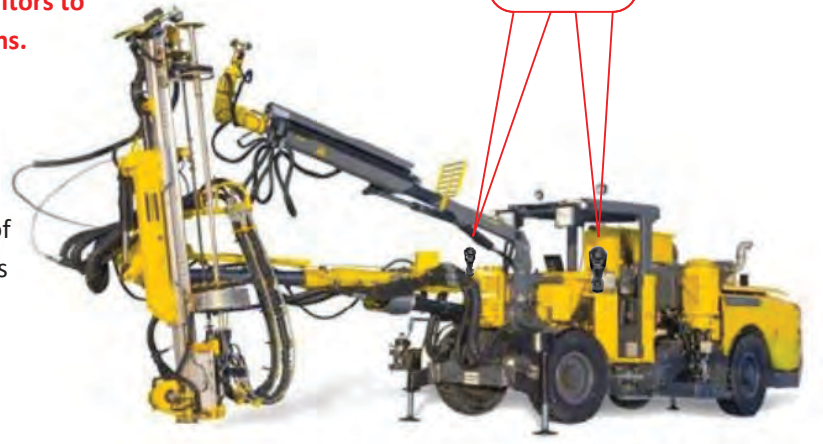
Two PTZ Cameras in operation on a remotely operated Bolter at Diavik Diamond Mines



***Operator Uses Bolter Cameras Displayed on Three Monitors to Remote Control Bolting, Drilling and Screening Operations.**

Applications

The PTZ Camera is a shock-proof high speed camera with integrated pan, tilt and 36x optical zoom. The reinforced metal camera housing is literally bullet proof and has been constructed to be resistant to flying rocks and debris. This camera has been designed for mining, construction, petroleum processing and oil field applications: It is well suited for hazardous environments and its functionality makes it ideal for vehicle and equipment mounting for remote operation, process monitoring and surveillance.



Portable Camera Systems

For Drill Positioning, Stope/Brow Inspection, Remote Operation, and Process Monitoring

PROVIX.NET
Now I CAN SEE!



Fixed Camera System



PTZ Camera System

Completely Portable;
All packs onto two wheeled Cart

200-1000 feet of retractable cable

15" LCD colour monitor

250-750 feet of retractable cable

System enables the operator to view the drilling process on a 15" LCD colour monitor with remote control — all in a rugged case with magnet mount to stick on two wheeler stand.



Cameras

Alimak Camera System

Cameras

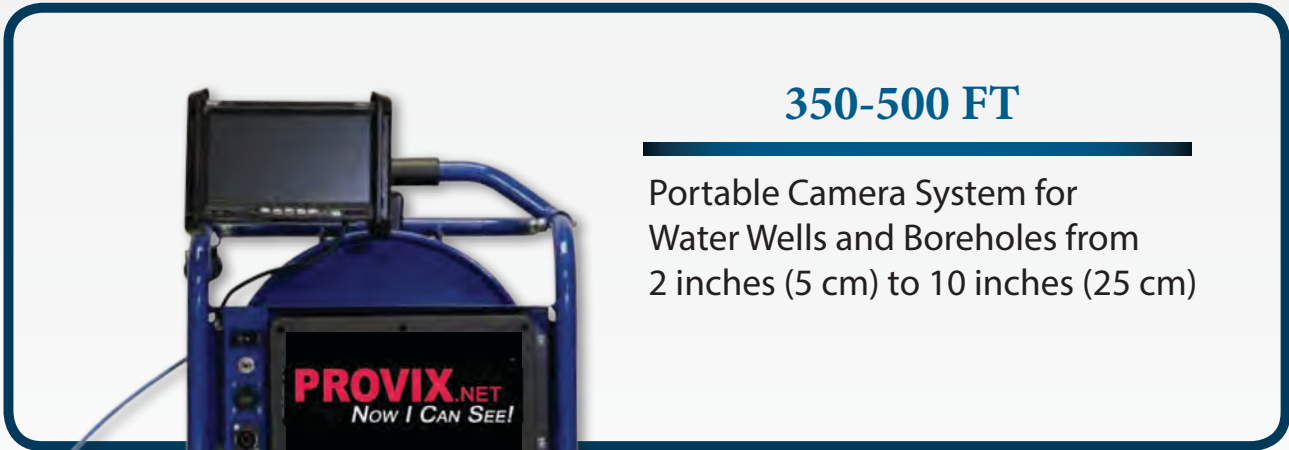
Protected, portable and can be
~~used for multiple applications!~~



- The wireless camera & battery are mounted temporarily to the canopy with Quick Release pedestal Mounts.
- The area is monitored from the top or bottom of the raise up to 300 feet away from the camera.
- 15" Metal Monitor in Pelican style case with camera control and Li-ion battery.
- Optional Wireless PTZ (Pan/Tilt/Zoom) Camera can be used for stope/brow Inspection or can be deployed on Equipment, Tripod, or back allowing for Bird's-eye view.

*The camera can be mounted on the Canopy OR on the tripod
OR to the scoop/mucker with quick release bases*

Portable Borehole Camera



350-500 FT

Portable Camera System for
Water Wells and Boreholes from
2 inches (5 cm) to 10 inches (25 cm)

- Ultra-Light, Compact and Portable
- Survey Water Wells, Boreholes, and Vertical Shafts from 2 inches (5 cm) to 10 inches (25 cm)
- Manually Operated Winch with Collapsible Handle
- Braking System allows 360-degree Stopping Capability
- Standard System Includes: Winch, Control Center, Monitor, Camera, and Power Cable
- Completely Compatible with PRX-BIN1000 borehole camera, easily upgrade the system or compliment an existing Provix borehole camera
- Full Line of Accessories including Depth-Counter Tripod Assembly Available



Portable Borehole Camera

1000-1300 FT

Portable, dual-view camera for water wells and boreholes.



The PRX-BIN-1000 is a portable dual-view, borehole camera system with automated control for either downhole or side-view video profile. Side-view lens includes 360 degree rotation to the right and left with no external moving parts. This camera has effective survey capabilities for 3-inch to 12-inch well diameters. The PRX-BIN-1000 camera system comes equipped with a protective case provided for storage, lighting system, camera, control unit, cable, video monitor, centering bands, DVD recorder, power supply and transport cart for easy maneuvering.



CAMERA SPECIFICATIONS

- Camera Diameter:** 2 inches (5.1 cm) O.D.
- Overall Camera Length:** 20 inches (50.8 cm)
- Housing:** Stainless steel
- Lens:** BK-7 glass
- Cable:** 1,000 feet (304.8 m) Kevlar-reinforced, small diameter, single-conductor coaxial cable.
- Power Supply:** Portable 12VDC battery pack and charger. Rechargeable by local current (please specify at time of order).
- Total Camera Weight:** 18 lbs (8.2 kg)
- Pressure Rating:** Pressure tested and waterproof to 500 psi
- Scanning System:** Downhole greater than or equal to 330 TVL, side view greater than or equal to 460 TVL (both NTSC and PAL)
- Operating Temperature:** 0° to 50° C (32° to 122° F)
- Recorder:** Records onto a 12 VDC DVDR (please specify NTSC or PAL at time of order)
- LED Lighting:** High intensity, long life, shock proof LED lighting
- Depth Counter:** On-screen depth display measured in feet and tenths, or meters.
- Monitor:** 7-inch LCD color monitor with sunscreen viewing hood
- Winch, Reel, Motor and Cart:** 12VDC electric powered, variable speed reel for raising and lowering camera in well. All parts are mounted on a small, two-wheeled cart with extendable 36-inch boom.

Portable Borehole Camera System

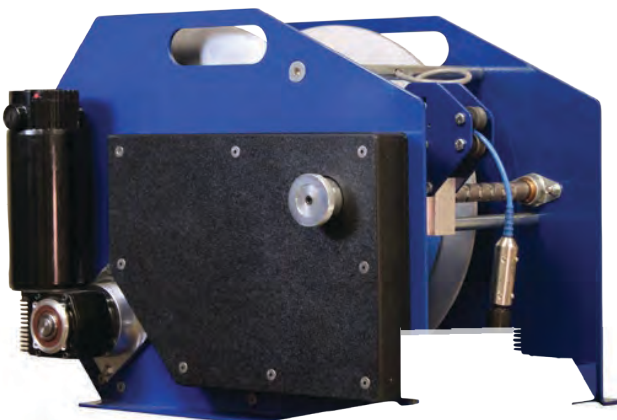
2000 FT

Portable camera system
for water wells
and boreholes.



LUS-DW2000 SPECIFICATIONS

- **Motor:** 90VDC, 2.3 amps, 1/4 HP Motor with Gearbox
- **Speed:** 20 rpm
- **Torque:** 360 in lbs. torque
- **Drive:** On-board Variable Speed Motor Controller
- **Cable Capacity:** 1500'/457m or 2000'/609m
- **Dims:** 17.5" (44.45cm) tall, 20.33" (52cm) wide, and 22.25" (56.5cm) long
- **Weight:** 172lbs (78kg) with 2000ft (609m) of cable 120lbs (54kg) without cable
- **Auxiliary Power:** 12VDC output for Control Unit
- **Power Source:** 115 or 230VAC (specified at time of order)
- **Cable Head:** Detachable Quick-Connect Cable Head, Pressure Rated to 5,000 PSI with Built in Strain Relief



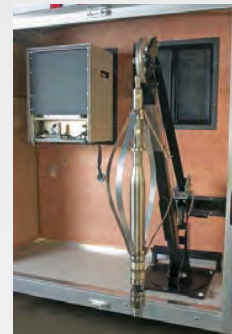
LUS-DW2000 FEATURES

- **Adjustable Level Wind System**
- **Optical encoder for video depth display**
- **Splash proof control enclosure**
- **Easily Transportable and Mountable**
- **Completely Compatible with PRX-BIN-1000 Product Series**

Truck/Skid Mounted Borehole Camera System

Sizes Available from 1000ft - 5000ft

Downhole and side-view color video inspection system for water well, boreholes and monitor wells



The PROVIX BOREHOLE DUAL CAM provides a comprehensive, detailed survey of water wells, boreholes, underground storage tanks and mine shafts measuring 3"-30" in diameter to depths of 5,000 feet. In addition to the standard downhole view, it offers a side-view perspective with continuous 360° rotation (and no external moving parts).

- Provides sharp color images with two lenses
- Specially designed long-life L.E.D. lighting
- Easily retrofit to single conductor video inspection systems
- Standardized cablehead allows interchangeable use of PROVIX cameras
- Slimmer design, lightweight and easy to handle
- Suitable for high temperature environments
- Sealed housing prevents condensation and water intrusion
- Joystick control (see photo above) for easy operation and full-function, one-hand operator control.

APPLICATIONS

Suited for the groundwater industry, gas, oil and mining companies, public works officials, miners, environmentalists and remediation sites, helping pinpoint problems in:

Water Wells

- Locate corroded casings, infiltration, obstructions, offset casings and encrustations
- Find lost tools and pump parts
- Verify success of repairs and cleanings
- Analyze gravel packs and casing damages
- Determine if wells can be rehabilitated

Boreholes/Monitor Wells

- Determine chemical/mineral content from soil coloration
- Analyze geologic strata/ground formations
- Detect damage in underground petroleum storage tanks and piping, drilling fluid disposal pits, injection wells, brine evaporation pits and retired gas and oil production wells
- Provide visual proof of compliance with government regulations

CAMERA SPECIFICATIONS

Camera diameter: 2.35 inches (60mm) O.D.

Overall camera length: 24.25 inches (660mm)

Housing: Stainless steel

Lens: Scratch-proof sapphire glass viewing port

Power requirements: 100-200 volts DC at 50 watts (at maximum brightness)

Total camera weight: under 14 lbs. (6.5kg)

Pressure rating: Pressure tested and waterproof to 2,500 psi

Camera connector: Water-blocked; LUS cablehead with UHF coaxial connector

Scanning system: 525 line, 60 Hz NTSC or 625 line, 50 Hz PAL standard

Operating temperature: 0° to 65° C (32° to 150°F)

Remote Functions: Camera view (select downhole or side view); Rotation (clockwise or counter-clockwise); Fully adjustable lighting

*Note: Specifications subject to change.
Confirm when ordering.*

Provix Inspection Camera System

20m, 30m, 40m Cable



Cameras



- ◆ 1/3 inch Sony CCD camera, 120° wide view angle
- ◆ Stainless steel short camera head, IP 68 water proof level
- ◆ Sapphire glass lens cover, 12 white LEDs
- ◆ Diameter of camera: 23 mm, suitable for pipe dia. 25-200mm
- ◆ 20-40M fiberglass rod cable with stainless reel
- ◆ Cable reel rotatable in the case
- ◆ One touch record/still images button
- ◆ 7" TFT LCD monitor with DVR
- ◆ Rechargeable High capacity Li-battery (6600mA) for 8 hours continuous working
- ◆ Waterproof ABS suitcase with all parts included
- ◆ Optional feature: Meter counter/512Hz Sonde



Professional easy to operate 7" monitor



Cable reel is mounted and rotatable in the case



Passing through 4x90° bends in 45mm pipe



Camera skirts 46mm & 80mm

Optional Features & Parts



Meter Distance Counter



Built in 512Hz Sonde



23mm long spring camera head



14mm Camera



38mm Camera

Specifications

Camera Head		Cable Reel	
Sensor:	1/3" Sony CCD	Material:	Fiberglass rod cable
Head Dimension:	23mm (dia.) x45mm (length)	Wheel:	Stainless steel wheel
Camera Material:	304# Stainless Steel	Cable Length:	20, 30 or 40m optional
View Angle:	120° wide angle	Connector:	Gold touch-point connector
Lens Cover:	Sapphire glass	Rotation:	Rotatable in the suitcase
Leds:	12 High Bright White LEDs	Wheel diameter:	33cm
Water Proof:	IP68/20m under water	Cable diameter:	5.2mm

LCD Display and DVR

LCD Resolution:	800*480 pixels
Video Compress:	MPEG-4
Recording:	Video and audio recording
Picture:	Picture shot function
LCD Size:	7 inch
Menu Language:	9 Languages
Panel Control:	Any functions through buttons
External Memory:	SD Card (Max. 32GB)



Proviz Inspection Camera System

60m....TCL-3688FB56MM60M

120m....TCL-3688FB56MM120M



Cameras

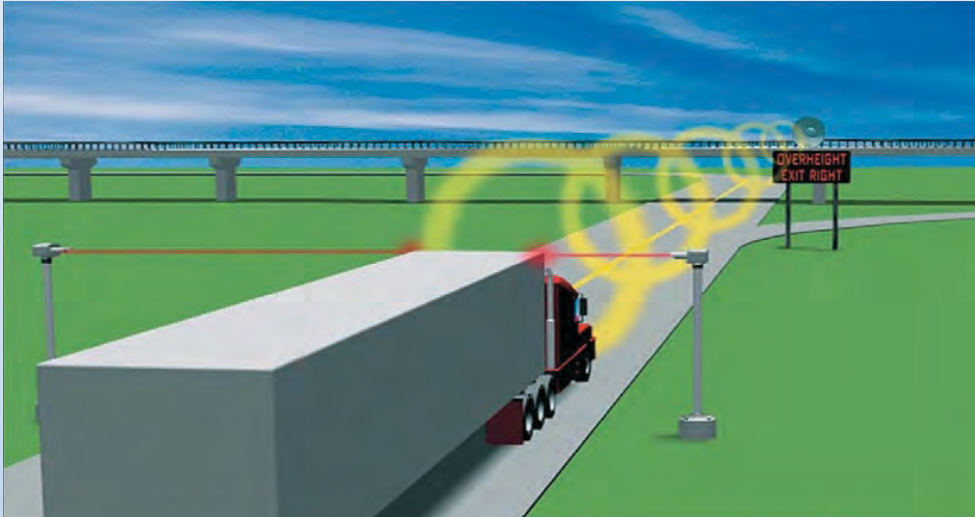
Specifications

Camera Head	
Material:	#304 Stainless Steel
Dimension:	38 mm×81 mm (Main body)
Sensor:	1/3" Sony CCD, 480 TV Lines
View Angle:	Pan and Tilt function
LEDs:	12 pcs high light LEDs
Waterproof:	M20. m under water
Built-in 512Hz Sonde (optional)	
With self-leveling	

Push Cable	
Cable dia.	9 mm
Cable Material:	Fiberglass
Available length:	60 / 120 m
Wheel material:	Stainless steel

Monitor	
10" LCD Color TFT LCD	One pushrecord button
Resolution: 800 x 480 R.G.B.	Built-in rechargeable battery
Encoding: H.264	Work time: 4 hours
With universal installation bracket	Charge time6-7 hours
SD Cardslot to store still images or videos	On-Screen date and time
Local audio recording	On-screen meter/ft. distance display
Menu Language: English, German, French, Spanish, Italian, Chinese, Japanese, Russian, Portuguese	

Over Height Detection System

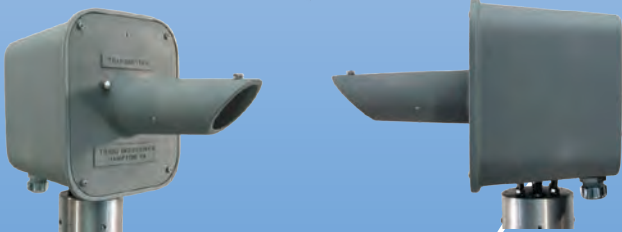


Detectors are capable of detecting the over height vehicle when it is travelling at a speed of up to 121 kph. In snow, rain or dusty conditions.

- Detects over height vehicles and activates visual and audible warnings.
- Directs driver to take appropriate action
- Can notify traffic-monitoring stations, law enforcement or IT control points via landline/ wireless.
- Provides the most advanced tech to eject ambient light and eliminate false over height alarms.

Applications

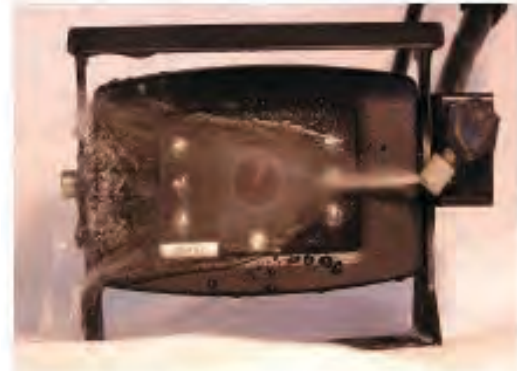
- Bridges
- Tunnels
- Overpasses
- False Work
- Weigh Stations
- Parking Structures
- Airports
- Corridor Management



Audible & Visual Alerts



Provix Camera-Wash System



Cleans the Camera lens of Dirt, Ice, Dust and Snow with the push of a button!

Features:

- Uses washer fluid for year round operation
- 12V High pressure pump
- 1 Gallon reservoir with mounting hardware
- Momentary rocker switch
- 30 FT Electric Harness and Fluid Tubing kit. Custom lengths available
- Comes as a kit with 30" Harness. Custom lengths are available
- High Pressure Air Dry and Blow off system is available upon request.
- Air Dry system uses compressed air from air seat compressor or other available compressor. * Compressor is not included *



Add Ons:

- Up to four optional nozzles per kit
- An optional Timer for automatic cleaning

Custom Kits are available!

PROVIX FLIR Thermal Imaging Cameras

Cameras



AX - Detect and report flowing water



Mine Rescue



T-Series- Building & Electrical



A-Series - Automation



EX- Predictive Maintenance



K-Series- Firefighting



EX- Predictive Maintenance



Test & Measurement- Meterlink

* Provix has certified thermographers on staff for consultation and installation support



FLIR C2

Powerful, Compact Thermal Imaging System

The FLIR C2 is the world's first full-featured, pocket-sized thermal camera designed for building industry experts and contractors. Keep it on you so you're ready anytime to find hidden heat patterns that signal energy waste, structural defects, plumbing issues and more. The C2's must-have features include MSX® real time image enhancement, high sensitivity, a wide field of view, and fully radiometric imagery to clearly show where problems are and verify the completion of repairs.

Pocket Portable.

Keep it on you and at your side, ready for immediate use so you don't miss an opportunity

- Light, slim profile fits comfortably in any work pocket
- Brilliant 3" intuitive touch screen with auto orientation for easy viewing
- Built-in LED spotlight you can use as a flashlight and for photo illumination

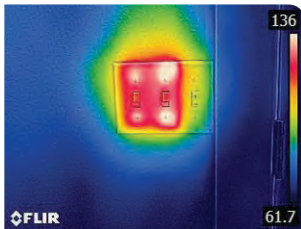
Fully Radiometric.

Save thermal image JPEGs instantly, then conveniently adjust and analyze them later with FLIR Tools to isolate temperature measurements on any pixel and create convincing reports

- MSX-enhanced thermal images provide stunning detail to help you identify problem areas easier
- Radiometric image stores 4800 pixels capable of capturing thermal measurements from -10°C to 150°C
- A wide FOV frames what pros need to see and high thermal sensitivity detects subtle temperature differences common in building applications

Easily Affordable.

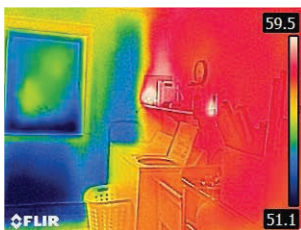
- FLIR Tools professional reporting software included – the industry standard in thermal image post analysis
- Streaming video via FLIR Tools, a feature not usually available on low-cost thermal camera systems
- FLIR's unique 2-10 warranty, covering parts and labor for two years and the detector for ten



Hot Overloaded Dimmer Switch



Warm Drain Pipe in Wall



Uninsulated Outside Wall

Anti Fatigue Monitoring System

PROVIX.NET
Now I CAN SEE!



Cameras

Key Benefits:

- ✓ Forward collision detection
- ✓ Remote downloading of recorded videos from DVR/ server
- ✓ Storage devices: SSD, SD card
- ✓ HD alarm recording
- ✓ Detect & warn operator of: fatigue, distraction, phone calls, smoking & no driver
- ✓ Support dual stream, sub-stream back-up & network transmission
- ✓ Display of real-time monitoring videos on the operator
- ✓ Supports 2G/ 3G/ 4G/ WIFI/ GPS tracking
- ✓ Automatic data uploads
- ✓ GPS track recording, displaying current speed & location
- ✓ With WiFi station & AP mode
- ✓ Durable vehicle H.264 DVR with waterproof hard disk box

Anti Fatigue Monitoring System by Provix Inc.

Provix Driver Monitoring System is integrated with advanced forward collision warning, detection of fatigue, distraction, driver absence, phone usage/ texting, and smoking to improve driving safety. Real-time remote monitoring and H.264 compression.



h tracking)

- ✓ 128GB Micro SD Card (120 hours of recordings)
- ✓ Detect & warn operator of: fatigue, distraction, phone calls, smoking & no driver

PROVIX.NET
Now I CAN SEE!



SEE THROUGH STEAM when spreading SPENT SAND with PROVIX THERMAL CAMERA SYSTEMS.



Cameras



PROVIX THERMAL IMAGING

provides for

- Enhanced vision to see through steam, fog, smoke, and dark operating conditions.
- Increased forward and rearward visibility that allows for more productive safer operations.



Thermal Imager

Sensor Type	320 x 240 Uncooled Microbolometer
Field-of-View	24° (h) x 18° (v)
Spectral Band	8-14 microns (LWIR)
Outputs	NTSC
Power	
Power Requirements	12 VDC
Power Consumption	2 W (6 W w/heater on) 1.8 A max. system current

Environmental

Operating Temperature	-40°C to 80°C
Weather Resistance (Camera)	Hermetically Sealed, Automotive Qualified
Weather Resistance (ECU)	Non-Hermetic; Passenger Compartment mount required
Window	High-Impact Resistant Optic w/ Built-in Automatic Heating Element Replaceable Windows

Physical

Camera Dimensions	2.6" x 3.4" x 3.2" (60 x 86 x 82 mm)
Camera Weight	0.6 lb (300 g)
ECU Dimensions	5.8" x 4.3" x 0.9" (148 x 110 x 24 mm)
ECU Weight	0.7 lb (350 g)



Proviz Accessories

Ram Mount



Proviz Ram mounts are designed to absorb damaging shock and vibration while being ergonomically friendly for multiple viewing and mounting positions.

Camera Wash



Cleans the camera of dirt, ice, dust and snow with the push of a button.

Wireless Option

Enables wireless viewing/eliminate cable routing where line of sight can be maintained between transmitter and receiver.

Quick Disconnect



These weatherproof connectors allow for cable route through bulkheads and allows for easy connections for trailer cameras.

Pedestal Mount



Camera "Quick-Release" pedestal Mount allows for easy on and off of camera.

Remote Viewing Station

LCD Display Monitors in a weatherproof impact resistant case, powered by LiPo batteries or AC/DC, allow for wireless receiving of video signal from remote camera deployment.

Camera Guard



Provides a stable mounting platform and offer rugged impact protection for cameras.

Monitor Rock Guard



Provides rugged protection for monitors. Provix supplies waterproof monitors: add the rock guard monitor enclosure for a higher level of protection.

Proviz Remote Control System

Allows for mine automation, and remote control of any type of equipment from a safe location. Available as a line of sight or networked version.

LIGHTS

Hella, Nordic, VisionX, PSE Amber, Whelen, Provix, JWSpeaker



Remote Controlled Searchlights



Portable/ Battery Operated Lights



Light Bars



Warning Light Sticks & Arrow Boards



Flood/Spot Lights



LED Amber Lights



LED Scene Lighting



LED Work Lights



Provix... NOW I CAN SEE

- REMOTE CONTROLLED SEARCHLIGHT
- SPOT LIGHTS
- PORTABLE / BATTERY OPERATED
- GLARE BUSTERS—ANTI GLARE
- FLOOD
- GRILL LIGHTS
- TAIL LIGHTS
- LIGHT BARS
- STROBE LIGHTS
- WARNING LIGHTS
- ROTATING BEACONS
- WARNING LIGHT STICKS / ARROW BOARD

LED Driving Lamps				Feux de route DEL		
						
LED Snow Plow Lights	Auxiliary High Beam Lamps	Auxiliary High Beam Lamps	Auxiliary High Beam Lamps	Auxiliary High Beam LED Spot Lamp	Auxiliary High Beam LED Spot Lamp	



LED Flood Lamps				Lampes à faisceau large DEL		
						
ULTRA Series Square LED Flood Lamps	ULTRA Series Square LED Flood Lamps	ULTRA Series Square LED Flood Lamps	ULTRA Series Square LED Flood Lamps	ULTRA Series Square LED Flood Lamps	Heavy Duty LED Flood Lamp	Heavy Duty LED Flood Lamp
						
Square LED Flood Lamps	Square LED Flood Lamps (Heated)	Heavy Duty LED Flood Lamp	Square LED Flood Lamps	Square LED Flood Lamps	COB LED Flood Lamp	COB LED Flood Lamp
						
Heavy Duty LED Flood Lamp	Square LED Flood-Spot Lamp	Rectangular LED Flood Lamps	Rectangular LED Flood Lamps	ULTRA Series Round LED Flood Lamps	ULTRA Series Round LED Flood Lamps	Oval LED Flood Lamps
						
Oval LED Flood Lamps	Heavy Duty LED Flood Lamp	Round LED Flood Lamps	Round LED Flood Lamps	Round LED Flood Lamps		

Lights

Picture Reference

LED Spot Lamps				Lampes spot DEL	
					
ULTRA Series Square LED Spot Lamps	ULTRA Series Square LED Spot Lamps	Heavy Duty LED Spot Lamp	Heavy Duty LED Spot Lamp	Heavy Duty LED Spot Lamp	










LED Specialty Lamps				Lampes spécialisée DEL	
					
5.75" Portable Rechargeable LED Lamp	6.25" Portable Rechargeable LED Lamp	Rechargeable Battery Operated LED Flood Lamp	Rechargeable Battery Operated Mini LED Lamp	3" x 3" Rechargeable LED Lamp	

LED Lamps			Lampes DEL		
					
Remote Control LED Search Lamp (White)	Remote Control LED Search Lamp (Black)	LED Lamps			

Lights






Double Row LED Lamps

Lampes DEL à rangée double

						
8" LED Spot Lamp	14" LED Flood/ Spot Lamp	22" LED Flood/ Spot Lamp	32" LED Flood/ Spot Lamp	42" LED Ext Flood/ Spot Lamp	50" LED Ext Flood/ Spot Lamp	22" Curved LED Flood/ Spot Lamp
						
32" Curved LED Flood/ Spot Lamp	42" Curved LED Flood/ Spot Lamp	50" Curved LED Flood/ Spot Lamp	8" LED Flood/ Spot Lamp	14" LED Flood/ Spot Lamp	22" LED Flood/ Spot Lamp	32" LED Flood/ Spot Lamp
						
42" LED Ext Flood/ Spot Lamp	50" LED Ext Flood/ Spot Lamp	22" Curved LED Flood/ Spot Lamp	32" Curved LED Flood/ Spot Lamp	42" Curved LED Flood/ Spot Lamp	50" Curved LED Flood/ Spot Lamp	


Portable Work Lights

Lampes de travail portables




						
Magnetic LED Work Light	Handheld Rechargeable Light	Maintenance Work Light	Handheld Spotlight	Outdoor Handheld Cree LED Spotlight	Portable LED Tripod Work Light	Portable Telescopic Light Tower
						
Rechargeable LED Area Light	360° Rotating Cree Lights	Tripod LED Work Light	Tripod LED Work Light			

Lights

PRO Series						
						
Scorpius Pro	Canis Pro	Centaurus	Scorpius	Antares	Virgo	Virgo
						
Canis						

GO Series			
			
Canis	Antares	Scorpius	

KL Series					
					
KL1001	KL1002	KL1401	KL1501	KL2001	

Special Lights					
					
Taurus	Gemini	Pictor			

Lights

Beacons—Low Profile

						
Amber Fleet LED Beacon Suction Mount	Amber Fleet LED Beacon Mirror Mount	Amber Fleet LED Beacon Magnetic Mount	Amber Fleet LED Beacon Permanent Mount	Amber Fleet + LED Beacon Permanent Mount		






Beacons—Medium Profile

						
Amber Fleet Rotator Beacon Permanent Mount	Amber Fleet LED Beacon Magnetic Mount	Amber Fleet LED Beacon Permanent Mount	White Fleet + LED Beacon Permanent Mount w/ Up-emitting LEDs	Amber Fleet+ LED Beacon Permanent Mount	Amber Fleet + LED Beacon Magnetic Mount	Amber & Blue Fleet + Beacon Permanent Mount

Beacons—High Profile

					
Amber Fleet LED Beacon	Amber Fleet + LED Beacon Permanent Mount	Amber & Blue Fleet + Beacon Permanent Mount	Amber Fleet Rotator Beacon Permanent Mount	Blue Fleet + LED Beacon Permanent Mount	

Minibars—Low Profile

					
Amber & Blue 16" Fleet LED Mini Lightbar Permanent Mount	Amber 16" Fleet Rotator Mini Lightbar Permanent Mount	Amber 16" Fleet Rotator Mini Lightbar Magnetic Mount	Amber 16" Fleet LED Mini Lightbar Permanent Mount	Amber 16" Fleet LED Mini Lightbar Magnetic Mount	

Picture Reference



Minibars—Low Profile & Compact Profile

Apollo Fleet LED Mini Lightbar Permanent Mount	Amber 16" Fleet Rotator Mini Lightbar Permanent Mount	Amber 16" Fleet LED Mini Lightbar Permanent Mount	Amber 16" Fleet LED Mini Lightbar Magnetic Mount	Amber & Blue 16" Fleet LED Mini Lightbar Permanent Mount	Amber 16" Fleet Rotator Mini Lightbar Magnetic Mount	Amber 16" Apollo Fleet+ LED Mini Lightbar Vacuum Mount
Amber & Blue 16" Apollo Fleet+ LED Mini Lightbar Permanent Mount	Amber 16" Apollo Fleet+ LED Mini Lightbar Magnetic Mount			Select Series Compact Minibar Vacuum Magnetic	Select Series Compact Minibar Amber Permanent Mount	Amber 10" Eclipse Fleet+ LED Mini Lightbar Permanent Mount

Traffic Arrows

Amber Traffic Arrow w/ Controller	Orion 48" x 21" Fleet High Profile Arrow	Orion 48" x 15.5" Fleet Medium Profile Arrow	Orion 48" x 10" Fleet Low Profile Arrow	Titan 60" Fleet High Profile Arrow	Titan 72" Fleet High Profile Arrow	Titan 48" Fleet Low Profile Arrow
Titan 48" Fleet Medium Profile Arrow	Titan 42" Fleet Low Profile Arrow	Titan 42" Fleet Medium Profile Arrow	Titan 48" Fleet High Profile Arrow	Titan 54" Fleet Low Profile Arrow		


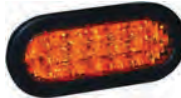
Split Traffic Arrows

Orion 15" x 21" Fleet High Profile Split Arrow	Orion 15" x 15.5" Fleet Medium Profile Split Arrow	Orion 15" x 10" Fleet Low Profile Split Arrow	Titan 18" Fleet High Profile Split Arrow	Titan 18" Fleet Medium Profile Split Arrow	Titan 18" Fleet Low Profile Split Arrow	



Surface Mount Lights

						
Titan Perimeter Light Polycarbonate Base Surface Mount	White 3 LED Low Profile Perimeter Light Surface Mount	Amber & White 6 LED Perimeter Light Surface Mount	Amber 3 LED Perimeter Light Surface Mount			

Self Contained LED Strobe

		
4" Round Perimeter Light Grommet Mount	6" x 2" Oval Perimeter Light Grommet Mount	



Industrial Warning Lights—Low Profile

		
LED Beacon Permanent Mount	LED Beacon Permanent Mount	

Industrial Warning Lights—Hanging

	
LED Beacon Hook Mount	

Industrial Warning Lights—Audio/ Visual

		
LED Beacon Permanent Mount 120VAC w/horn CSA	Strobe Beacon Permanent Mount 120VAC Single Flash w/horn CSA	




Industrial Warning Lights—Explosion Proof

	
LED Beacon Permanent Mount	

Industrial Warning Lights—Heavy Duty & High Profile

					
LED Beacon Permanent Mount	Strobe Beacon Permanent Mount		LED Beacon Permanent Mount	Class 1, Div 2 Strobe	

Industrial Warning Lights—Medium Profile

			
LED Beacon Permanent Mount	LED Beacon Permanent Mount	Fleet + LED Beacon Permanent Mount w/ Up-emitting LEDs	

Lights

Work Lamps

Rocklume	Smart Cornering Light	Power Beam Coloured Lenses	Eco18 LED/ ECO26 LED	R120S	FMS	Modular Work Light
Flextec	Hypalume 110/230V AC	Hypalume 24/48V DC				

Beacons

Duraray 4.0	Ultraray 2.0/2.1	K-LED Mining	K-LED Blizzard	K-LED Rebelution	Micro/ Mini Lightbar	FL Mini
Miniray 2.1	BST/ BST-V Warning Light (6 LED)	BST/ BST-SLIM Warning Light (6 LED)	BST/ BST-SLIM Warning Light (3 LED)	BST- Round Warning Light		

Safety Lamps

Roklume S700 Red	SL60 LED	Roklume 140 Spot				

Provix Power Tower

Equipped with any combination of lights & cameras

- Operation: (1) 1000lbs Hand Winch
- Mast Cable: 3/16" Galvanized Aircraft Cable
- 125 mph Wind Resistance
- Trailer Dimensions: 7'L x 7'W
Trailer Bed
- Hitch: 2" Ball Coupler
- Wiring: 7-Pin Flat
- Axle: 3,500lb
- Weight: +600lbs



- Provides a safe and effective way for operators to quickly deploy cameras, security devices and other equipment to elevations up to thirty feet.
- Features a telescoping light tower that folds over for easy transportation.
- Rotating boom allows for 360° rotation.
- Removable mast head when not in use.
- Contains two 265 watt solar panels and a 500 Ah capacity battery bank with 250 Ah being usable.
- Mast Guidance System
- Custom builds can be provided for higher wind speed resistance when fully raised.



Component Control Center

STOP SHOVEL-TO-HAUL-TRUCK COLLISIONS WITH LED DELINEATORS



Show the haul truck operator where to park to avoid getting bumped.

↩ No bump on swing! ↪

Product Information

3/4 Schedule 40 Pipe Steel Standoffs, 8' in length
 Height: 36.5"
 Diameter: 4.25"
 Weight: W-Out Whip Assembly: 10lbs.
 Construction: Rugged plastic
 LEDs: Super Bright Green 50/50 Tri-Chip
 Assembly: 4' Rope W-Thimble / 25' Power Cord & Switch
 24V or 110V

Delineator Uses

Mining Shovels - Hydraulic, Diesel and Electric
 Excavators / Continuous miners etc.
 Identify the exact location for Haul Truck to park to maintain proper distance from the shovel.

Rearview / Side View Cameras

Add rear + side view cameras to enhance operator vision.
 Operators use camera monitor systems to reverse safely and see delineators.



PROVIX LED PROGRAMMABLE VEHICLE ID BOARD

Magnetic Sensor Changes Numerical LEDs



LED Vehicle ID Board

Available in 3-Digit (117W) or 2-Digit (78W), these vehicle identification boards make communication between operators easier and more efficient. Each LED number ranges from 0 to 9, and can be changed via the onboard magnetic sensor.



ITEM #	XVI-ID03A	XVI-ID03R	XVI-ID02A	XVI-ID02R
APPLICATION	Vehicle ID Board	Vehicle ID Board	Vehicle ID Board	Vehicle ID Board
INCLUDES	Mounting Bracket, LED Board, Mounting Bolts	Mounting Bracket, LED Board, Mounting Bolts	Mounting Bracket, LED Board, Mounting Bolts	Mounting Bracket, LED Board, Mounting Bolts
COLOR	Amber	Red	Amber	Red
WATTAGE	117	117	78	78
INPUT VOLTAGE	9V-32V	9V-32V	9V-32V	9V-32V
AMP DRAW (12V)	9.75A	9.75A	6.5A	6.5A
DIMENSIONS (L-H-W)	25.9" x 17.3" x 1.42"	25.9" x 17.3" x 1.42"	18.6" x 17.3" x 1.42"	18.6" x 17.3" x 1.42"

Technical Information

WARRANTY	Extended
WEIGHT	3-Digit: 19.41 lb 2-Digit: 12.98 lb

Features

- Numerical LEDs Controlled Via Magnetic Sensor
- Designed For Constant 24 Hour Usage
- Durable Die-Cast Aluminum Housing
- Amber & Red LEDs Available
- Multiple Mounting Locations
- 195 LEDs Per Number
- IP-67K Waterproof

Magnetic Numerical Control Sensor

Changing the number on the Board is quick and easy. Simply wave the provided magnet over the square "Magnet" icon near the Provix logo on the bottom half of the board and the numbers will increase by 1 for each pass of the magnet.



LED FLARES:

**A BETTER ALTERNATIVE
TO FUSEE FLARES**

**ELIMINATE
THE RISK POSED
BY FUSEE FLARES**

AN ENVIRONMENTALLY SAFE SOLUTION

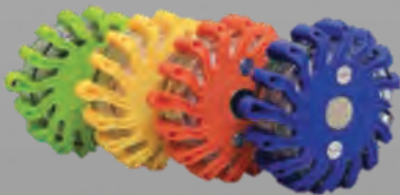
An eco-friendly solution that eliminates chemical and smoke residue; and is safer for the environment and your personnel.

ELIMINATE RISK FIRES

Eliminate dangerous combustible fusee flares that are a risk to vehicles, personnel, and the environment.

IMMEDIATE COST SAVINGS

Self-contained LED flares last for years. Compared to conventional fusee flares, the break-even point occurs after 10 hours of use.



FEATURES

- Rechargeable battery
- Hard Case with built-in charger
 - Different Colour LEDs
 - Environmentally friendly

INTRINSICALLY SAFE CORDLESS LED CAP LAMP WISDOM LAMP 3-EX

PROVIX.NET
Now I CAN SEE!

Model	WLAMP3-EX
Lighting Mode	High
Rated Capacity	7,000 mAh
Light Output	240 lumens 11,000
Light Intensity	lux
Beam Distance	210 metres
Run Time	13 hours
Battery Lifecycle	1,200 cycles
Charge Time	5 hours
Weight	169 grams
CSA C22.2	UL 913



Attaches to existing Hard Hat with 3M adhesive mounting clip



RECHARGEABLE



II 2G Ex ib op is IIB T4 Gb
-20°C ≤ Ta ≤ 40°C



I.S Ex Class 1, Div.1, Groups C and D, T4
-20°C ≤ Ta ≤ 40°C

Explosion-proof LED Headlight
UL & CSA Class I, II, III | Division 1 Certified
Complies with UL 913 & CSA 22.2 No. 157-92



Single unit charger



12 unit Locking FAST charger rack



24 unit Locking FAST charger rack



36 unit Locking FAST charger rack



60 unit (single-sided) Locking FAST charger rack



120 unit Locking FAST charger rack

Lights

Provix Wireless Cap Lamp

PROVIX.NET
Now I CAN SEE!

All in One Multi Purpose Cap Lamp

Explosion-proof, Anti-impact,
Fire-resistant, Flame-retardant

NWI-WLAMP3A



Features

Model	NWI-WLAMP3A
Rated capacity	7000 mAh
Rated voltage	3.7 V
Continuous discharging time	13 H(HI) 60 H(LO)
Main light working voltage	3.0 V
Main light working current	80 mA(LO) 570mA(HI)
Main light power	0.24W(LO) 1.71W(HI)
Main light luminous flux	50LM(LO) 265LM(HI)
Lamp lighting degree	1800lx(LO)
(Initial lighting degree in 1 m)	12000lx(HI)
Main light life span	100000 h
Auxiliary light power	0.4 W
Auxiliary light life span	40000 h
Short circuit protection time	< 320 μs
Life span of the battery	1200 cycles
Charging time	5 h
Dimensions	84 x 69 x 50 mm; 3.3 x 2.7 x 2.0 in
Weight	169 g; 5.96oz



Lights



NWI-WLOA-HEAD

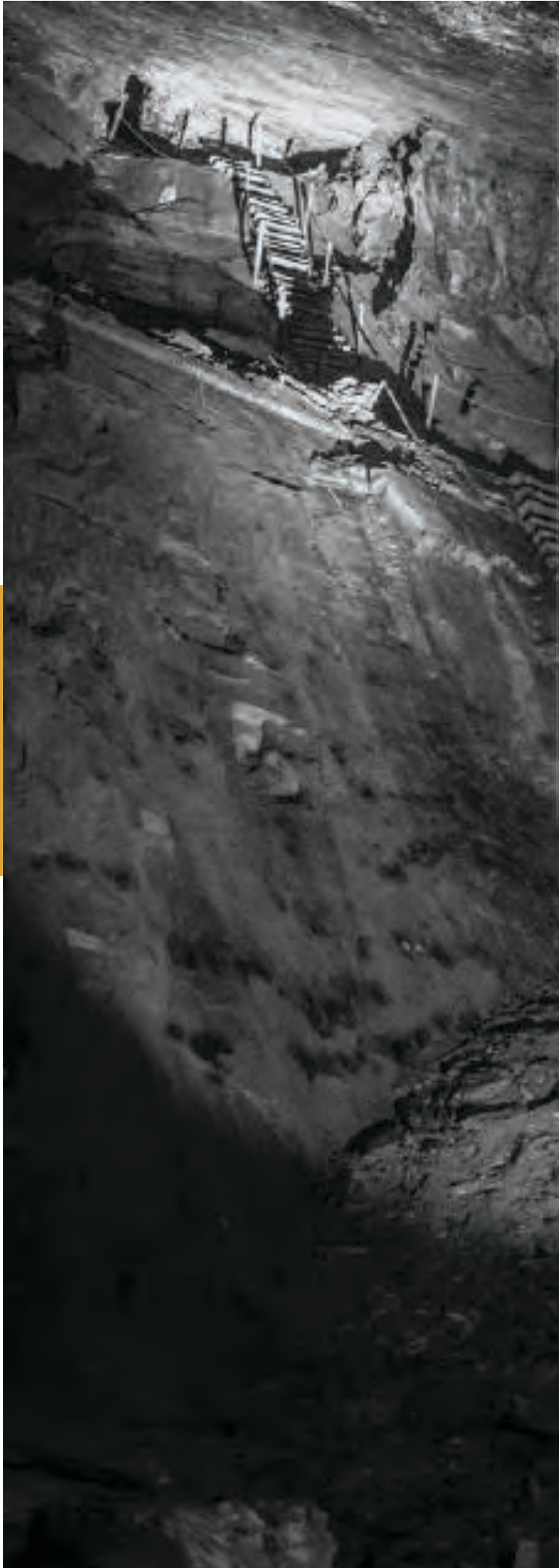


NWI-PRX-LANYARD

NWI-WLOA-LENSC-C

Charging Rack with Locking System NWCR-60BL







APPLICATION STORY



Avoiding accidents with mining vehicles

FLIR Systems PathFindIR thermal imaging camera helps to avoid sometimes deadly accidents.

South Africa is a world renowned leader in the mining industry. Not only is it famous for its mineral resources, which account for a significant proportion of world production, but the country's wealth has been built as a direct result of its vast mineral resources.

Approximately 90% of the planet's platinum resources, 80% of its manganese, 73% of its chrome, 45% of its vanadium and 41% of its gold resources are produced in South Africa. The only exceptions to SA's bounty are crude oil and bauxite.

Mining industry in South Africa

South Africa is the leading producer of precious metals such as gold and platinum, as well as base metals and coal. It is the world's fourth largest producer of diamonds. Experts believe that there is still considerable potential for further discoveries in other areas which have yet to be fully exploited.

The mining industry is also South Africa's biggest employer, with around 460,000 employees and another 400,000 employed by the suppliers of goods and services to the industry.

Trysome Auto Electrical Parts Distributors

Trysome Auto Electrical Parts Distributors, is the single largest source supplier of auto-electrical heavy duty components in Southern Africa.

Established in 1991 and based in Jet Park, Johannesburg, South Africa, Trysome has

branches in key mining districts in South Africa. Their focus is on providing specialized auto electrical components and safety solutions for heavy duty, earth moving, construction, agricultural, transport and mining machinery.

Accidents with mining trucks

"The mining industry is a huge market in South Africa," explains Mr. Eddie Smith, founder and Managing Director of Trysome. "We supply the mining industry with cameras and other safety systems for their trucks and other heavy equipment. It is of little consequence whether mining is carried out in open cast mines or underground, the equipment utilized is always huge and heavy, and as a result any accidents which occur are usually serious."

"In addition to the equipment being extremely large and heavy, an added complication is that the driver is sitting in a very elevated position.



Mr. Wayne Jeffrey, National Sales Director, Mr. Eddie Smith, Managing Director, Mr. Tinus Diedericks, Timeless Technologies.



Accidents in which mining trucks are involved are always serious. This car was run over by a mining truck.

This elevated position results in the driver not always being in a position to see what is happening directly in front, to the side or to the rear of his vehicle."

"Not having a clear view of what is happening around him can result in sometimes deadly,

Mine Rescue





The PathFindIR thermal imaging camera can easily be mounted on front of a mining truck.

accidents. A mining truck, for example is such a huge vehicle that if the driver cannot see a normal LDV parked in front or behind him, he may accidentally drive right over it. Because the vehicle is so large and the terrain often rough he may not even be aware that he has driven over an obstacle and will simply continue to travel. Accidents of this nature are a regular occurrence since people do not always realize the danger of being close to one of these vehicles.", Eddie Smith further explains.

Avoiding accidents

"In order to avoid these types of accidents, Trysome supplies a wide range of cameras and other products that are currently being installed on mining vehicles. Some of the vehicles are equipped with an 8m radar system which warns the driver when something is in his path. In addition to the radar system we can also install GPS Traffic Alert systems which warn the driver timeously of any possible accidents."

"The truck may also be equipped with cameras. These can be mounted on the front, the side and the rear of the vehicle. Images are relayed to a 7" LCD display screen located inside the cabin. Before starting his vehicle the driver should

check all sides of the vehicle to ensure that the road is clear. Some of these cameras are even equipped with infrared illuminators so that the driver has a comprehensive view even when it is getting dark."

"Cameras with infrared illumination can however, only be used for short range observations. Furthermore, vehicles utilized for open cast mining often need to operate in foggy or poor weather conditions which are often complicated by dust. Fog and dust are not ideal conditions for the utilization of CCTV cameras or infrared illuminators."

PathFindIR thermal imaging cameras

"We were looking for another technology that can help drivers of mining vehicles to avoid accidents. After some research we got in contact with Mr. Tinus Diedericks, distributor of FLIR Systems thermal imaging cameras in South Africa."

"When we found out what the FLIR Systems PathFindIR thermal imaging can do, we were impressed. Not only does it produce a crisp image in total darkness, but it can also see through light fog, dust and smoke. Exactly what is required for a mining vehicle."

"We are currently installing the first 68 PathFindIR thermal imaging cameras on board of mining vehicles. They are easy to integrate and are being mounted on the front of the vehicle. The images the PathFindIR produces are displayed on a large LCD screen located inside the vehicle's

cabin. The driver has the ability to switch on the thermal imaging camera at all times, however the thermal images are automatically displayed on his screen once he reaches a pre-determined speed (this differs from site to site). In this case we want him to look at the thermal images regularly. Not only during the night, but also in daytime since the PathFindIR assists vision in dusty, as well as foggy weather conditions, Eddie Smith further elaborates.

Potential for thermal imaging

"The first installations were carried out on vehicles operating on open cast coal mines, however it is of no consequence if the vehicle is being utilized for coal, gold, diamond or any other type of mining operation. In all applications there will almost always be dusty conditions and all will benefit from having a thermal imaging camera installed. Other big and heavy equipment such as excavators, wheel dozers etc which are required to operate in dusty conditions can also easily be equipped with thermal imaging."

"Mining equipment utilized for underground applications also have to deal with dusty and dark conditions and they too can be equipped with thermal imaging cameras."

"Compared to the cost of a vehicle and the money that is subsequently lost due to involvement in mining accidents, the cost of installing a PathFindIR thermal imaging camera is a minor and negligible expense. For this reason more and more companies are considering the installation of PathFindIR thermal imaging cameras on their vehicles", concludes Eddie Smith.



The thermal images produced by the PathFindIR are displayed on a 7" LCD display inside the trucks cabin. They help the driver to avoid accidents.



CALL: 1 888 434 0253
CONTACT: SALES@PROVIX.NET
VISIT: WWW.PROVIX.NET





PathFindIR II

See Clearly in Total Darkness

PathFindIR II is a powerful thermal night vision system that lets you see road hazards clearly in total darkness, detecting and alerting you to nearby vehicles, people, and animals.

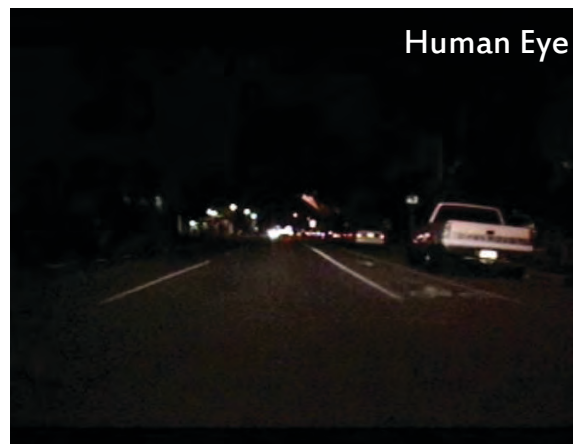
See Farther Than Ever Before

Headlights usually only let you see about 450' straight ahead, but PathFindIR II sees heat not light, so you can see everything in front of you up to four times farther down the road. Now you can see clearly, night and day, in good weather and bad, without being blinded by the glare of oncoming headlights.

And when you can see farther you have more time to react. More time means more options, smoother driving in emergencies and more room to stop. It's the one thing that can help you avoid traffic accidents. With PathFindIR, you can see pedestrians, cars, animals, and virtually any other hazard from farther away, and as they approach the road from either side.

Benefits of PathFindIR II:

- See in total darkness
- Automatic detection and alerts of Pedestrians and Animals
- See pedestrians and vehicles past the glare of oncoming headlights
- See many hazards over four times farther away than with headlights
- See through dust and smoke
- Have more time to react
- Help avoiding accidents and staying safe



Human Eye



Mine Rescue



K-Series



Like the vital protective gear you wear and tools you carry, a thermal imaging camera has become essential firefighting equipment.

Imagine if everyone on the crew could pack a TIC to help them maneuver more safely, attack fires more strategically, and save lives. With FLIR K-Series and the new K2, a TIC for every firefighter is now more feasible than ever before.

Model	FLIR K2	FLIR K45	FLIR K55	FLIR K65
IR Resolution	160 x 120 pixels	240 x 180 pixels	320 x 240 pixels	
Contrast optimization	MSX	Digital image enhancement using FSX		
Sensitivity (NETD)	< 100 mK @ +86°F	< 40 mK @ +86°F	< 30 mK @ +86°F	
NFPA Compliant		—		✓

FLIR K-SERIES FEATURES

So affordable, now more fire trucks and firefighters can carry one FLIR develops and manufactures more thermal imaging cameras than any other company. This integrated capability allows us to offer the K-Series at an extremely affordable price to help you stretch your department's budget.

Clear and crisp thermal images

The maintenance-free uncooled IR sensor and FSX enhancement produces detail-rich thermal images at 320 x 240 pixels (K65 and K55) or 240 x 180 pixels (K45), brightly displayed on the large 4" K-Series LCD, helping you navigate better and expedite critical decisions.

Rugged & reliable

K-Series TICs are designed to withstand the toughest firefighting conditions. They can take a 2-meter drop onto a concrete floor, are water resistant (IP67), and remain fully operational up to +500°F (5 minute duration). The K65 complies fully with the NFPA 1801 2013 standard for firefighting thermal imaging cameras.

Produce simple reports

Save up to 200 thermal images to the internal memory of the K45, K55, and K65. Review them later from the camera or export them and create a report to recap what happened at the scene.

Easy to use, even with gloves on

3 large buttons on the K45, K55, and K65 provide quick access to the intuitive and simple K-Series user interface so you can stay focused on the challenging and fast-changing job at hand.

In-Camera video storage (K55 & K65)

The K55 and K65 can record 200 thermal video clips (up to 5 minutes each) that you can replay on the camera LCD or export for future reference – ideal for onsite review and for training purposes.

TI BASIC



For initial fire attack and life rescuing operations.

BLACK AND WHITE FIRE FIGHTING



Same as the TI Basic mode but a grey scale image.

FIRE



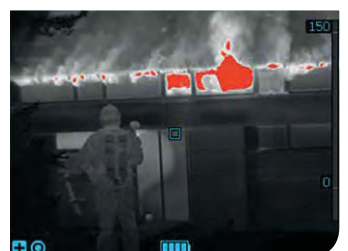
For use in context with higher background temperatures where a lot of open flames are present, particularly in structural fires.

SEARCH & RESCUE



For use with lower temperature situations, such as initial rescue efforts after traffic accidents, searches in wooded landscapes, etc.

HEAT DETECTION



Used for finding hotspots. The hottest 20% of the scene is colored in red.

PTZ THERMAL CAM FOR MINE RESCUE



See Through Smoke, Dust, and Fog!

See in the Dark!!



Additional Option:
The FLIR-XW (External Warning) provides an audible tone and a flashing LED during object detection circumstances from your FLIR PathfindIR II Object Detect camera. Audible feedback can be user-silenced with the included LED-push button.



Mine Rescue

- Thermal PTZ
- Thermal PTZ camera
- Thermal PTZ

system

system

FLIR PathFindIR Inside

- Type & Material: 320 x 240 Uncooled Microbolometer-
- Field of View: 35° H x 27° V
- Spectral Band: 8-14 Microns Long Wave Infrared (LWIR)
- Pan / Tilt: 370° Rotation / 135° Tilt
- Speed: Fast / Slow
- Operation: Wired / Wireless Remote Control Options
- Power Requirement: 9-16 VDC Power: 12 VDC
- Video Output: NTSC / Pal
- Dimension: 6.76" x 7.25" x 8" Weight: 4 lbs.
- Video: BNC / RCA Quick Disconnect
- Warranty: 1 Year Limited
- Hertz: 30 Hertz for North America Not For Export.
- Export Model Available in 9 HZ.

Classification Information: 30 Hz. Version
These products are controlled for export under US Department of Commerce (DOC), Export Administration Regulations (EAR), Export Control Classification Number (ECCN) 6A003.b.4.b. These cameras contain a focal plane array controlled to 6A002.a.3.f. U.S. Government authorization may be required for all destinations except Canada

Classification Information: 9 Hz. Version
These products are controlled for export under US Department of Commerce, Export Administration Regulations (EAR), Export Control Classification Number (ECCN) 6A993. They may be exported under ECCN 6A993, NLR (No License Required) to all countries except terrorist supporting countries (Country Group E: 1), unless otherwise prohibited.



Technical Specifications

SENSORS

- 3 Plug-and-Play Electrochemical sensors
 - Factory pre-configured and calibrated
 - CO, O₂, NO₂, NO, H₂S, and more
- 3 NDIR sensors
 - CH₄, CO₂, and more
- Remotely wired up to 100ft (30m)
- 6 Analog sensor inputs (4-20mA/0-2.0V)

ALARMS

- 4 Custom Alarm Levels with hysteresis and hold times
- Sensor Fail-High and Fail-Low
- Ability to associate relay outputs to alarm levels from a single sensor, or multiple sensors using logical "AND/OR"

COMMUNICATION INTERFACES

- RS485, CONSPEC Trunk, Wireless
- Modbus RTU (wired/wireless)
- Mesh or Star Network

MENU & DISPLAY

- Intuitive menu navigation
- Password protected
- Quick info screen shows device settings
- Slideshow of real-time gas readings
- Graphical LCD display
- Dimmable RGB backlight
- Backlight color indicates monitor status

USER INTERFACE

- IR remote control
- 4 simple buttons

INPUT POWER OPTIONS

- 6 - 56V AC/DC
- D-Cell Battery Operation (1 year)
- 100 - 240VAC 50/60Hz

POWER CONSUMPTION

- 2mA @ 24VDC
- Sleep modes with battery operation

TEMPERATURE & HUMIDITY RANGE

- 20 to +60°C, 0-95% RH non-condensing

CONFIGURATION

- Local Menu Display
- Modbus Register Map or Wireless

APPROVALS

- Class I Division I Groups ABCD, NEMA 4X
- Class I, Zone I, AEx d IIC, IP66
- IECEX Ex d II C, IP68
- ATEX 94/9/EC, EN50014, EN 50018
- SIL-1 (pending)

IO CAPABILITIES

- 6 Digital input/output
- 6 Relay Ports
- 2 channels 4-20mA outputs (V_{in,max}=32V)

WIRELESS FEATURES

- 1 year battery life (single D-cell)
- 2 miles (3.2 km) using external antenna
- 0.5 miles (0.8 km) using low cost internal antenna (break proof)
- Dual Band Support: 433MHz or 915MHz
- Modbus RTU over Wireless
- Self-healing, Self-forming, Mesh or Star
- Up to 250 Modbus Gateway nodes
- Each Gateway can support up to 32 wireless multi-gas monitors

WARRANTY

- Two years standard warranty



PTZ THERMAL CAMERA

- Type & Material: 320 x 240 Uncooled Microbolometer
- Field of View: 35° H x 27° V
- Spectral Band: 8-14 Microns Long Wave Infrared (LWIR)
- Pan / Tilt: 370° Rotation / 135° Tilt
- Speed: Fast / Slow
- Operation: Wired / Wireless Remote Control Options
- Power Requirement: 9-16 VDC Power: 12 VDC
- Video Output: NTSC / PAL
- Dimension: 6.76" x 7.25" x 8" Weight: 4 lbs.
- Video: BNC / RCA Quick Disconnect
- Warranty: 1 Year Limited
- Hertz: 30 Hertz for North America Not For Export.
- Export Model Available in 9 Hz.





THE ONLY IMAGING CAMERA THAT PERSONAL TIC FOR FIRE FIGHTING.

PROVIX.NET
Now I CAN SEE!

KEY CAMERA SPECS

- 320 x 240 Thermal Sensor
- 32° Field of View
- 4 to 1,022F Temperature Detection
- IP67 Rating
- Works Day or Night
- 300 Lumen LED Flashlight

Reveal FirePRO is our most advanced handheld thermal imaging camera yet. Highly durable and easy to use, Reveal FirePRO combines a high-performance 320 x 240 thermal sensor with intuitive software to help you fight fires smarter and safer. And, when you need it, a powerful 300-lumen LED light is available at the touch of a button. The Reveal FirePRO delivers unprecedented high-resolution thermal imaging available at this price.

Find hot spots and heartbeats faster when every second counts. See through smoke, visualize your plan, and execute.



KEY FEATURES

- 320 x 240 High-Resolution Thermal Sensor**
76,800 temperature pixels for maximum image clarity and sensitivity
- Waterproof Design**
Durable and reliable design built with IP67 rating
- Wide, 32-Degree Field of View**
Easily scan a large area to identify hazards and heartbeats in seconds
- Long-Lasting Rechargeable Battery**
Up to 3.5 hours of continuous thermal imaging
- 3 Modes. Purpose-Built for First Responders**
Enhance your vision and situational awareness with a variety of color modes

BENEFITS

- Situational Awareness**
Visualize hazards invisible to the human eye and navigate safely
- Affordable Personal TIC**
Equip the entire department with the first affordable personal TIC
- See Through Smoke. Flashlight Optional.**
300 lumen LED flashlight available at the touch of a button
- Search and Rescue**
Find victims and self-rescue faster with a reliable personal TIC
- Execute 360 Size-ups & Overhaul Faster**
When seconds count, a Seek personal TIC saves time and lives

Vehicle Mounted Thermal Imaging and Gas Detection System



Options / Add-ons:

- ✓ Thermal Imaging
- ✓ Remote Access
- ✓ Video Overlay
- ✓ PTZ Cams (optional)
- ✓ Wi-Fi Modem
- ✓ Lighting
- ✓ Sensors by Draeger or Conspec
- ✓ Multiple Sensor Options



Proviz Gas Detection systems are deployed on Mine Rescue vehicles across Canada.
Contact us for references at SALES@PROVIX.NET!

Detectable Gasses

Carbon Monoxide CO	Nitrogen Dioxide NO ₂	Ammonia NH ₃	Hydrogen Cyanide HCN
Methane CH ₄	Carbon Dioxide CO ₂	Ozone O ₃	Hydrogen Chloride HCl
Hydrogen H ₂	Oxygen O ₂	Nitric Oxide NO	VOC
Hydrogen Sulfide H ₂ S	Chlorine Cl ₂	Propane C ₃ H ₈	Sulfur Dioxide SO ₂

Explosion Proof Cameras

Features

- Explosion Proof Cameras
- IP66 Waterproof/Dustproof
- High Resolution 700 TVL Cameras
- SONY ExView Super HAD II Sensor
- Epoxy Coated Die Cast Housing
- CSA/FM/ATEX/IEC Approvals

3.6mm Wide Angle Fixed Lens

Variable Focal Length Lens

3.7mm

12mm

Certifications

FM Approvals

Explosion-proof for Class I, Division 1, Groups B, C and D;
Dust ignition-proof for Class II/III, Division 1, Groups E, F and G, hazardous (classified) locations, indoors and outdoors (Type 4X/IP66)

CSA

Explosion-proof for Class I, Division 1, Groups B, C and D;
Dust ignition-proof for Class II/III, Division 1, Groups E, F and G, hazardous (classified) locations, indoors and outdoors (Type 4X/IP66)

ATEX

II 2 G D, Ex d IIC, Ex tD A21, IP68, Ta = -40°C to +85°C

IEC EX

Ex d IIC, Ex A21 tD, IP68, Ta = -40°C to +85°C

***SPECIAL**
The Variable Focal Length lens is equipped with a variable focal length lens, enabling it to change from a 3.7mm lens to 12mm lens to meet the needs of the operator.

Explosion Proof IP Series OTI-C3-IP2MVF

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Features

- 2 Megapixel CMOS Sensor
- 2.8~12mm Varifocal Auto-Iris Lens
- Max. 30fps @ 2MP (1920x1080)
- Dual Stream (H.264, MJPEG)
- PoE or 12V DC Power
- CSA / FM / ATEX / IEC Approvals
- IP66 Waterproof / Dustproof

System Integration

Protocols: HTTP, RTP/RTSP, TCP/IP, FTP, Telnet, RARP, PPPoE, SNMP, PAP, CHAP, DHCP, NTP, SMTP client, uPNP, and etc. **Supports both ONVIF (Profiles) and PSIA(v1.0) standards**

System Hardware

32bit Embedded CPU / Embedded Linux / 128MByte SDRAM / 128MByte NAND Flash

Alarm Management

Trigger Conditions: Video loss / Video recovered / Motion detection (144 area) / Boot finished / Schedule

Enclosure Certifications

FM Approvals

Explosion-proof for Class I, Division 1, Groups B, C and D;
Dust ignition-proof for Class II/III, Division 1, Groups E, F and G, hazardous (classified) locations, indoors and outdoors (Type 4X/IP66)

CSA Explosion-proof for Class I, Division 1, Groups B, C and D;
Dust ignition-proof for Class II/III, Division 1, Groups E, F and G, hazardous (classified) locations, indoors and outdoors (Type 4X/IP66)

Camera with Vibration Mount



Specifications	OTI-C3-IP2MVF
Video Encoding	H.264/MJPEG (simultaneous dual stream)
	H.264/H.264 (true H.264 dual streaming)
	Simultaneous streaming with independent control
Resolution	1920x1080, 1280x720, 640x352, 320x176, 160x96
Serial Interface	Console, By-pass command to control UART device
Bandwidth Management	Frame rate control / Bandwidth control / CBR / VBR
External Interface	10/100-Base-T Ethernet (auto-sensing), 1 DI/DO(3.3V TTL), 1 UART port(3.3V TTL)
Image Sensor	1/2.9" progressive scan CMOS
	Total number of pixels: 2000H×1241V=2.48M
	Pixel size (micrometres): 2.58 (H) x 2.58 (V)
	Color filter Bayer arrangement of primary colors: R, G, B
	Bit number of internal ADC: 10/12 bits
	Parallel output: 37.125 MHz, 10/12 bits
	Maximum frame rate in all-pixel scan mode: 60/30 fps
Image Controls	Day & Night (Auto/B&W/Off), AWB, Noise Filter (Off/On)
Illumination	0.0016 Lux
Lens	3.8mm, Fixed, F2.0
Housing	Epoxy Coated Die Cast Aluminum (Copper Free)
Power	POE or 12V DC (4.8W Max. Consumption)
Color	Pantone 293 Blue
Ground Screws	Internal & External
Cover Set Screw	Tamper Resistant Cover Set Screws
O Ring	Buna N
Conduit Connections	2 x 1/2" NPT Standard Connections
External Mounting Holes	2 x 0.33 in / 8.4mm
Dimensions (H x W)	4.86 x 5.65 inches / 12.4 x 14.4 cm
Weight	5 lbs (2.27 kg)
Operation Temp.	-40C ~ 50C





DETECT - ALERT - REACT with PROVIX!

PROVIX is a leading supplier of Proximity Detection and Collision Avoidance systems that increase safety, prevent accidents and increase productivity.

PROVIX Proximity detection systems and Equipment Blind Spot Cameras serve to enhance safety by increasing operators' situational awareness of surrounding vehicles and personnel.

PROVIX supplies an RFID Proximity detection system that outfits all mobile equipment and personnel with RFID tags. The radio frequency output from the tags is received in real time by the antennas that are installed on all heavy equipment and the operator is warned of the presence of personnel, vehicles, lighter equipment or any other hazard that has been tag equipped.

PROVIX supplies Backsense object detection that utilises Radar technology to alert vehicle and equipment operators of the presence of any object within the desired detection zone of a vehicle.

PROVIX supplies Self-adjusting, broadband/white noise reversing alarms that are safer for workers. These intelligent back up alarms reduce noise complaints and eliminate worker acclimatization associated with conventional tonal alarms as they are only heard within the danger area of the reversing vehicle.

PROVIX Safety systems keep workers safe and reduce equipment damage costs.

Contact your PROVIX tech rep to discuss how to best protect your personnel and equipment.

Proviz Radar Detection Camera System

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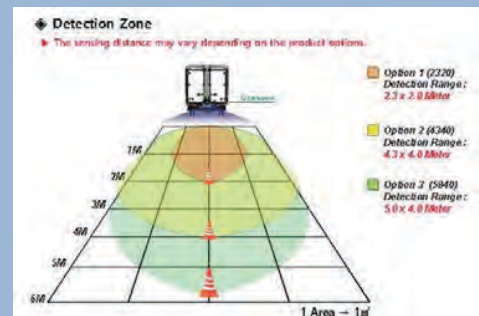
7" AHD Radar Monitor Features

- ✓ 4 Camera input (Quad view) OR 3 Camera input (Single view)
- ✓ Aluminium Die Casting Housing (IP69K)
- ✓ High-Res: 1024 (RGB) x 600 pixel / 500cd/m²
- ✓ 12-60V Free Voltage in Input Power
- ✓ 720P(HD)/1080P(Full HD) camera connectable
- ✓ Dimmer by CDS sensor
- ✓ Built-in circuit protection chipset
- ✓ Display Mode 3 or 4 Cameras: Single Camera display or Mirror/ Normal/ Quad/ Split/ Triple view

All-In-One Radar + Camera System Features

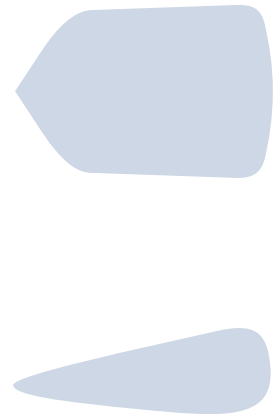
- ✓ Provide image and audible warning signal
- ✓ 24GHz FMCW technology
- ✓ 1080P (Full HD)/ F.O.V :140°
- ✓ Night vision (IR LED & CDS sensor)
- ✓ TDN : True Day & Night
- ✓ Directional Sensing to minimize false alarm
- ✓ Detection range : 4.3 x 4.0 meter
- ✓ Waterproof and rugged design

Proviz Radar Detection System combines best in class active blind spot detection radar with camera and monitor visuals simple for drivers to use. When the vehicle is in reverse, the radar integrated camera provides blind-spot imaging and audible warning to the driver to prevent accidents. Once the sensor detects an object, an audible alert sounds, letting the driver know something is in range.



Provox Radar Detection System

PROVIX.NET
Now I CAN SEE!



Proximity Detection



SMART SELF-ADJUSTING WHITE SOUND BACK-UP ALARMS

PROVIDES **G**REATER SAFETY & **L**ESS NOISE NUISANCE
THAN ANY OTHER ALARM!

INTRODUCING THE SMART, SELF-ADJUSTING BACK-UP ALARMS
WITH VOLUME RANGES FROM 77-97dB AND 87-107dB

MAKING THEM IDEAL FOR TRUCKS, BUSES, COACHES, FORKLIFTS, AIRPORT VEHICLES,
CONSTRUCTION & MINING MACHINERY, AS WELL AS WORKING IN AREAS WHERE THE AMBIENT NOISE LEVEL
MAY VARY SIGNIFICANTLY.



77-97dB

* This is particularly important for vehicles maneuvering in close proximity to each other or going from a noisy environment, such as a factory floor, to a quieter external location, such as a work yard, ensuring the warning is always heard.



87-107dB



KEY BENEFITS:

- ⇒ 'Smart' self-adjusting sound level
- ⇒ Ambient noise is monitored once every second
- ⇒ Automatically adjusts the alarm volume 5-10dB above the sampled noise level
- ⇒

<u>SPECIFICATION:</u>	<u>97:</u>	<u>107:</u>
POWER INPUT (DC)	12-24V	12-24V
POWER	0.5	1.0
	77-97dB	87-107dB
SOUNDER UNIT	Speaker	Speaker
FREQUENCY	Multi	Multi
DIMENSIONS (IN.)	5 x 2.5 x 3.6	7 x 3.7 x 3.1



Proximity Detection

RealTrac Collision Avoidance System



The RealTrac Collision Avoidance System is designed to: detect dangerous proximities; issue warnings to the objects detected in such proximity; and avoid collisions between vehicles or between vehicles and personnel.

The product has two monitor directions:

1. Vehicle-to-Vehicle proximity detection control
2. Vehicle-to-Human proximity detection control

MONITOR DIRECTIONS

VEHICLE-to-VEHICLE

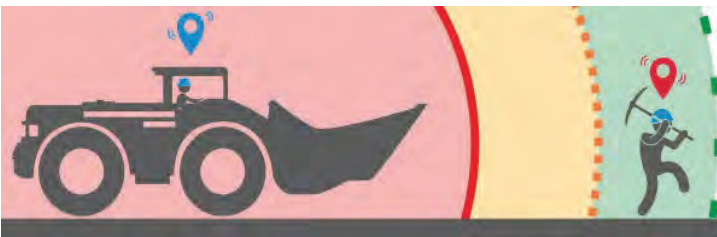
- Registers dangerous proximity
- Issues a warning about a potential collision
- Decreases downtimes caused by vehicle collisions
- Ensures traffic safety in case of poor visibility

VEHICLE-to-HUMAN

- Detects a person on a vehicle's path of motion
- Issues a warning about a person located in hazardous area
- Decreases industrial injuries caused by collisions between vehicles and personnel

DANGEROUS PROXIMITY CONTROL ZONES

After RealTrac Collision Avoidance equipment is installed on a vehicle or machinery, three (3) control zones are shaped around it: the green-light Attention Zone, yellow-light Danger Zone, and red-light Emergency Zone.

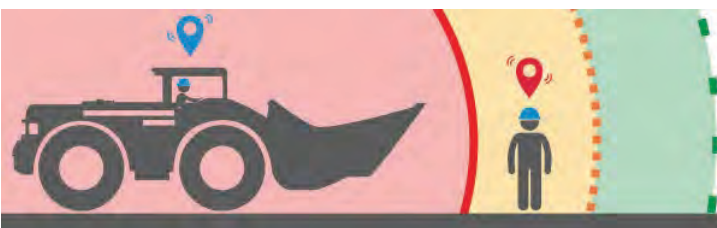


ATTENTION ZONE

Issues a warning to personnel about vehicles, equipment, etc. detected in close range.

Detects potential dangerous proximity and draws personnel's attention to proximity to the other object.

- **Light indication**
 - Dashboard indication in a vehicle
 - LED signal on personal tag
- **Sound indication**
 - Repeated audio signals inside cab
- **Vibration**
 - Discrete vibrations on tag



DANGER ZONE

Provides dangerous proximity detection and attracts personnel's attention, can slow down the speed of vehicles or equipment.

Issues warnings about possible accidents and draws personnel's attention to a dangerous proximity to the other object.

- **Light indication**
 - Dashboard indication in vehicle
 - LED signal on personal tag
 - Strobe light on the outside of vehicle
 - Blinking yellow marker lights on vehicle
- **Sound indication**
 - Repeated audio signals inside vehicle
- **Vibration**
 - Repeated vibrations on tag



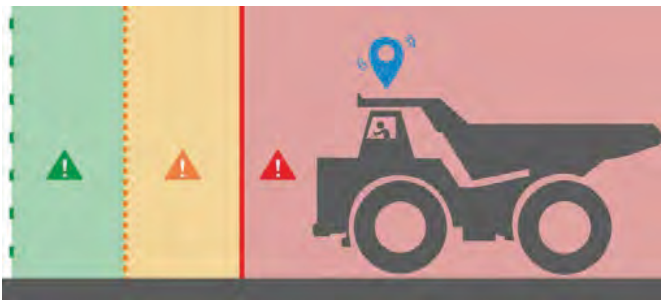
EMERGENCY ZONE

Generates alarm signal in case of emergency or extreme dangerous proximity, can stop vehicles or equipment.

- **Light indication**
 - Emergency strobe lights on a vehicle
 - LED light on a personal tag
- **Sound indication**
 - Car siren
 - Car horn
- **Vibration**
 - Continuous vibration on a personal tag

It helps to create three necessary zones around a vehicle or any other piece of equipment that will issue a warning about dangerous proximity between vehicles and personnel.

CONTROL ZONES SIDE VIEW



The zones can be configured to detect other objects at various distances from a vehicle or machinery.

CONTROL ZONES TOP VIEW



The zones can have different shapes and be tailored to certain type of vehicles and the equipment installed.

THE KEY FEATURE OF REALTRAC COLLISION AVOIDANCE

The three-zone vehicle operator display provides continuous visual assessment of the environment. It detects any case of dangerous proximity with another object and take actions to prevent a collision or run-over.

The display monitor shows system health with buttons to enable emergency notifications and confirm actions.

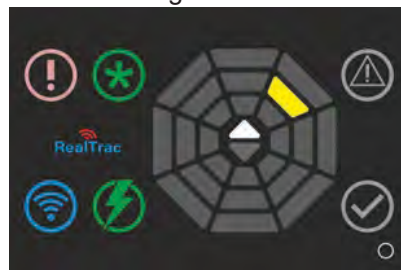
The position shown below in the upper right corner depicts how an object enters and leaves different control zones.

“Alert” Zone



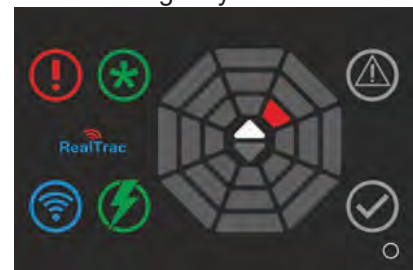
An external object is indicated in green to the right of the vehicle along the path in «Alert» Zone.

“Danger” Zone



The object has approached the vehicle at a dangerous proximity and entered «Danger» zone. The sound notification is activated and the sign «Alert» on the display starts to blink rarely.

“Emergency” Zone



The object has come close to the vehicle at a dangerous distance, has entered the «Emergency» zone and a collision is possible. A permanent audible alarm is activated and the «Emergency» sign flashes frequently on the display.

Additionally, RealTrac Collision Avoidance System can be connected to the cap lamps, flashing beacons and equipment for sound notification. This way the system will notify the machinery and personnel about entering «Alert», «Danger» and «Emergency» zones.

ADVANTAGES OF THE PRODUCT

IP67

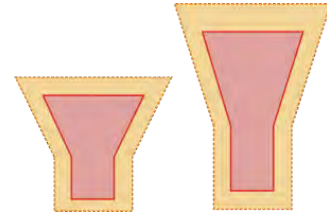
OPERATES IN ANY WEATHER CONDITIONS & AGGRESSIVE ENVIRONMENTS

The product design is based on the equipment enhanced with IP65-67 that ensures its use in any weather conditions, aggressive work environments with thick dust, and operation within a wide temperature range.



NO INTERNET OR SERVER CONNECTION IS REQUIRED

The product detects dangerous proximity and issues warnings independently from server or Internet connection. It ensures its use in any conditions.



DYNAMIC ZONES: CUSTOM SHAPE, SIZE & POSITION OF CONTROL ZONES, DEPENDING ON THE SITUATION

You can specify any shape, size and position of the zones, depending on the type of technology, operating conditions and industrial safety requirements. The control zones can also be changed when the driving direction is changed or attachments or working tools are activated.

POSSIBLE APPLICATIONS OF THE REALTRAC COLLISION AVOIDANCE SYSTEMS



Mining industry (underground mining)



Construction industry



Customized development meeting your requirements

THE REALTRAC COLLISION AVOIDANCE SYSTEM COMPONENTS

EQUIPMENT FOR EMPLOYERS AND MINERS



Personal tags (trackers) - are given to company employees to determine their positioning relative to the vehicle with the installed Collision Avoidance System VBUs. Personal tag can be embedded into a cap lamp or be designed as a portable device.

PROVIX CAS 1000 VOD

Vehicle Operator Display (VOD) - is installed in the driver's cabin and serves for visual assessment of the environment around the vehicle, receiving alerts about the dangerous proximity and monitoring the system state.



PROVIX CAS 1000 VCU

Vehicle Control Unit (VCU) - is installed on a vehicle and calculates the distance from the tag to the VBUs and the tag's direction of movement. The VCU determines in which of the control zones the tag is located and, depending on this, displays the information about objects in different zones to the driver and activates light and graphic or audible alerts.



PROVIX CAS 1000 VBU

Vehicle Beacon Unit (VBU) – is utilized to detect other VBUs or personal tags (trackers). The number of VBUs installed on a vehicle depends on the size and configuration of the vehicle (usually 4-8 units).

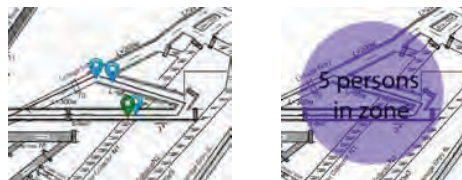
RealTrac UG Functions Include

- position, movement,
and utilization monitoring
- emergency message
broadcast
- digital voice
- digital data
and telemetry
- hazardous zones
(geo-fencing)
- panic button
- man-down
alert
- proximity
detection &
collision
avoidance

Features of Staff/Vehicles Monitoring System

1. Mix of zonal and precise positioning with one tag:

- ◇ Zone positioning—30-50m accuracy
- ◇ Precise positioning—accuracy better than 1m



Mix of zonal and precise positioning

2. Mix of underground and open pit monitoring:

- ◇ With our system you can keep on monitoring your staff and equipment even when they move from open pit to indoor

3. Simple integration with actual management systems through API:

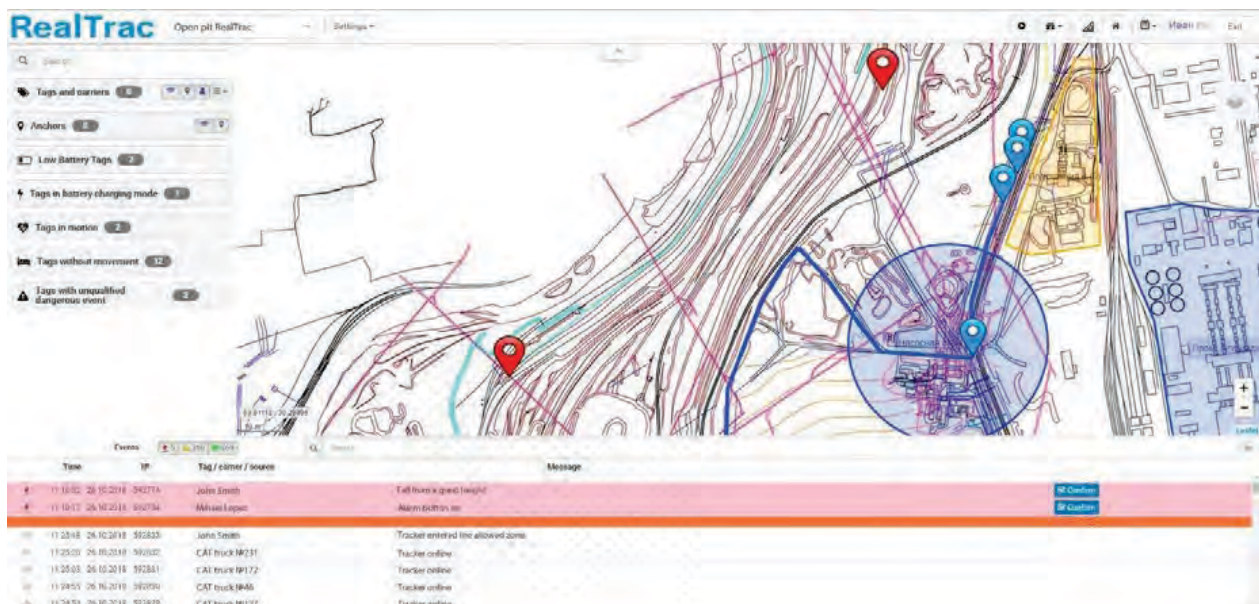
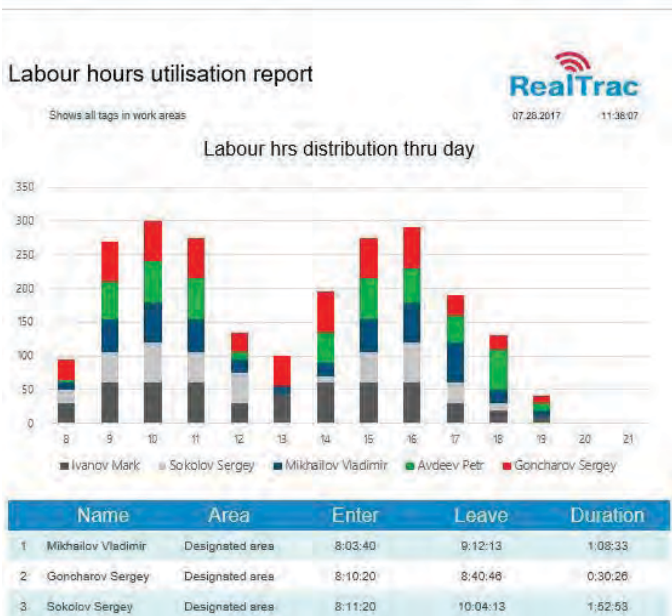
- ◇ analytical reports (time spent in different zones, equipment tracking & utilization, etc.)
- ◇ alerts to control room (danger zone violation, etc.)
- ◇ tracking personnel and vehicles on site map in real-time, or on-demand



Personnel/Equipment monitoring: convenient maps and reports



- ◇ Customer maps can be loaded into RealTrac software, after which the vehicle and personnel will be displayed on the map in real time.
- ◇ RealTrac software allows you to generate reports on the penetration of objects into the delineated areas both in open areas and in rooms with time, duration.
- ◇ The downloaded maps can also be used as part of the CAS to prevent collisions with the sides of the quarries, infrastructure facilities, etc.



Proximity Detection



REALTRAC INDOOR POSITIONING

REALTRAC – REAL-TIME POSITIONING SYSTEM FOR INDOOR AREAS AND MINES

Are you looking for personnel and vehicle security and safety?
Are you looking for labor efficiency increasing?

Object positioning system provides safety level increasing, automated timekeeping and access level control, optimization of business processes for mining industries.

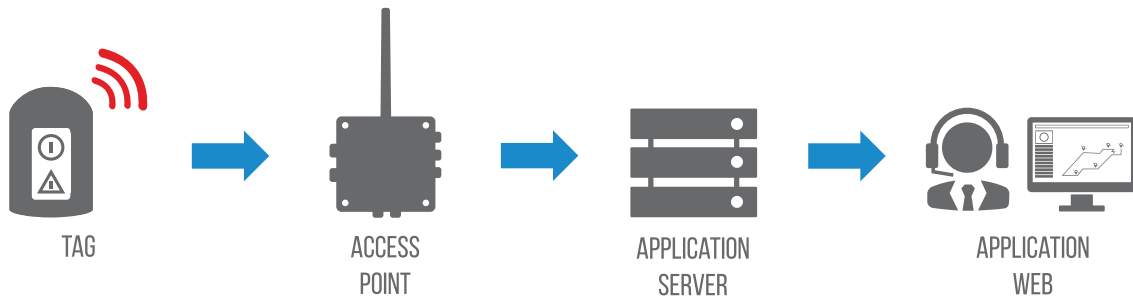
FEATURES:

- proprietary technology,
- object positioning within the premises and under the ground with
- the use of a single device only,
- positioning accuracy up to 1 meter,
- automated timekeeping,
- access level control and issuing notifications,
- panic button warning a system manager about an accident,
- connection to gas-, temperature and other sensors and data transmission from/to them,
- automated man-down control system,
- proximity detection and collision avoidance system,
- integration with any through API,
- single positioning and data transmission infrastructure.

You can always monitor the location of the personnel, the time a worker spends in a specific area. With the help of notifications and reports, the system manager can monitor and detect:

- current status and location of each worker,
- access level violation,
- switching panic button and the location of a worker in an
- emergency situation,
- data on the working environment (temperature, gas contamination, etc.),
- remote equipment control (ventilation, conveyor systems. etc.) in real time,
- telemetry transmission from the drilling equipment in real time,
- unauthorized use and downtime of the equipment,
- vehicle, equipment and cargo theft,
- evacuation control in case of landslide, fire, gas emission or other emergency.





The RealTrac Positioning can be implemented on:

- a worker (both as a portable device and as a tag embedded into a lamp or other portable device),
- a vehicle,
- industrial and mining equipment,
- cars, carts, carriages,
- containers, pallets.



It helps to optimize current business-processes of the company, to increase the speed and the quality of business operations.

BENEFITS

- increasing safety and security level for mining works,
- general labor discipline improvement,
- optimization of equipment operation,
- area security control and detection of border violations,
- minimization of labor injuries at the entrance or in closed or hazardous areas,
- increasing labor efficiency of personnel and vehicles,
- emergency control and avoidance.

DATASHEET

TECHNOLOGY	Patented RealTrac algorithms, UWB, GPS/GLONASS, Wi-Fi, RFID, Bluetooth
INTERFACES	RS-485, USB, mini-USB, Ethernet
POWER	12VDC, POE, accumulator, battery
INTEGRATION	API integration with SAP, ERP, CRM, automated control systems, distributed control systems, telephony systems, video surveillance etc.
PROTECTION	Industrial, IP53, IP67, Exia

☎ (888) 434-0253
 🌐 www.provix.net
 ✉ sales@provix.net

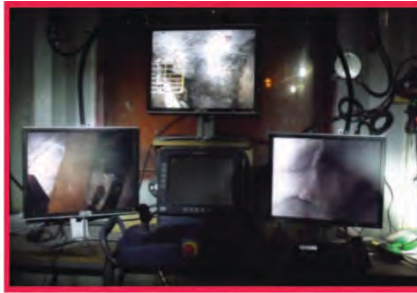


Chute Cameras Enable Haul Truck Drivers to Operate Arc Gates by Remote Control

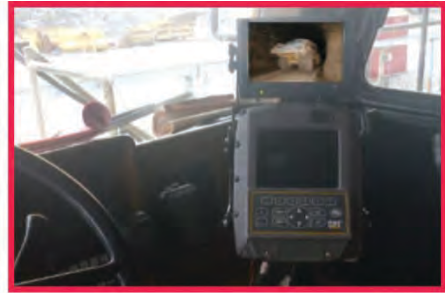
Written by Karly Winfield, Technical Sales Consultant at Provix Inc.



Birds eye view of load



Network video available in control room



Truck driver sees loading processes on screen

Provix specializes in enhancing safety and productivity by offering core competencies through video integration, remote operation, proximity detection, and vision enhancement for mining operations. The company is a solution provider that blends multiple technologies to address common problems in both surface and underground mining around the world.

The loading pocket or chute wireless camera system is wall- or back-mounted to transmit video of the loading process to any destination. Real time video is transmitted to the control room, to the monitor display screen in the cab of the equipment, and over the network for viewing on the surface. The haul truck operator can operate the arc gates with remote controls eliminating the requirement for an additional person to open and close the chute. This single cost saving factor has been instrumental in many mines' decision to outfit their chutes and trucks with this system. Saving back-mounted ventilation is also a factor to consider.

have implemented the Provix wireless camera technology on loading chutes for their customers around the world.

Variant supplies an IR remote control with a Provix camera system that enables the operator to control the throat gate and lip functions of the chute to safely load trucks, trams, ore cars, or conveyors. This has been demonstrated to provide the highest level of production efficiency with cost savings while increasing the safety of the chute and the loading process. The loading station operator can monitor the loading process of the trucks in line while the operational control room can verify load level and conveyor or chute status. The operator of the truck, tram, or LHD is able to view the loading process without having to leave the operator cab of the vehicle and can ensure that the box is not overloaded or loaded too high for the drift height. The driver can view the level in the dump box as it fills: a bird's eye view of the height of the load has saved more than a few ventilation runs. The display monitor in the driver cab can also automatically display the rear or blind side cameras on the same screen. Safety is paramount.

The successful operation of the loading chute camera is best evidenced by its continued deployment by both mines and contractors. Vale first implemented the Provix chute cameras at their Creighton Mine. With the success of that installation, they went on to deploy the same system at their Coleman Mine. Other mines using the same system include Newmont's Red Lake complex (now owned by Evolution Mining Limited); Alamos Gold's Young Davidson Mine; Kirkland Lake Gold, the Ekati Diamond Mine; and the Diavik Diamond Mine. It is also deployed on multiple chutes at Rio Tinto's Oyu Tolgoi Mine.

Provix camera systems have become a fixture in international mining operations due to their versatility, cost effective performance and the ability to be quickly customized to suit various operations.

Variant Mining and Ionic Engineering, the manufacturer and installer of automated loading chutes with remote controls,



Call Toll Free: 1-888-434-0253

Contact: sales@provix.net

Visit: www.provix.net

ISO 9001: 2015 Certified



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