

VISION X LIGHTING

MINING SOLUTIONS

2018 | CATALOG

LIGHTING EVOLVED

LED INITIATIVE PROGRAM

Safety

- IEC 62471 Photo Biological Tested - No Effect on Human Eye or Skin
- 5000k Color Temperature Reduces Operator Fatigue
- Low Voltage Electronics Eliminates Risk of Shock
- Thermally Regulated Housings Eliminate Touch Burns
- Increased Light Output Reduces Near Miss Incidences
- RoHS Compliant Electronics Contain No Lead or Mercury



Preventative Maintenance

- Long Life LED Exceeds Half Engine Life
- Solid State Components Completely Resist Vibration
- Low Startup Current Draw Reduces Wear on Associated Components
- Built-In Redundancy Lessens Chance of Full Fixture Failure
- Built-In Thermal Management Prevents Overheating
- IP-68 Rated Housings for Superior Ingress Protection



Cost Savings

- Reduces Associated Component Wear
- Less Expensive Than OE and HID Options
- Increased Reliability for Increased Production
- Reduces or Removes Unscheduled Lighting Maintenance
- Increased Productivity Due to Less Operator Fatigue
- Streamline Inventory Counts to Common Solution



Environment

- RoHS Compliant Electronics
- Contains No Lead or Mercury
- Reduced CO2 Emissions
- No Hazardous Disposal Req





COMPREHENSIVE LIGHTING SYSTEMS

Open Pit

- Haul Trucks
- Rope Shovels
- Hydraulic Shovels
- Dozers
- Drag Lines
- Graders
- Drill Rigs
- Loaders

Underground

- Haul Trucks
- Jumbos
- Bolters
- Muckers
- Loaders
- Concrete Sprayers
- Graders
- Utility Carriers

Structural

- Work Shops
- Wash Bays
- Roasters
- SX/EW
- Crushers
- Haul Roads
- Exterior Building
- Low Bay / Mezzanine

Support Equipment

- Light Plant Retro Fit
- Lube Trucks
- Tire Carriers
- Work Trucks
- Conveyor Systems
- Trams
- Drills



ADVANCED TECHNOLOGY

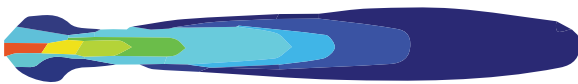


Beam Patterns

Developed in consultation with industry leaders to meet specific needs and provide for the most control of the light source.

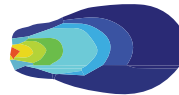
10 Degree

Spot light applications



60 Degree

High beam open pit flood applications and work lighting



25 Degree

Long range flood applications

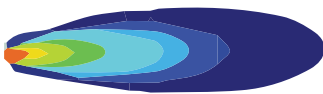


High beam underground flood applications and work lighting



25 Degree

Long range flood applications



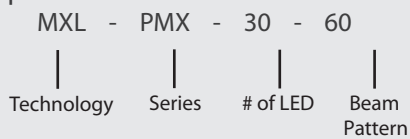
3065 Elliptical

30°/65° low beam driving and tramming light



PART NUMBER EXPLANATION

Example



Technology

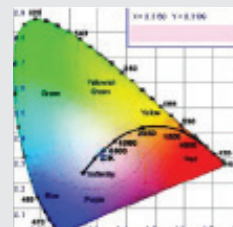
MIL Mining LED
 MXL Mining Xtreme LED
 XIL Commercial LED

Beam Pattern

10 10° Optic
 25 25° Optic
 40 40° Optic
 60 60° Optic
 90 90° Optic
 e3065 30°/65° Elliptical

LIGHT TEMPERATURE

Vision X MXL Series lights are designed to produce the best operating conditions for operator safety and efficiency. The way this is done is through providing light at 5000k to ensure bright working conditions in both clear and dusty environments.





VISION X LED

Low Amp Draw
High Output
50 000 Hour Lifespan



LEDs



10 Watt LED

Highest light output per LED for greatest bulk light, producing the most light output per square inch.



5 Watt LED

Greatest distance meets greatest light output. A tight LED configuration along with 493 raw lumens per LED achieves the brightest light and the greatest distance.



3 Watt LED

Tight LED configuration for the best optical control. Achieve the greatest distance and depth.

Mounting

Bar Mount



Single-Stud Mount



Trunnion Bracket



Suspension Mount



E-Mark is used in components of motor vehicles as the conformity mark for products in the European Economic Area



CE is a mandatory conformity mark for products in the European Economic Area



EMC and EMI certifies that a product does not cause radio interference or interfere with other electrical components



DOT certification ensures that the product meets the standards set forth by the United States Dept. of Transportation



UL Certification is recognized around the world as a way to ensure standards for products



Compliance with the Restriction of Hazardous Substances Directive ensures no use of restricted hazardous materials in products



MIL MINING

RANGE DEFINITION

Pit Master Xtreme Prime Series

Modular LED Upgrade for HPS and Metal Halide

Pit Master 400W Metal Halide Replacement

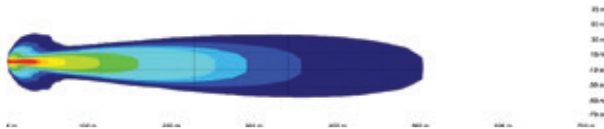


Technical Details	
Dimensions	11.69" x 7.09" x 4.94"
Lumens (2800Ma)	14,790 Lm
Wattage	150
Weight	5 kg
Amp Draw (12V)	12.5A
Vibration Rating	15.6 Grms

Added Features	
<ul style="list-style-type: none"> • Integrated Deutsch Connector with Plug-and-Play Harness • 360° Adjustable Trunnion Bracket Mount • Die-Cast Aluminum Housing • Polycarbonate Lens • Patent Pending 	

10° Narrow Beam

PART # MIL-PMX3010



60° Extra Wide Beam

PART # MIL-PMX3060



Pit Master 1000W Metal Halide Replacement

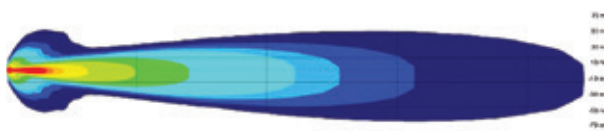


Technical Details	
Dimensions	11.25" x 2.97" x 14.25"
Lumens (2800Ma)	29,580 Lm
Wattage	300
Weight	6 kg
Amp Draw (12V)	25A
Vibration Rating	15.6 Grms

Added Features	
<ul style="list-style-type: none"> • Integrated Deutsch Connector with Plug-and-Play Harness • 360° Adjustable Trunnion Bracket Mount • Die-Cast Aluminum Housing • Polycarbonate Lens • Patent Pending 	

10° Narrow Beam

PART # MIL-PMX6010



60° Extra Wide Beam

PART # MIL-PMX6060



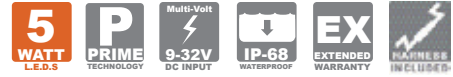
5 Watt Prime Series

Ripper and Explorer LED Series

Rugged Mounting Bracket Design
Prime Drive for Enhanced Reliability & Output.

- Integrated Electronic Thermal Management (ETM)
- Xtreme Five Watt LED is Driven to 90% Efficiency
- PWM Integrated Dimming Circuitry
- Advanced Heat Sink Design

Series Specifications	
Warranty	Extended
Available Housing Floor	Black or White
Available Beam Patterns	10, 25°, 40°, 60°, 30°/65°
Optic Purity	90%
Driven at	90%
Operation Temp	-40 Celsius ~ +80 Celsius
Input Voltage	9-32V DC
IP Rating	IP-68
Led Lifespan	50 000 hours



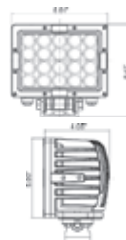
Ripper 12 LED Work Light



Technical Details	
Dimensions	4.41" X 4.05" X 5.00"
Lumens (2800Ma)	5,916 Lm
Wattage	60
Weight	2 kg
Amp Draw (12V)	5A
Vibration Rating	60 Grms

Part #	MIL-RXP1210T	MIL-RXP1240T	MIL-RXP1260T
Beam	10° Narrow	40° Wide	60° Extra Wide

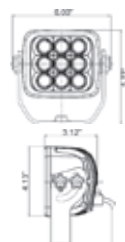
Ripper 20 LED Work Light



Technical Details	
Dimensions	6.61" x 6.42" x 4.05"
Lumens (2800Ma)	9,860 Lm
Wattage	100
Weight	3 kg
Amp Draw (12V)	8.33A
Vibration Rating	60 Grms

Part #	MIL-RXP2010T	MIL-RXP2040T	MIL-RXP2060T
Beam	10° Narrow	40° Wide	60° Extra Wide

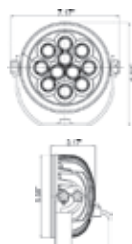
Explorer 9 LED Light



Technical Details	
Dimensions	4.13" x 6.00" x 3.13"
Lumens (2800Ma)	4,437 Lm
Wattage	45
Weight	1.5 kg
Amp Draw (12V)	3.8A
Vibration Rating	15.6 Grms

Part #	CTL-EPX910	CTL-EPX940	CTL-EPX960
Beam	10° Narrow	40° Wide	60° Extra Wide

Explorer 11 LED Light



Technical Details	
Dimensions	7.14" x 5.98" x 3.17"
Lumens (2800Ma)	5,423 Lm
Wattage	55
Weight	2 kg
Amp Draw (12V)	4.6A
Vibration Rating	15.6 Grms

Part #	CTL-EPX1110	CTL-EPX1140	CTL-EPX1160
Beam	10° Narrow	40° Wide	60° Extra Wide

MXL MINING

RANGE DEFINITION



Mining Xreme Lighting (MXL) Range

The MXL Mining Range is the premier line of LED products for use on mine sites. The MXL Range enhances lighting performance, increases durability and simplifies maintenance with new features for the most dependable lighting for mining applications.

Forward Rake Trunnion

Allows light to mount in factory hole location while still protruding over metal bumper lip on many mining vehicles giving a larger field of view.

Rubber Isolated Bracket

No metal on metal contact lessens vibration symptoms on brackets, optics and electronics on circuit board and bolts.

304 Stainless

Increased protection against corrosion due to chemicals, acids and chlorides. 304 stainless steel contains twice the carbon over 316 stainless steel for increased strength in high vibration scenarios.

True Glow Optic Holder

Phosphorescent paint charges and glows off its own power, or off of other oncoming light sources when power is removed. Vehicles parked in staging areas or deep in a drift now have multiple safety indicators to approaching vehicles everywhere a True Glow light is mounted.

Side Bolt

Standard M8 bolt for socket adjustment.

5000K LED

Best all around color temp for both dusty and clear environments. Note, customers can special order in 4300K for extremely dusty environments.

Prime Drive Thermal Management

Regulates the temperature of the lights to an exterior housing temp of 130F (55C); no touch burns and well below the ignition temperature for hydraulic fluid. Sustains long life of LED's.

18-65v Input

Built to handle a wide voltage range as well as voltage spikes while only operating above 18 volts to prevent theft for automotive use.

Feather Start

Feather start technology allows a gradual introduction of amperage onto the circuit over a 5 second period reducing the wear on associated components: starter, alternator and battery systems as well as other sensitive circuitry being used.

Reverse Polarity Protection

Eliminates light failures due to improperly pinned or reverse polarity harnesses.

Reverse Polarity Operation

Allows light to operate regardless of the polarity input of the pins or harnesses. Eliminates troubleshooting and damage due to improper pinned or polarity harnesses.

Radius Bend Bracket

Eliminates failures due to fatigue applied on tight bends and acts as a cushion point to vibration.

Spray Clean Coating

Polytetrafluoroethylene (PTFE) non-stick coating allows dirt and grime to be washed away without scrubbing and also has a higher thermal conductivity than standard coating to dissipate more heat from the housing.

All Tight Bolt System

A combination of Nylocks, Nybolts and thread locker on every fastening entity on every light.

Laser Etched Beam

Added at every serial code location to denote the beam pattern on each light.

IP 69K

German standard DIN 40050-9 extends rating for high-pressure, high-temperature wash-down and steam cleaning.

CISPR 25

ANSI and IEC standard for vehicles, boats and internal combustion engines, defines limits of electromagnetic interference (EMI) and radio frequency interference (RFI). No EMI/RFI interference.



VEHICLE

FIT OUT GUIDES

Vision
Standard Lighting & Signaling

P&H 4100XPC




MIL-PMX6060
P&H 4100XPC 1500W HPS LED replacement fixture

1500W (1500W) LED fixture mounts in front of top lighting. LED fixture mounts in front of right of front mount.
 1500W (1500W) LED fixture (1500W) LED fixture side lighting fixture in front of rear lighting.
 1500W (1500W) LED fixture (1500W) LED fixture in front of top lighting.
 1500W (1500W) LED fixture (1500W) LED fixture in front of rear lighting.

Vision
Standard Lighting & Signaling

CATERPILLAR 797F DUMP TRUCK




MIL-SP520
4" Square Spot LED Work Light

- In front fender (one on each side of rear fender only)
- Surface Mounting (one on each side of front fender)
- Surface Mounting (one on each side of rear fender)
- Surface Mounting (one on each side of rear fender)

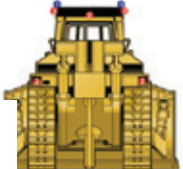
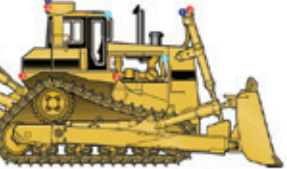
MIL-SP540
4" Square Flood LED Work Light

- In front fender (one on each corner of rear fender only)
- In front fender (one on each side of front fender)
- In front fender (one on each side of rear fender)
- In front fender (one on each side of rear fender)

MIL-SP140
2" Round Flood LED Pod

- In the Outer Corner of Operator's Cabin (Registration Area Only)
- In Top Corner of Operator's Cabin (Registration Area Only)
- In Top Corner of Operator's Cabin (Registration Area Only)
- In Top Corner of Operator's Cabin (Registration Area Only)

CATERPILLAR D11 DOZER

MIL-RPX1240
4.5' x 5' Rectangle Spot LED Work Light

- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)

MIL-RPX1260
4.5' x 5' Rectangle Flood LED Work Light

- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)
- In Front Fender (one on each side of fender)

MIL-SP140
2" Round Flood LED Pod

- In the Outer Corner of Operator's Cabin (Registration Area Only)
- In the Outer Corner of Operator's Cabin (Registration Area Only)
- In the Outer Corner of Operator's Cabin (Registration Area Only)
- In the Outer Corner of Operator's Cabin (Registration Area Only)



ROI

CALCULATION AND ANALYSIS

P&H 2800/4100 Technology Upgrade Overview

Opportunity

Lighting on P&H Models 2800 and 4100 has been adequate at best. New LED lighting technology has been designed specific models to address issues with current lighting systems.

Objectives Achieved Through LED Upgrade

- 70% Reduction in power consumption over current OE lighting System
- 26% Increase in light output on effective Work Area (Measured in LUX on work surface in 12 critical points)
- 80% Decrease in light pollution (Stray light loss into surrounding hills and into oncoming equipment)
- Built in redundancy in each light fixture to completely remove unscheduled maintenance
- Serviceable dual power supply and circuit board during PM
- ROHS compliant components contain no Lead or Mercury and require no hazardous disposal

Scope Of Work

- Direct 1 for 1 replacement of OE fixture
- Bypass of OE ballast system allowing 120vAC to flow directly to light fixture

Financial Benefits Per Fixture

	OE HPS FIXTURE	XIL-PMX6060 LED FIXTURE	Reduction	Increase	%
Wattage	1000	300	700		
Amperage (120vAC)	8.33	2.5	5.8		
Comprehensive Lux at 12 locations	1678	2121		443	
Daily Operating Wh (24 Hours)	24,000	7200	16,800		
Monthly Maintenance	0.134	0	1.5		
kWh cost per month (\$.40 kWh)	\$ 288.00	\$ 86.40	\$ 201.60		

Financial Benefits Per Machine (13 Fixtures)

	OE HPS FIXTURE	XIL-PMX6060 LED FIXTURE	Reduction	Increase	%
Wattage	13000	3900	9100		
Amperage (120vAC)	108.33	32.50	75.8		
Comprehensive Lux at 12 locations	21814	27573		5759	
Daily Operating Wh (24 Hours)	312000	93600	218,400		
Monthly Maintenance	1.65	0	1.5		
kWh cost per month (\$.40 kWh)	\$ 3,744.00	\$ 1,123.20	\$ 2,620.80		
Annual kWh Cost	\$ 44,928.00	\$ 13,478.40	\$ 31,449.60		
10 Year ROI	\$ 449,280.00	\$ 134,784.00	\$ 314,496.00		
Annual UM Cost (\$60K/hr - .5hr repair)	\$ 630,000.00	\$ -	\$ 630,000.00		
Annual CO2 Emissions (1.33 lbs/kWh)	151460	45438	106022		

Average Cost to Retrofit	\$ 31,187.00	USD
Annual Energy Savings	\$ 31,449.60	USD
ROI Energy Savings Only	< 1 Year	
Annual Unsch. Maintenance Savings	\$ 630,000.00	USD
Total Annual Savings Per Machine	\$ 661,449.60	USD
ROI (Energy and UM Savings)	18.25	Days



HEAD OFFICE

JOHANNESBUR RANDBURG

TIME ACCESS AND AUTOMOTIVE SYSTEMS

23 STEVENS ROAD, BLAIRGOWRIE, RANDBURG

South Africa

Tel: +27(0)11 326 4146

Cell +27(0)82 375 3280

Fax: +27(0)11 781 4392

adriang@lantic.net

www.t-a-s.co.za

www.timeandautomotive.co.za

