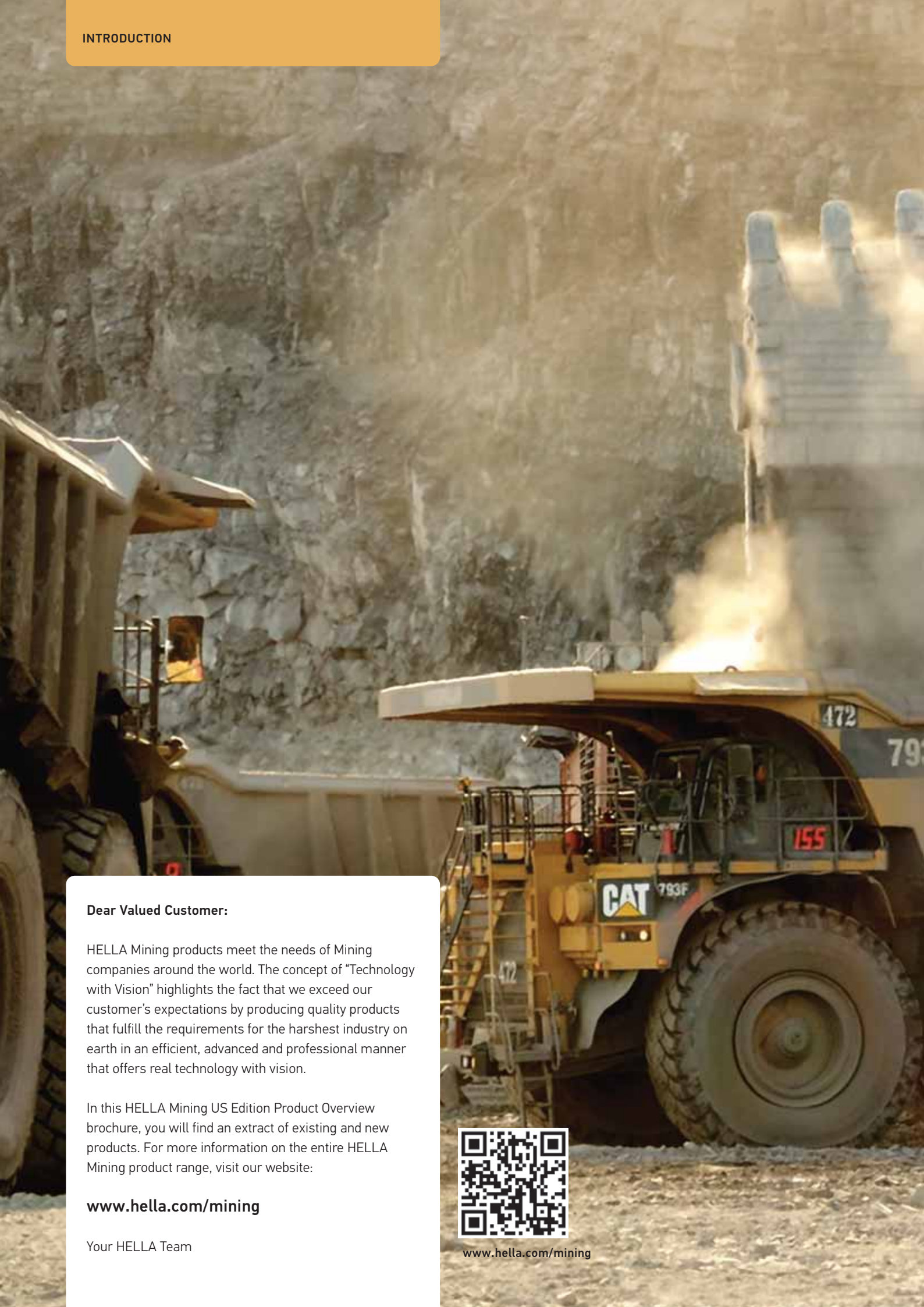
PRODUCT OVERVIEW
HELLA MINING

SECOND EDITION

Americas Edition



Dear Valued Customer:

HELLA Mining products meet the needs of Mining companies around the world. The concept of "Technology with Vision" highlights the fact that we exceed our customer's expectations by producing quality products that fulfill the requirements for the harshest industry on earth in an efficient, advanced and professional manner that offers real technology with vision.

In this HELLA Mining US Edition Product Overview brochure, you will find an extract of existing and new products. For more information on the entire HELLA Mining product range, visit our website:

www.hella.com/mining

Your HELLA Team

www.hella.com/mining

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ABOUT HELLA MINING

The HELLA Mining Centre of Excellence was created in Australia in 2002 to design, develop and manufacture fixed and mobile lighting products specifically for the mining industry. HELLA uses its research, engineering and logistic expertise to produce lighting products that are designed to world class standards that can be used in mining applications all o ver the world.

The research behind the product selection is based upon data collected from mining equipment in use in many different regions and applications. This data was utilised to set performance parameters as a baseline criteria for survival in a mining application. These parameters are used in testing our products in house before we can be confident to release them to mining field trials and later for general release to the mining industry. This process is vastly different to most of our competitors that will pass on products designed for other target segments and "offered for trial" to mining companies with little idea of the outcome.

The product sale is also very different to our competitors as only HELLA Mining offer mining companies a free of charge engineered application service. This service offers the end user information on the product, aiming angles and actual lighting performance prior to any purchase that includes safety as a key area of concern. This service highlights to the customer that HELLA Mining are the mining professionals for lighting and assists our customers with another value proposition to their mining purchase.

An area of concern to mining companies with global shareholders is safety and environment. Any negative concerns from ongoing environmental or safety issues can clearly affect the share price of these multinational firms and therefore there is a major focus on HSE (Health, Safety and the Envir onment). HELLA Mining has advanced lighting technology that meets the criteria for enhanced safety as vision plays a vital part in an environment that operates 24 hours a day and has large mobile machinery capable of destruction on a grand scale and a highly mobile road network.

HELLA Mining products meet the needs of mining companies around the world. The concept of "Technology with Vision" highlights the fact that we exceed our customer's expectations by producing quality products that fulfill the requirements for the harshest industry on earth in an efficient, advanced and professional manner that offers real technology with vision.

HELLA Australia is equipped with highly advanced production and distribution facilities. HELLA Australia has full design and development facilities that include: NATA registered Photometric Laboratory, Chemical Analysis Laboratory Facilities, and some of the most advanced environmental and physical test simulation facilities available anywhere. HELLA continues to develop, prove and market innovative products based on worldwide leadership in advanced lighting technology – to demonstrably improve end user profitability in mining applications. This is achieved through products that offer:

- → **Greater safety**
- → **Lower operating cost**
- → **Greater productivity**
- → **Predictable service**
- → **Better value**

HELLA Mining products are backed by the renowned global HELLA quality guarantee, and service and distribution network.

Statement of Warranty
HELLA Mining products are covered by a one (1) year warranty which covers faults in material or workmanship only and provided that the product is used for its intended purpose except for globes, ballasts, fuses and sealed beams, which are on fitment. All HELLA Mining LED products are covered by a five (5) year warranty on light output, excluding environmental and physical damage.

Important Note
Only products specifically identified as ECE or SAE compliant are approved for use on public roads, when installed and operated as required by local regulation on approved vehicles. The responsibility for correct selection, fitment and operation to meet local regulations is that of the vehicle operator. Please ensure local regulations and requirements are met.

Project Argon: Charting the extremes:
Developing lighting equipment to go the distance in mines requires a deep understanding of their operating systems and specific environmental conditions.

At HELLA, we don't guess, we measure.
HELLA Australia's PROJECT ARGON collects and researches detailed data from a diverse range of mines and machines. A suite of robust sensors with integrated data loggers is mounted on mining plant and machines to record operating conditions. After the sensors are recovered from the machines, their data is downloaded for analysis and used as the basis of product design and test specifications able to match extreme mining environments.

APPLICATIONS ENGINEERING

The HELLA Centre of Excellence – Mining provides an Applications Engineering lighting design service for HELLA Mining customers. The aim of this unique service is to reduce risk to end users and OEMs of implementing an inappr opriate lighting design, enabling all stakeholders to evaluate, comment and positively input into the design prior to implementation.

The HELLA team combines decades of lighting expertise across many countries and industries with the most sophisticated software. However, our most valuable asset is ongoing consultation combined with extensive practical on-site mining experience, enabling us to understand the unique visual and environmental requirements of the mining industry.

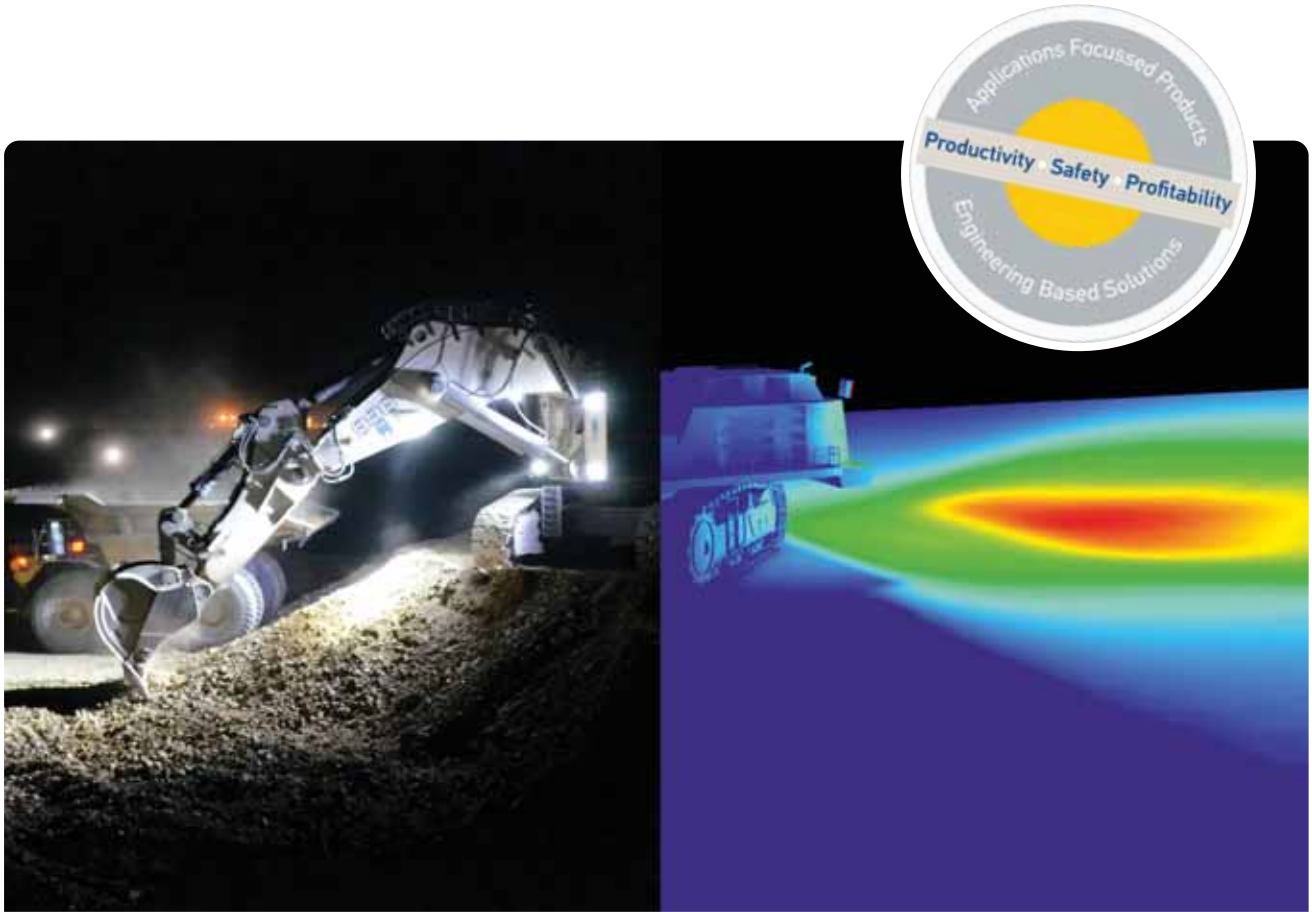
We are fully aware of the wide and sometimes conflicting range of operational requirements, covering the need for greater equipment, operator and maintenance personnel safety, lowered cost of ownership and maintenance, increased productivity requirements and the need for a predictable service life.

We use appropriate, proven technologies and methods to provide the mining operation with an engineering-based, application-focused, customised solution. The system design not only complies with the relevant occupational health and safety regulations, but also with real life maintenance and operational needs.

HELLA lighting designs typically include; aiming and orientation angles, number and type of luminaires, part numbers, spare parts, illumination level achieved and appropriate standards referenced. Our service extends to both fixed and mobile plant lighting designs. The final design is contained in a clear and concise document that can be presented to all relevant stakeholders, ready to be integrated into on-site maintenance documentation systems.

Our experience in Applications Engineering allows us to create lighting designs in a short time frame and with limited information.

On the following pages you will find light simulations for LED lighting upgrades.



ZEROGLARE
Bringing Onroad Safety to Mining

HELLA Mining is proud to introduce the RokLUME 380 and RokLUME 280 LED worklights – incorporating over 100 years of automotive optical design into the worlds most advanced heavy-duty worklights for the Mining industry. By combining the strength and durability of the AS 5000LED with the same optical technology developed for luxury cars, HELLA have created ZEROGLARE, a new benchmark in Mining equipment lighting.

RokLUME 380

RokLUME 280

ZEROGLARE TECHNOLOGY

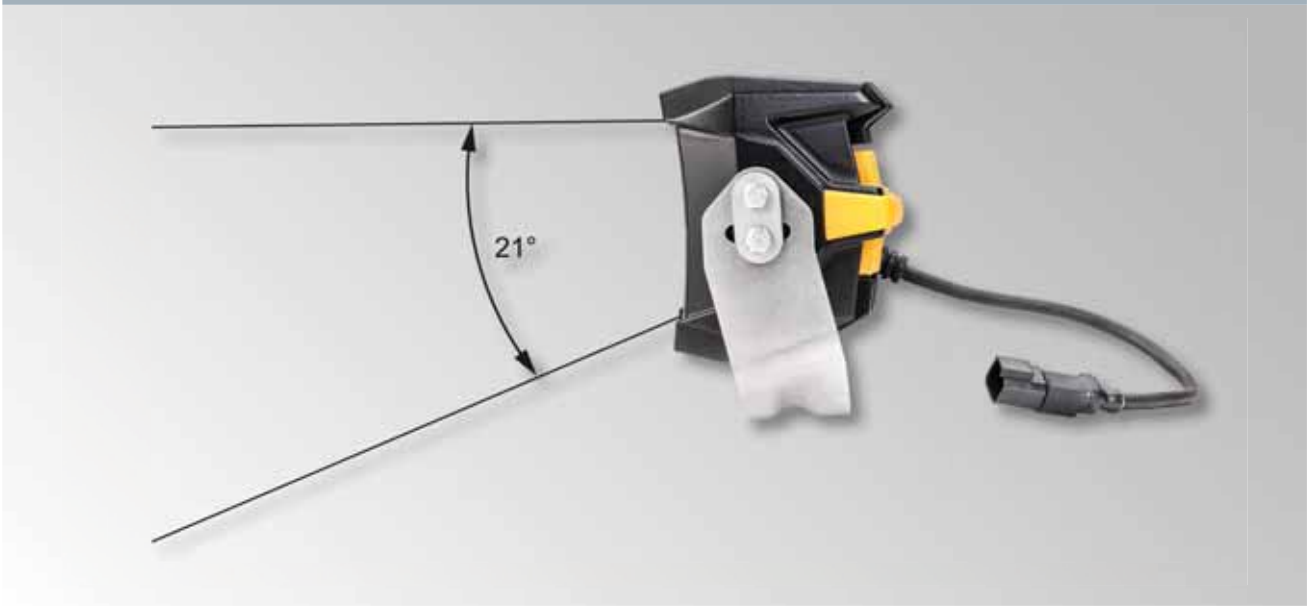
HELLA Mining has developed the **ZERO**GLARE optical system to bring the safety and comfort of highway driving to Mining operations! The **ZERO**GLARE optical system ensures no light from oncoming traffic will be directed into the eyes of oncoming drivers eliminating the occurrence of discomfort or disability glare. The innovative optical system has a sharp horizontal cut off to control the light onto the ground in front of the vehicle and not into oncoming operators field of vision.

HELLA Mining utilised the HELLA Automotive LED optical developments for high end LED headlights for luxury cars and developed an extremely robust worklight which offers all the benefits of highway driving.

Most work light manufacturers active in the Mining Industry do not have the capability to design and develop in house optics, optical systems typically used are “off the shelf” components from household down lights or outdoor flood lights. This means as light outputs increase, so does the issue of glare where lots of the light going into the oncoming operators eyes. This was such an issue that a lot of mine sites that had tested LED worklights reverted back to the original lighting systems, despite the many benefits of LED technology.

At HELLA Mining we consulted with the Mining industry and invested into the research and development of an optical system that would put the light only where it was needed. The end result is **ZERO**GLARE where operators get increased visibility and increased safety without blinding oncoming operators on-site for both surface and underground operations.

The **ZERO**GLARE optical system ensures all emitted light is directed below the horizontal plane



Traditional LED worklight vs. **ZERO**GLARE worklight

The RokLUME 380 and RokLUME 280 feature a powerful light engine of up to 7,800 and up to 4,400 measured lumens respectively, with the ability to choose from 5 different light distributions including our industry first **ZERO**GLARE optic.

Advanced design techniques and assembly robotics ensure that the RokLUME worklights are manufactured to be fully sealed and submersible to meet the stringent requirements of IP 6K9K and IP 6K7, ensuring no dust or water ingress can occur.

The RokLUME worklights feature an advanced NanoSafe non-stick and easy to clean surface coating, and are fast to install thanks to the Nord-Lock washers and the aiming angles laser engraved onto the bracket.

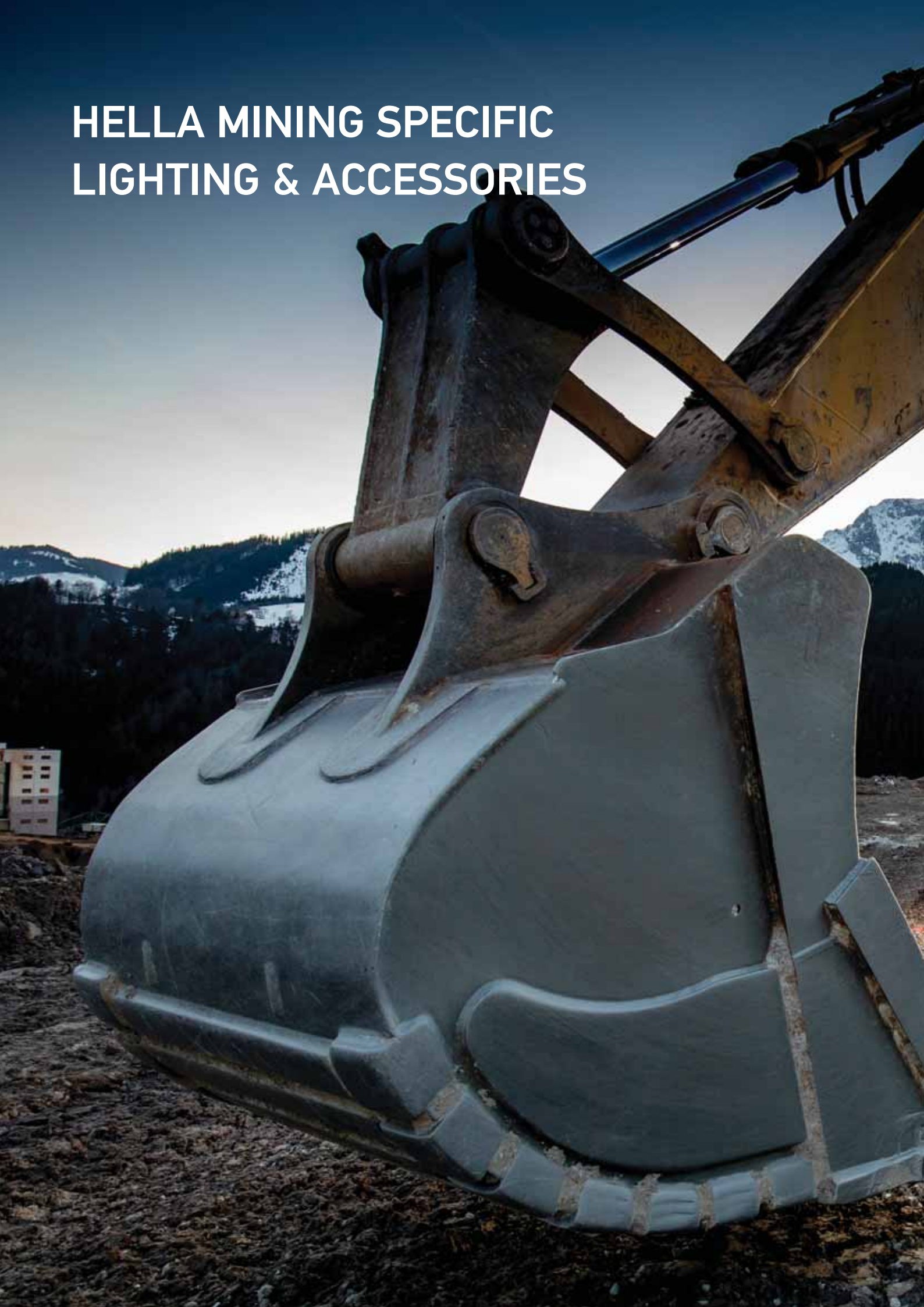
Connecting the RokLUME 380 to the machine is safe thanks to the double insulated silicone supply cable and heavy duty cable gland. We also supply a DT connector with both ends of the plug, so retrofitting as well as new installations are a breeze.

Only the best manufacturing materials were considered during the development stage of the RokLUME worklights, including a high impact resistant hardened polycarbonate compound lens, stainless steel bracket and premium grade anti-corrosion aluminium housing. A proven rubber dampening system keeps everything in check from vibration and statutory approvals include ECE-R10 and RCM compliance.

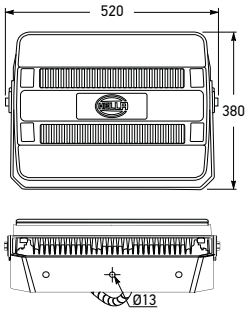
Find more information at www.hella.com/mining

The **ZERO**GLARE optics ensure light vehicle operators are not blinded by oncoming Haul Trucks lighting systems

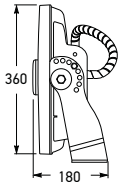
HELLA MINING SPECIFIC LIGHTING & ACCESSORIES

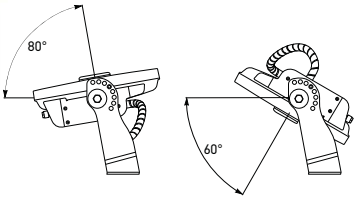


This LED product has the following features



Amber version





Lamp can be rotated 140°

HypaLUME 110 / 230V AC

- → Developed specifically for Mining & Lighting Towers application
- → Highly efficient light distribution
- → Suitable for energy saving lighting installations

LED, light output (measured): 28,000 lumen, power requirement: 300 Watt, color temperature: 5,700 Kelvin, voltage input range 100 – 240 VAC, reverse polarity protection, transient spike circuit protection, thermal management, IP 6K7K / IP 6K6, Wieland RST Mini – 16A connection, non-stick and easy to clean surface coating, high impact Grilamid nylon lens, RCM, FCC and CE compliance, premium aluminium housing for Mining use, 50 G Heavy Duty stainless steel bracket, mounting standing / hanging, compliance AS/NZS 60598.2.5, CE, FCC.

Close range illumination	**1GJ 958 334-011**
Long range illumination	**1GJ 958 334-021**
Extra wide illumination	**1GJ 958 334-031**

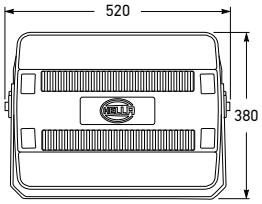
Amber Version
Light output (measured): 19,000 lumen, 2,500 Kelvin, Heavy Duty surrounding-bracket, mounting standing / hanging.

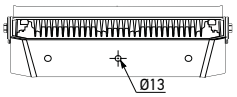
Close range illumination, AC lamp, Amber	**1GJ 958 334-111**
Long range illumination, AC lamp, Amber	**1GJ 958 334-121**
Extra wide illumination, AC lamp, Amber	**1GJ 958 334-131**

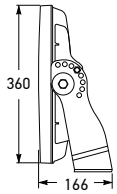
Accessories

AC/DC Converter 320 W 24 V	**8EN 358 116-681**
AC/DC Converter 320 W 48 V	**8EN 358 116-171**
AC/DC Converter 300 W 480 VAC - 24	**8EN 358 116-701**

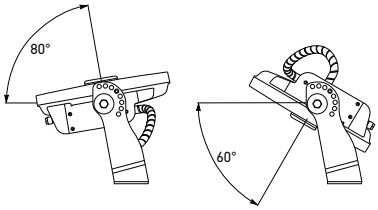
This LED product has the following features







Amber version



Lamp can be rotated 140°

HypaLUME 24 / 48V DC

- → Developed specifically for Mining applications
- → Highly efficient light distribution
- → Suitable for energy saving lighting installations

LED, light output (measured): 25,000 lumen, power requirement: 260 Watt, color temperature: 5,700 Kelvin, multi-voltage 21 – 52 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, double insulated silicone suppy cable, non-stick and easy to clean surface coating, high impact grilamid nylon lens, Heavy Duty cable gland offers bend protection, RCM compliance, premium aluminium housing for Mining use, 10 G / 50 G Heavy Duty stainless steel bracket, mounting standing / hanging.

Close range illumination	**1GJ 011 872-501**
Long range illumination	**1GJ 011 872-511**
Extra wide illumination	**1GJ 011 872-521**

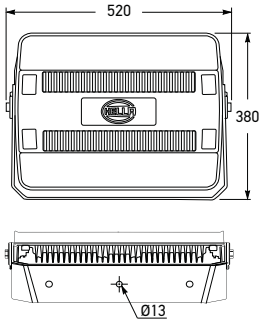
Amber Version
LED, light output (measured): 19,000 lumen, 1,800 Kelvin, Heavy Duty surroundingbracket, mounting standing / hanging.

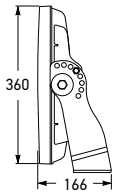
Close range illumination, amber	**1GJ 011 872-601**
Long range illumination, amber	**1GJ 011 872-611**
Extra wide illumination, amber	**1GJ 011 872-621**

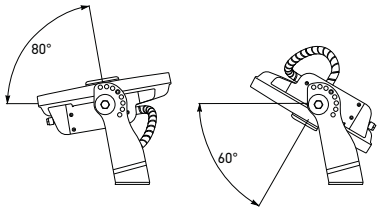
Accessories

AC/DC Converter 320 W 24 V	**8EN 358 116-681**
AC/DC Converter 320 W 48 V	**8EN 358 116-171**
AC/DC Converter 300 W 480 VAC - 24 VDC	**8EN 358 116-701**

This LED product has the following features







Lamp can be rotated 140°

HypaLUME 48V DC RFCommSafe

- → Developed specifically for Mining & Lighting Towers application
- → Highly efficient light distribution
- → Suitable for energy saving lighting installations

LED, light output (measured): 28,000 lumen, power requirement: 300 Watt, color temperature: 5,700 Kelvin, 46 – 53 VDC, reverse polarity protection, transient spike circuit protection, > 60 VDC over-voltage protection, thermal management, IP 6K9K / IP 6K7, Built-in 4 pin DT connector, Soft Start at PIN3, 5 Dimming levels at PIN 4, non-stick and easy to clean surface coating, high impact Grilamid nylon lens, RCM, FCC and CE compliance, premium aluminium housing for Mining use, 50 G Heavy Duty stainless steel bracket, mounting standing / hanging.

Close range illumination	**1GJ 011 872-221**
Long range illumination	**1GJ 011 872-231**
Extra wide illumination	**1GJ 011 872-241**

Accessories

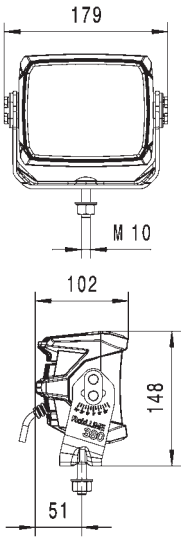
AC/DC Converter 320 W 24 V	**8EN 358 116-681**
AC/DC Converter 320 W 48 V	**8EN 358 116-171**
AC/DC Converter 300 W 480 VAC - 24 VDC	**8EN 358 166-701**
48V RFS Adapter Cable	**8KB 958 304-001**

This LED product has the following features

Pencil Beam Version

ZEROGLARE Version

Special bracket



RokLUME 380 N

→ Developed specifically for Mining applications
→ Heavy Duty bracket resists against vibration
→ Light distribution optimised for Mining machinery

Light output (measured): up to 7,800 lumen, power requirement: max. 84 Watt, color temperature: 5,000 Kelvin, 20 - 32 V, -40°C to +90°C (overheat protection), reverse polarity protection, transient spike circuit protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7, ECE-R10 approved, RCM compliance, Heavy Duty stainless steel surrounding bracket 165 mm, double insulated silicone suppy cable with DT connector, NanoSafe (non-stick and easy to clean surface coating), high impact hardcoated PC lens, Heavy Duty cable gland offers bend protection, mounting angle guide, premium aluminium housing for Mining use, mounting standing / hanging, Nord-Lock washers, DT counterpart included.

RokLUME 380 N ZG	**1GA 996 197-001**
RokLUME 380 N CR	**1GA 996 197-011**
RokLUME 380 N LR	**1GA 996 197-021**
RokLUME 380 N F	**1GA 996 197-031**
RokLUME 380 N PB	**1GA 996 197-041**
RokLUME 380 A N ZG	**1GA 996 197-051**
RokLUME 380 A N CR	**1GA 996 197-061**
RokLUME 380 A N LR	**1GA 996 197-071**
RokLUME 380 A N F	**1GA 996 197-081**
RokLUME 380 A N PB	**1GA 996 197-091**
RokLUME 380 N ZG, Special Bracket	**1GA 996 197-191**
RokLUME 380 N PB, Special Bracket	**1GA 996 197-201**

ZG	**ZERO**GLARE	F	Flood
CR	Close range	N	NanoSafe
LR	Long range	A	Amber
PB	Pencil Beam		

This LED product has the following features

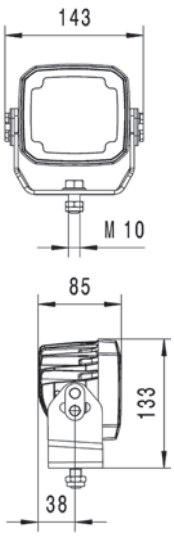
Long range Version

ZEROGLARE Version

Green Version

Amber Version

Diffuse Flood Version



RokLUME 280 N

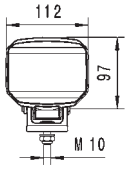
- → Compact size suitable for all Mining machinery
- → Corrosion resistant NanoSafe coating
- → Heavy Duty bracket resists against vibration

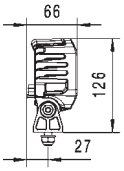
LED, light output (measured): up to 4,400 lumen, power requirement: max. 56 Watt, color temperature: 5,000 Kelvin, 9 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, DT connector, high impact nylon lens, NanoSafe (non-stick and easy to clean surface coating), with mounting angle guide, ECE-R10 approved, RCM compliance, premium aluminium housing for Mining use, Nord-Lock washers, DT counterpart included, mounting standing / hanging, Heavy Duty surroundingbracket.

RokLUME 280 N CR	**1GA 995 606-501**
RokLUME 280 N LR	**1GA 995 606-511**
RokLUME 280 N PB	**1GA 995 606-521**
RokLUME 280 N ZG	**1GA 995 606-541**
RokLUME 280 N ZG PENDANT	**1GA 995 606-551**
RokLUME 280 N DF	**1GA 995 606-751**
RokLUME 280 A N CR	**1GA 995 606-601**
RokLUME 280 A N LR	**1GA 995 606-611**
RokLUME 280 A N PB	**1GA 995 606-621**
RokLUME 280 A N ZG	**1GA 995 606-641**
RokLUME 280 G N PB	**1GA 995 606-721**
RokLUME 280 G N CR	**1GA 995 606-731**
RokLUME 280 G N ZG	**1GA 995 606-741**

ZG	**ZERO**GLARE	N	NanoSafe
CR	Close range	A	Amber
LR	Long range	G	Green
PB	Pencil Beam		
DF	Diffuse Flood		

This LED product has the following features





RokLUME 190 TP

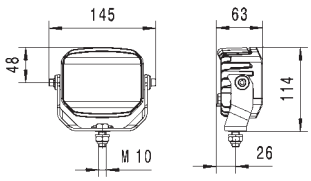
→ Developed specifically for Mining applications
→ Thermo Pro plastic housing
→ Compact size with powerful light output

LED, light output (measured): 1,850 lumen, power requirement: 26 Watt, color temperature: 5,000 Kelvin, multi-voltage 10.5 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, thermo-conductive plastic housing, RCM compliance, mounting standing / hanging, DT connector, ECE-R10 approved

RokLUME 190 TP CR	**1GA 996 488-501**
RokLUME 190 TP LR	**1GA 996 488-511**

CR Close range
LR Long range

This LED product has the following features



Power Beam 1500 LED

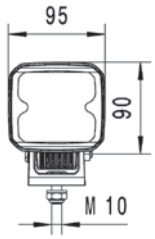
→ Universal LED worklight with powerful light output
→ Heavy Duty wraparound bracket, allows standing and hanging mounting

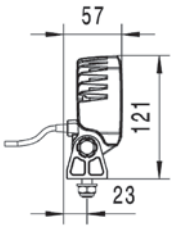
Light output (measured): 1,350 lumen, power requirement: 22 Watt, color temperature: 6,500 Kelvin, 9 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, RCM compliance, aluminium housing, DT connector.

Power Beam 1500 CR	**1GA 996 288-021**
Power Beam 1500 LR	**1GA 996 288-031**

CR Close range
LR Long range

This LED product has the following features





RokLUME 155 TP

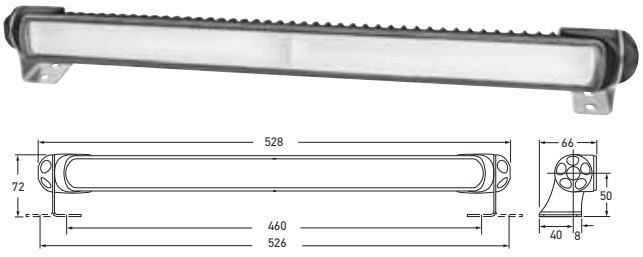
- Developed specifically for Mining applications
- Thermo plastic housing
- Compact size

LED, light output (measured): 1,200 lumen, power requirement: 15 Watt, color temperature: 5,000 Kelvin, multi-voltage 9 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, ECE-R10 approved, RCM compliance, high quality thermo plastic housing, mounting standing / hanging, harness with DT connector.

RokLUME 155 TP CR	**1GA 996 284-051**
RokLUME 155 TP LR	**1GA 996 284-061**
RokLUME 155 TP A CR	**1GA 996 284-071**

CR Close range
LR Long range
A Amber

This LED product has the following features



Diffuse flood version

RokLUME S700

- Highly adaptable mounting system
- High impact and chemical resistant Grilamid lens
- Light weight of of max 1,000 g

LED, light output (measured): 3,600 lumen (Diffuse flood), 2,200 lumen (Combi), power requirement: max 36 Watt, color temperature: 5,000 Kelvin, 9 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, CE EMC approved, RCM compliance, ECE-R10 approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

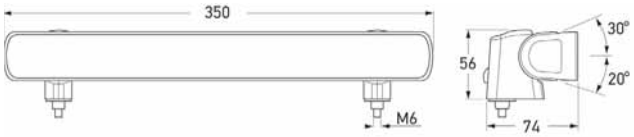
RokLUME S700 - Diffuse flood	**1GJ 958 130-521**

Accessories and Spare Parts

HD double mount stainless steel feet (one pair)	**8HG 958 128-811**

P/N 8HG 958 128-811
HD Double mount stainless steel feet (one pair) to suit RokLUME S700 LED range

This LED product has the following features



RokLUME 210

- Low profile LED lightbar for worklight applications
- Non-metal thermally conductive polymer housing
- Flexible mounting concept

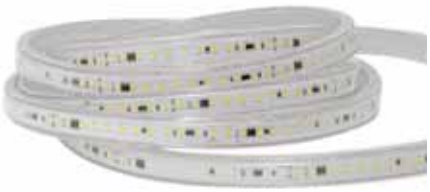
LED, light output (measured): 2,200 lumen, power requirement: 25 Watt, color temperature: 5,000 Kelvin, 9 – 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, CE EMC approved, RCM compliance, high quality thermally conductive polymer housing, mounting hanging, connection via 2.5 m wire.

RokLUME 210 DF	**1GJ 958 040-521**
RokLUME 210 CR	**1GJ 958 040-641**
RokLUME 210 LR	**1GJ 958 040-081**

CR Close range
LR Long range
A Amber

Accessories

RokLUME 210 LED Plastic Bracket (1 bracket per package)	**8HG 958 053-801**



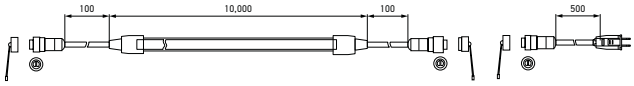
This LED product has the following features

FlexaTec

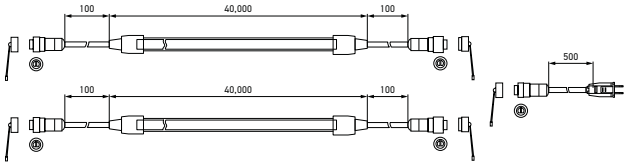
- → Flexible light strip for homogenous illumination
- → Quick and easy installation
- → Individual length – can be combined up to 100 m

LED, light output: 1,200 lumen/m (110 VAC), 1,500 lumen/m (230 VAC), power consumption: 11 Watt/m (110 VAC), 15 Watt/m (230 VAC), colour temperature: 5,000 Kelvin, 110 or 230 VAC, IP 6K7, material: PVC (flammability class V0), quick fastening via specially designed clips (included in the delivery), CB, ETL and CRS approved, cable with open ends or cable with connector (US / Canada), 3 years warranty (L70).

110 VAC	
FlexaTec 10 m, ETL (America / Canada)	**1GJ 995 180-201**
FlexaTec 80 m, ETL (America / Canada)	**1GJ 995 180-601**



10 m version (America / Canada)



80 m version (America / Canada)

Spare Parts

Spare parts set (includes fastening clips, end cap and connecting cable)	
Spare parts set 110 V AC version (US & Canada)	**9XD 990 181-001**

This LED product has the following features

SMART Cornering Light

Set with RokLUME C180

Set with RokLUME 280

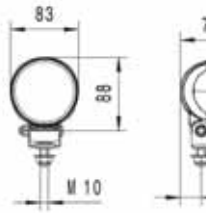
- → Improved illumination when turning the vehicle left or right
- → For more safety and comfort
- → Easy to retrofit

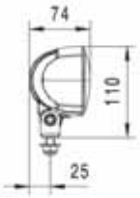
LED, light output: set with RokLUME C180 up to 2,700 lumen, set with RokLUME 280 up to 4,400 lumen, power consumption: set with RokLUME C180 max 30 Watt / work lamp, set with RokLUME 280 max. 56 Watt / work lamp, colour temperature: 5,000 Kelvin, multi-voltage 9 – 32 V, overheating protection, polarity reversal protection, transient spike protection, IP 6K9K / IP 6K7 (work lamps), IP 5K4K / IP 5K9K (control unit), ECE-R10 approved, RCM compliance, all cables for installation included, close-range illumination.

SMART Cornering Light set with RokLUME C180	**1G0 996 476-801**
SMART Cornering Light set with RokLUME 280	**1GA 995 606-801**

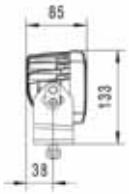
Accessories

SMART Cornering Light adapter cable (6 m) and DT-connector set	**8KB 994 246-071**

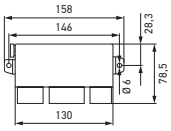




RokLUME 180



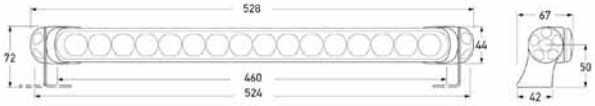
RokLUME 280

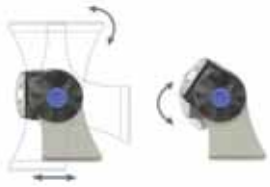


Control unit

This LED product has the following features

Optic appears clear until illuminated





Mounting brackets can be positioned to suit most vehicle installations.

RokLUME S700 RED

- → VISIOTECH projection technology for communication using light
- → Projects a wide red marking on the ground
- → Increases safety by indicating danger and hazard zones
- → Particularly suitable for vehicles with high mounting positions

LED, multi-voltage 9 – 33 VDC, power consumption: 25 Watt, transient spike protection, polarity reversal protection, completely sealed against dust and moisture, IP 6K9K / IP 6K7, ECE-R10 approved, RCM compliance, high impact Grilamid lens, connection via 2,5 m wire.

RokLUME S700 RED	**2XD 958 130-661**

Accessories

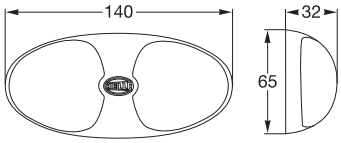
HD double mount stainless steel feet (one pair)	**8HG 958 128-811**

This LED product has the following features

DuraLED Side Marker Lamp

Power requirement: 3 Watt, Multivolt, reverse polarity protection, 5,000 Watt Transient Voltage Suppressor, over-voltage protection, impact resistant Polycarbonate lens, IP 6K9K / IP 6K7, ultra long "Fit and Forget" service life, RCM compliance, ECE-R10 approved. Mounting horizontal and vertical standing. Connection via 2.5 m sheathed multi-core cable.

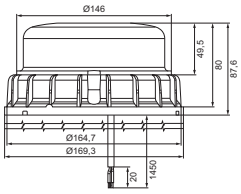
DuraLED Side Marker Lamp, green	**2PS 959 700-221**



This LED product has the following features

K-LED Mining

LED, multi-voltage 10 – 32 VDC, power requirement: 30 Watt, transient spike protection, reverse polarity protection, IP 6K9K / IP 6K7, ADR / GGVSEB approved, ECE-R10 approved, RCM compliance, low profile beacon, height only 87.6 mm, installation Ø 130 mm and SAE Ø 150 mm possible, impact resistant polycarbonate

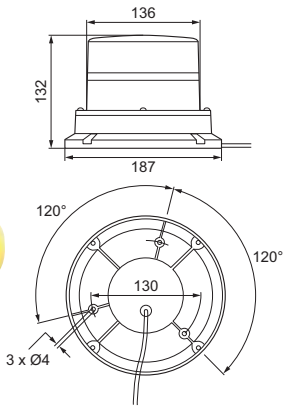


fixed mount, amber	**2XD 011 557-001**
magnetic mount, amber	**2XD 011 557-051**

This LED product has the following features

UltraRAY - Flashing

User selectable flash pattern (4), automatic daylight detection, impact resistant smooth, Policarbonate lens, clear precision fresnet optics, cast alloy base and SAE J845 class 1 (amber and red), power requirement: 20 Watt, RCM compliance.



Direct mount, amber	**2RL 910 081-001**
Direct mount, red	**2RL 910 081-031**
Direct mount, blue	**2RL 910 081-011**
Direct mount, green	**2RL 910 081-021**
Direct mount, white	**2RL 910 081-041**
Magnetic mount, amber	**2RL 910 082-001**
Magnetic mount, red	**2RL 910 082-031**
Magnetic mount, blue	**2RL 910 082-011**
Magnetic mount, green	**2RL 910 082-021**
Magnetic mount, white	**2RL 910 082-041**

UltraRAY - R Rotating

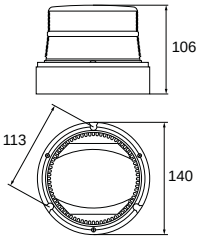
User selectable "rotating" or quad patterns", impact resistant smooth, Policarbonate lens, precision fresnet optics, powder coated cast alloy base, SAE J845 class 1 (amber and red), power requirement: 20 Watt, RCM compliance.

Direct mount, amber	**2RL 910 087-001**
Magnetic mount, amber	**2RL 910 087-031**

This LED product has the following features

OptiRAY

SAE J845 (Class 1 red, Class 2 amber), RCM compliance, automatic daylight detection, impact resistant smotth Polycarbonate lens, clear precision Fresnel optics, 16 user selectable flash patterns.

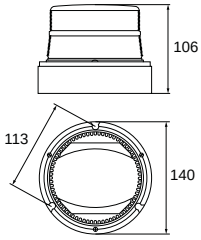


Direct mount, amber	**2RL 910 078-021**
Direct mount, red	**2RL 910 078-111**
Direct mount, blue	**2RL 910 078-061**
Direct mount, green	**2RL 910 078-081**
Direct mount, white	**2RL 910 078-131**
Magnetic mount, amber	**2RL 910 078-041**
Magnetic mount, red	**2RL 910 078-121**
Magnetic mount, blue	**2RL 910 078-071**
Magnetic mount, green	**2RL 910 078-091**
Magnetic mount, white	**2RL 910 078-141**

This LED product has the following features

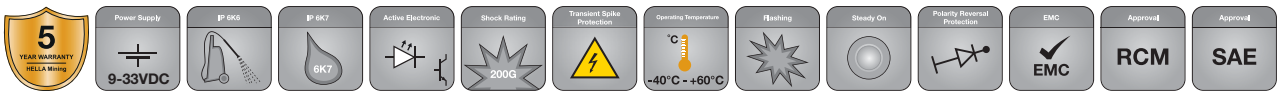
OptiRAY E

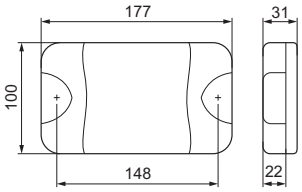
SAE J845 (Class 1 red, Class 2 amber), RCM compliance, impact resistant smotth Polycarbonate lens, clear precision Fresnel optics.



Direct mount, amber	**2RL 910 073-001**
Direct mount, red	**2RL 910 075-051**
Direct mount, blue	**2RL 910 075-011**
Direct mount, green	**2RL 910 075-031**
Direct mount, white	**2RL 910 075-071**
Magnetic mount, amber	**2RL 910 075-001**
Magnetic mount, red	**2RL 910 075-061**
Magnetic mount, blue	**2RL 910 075-021**
Magnetic mount, green	**2RL 910 075-041**
Magnetic mount, white	**2RL 910 075-081**

This LED product has the following features





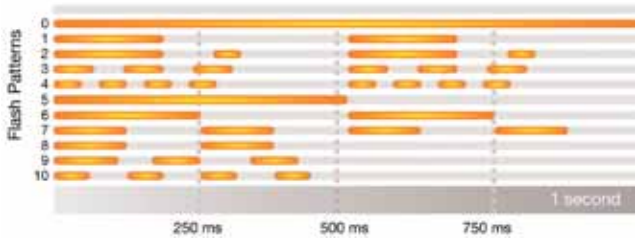
DuraLED M – High intensity

LED, 9 – 33 VDC, power requirement: < 9 Watt , user selectable flash patterns, high impact Grilamid nylon lens, clear precision micro optics, fully sealed "Fit and Forget" design, IP 6K6 / IP 6K7, RCM compliance, ECE-R10 approved.

With 2.5 m cable, bare wire	
amber (SAE)	**2XD 959 037-101**
red (SAE)	**2XD 959 037-001**
blue	**2XD 959 037-601**
green	**2XD 959 037-801**
white	**2XD 959 037-901**

With 0.25 m cable and DT plug	
amber (SAE)	**2XD 959 037-141**
red (SAE)	**2XD 959 037-021**
blue	**2XD 959 037-621**
green	**2XD 959 037-821**
white	**2XD 959 037-921**

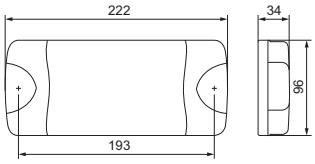
MultiFLASH®



This LED product has the following features

DuraLED Combi MSIP

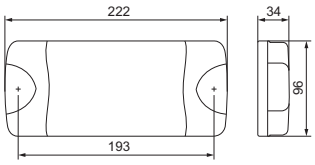
DuraLed MSIPs (Mine Safety Indicator Panel) offer both red and green LED signals in one compact housing, engineered for ultra Heavy Duty applications where safety is important, such as underground transport equipment sharing space with foot traffic. 8 - 28 VDC, power requirement: 10 Watt, reverse polarity protection, over-voltage protection, clear UV, impact and chemical resistant Grilamid lens, IP 6K6 / IP 6K7, ultra long"Fit and Forget" service life and RCM compliance, ECE-R10 approved. Optic appears clear until illuminated.
Mounting horizontal and vertical standing.



6 m bare wire	**2XA 959 050-301**

This LED product has the following features

DuraLED Combi RCL

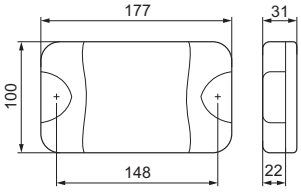


LED, DuraLED rear combination lamp (stop / tail / indicator / reverse), multi-voltage 9 – 33 VDC, power requirement: rear direction indicator 4 Watt, rear position lamp 1 Watt, stop lamp 5 Watt, reverse lamp 3 Watt, reverse polarity protection, over-voltage protection, clear UV, impact and chemical resistant Grilamid lens, IP 6K9K / IP 6K7, ultra long "Fit and Forget" service life. Optic appears clear until illuminated, ECE-R10, RCM, ECE-R6, ECE-R7 and ECE-R23 approved. Mounting horizontal.

2.5 m bare wire	**2SK 980 603-511**
Integrated 6-pole DT	**2SK 980 615-021**

This LED product has the following features

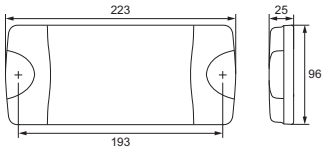
DuraLED



LED, multi-voltage 9 – 33 VDC, power requirement: ECE stop lamp 6 Watt, ECE rear position lamp 2,5 Watt, ECE rear direction indicator 4 Watt, SAE stop lamp < 8 Watt, SAE tail lamp 2 Watt, SAE rear turn signal lamp < 8 Watt, reverse polarity protection, over-voltage protection, impact and chemical resistant Acrylic lens (ECE versions), impact resistant Polycarbonate lens (SAE versions), IP 6K6 / IP 6K7, low power, high efficiency, ultra long "Fit and Forget" service life and RCM compliance, ECE-R10, ECE-R6, ECE-R7, ISO 13207-1, SAE S2 T2 16 99 DOT and SAE 16 99 DOT approved. Mounting horizontal (ECE versions), horizontal and vertical (SAE versions). Connection via 2.5 m wire.

ECE, stop / rear position (red, horizontal mount only)	**2SB 959 060-621**
ECE, rear direction indicator (amber, horizontal mount only)	**2BA 959 070-621**
SAE, stop / tail / rear turn signal lamp (red)	**2SB 959 060-321**
SAE, rear turn signal (amber)	**2BA 959 070-321**

This LED product has the following features

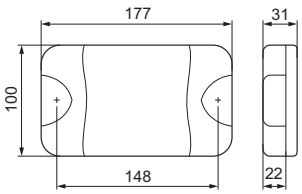


DuraLED 1000 Lumen Service Light

LED, light output (measured): 1,000 lumen, multi-voltage 9 – 33 VDC, power requirement: 12 Watt, reverse polarity protection, over-voltage protection, thermal management, clear UV, impact and chemical resistant Grilamid lens, IP 6K6 / IP 6K7, RCM and CE-EMC compliance and spread illumination. Surface mount with 2.5 m cable.

Close range illumination	**2JA 980 604-021**

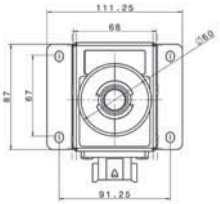
This LED product has the following features

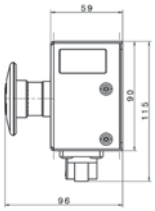


DuraLED 700 Lumen Service Light

LED, light output (measured): 700 lumen, power requirement: 9 Watt, multi-voltage 9 – 33 VDC, reverse polarity protection, over-voltage protection, thermal management, clear UV, impact and chemical resistant Grilamid lens, IP 6K6 / IP 6K7, RCM and CE-EMC compliance, with 2.5 m cable and surface mount.

Close range illumination	**2JA 959 037-221**
Long range illumination	**2JA 959 037-421**





This product has the following features

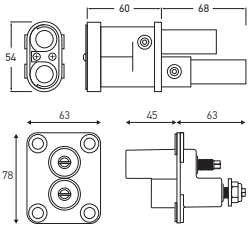
HELLA Mine E-Stop

HELLA Mining's new Mine E-Stop. Versatility, Safety, Fast Installation.
This Heavy Duty unit features LED illumination visible from 3 sides, user-friendly 60 mm push button, DT connection and direct mount capability.

Fast Installation: Most E-Stops need dismantling to be fitted however the HELLA Mine E-Stop mounts directly, saving time on initial installation and damage replacement.

Features and benefits:
Added safety through illumination via LED (visible from 3 sides), IP 6K9 / IP 6K8 rated, all units pressure tested, fully sealed unit, "Plug and Play", supplied with mating DT connector, hight visibility yellow powder-coated 304 stainless steel, user friendly, large 60 mm mushroom button, 2 normally closed and 1 normally open contacts (rated 10 A each).

Mine E-Stop	**6HF 012 416-001**



Jump Start System

Heavy Duty, high capacity jump-start connectors for vehicles and equipment. Ideal for use where access to terminals is restricted or dangerous. Eliminates chance of cross polarity connections through the specially shaped plug.

Reduces chance of sparking and possible ignition of flammable materials. Mounting bracket, protective cap, and kit containing the terminal, bracket and cap are also available.

Jump Start Plug

Jump Start Plug – high impact ABS plastic. Copper (silver brass coated) terminals.	**8JA 177 305-101**

Suitable for 70 mm² cable. Connection via crimping and soldering process.

1)

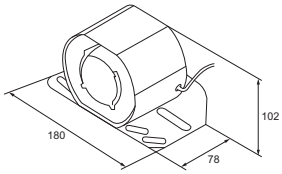
2)

3)

4)

Jump Start Terminal

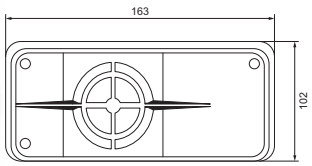
1) Jump start Terminal Removes risk of terminal crossing, high impact ABS plastic, zinc coated terminals.	**8JB 177 305-001**
2) Terminal Kit Kit of jump start terminal, bracket and cap.	**8HG 177 305-031**
3) Terminal Bracket Bracket for mounting jump start terminal to vehicle body.	**8HG 177 305-021**
4) Terminal Cap Cap to protect terminal from external environment when not in use.	**9HD 177 305-011**



RetroVox Self Adjusting Reversing Alarm

Steel housing and construction for rugged applications. Integral bracket includes same mounting pattern with OEMs, self adjusting. Suitable for high pressure washing, epoxy encapsulated circuit board protects alarm against moisture and vibration damage. 87 – 112 db @ 1.2 m, SAE J994 Type D.

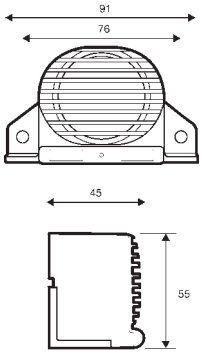
12 – 24 VDC, bare wire connection	**3TA 910 174-031**



RetroVox Ultra Heavy Duty Reversing Alarm

One of the most rugged adjustable, Heavy Duty alarms on the market. These alarms are designed to withstand the most punishing environments. They have 8 – 32 UNC terminal studs on the back of the unit. Used by major OEMs. 97, 107, 112 db @ 1.2 m, SAE J994 Types A, B and C,

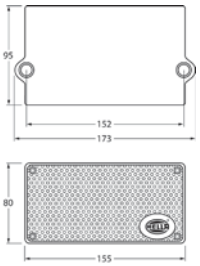
12 – 36 VDC, bare wire connection	**3TA 910 174-001**



Retrovox Compact Broadband 87db Alarm

Noise pollution can be an issue for mine sites close to residential areas. HELLA has introduced a range of broadband or "white noise" reversing arms to prevent miners from having to compromise on safety. By emitting sound a large range of frequencies, the sound dissipates faster and is localized so that sound doesn't carry. The RetroVOX features rugged design, which is highly reliable and unaffected by continuous vibration moisture, heat, cold, sun glare and dirt.

12-24 VDC, bare wire connection	**3SL 910 344-001**



Retrovox Broadband Alarm

Broad brand or "white noise" reversing alarm for applications where normal reversing alarm sounds cause problems. Heavy-duty construction fits popular OEM dimensions. Solid-state fuly sealed spark-free electronics (ip68) allows high pressure water cleaning. 200G shock resistant.

RetoVox Compact Bradband 87 - 112 dB Reversing Alarm

Noise pollution can be an issue for mine sites close to residential areas. HELLA has introduced a range of broadband or "white noise" reversing arms to prevent miners from having to compromise on safety. By emitting sound a large range of frequencies, the sound dissipates faster and is localized so that sound doesn't carry. The RetroVOX features rugged design, which is highly reliable and unaffected by continuous vibration moisture, heat, cold, sun glare and dirt.

Voltage 12 - 24 VDC
Sound level: 87 - 112 dB
Approval rating SAE J994 class A-D EC, E11

12-24 VDC, bare wire connection	**3TA 910 174-241**

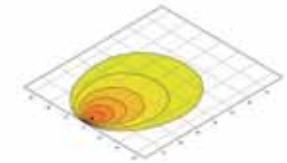
HELLA HEAVY DUTY LIGHTING & ACCESSORIES

This LED product has the following features

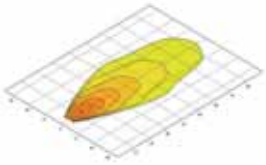
Ultra Beam LED Gen. 2

Light output (measured): 4,000 lumens, power requirement: 56 watts, colour temperature: 6,500 kelvins, multi voltage, polarity reversal protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (resistant to high-pressure cleaning / submersible), ECE-R10 approved, high-quality aluminum housing, ADR / GGVSEB on request, DEUTSCH connector*.

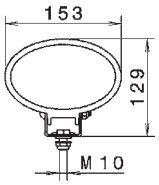
Close-range illumination	
Heavy-duty surrounding bracket	**1GA 995 606-071**
Long-range illumination	
Heavy-duty surrounding bracket	**1GA 995 606-081**

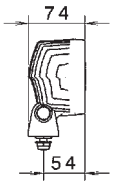


Close-range illumination



Long-range illumination

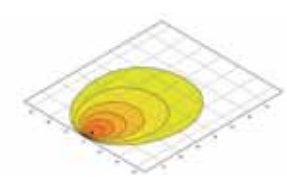




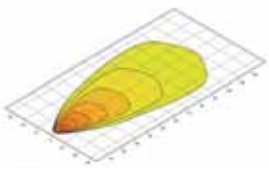
Oval 100 LED Gen. 2

Light output (measured): 4,400 lumens, power requirement: 56 watts, colour temperature: 6,500 kelvins, multi voltage, polarity reversal protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (resistant to high-pressure cleaning / submersible), ECE-R10 approved, high-quality aluminum housing, ADR / GGVSEB on request, DEUTSCH connector*.

Close-range illumination	
Upright or pendant mounting	**1GA 996 761-001**
Long-range illumination	
Upright or pendant mounting	**8KB 990 299-011**



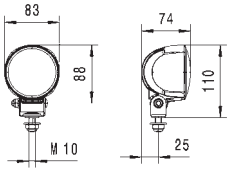
Close-range illumination



Long-range illumination

This LED product has the following features

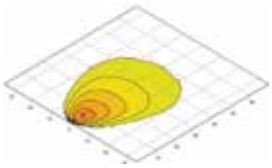
Mounting



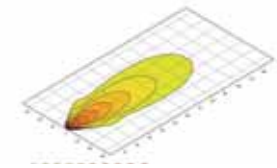
Module 70 LED Gen. 4

Light output (measured): 2,500 lumens, power requirement: 30 watts, colour temperature: 6,500 kelvins, multi voltage, polarity reversal protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (resistant to high-pressure cleaning / submersible), ECE-R10 approved, high-quality aluminum housing, upright/pendant mounting.

Close-range illumination	
2,000 mm cable	**1G0 996 476-001**
Long-range illumination	
2,000 mm cable	**1G0 996 476-011**



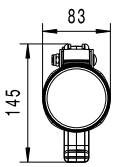
Close-range illumination

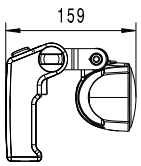


Long-range illumination

Modul 70 LED handheld searchlights with handle and switch comprising 3 highpower LEDs as version with long-range illumination or close-range illumination

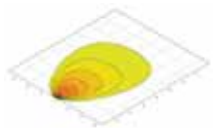
Modul 70 LED - Handheld headlamp with handle and switch



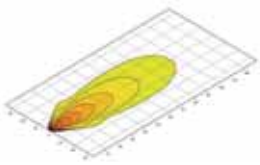


With this variant of the Modul 70 LED series, HELLA introduces on the market a compact, handheld searchlight boasting a very powerful light output. The handheld searchlight can be used flexibly thanks to the very practical handle. In addition to a switch for continuous operation, the handle also has a touch switch for short-term operation also enabling Morse code. Thanks to its low energy consumption, the Modul 70 handheld searchlights are ideal for use in battery-powered vehicles. The multivolt electronics of the headlamps enable the use in vehicles with 12 and 24 volts of vehicle electric system voltage. Thanks to CoroSafe technology, the Modul 70 LED handheld searchlights are optimally protected against corrosion. Here, the aluminium housing of the work lights is additionally treated with special chemical processes so that it can withstand the toughest conditions.
Colour temperature: 6,500 kelvins, multivolt 9 – 32 volts, polarity reversal protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7 (pressure cleaner-proof/ submersible), ECE-R10 approved, DT connector.

Close-range illumination: 2,500 lumens, 30 watts	**1H0 996 476-511**
Long-range illumination, 2,500 lumens, 30 watts	**1H0 996 476-501**

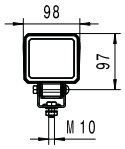


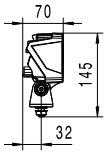
Close-range illumination



Long-range illumination

This LED product has the following features





ECO18 LED / ECO26 LED

→ Ideal halogen replacement for an easy conversion
→ Compact size and universal shape
→ Also available as a reversing light

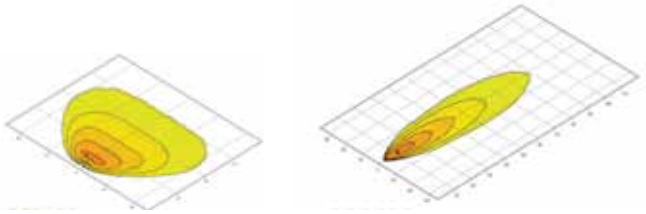
Light output (measured): ECO18 LED 1,350 lumens, ECO26 LED 2,000 lumens power requirement: 18 watts/26 watts, colour temperature: 6,500 kelvins, reversing light 5,000 kelvin, multi voltage, polarity reversal protection, overvoltage protection, overheating protection, IP 6K9K / IP 6K7 (resistant to high-pressure cleaning / submersible), ECE-R10 approved, high-quality aluminum housing, cable or DEUTSCT connector*.

ECO18 LED

Close-Range Illumination, DT connector	**1GA 996 479-021**
Long-Range Illumination, DT connector	**1GA 996 479-031**

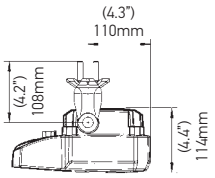
ECO26 LED

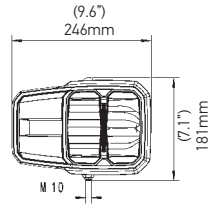
Close-Range Illumination, DT connector	**1GA 996 579-021**
Long-Range Illumination, DT connector	**1GA 996 579-031**



Close-range illumination

Long-range illumination



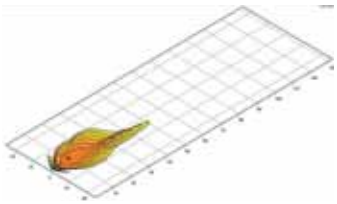


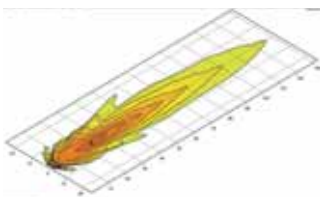
C140 LED HEADLAMPS

→ Combination headlamps with 100% LED technology
→ ECE and SAE approved
→ All light functions in LED (high beam, low beam, direction indicator, position light).

Power requirement: 25 watts (low beam)/40 watts (high beam), colour temperature: 6,500 kelvins, multi voltage, polarity reversal protection, overvoltage protection, IP 6K9K ((dust proof and withstands high pressure wash), high-quality aluminum housing, DEUTSCH connector*.

LHT headlamp	**1EE 996 374-011**
RHT headlamp	**1EE 996 374-021**

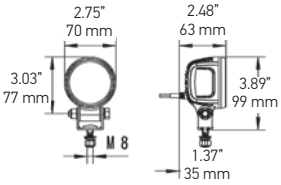




Low beam illumination

High beam illumination

This LED product has the following features

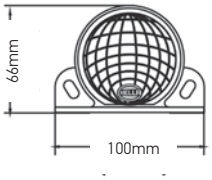


SL60 LED

- → VISIOTECH projection technology for communication by using light
- → Compact warning light for more comfort and safety
- → Projection of a red or blue strip-shaped warning line

LED, Power requirement: 5.5 Watt (Red), 7 Watt (Blue), 10 – 80 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, RCM compliance, aluminium housing, 500 mm cable.

Light strip, blue	**1G0 996 210-001**
Light strip, red	**1G0 996 210-011**



Reverse and Warning Alarm

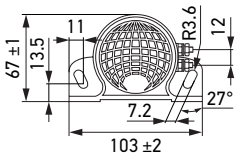
Black plastic housing and construction for rugged applications. With integrated bracket for universal mounting. The level of sound intensity is generated by the electronics of solid bodies. Multi-voltage: 9 – 48 V, frequency: 1,200 Hz, rated continuous current: 0.1 – 0.6 A, operating temperature: - 40°C to + 85°C, protection class: IP 67K (Resistant to water immersions).

9 - 48 V	**3SL 009 148-141**

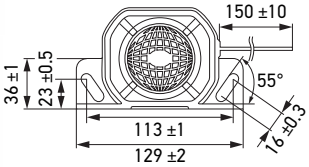
BM10

BM30

BM10



BM30



DT connector

Plus (+) Minus (-)

Reverse and Warning Alarm BM10 and BM30

- → Penetrating, long range alarm sound
- → Glass-filled nylon housing with integrated mounting bracket (BM30)
- → Insulated electronics with epoxy to protect against rust, moisture and vibrations
- → Various options of sound presurre level for urban and construction enviroment
- → Optionally available with automatic adjustment to environments with charging sound levels

Multi-voltage 12 – 48 VDC, power requirement: 12 Watt, frequency range: 700-2,800 Hz, current consumption 0.6 A Max. sound pressure level @ 1.2 m: fixed / Smart adjustable,operating teperature: - 40°C to + 85°C, IP 67, ECE-R10 and SAE J994 approved, housing material BM10: ABS, BM30: Glass-filled nylon, with 140 mm cable and DEUTSCH connector,

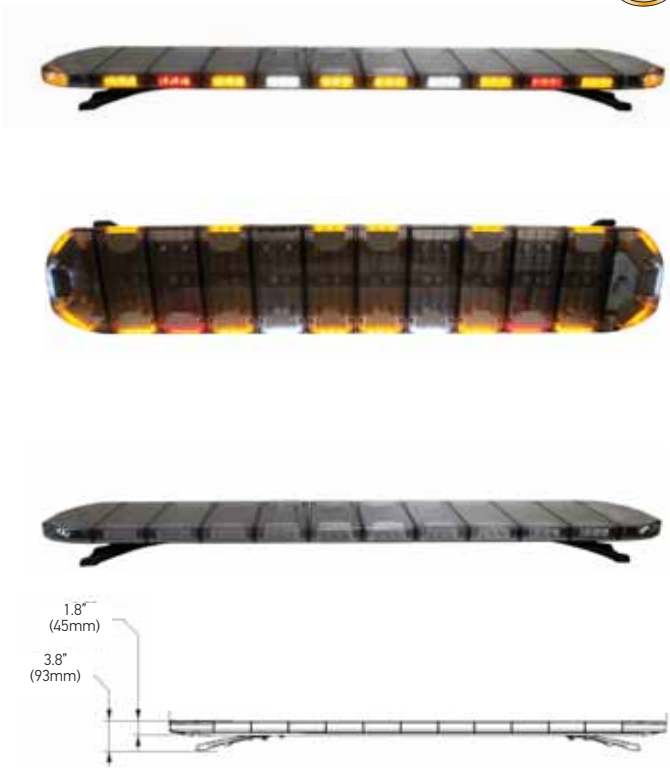
BM10: Ideal for light commercial vehicles

97 dB(A)	**3SL 009 148-197**
107 dB(A)	**3SL 009 148-207**
87-112 dB(A)	**3SL 996 139-267**

BM30: Ideal for light commercial vehicles

107 dB(A)	**3SL 996 139-247**
112 dB(A)	**3SL 996 139-257**
87-112 dB(A)	**3SL 996 139-277**

HELLA SERVICE VEHICLE LIGHTING & ACCESSORIES

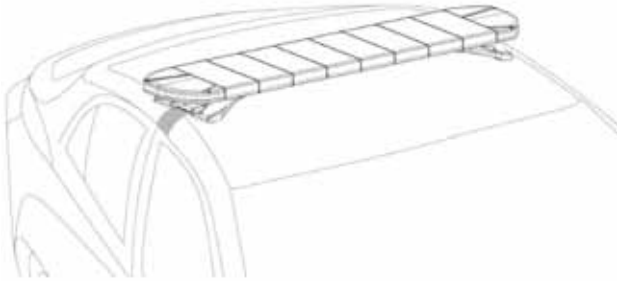


Full Size LED Light Bar

- → Multi-voltage input 12/24 VDC
- → 29 user selectable flash patterns
- → Available in lengths of 48", 56" and 60"
- → Non-volatile memory recalls last flash pattern used at power up
- → Reverse polarity protection
- → Intergrated traffic director functionality
- → Easy maintaince due to top accessibility
- → Smoked lens for stealth look
- → Weatherproof and vibration resistant design for external use
- → Discreet mounting
- → Vehicle specific strap kits available

LED signals engineered for Heavy Duty applications where safety is important, 29 flash warning patterns, operating voltage 12/24 VDC, max power 103 Watt, 130 Watt, 143 Watt, 182 Watt. Approvals: SAE J845 Class 1 (Amber, Red, White & Blue), CA Title 13 (Amber, Red & Blue), colors: amber, red, blue, green connections: pre wired, operating temperature: -30°C to +60°C, IP rating IP 67.

Description	Color		Part Number
LB4800A		LED Light Bar, 48", Amber	**1EX 358 111-781**
LB4800AL		LED Light Bar, 48", Amber, with takedown and alley lights	**2WB 358 111-871**
LB4800AGL		LED Light Bar, 48", Amber / Green, with takedown and alley lights	**2WB 358 111-821**
LB4800ARL		LED Light Bar, 48", Amber / Red with takedown and alley lights	**2WB 358 111-831**
LB4800RBL		LED Light Bar, 48", Red / Blue, with takedown and alley lights	**2WB 358 111-841**
LB4800RL		LED Light Bar, 48", Red, with takedown and alley lights	**2WB 358 111-851**
LB4800BL		LED Light Bar, 48", Blue, with takedown and alley lights	**2WB 358 111-861**
LB5600AL		LED Light Bar, 56", Amber, with stop, tail, turn, takedown and alley lights	**1EX 358 111-801**
LB6000AL		LED Light Bar, 60", Amber, with stop, tail, turn, takedown and alley lights	**1EX 358 111-811**



Light Bar Strap Kits

Application	Years	Part Number
CHEVY SILVERADO	2014 - 2018	**8HG 358 115-561**
DODGE RAM 1500	2012 - 2019	**8HG 358 115-601**
DODGE RAM 1500-3500	2010 - 2011	**8HG 358 115-611**
FORD F150 - F550	2015 - 2020	**8HG 358 115-641**
FORD F150	2004 - 2014	**8HG 358 115-651**
FORD F250 - 550	1999 - 1916	**8HG 358 115-661**

Light Bar Controller

- → 360 adjustable bracket mounting
- → Seven auxiliary functions can be switched
- → Independent control of power
- → Mounted to any angled surface
- → Supports controlling of light bar and traffic advisor
- → Audio and visible feedback

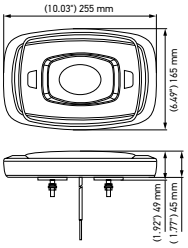
HELLA LED Light Bar Controller	**8HG 358 115-681**

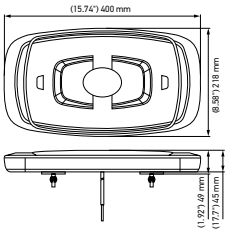
This LED product has the following features

K-LED MINI LIGHTBARS

→ Low profile amber Lightbar series
→ Multiple user selectable flash patterns
→ Unique design with various mounting options
→ Available in 10″ and 16″, both as full amber or amber / white

The state-of-the-art LED Mini Lightbars generate an intensive 360° degree warning signal and are highly functional for a multitude of applications. Both the 16″and10″ size offer a flashing and rotating warning signal, all in one product. They also feature different design and mounting options. The Mini Lightbars are available with a clear or amber lens and the LED's are available in amber or an amber / white combination. You can choose from a bracket or magnet mounting version.



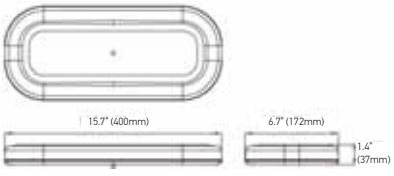


10″ Mini lightbar,	
Fixed, clear lens, amber	**2RL 014 566-111**
Fixed, amber lens, amber	**2RL 014 566-311**
Fixed, clear lens, amber/white	**2RL 014 566-411**
Magnet, clear lens, amber	**2RL 014 566-121**
Magnet, amber lens, amber	**2RL 014 566-321**
Magnet, clear lens, amber/white	**2RL 014 566-421**
16″ Mini lightbar	
Fixed, clear lens, amber	**2RL 014 565-111**
Fixed, amber lens, amber	**2RL 014 565-311**
Fixed, clear lens, amber/white	**2RL 014 565-411**
Magnet, clear lens, amber	**2RL 014 565-121**
Magnet, amber lens, amber	**2RL 014 565-321**
Magnet, clear lens, amber/white	**2RL 014 565-421**

MLB 200 LED

→ Non-volatile memory recalls last flash pattern
→ Multiple units can be synchronized
→ Reverse polarity protection
→ Weatherproof and vibration resistant design for external use
→ 5 year warranty

24 flash patterns, multivolt: 12/ 24 VDC, power requirement: 74 Watt, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch, IP67, SAE J845 Class 1, California Title 12, ECE R65, ECE R10

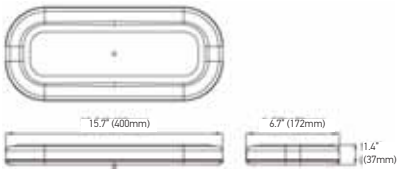


Fixed mount, amber	**1LX 358 111-561**
Magnetic mount, amber	**1LX 358 111-571**
Fixed mount, amber/ white	**1LX 358 111-581**
Magnetic mount, amber/ white	**1LX 358 111-591**

MLB 200 LED DUAL COLOR

→ Non-volatile memory recalls last flash pattern
→ Easy selection of dual color modes
→ Dual memory allows for easy switching between two different color modes
→ Non-volatile memory recalls last flash pattern
→ Reverse polarity protection
→ Weatherproof and vibration resistant design for external use
→ 5 year warranty

24 flash patterns, multivolt: 12/ 24 VDC, power requirement: 72 Watt, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch, IP67, SAE J845 Class 1, California Title 12, ECE R65, ECE R10



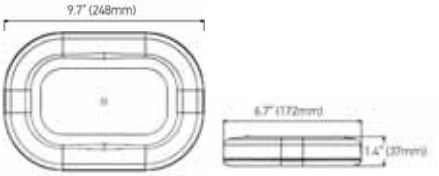
Fixed mount, amber/white	**1LX 358 111-601**
Magnetic mount, amber/white	**1LX 358 111-611**
Fixed mount, amber/blue	**1LX 358 111-621**
Magnetic mount, amber/blue	**1LX 358 111-631**

This LED product has the following features

MLB 100 LED

- → Very compact design. low profile 1.4" height
- → Non-volatile memory recalls last flash pattern
- → Multiple units can be synchronized

23 flash patterns, multivolt: 10 - 30 VDC, power requirement: 50 W, approvals: SAE J845 Class 1, California Title 13, ECE R65, ECE R10, connection fixed: 12" (30 cm) wire leads, connection magnetic: 10' (3 m) lighter plug with on/off and pattern select switch, Multi-Unit Sync: Over 15 units.



Fixed mount, amber	**1LX 358 111-471**
Magnetic mount, amber	**1LX 358 111-481**
Fixed mount, amber/white	**1LX 358 111-511**
Magnetic mount, amber/white	**1LX 358 111-521**

This LED product has the following features

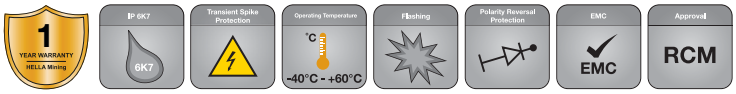
MLB 50 LED

- → Non-volatile memory recalls last flash pattern
- → Low power function for night time use
- → Multiple units can be synchronized

23 flash patterns, multivolt: 10 - 30 VDC, power requirement: 46 W, approvals: SAE J845 Class 1, California Title 13, ECE R10, connection fixed: 10' (3 m) wire leads, connection magnetic: 10' (3 m) lighter plug with on/off and pattern select switch, Multi-Unit Sync: Over 15 units.

Fixed mount, amber	**1LX 358 111-431**
Magnetic mount, amber	**1LX 358 111-441**
Fixed mount, amber/white	**1LX 358 111-451**
Magnetic mount, amber/white	**1LX 358 111-461**

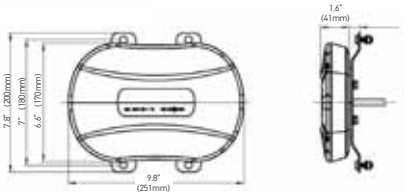
This LED product has the following features



MLB 40 LED

- → Multiple units can synchronize and flash simultaneous or alternately
- → Powerful LEDs for perfect warning effect
- → Low profile design - 1.6" height

19 flash patterns, multivolt: 10 - 30 VDC, power requirement: 40W, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch.



Fixed mount, amber	**1EX 358 111-111**
Magnetic mount, amber	**1EX 358 111-121**

This LED product has the following features

MST6E LED Lighthead

- Super low profile for discreet placement
- Self-adhesive backing for quick simple mounting
- Multiple units can be grouped to flash simultaneously or alternately
- Frosted lens for glowing body technology effect

Light source: 6 LEDs, warning patterns: 21 flash patterns, operating voltage: 12/24 VDC, max power: 6 W, approvals: SAE J595 Class 1, connection: 8 ″ (20 cm) wire leads, operating temperature: -30°C to +60°C, IP rating: IP 67.

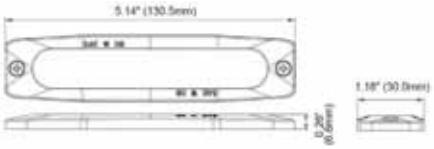
Amber	**2WB 358 111-691**
Blue	**2WB 358 111-701**
White	**2WB 358 111-711**
Red	**2WB 358 111-721**
Green	**2WB 358 111-731**
Amber / white	**2WB 358 111-741**
Amber / green	**2WB 358 111-751**
Purple	**2WB 358 111-761**
Green / white	**2WB 358 111-771**

This LED product has the following features

MST6 Mini LED Lighthead

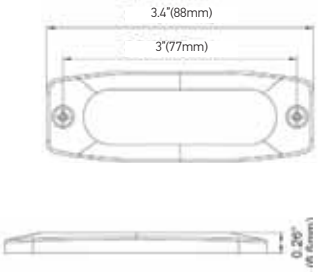
- Super low profile for discreet placement
- Self-adhesive backing for quick simple mounting
- Non-volatile memory recalls last flash pattern
- Multiple units can be grouped to flash simultaneously or alternately
- Weatherproof and vibration resistant design for external use
- 5 year warranty

Light source: 6 LEDs, warning patterns: 23 flash patterns, operating voltage: 12/24 VDC, max power: 6 W, approvals: SAE J595 Class 1, connection: 8 ″ (20 cm) wire leads, operating temperature: -30°C to +60°C, IP rating: IP 67, ECE R65, ECE R10



Amber	**2WB 358 111-321**
Blue	**2WB 358 111-331**
White	**2WB 358 111-341**
Red	**2WB 358 111-351**
Amber / white	**2WB 358 111-361**
Red / blue	**2WB 358 111-371**

This LED product has the following features

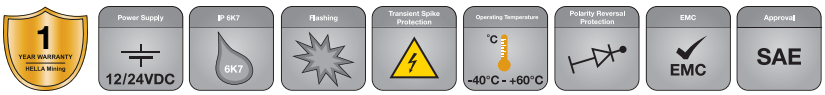


MST3 Mini LED

→ Super low profile for discreet placement
→ Self-adhesive backing for quick mounting
→ Multiple units can be grouped to flash simultaneously or alternately
→ Weatherproof and vibration resistant design for external use
→ 5 year warranty

The MST3 Mini houses 3 powerful LEDs with 12 different warning patterns.
The MST3 is available in amber or amber / white.

Amber	**2WB 358 111-001**
Blue	**2WB 358 111-011**
White	**2WB 358 117-131**
Red	**2WB 358 111-121**



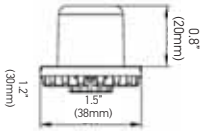
MS4³ Mini LED

→ Super low profile for discreet placement
→ Triple color lighthead
→ Non-volatile memory recalls last flash pattern
→ Multiple units can be grou ped to flash simultaneously or alternately
→ Weatherproof and vibration resistant design for external use
→ 5 year warranty

The MS4 Mini houses 3 powerful LEDs with 33 different warning patterns., operating voltage:12/24 VDC, max power: 6 W, approvals: SAE J595 Class 1, IP 67

Red / white /blue	**2WB 358 111-911**
Amber / white / blue	**2WB 358 111-921**
Amber / white / green	**2WB 358 111-931**

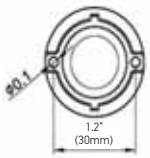
This LED product has the following features



Concealed Lighthead LED Gen. II

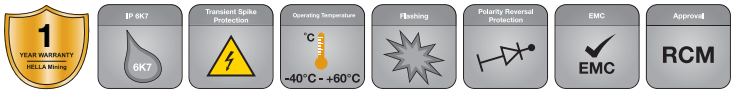
→ Control unit with 2 LED concealed lightheads
→ Pop-In design for easy installation
→ Multiple units can be synchronized and can flash simultaneously or alternately
→ Reverse polarity protection
→ Weatherproof and vibration resistant for external or internal use

LED Element: High Intensity LEDs, 37 warning flash patterns, power requirement: 12/24 VDC, average current: 0.9 A@12.8 VDC (varies with flash pattern), average power: 12 Watt (varies with flash pattern).

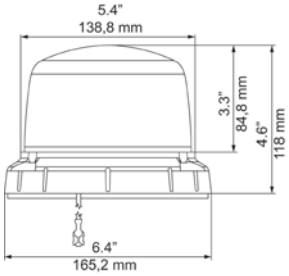


Concealed Lighthead amber	**1EX 358 111-941**
Concealed Lighthead white	**2WB 358 111-951**
Concealed Lighthead amber/white	**2WB 358 111-961**

This LED product has the following features



ROTALED LED BEACON

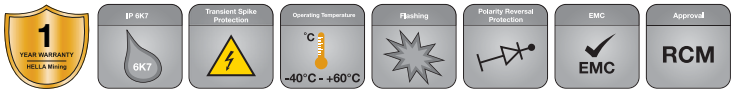


- → Non-volatile memory recalls last flash pattern
- → 1 flashing function
- → Resistant to high-pressure cleaners – protection against water during high pressure / steam cleaning
- → 1 year warranty

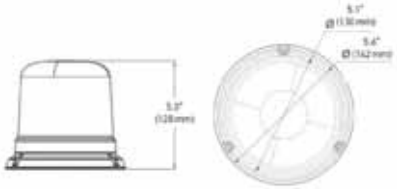
LED, Multivolt: 9 - 30 VDC, power requirement: 4 Watt, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch, IP67, SAE J845 Class 1, ECE R10 057636, reverse polarity protection

Fixed mount	**2XD 013 979-001**
Magnetic mount	**2XD 013 979-021**

This LED product has the following features



K-LED 100 LED

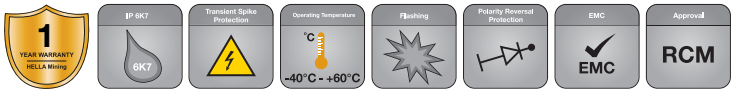


- → Non-volatile memory recalls last flash pattern used at power up
- → Multiple units can synchronize and flash simultaneous or alternately
- → Weatherproof and vibration resistant design for external use
- → 5 year warranty

11 flash patterns, Multivolt: 12/ 24 VDC, power requirement: 42 Watt, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch, IP67, SAE J845 Class 1, California title 13, ECE R10, ECE R65, reverse polarity protection, DIN plug

Fixed mount	**2RL 358 113-811**
Magnetic mount	**2RL 358 114-791**
DIN pole	**2RL 358 114-801**

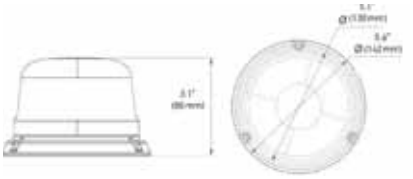
This LED product has the following features



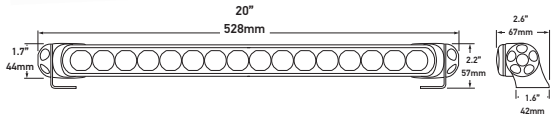
K-LED 100 COMPACT LED

- → Non-volatile memory recalls last flash pattern used at power up
- → Multiple units can synchronize and flash simultaneous or alternately
- → Weatherproof and vibration resistant design for external use
- → 5 year warranty

11 flash patterns, Multivolt: 12/ 24 VDC, power requirement: 30 Watt, connection fixed: wire leads, connection magnetic: lighter plug with on/off switch, IP67, SAE J845 Class 1, California title 13, ECE R10, ECE R65, reverse polarity protection

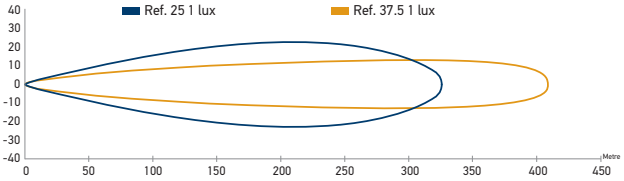


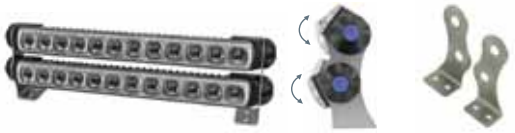
Fixed mount	**2RL 358 114-821**
Magnetic mount	**2RL 358 114-831**



LIGHT DISTRIBUTION:

1 Driving Beam 2 Pencil Beam



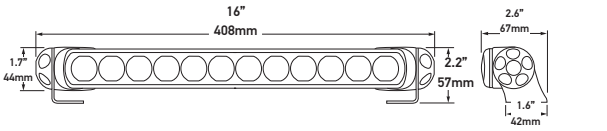


HELLA LED LIGHTBAR 470

→ Long Range
→ Off road use (Driving and Pencil beam versions
→ ECE approved)
→ Trucks / SUVs / ATVs / UTVs / Off-road vehicles
→ Lightweight at only 950 g)

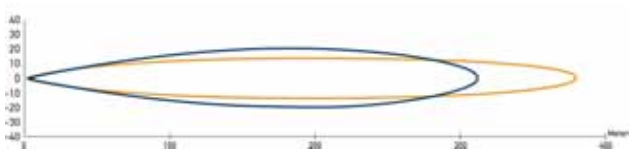
LED, light output (measured): 1900 lumen, power requirement: max 35 Watt, color temperature: 5,000 Kelvin, 9 – 33 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, CE EMC approved, RCM compliance, ECE-R10 approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

LED light bar 470 - Driving Beam ECE approved	1FJ 958 130-112
LED light bar 470 - Pencil Beam ECE approved	1FJ 958 130-012
LED light bar 470 - Combi CR/LR	1GJ 958 130-441
Accessories	
Stainless Steel Dual Bracket compatible with 350 and 470 Light Bars	8HG 958 128-811



LIGHT DISTRIBUTION:

1 Driving Beam 2 Pencil Beam



HELLA LED LIGHTBAR 350

→ Long Range
→ Off road use (Driving and Pencil beam versions ECE approved and street legal in Canada)
→ ECE approved)
→ Trucks / SUVs / ATVs / UTVs / Off-road vehicles
→ Lightweight at only 950 g

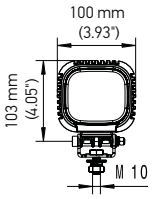
LED, light output (measured): 1500 lumen (Driving and Pencil beam), 2200 lumen (Wide and Narrow versions on "high" settings), 220 lumen (Wide and Narrow on "Low" settings) , power requirement: max 25 Watt, color temperature: 5,000 Kelvin, 9 – 33 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, CE EMC approved, RCM compliance, ECE-R10 approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

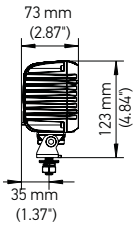
LED light bar 350 - Driving Beam ECE approved	1FJ 958 040-071
LED light bar 350 - Pencil Beam ECE approved	1FJ 958 040-081
Accessories	
Stainless Steel Dual Bracket compatible with 350 and 470 Light Bars	8HG 958 128-811

2016 SEMA GLOBAL MEDIA AWARDS WINNER

HELLA
VALUEFIT

S3000 LED Worklight

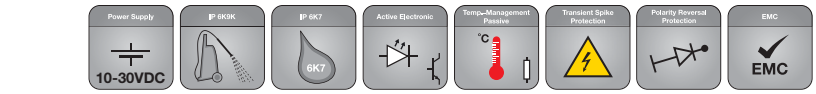




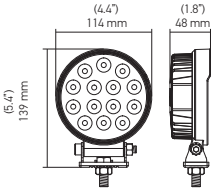
→ Perfect close range illumination to generate daylight working conditions at night
→ Designed for applications at the highest lighting requirements.
→ Powerful compact LED worklight - 1 light can replace up to 3 halogen worklights.
→ Integrated DT connector for safe and perfectly sealed electrical connection.
→ 2 year warranty.

LED, light output 3000 lumen (measured), power requirement: max 31 Watt, color temperature: 6,000 Kelvin / 2500 Kelvin (amber), 10 – 52 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Close range	**1GA 357 109-002**
Close range, amber	**1GA 357 109-022**



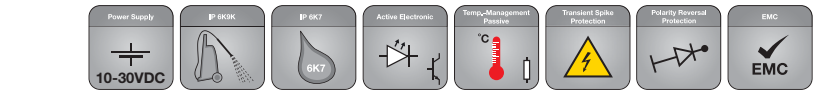
5RD LED 2.0 Worklight



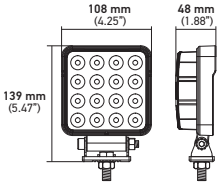
→ Powerful LED worklight.
→ Flat and compact design.
→ Also available in amber for winter or foggy environments
→ Stainless steel mounting hardware.
→ 1 year warranty

LED, light output 2000 lumen (measured) / 1700 lumen (amber), power requirement: max 24 Watt, color temperature: 6,000 Kelvin / 2500 Kelvin (amber), 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Close range	**1GA 357 105-002**
Long range	**1GA 357 105-012**



4SQ LED 2.0 Worklight



→ Powerful LED worklight in suitable size.
→ Also available with a magnet, switch and handle
→ Stainless steel mounting hardware.
→ 1 year warranty.

LED, light output 2000 lumen (measured), power requirement: max 24 Watt, color temperature: 6,000 Kelvin, 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Close range	**1GA 357 106-002**
Long range	**1GA 357 106-012**

HELLA VALUEFIT PRO SERIES

1 **Combo Beam.** A combination of a spot beam and flood beam

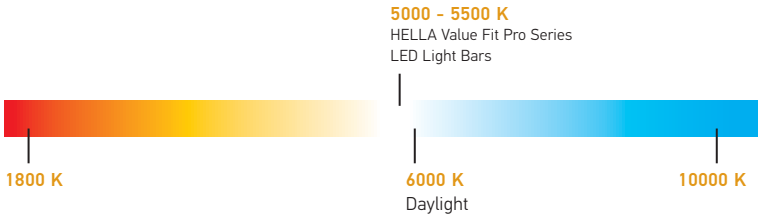
2 **Diecast Aluminum Housing** able to withstand the elements.

3 **Aluminum Alloy Brackets** for sturdy upright mounting. A perfect fit for roof, grille and bumper mounting.

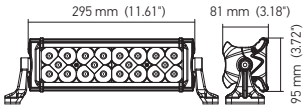
4 An all around professional LED light bar, a perfect fit for your next race to out shine the competition!

Color Temperature

- Color temperature is close to natural daylight.
- Drivers operating in such lighting conditions stay alert longer.



3100 lm

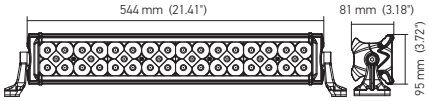


Light Bar Pro Series 12 Inch LED

The powerful PRO SERIES comes with a double row reflector and state-of-the-art LED technology. Powerful LEDs provide perfect visibility at night. 1 year warranty

Voltage	10-30 VDC
Light pattern:	Spot Beam
Light source:	LED
Power consumption:	60 Watt
Color temperature:	5500 Kelvin
Housing material:	Aluminum
Connection:	Wire leads
Mounting:	Stainless steel bracket
Dimensions	11.6" W x 3.7" H x 3.2" D / 285 x 96 x 81 mm
Approvals:	IP67
Part Number	**1GH 357 210-001**

5500 lm

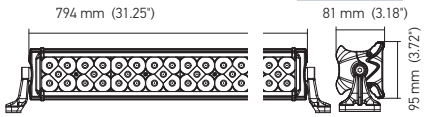


Light Bar Pro Series 21 Inch LED

The powerful PRO SERIES comes with a double row reflector and state-of-the-art LED technology. The combination of Flood and Spot reflectors creates a far and wide illumination for maximum visibility at night. 1 year warranty

Voltage	10-30 VDC
Light pattern:	Combo Beam
Light source:	LED
Power consumption:	120 Watt
Color temperature:	5500 Kelvin
Housing material:	Aluminum
Connection:	Wire leads
Mounting:	Stainless steel bracket
Dimensions	21.4" W x 3.7" H x 3.2" D / 544 x 96 x 81 mm
Approvals:	IP67
Part Number	**1GH 357 210-101**

9250 lm

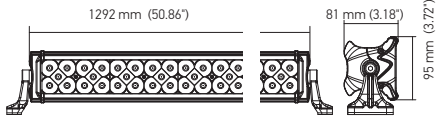


Light Bar Pro Series 31 Inch LED

The powerful PRO SERIES comes with a double row reflector and state-of-the-art LED technology. The combination of Flood and Spot reflectors creates a far and wide illumination for maximum visibility at night. 1 year warranty

Voltage	10-30 VDC
Light pattern:	Combo Beam
Light source:	LED
Power consumption:	180 Watt
Color temperature:	5500 Kelvin
Housing material:	Aluminum
Connection:	Wire leads
Mounting:	Stainless steel bracket
Dimensions	31.3" W x 3.7" H x 3.2" D / 794 x 96 x 81 mm
Approvals:	IP67
Part Number	**1GH 357 210-201**

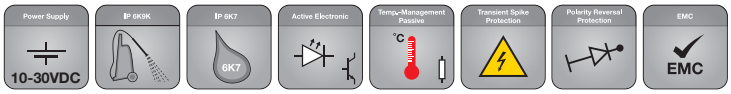
15500 lm



Light Bar Pro Series 51 Inch LED

The powerful PRO SERIES comes with a double row reflector and state-of-the-art LED technology. The combination of Flood and Spot reflectors creates a far and wide illumination for maximum visibility at night. 1 year warranty

Voltage	10-30 VDC
Light pattern:	Combo Beam
Light source:	LED
Power consumption:	300 Watt
Color temperature:	5500 Kelvin
Housing material:	Aluminum
Connection:	Wire leads
Mounting:	Stainless steel bracket
Dimensions	50.9" W x 3.7" H x 3.2" D / 1292 x 96 x 81 mm
Approvals:	IP67
Part Number	**1GH 357 210-301**

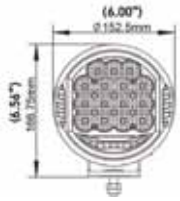


500 LED Driving Lamp

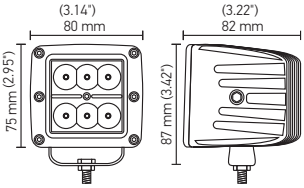
→ Round LED Auxiliary ligtht with high performance LEDs and stylish PO light.
→ The 500 LED comes with a black stone shield cover.
→ Off-road use only
→ Amber cover converts the 500 LED to a Fog lamp for dusty or foggy environments.

LED, light output 2100 lumen (measured), power requirement: max 22.5 Watt, color temperature: 6,000 Kelvin, 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, CE EMC approved, RCM compliance, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Kit contains: (2) LED driving lights, stone shields, mounting brackets and hardware, (1) relay, switch and wiring harness



Single	**1F7 358 117-161**
Kit:	**1F7 358 117-171**
Amber stone shield	**9HD 358 116-991**

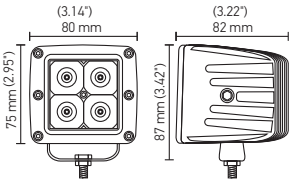


6LED Cube

→ The compact square design combined with 6 powerful LEDs are the perfect combination for you.
→ Avaibale as surface bracket mout ot with a special flush mount cover to install it direct into the bumper.
→ 1 year warranty

LED, light output 600 lumen (measured), power requirement: max 18 Watt, color temperature: 6,000 Kelvin, 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Flood beam	**1G0 357 204-051**



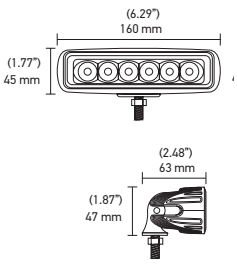
4LED Cube

→ Compact LED cubes with great light distribution, both in flood and spot beam pattern.
→ The wide 90 degree spread flood beams provide perfect light conditions around your vehicle.
→ The far reaching spot beams provide additional light in front of your vehicle.
→ 1 year warranty.

LED, light output 600 lumen (measured), power requirement: max 12 Watt, color temperature: 6,000 Kelvin, 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Kit contains: (2) LED lights, mounting brackets and hardware, (1) relay, switch and wiring harness with DT connector

Kit, Flood beam	**1GA 357 204-831**
Kit, Spot beam	**1GA 357 204-821**



6LED Mini Lightbar

→ Thanks to its 6 high power LEDs, it is a top seller in this range.
→ The low profile shape and the adjustable mounting bracket make this lamp a desired addition to any vehicle.
→ 1 year warranty

LED, light output 1000 lumen (measured), power requirement: max 18 Watt, color temperature: 6,000 Kelvin, 10 – 30 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP6K7, CE EMC approved, RCM compliance, CE, ECE-R10, ECE-R112, approved, high quality thermally conductive polymer housing, connection via 2,5 m wire.

Flood beam	**1GB 357 203-001**
Spot beam	**1GB 357 203-011**

4“ LED TAIL LAMPS

→ Super low profile for discreet placement
→ Self-adhesive backing for quick mounting
→ Multiple units can be grouped to flash simultaneously or alternately
→ Weatherproof and vibration resistant design for external use
→ 5 year warranty

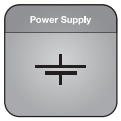
LED SAE and ECE approved, for buses, trucks, trailers, rvs and special vehicles, power requirement: 2.59 Watt@12 V, 3.32 Watt @24V, IP 67/69, 3D effect due to optical free outer lens and metallized reflectors, integrated 3-pin connector or wire leads, SAE : Stop/Tail/DI, DI and Reverse, ECE : Stop/Tail/DI, Stop/Tail, DI, Reverse and Rear Fog

Stop/tail/turn lamp, red	**2SB 328 870-007**
Turn lamp, amber	**2SB 328 870-017**
Reverse Lamp, clear	**2SB 328 870-027**

Minimum qty = 56 pcs.

ICON EXPLANATION

Vehicle electrical system voltage



Defines the voltage supply of the light.

Multivolt is the most flexible: Requires fewer versions, but has more electronic circuit components and is therefore more expensive.

Rated shock resistance

Operational duty cycles in Mining are some of the most demanding, and field research by HELLA has measured shock and vibration levels of remarkable magnitudes. Equipment designed for less demanding environments will fail rapidly when used in Mining, and often when most needed. Our design aim is to produce equipment that will function reliably in a continuously shock and vibration laden environment.

Dust and water protection IP

International Protection (IP) as per DIN 40050, Part 9.
Specific definition for road vehicles.
5K = Dust protected
6K = Dust tight
9K = Protection against water during pressure / steam cleaning.

The higher the protective category, the better the protection against penetrating media. IP 67 maximum value.
→ Completely sealed against dust and water.

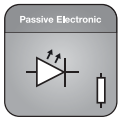
Approval for transport of dangerous goods

Light approved for transport of dangerous goods according to Hazardous Waste Road Directive (GGVS).

Generally required for lorry and trailer lighting. Pre-conditioned for approval: damage to the light source must not cause explosive media to ignite.

Electronic circuit

Active



Passive

Basically, two different circuits are possible for LED lamps:

Active:
LED current regulation by means of active electronics.

Higher expenditure during development because of complex circuit and necessary EMC approval. Higher price because of electronic components, but electronic current regulation allows for maximum LED service life.

Passive:
Setting a specific voltage range for the LED by means of a series resistor. Inexpensive solution without complex protection measures. No EMC approval required.

Transient spike protection

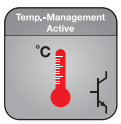
In some circumstances, the electrical system of Mining vehicles can experience sudden high voltage spikes which have the potential to destroy sensitive electronic equipment, such as lighting. Products marked with this symbol ensures there is adequate protection from these instances.

Supplement to the electronics for protecting the LEDs against high voltages / currents in the vehicle electrical system as per ISO 7637-2.

Overloading of the LEDs can be caused by voltage peaks in the vehicle because of:
→ Jump-starting
→ Devective control units
→ Load-Dump Impulse (incorrect battery contact)

They stress / damage the LEDs, which can cause the function to fail or the service life to be reduced. Adding additional components to the circuit protects the circuit and can extend the service life or even prevent an outage.

Thermal management



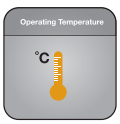
Active

Passive

Active:
Electronic power control of the LED in case of impermissibly high ambient temperatures. This ensures the protection of the LED against destruction by overheating. More development overhead with active thermal management and higher parts prices ensure optimal conditions for maximum design life.

Passive
Optimised layout of the components for even temperature distribution and spread. The warmer the LED gets through exterior factors or heating caused by its own operation, the shorter the service life.

Operating Temperature

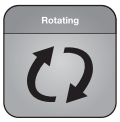


Whether it's in cold or warm climates, our products have to perform every time. Thermal management and a well designed housing allows full function of our products in all operating conditions. To ensure this performance we test our products from -40°C up to 100°C.

ICON EXPLANATION

Signal light beacons

Flashing signal light



Rotating signal light

Steady On signal light

Polarity reversal protection

Even if the connecting cable is connected the wrong way round, there is still no danger for the electronics. The semiconductor in an LED must always be operated with the correct polarity. Inverse polarity damages the LED, so that LED lamps are always equipped with a reverse polarity protection (diode).

This function only works when "+" and "-" are correctly connected, however. If a lamp has a bi-polar circuit, the functioning is independent of the contact connections. This ensures Poka-yoke (avoiding faulty installations) in connection with the indentation clamping technology, for instance.

Electromagnetic compatibility

Electromagnetic compatibility (EMC) tested.

If the lamp has not been built to EMC specifications, and is thus not certified, interactions that impair other safety-relevant electronic systems may occur.

Examples:
Interference in the radio loudspeaker, impairment of ABS electronics, or failure of the lamp due to sensitivity to interference.

Corrosion Proof Housing

Corrosion Proof Housing means new extreme corrosion resistant worklights with a special housing to improve the resistance of our Mining worklights in harsh conditions.

Approval

Product is licensed according to ECE guidelines.

Product is licensed according to RCM guidelines.

From 2013, Products marketed in Australia and New Zealand will share a common electrical safety standard. As part of the registration process, suppliers must make a declaration that all the equipment they sell meets relevant standards and is electrically safe. The RCM mark will eventually superceed the C-Tick and A-Tick marks.

Product is licensed according to SABS guidelines.

Product is licensed according to SAE guidelines.

RFCommSafe Electromagnetic Compatibility (EMC)

Every LED lamp contains electronic circuitry. It is essential that this circuitry does not cause harmful interference to other devices and at the same time is not susceptible to radiation from other devices.

RFCommSafe products were developed in recognition that some radio communication equipment can self-tune to be very sensitive in remote areas. In these situations the limits prescribed by regulatory requirements and as defined in international standards such as CISPR15 or relevant UNECE Standards may not be sufficient to ensure there is no interference with very sensitive radio communication equipment.

ZEROGLARE

The **ZERO**GLARE light distribution is designed specifically for low beam applications to completely remove glare for oncoming traffic. **ZERO**GLARE brings on-road lighting safety and technology to the mine site.

5 YEAR WARRANTY
1 YEAR WARRANTY

HELLA Mining products are designed and manufactured to fulfill the highest quality standards and to deliver high performance for a long time. HELLA Mining products are covered by a one (1) year warranty; all HELLA Mining LED products are covered by a five (5) year warranty.

The warranty period begins on the date of production as marked on the product. Where a repair is not possible or is deemed uneconomical HELLA will replace the product with a new or refurbished product. If the product is not available anymore HELLA will provide an adequate replacement (e. g. successor or a product with similar performance). The warranty applies only if the product has been handled properly for its intended use and if it has been mounted correctly. In the event that you have questions concerning handling and mounting, we recommend that you first consult the mounting instruction and get in contact with HELLA.

The warranty does not cover labor expenses, shipping costs, consequential damages, loss of business and does not apply for:

- → LED lumen maintenance L70 / B10 or greater
- → Damages caused by environmental effects
- → Physical damages
- → Improper handling or mounting
- → Normal wear and tear
- → Product modifications
- → Operation beyond the product specification or the intended purpose
- → Production date was removed or made illegible

In the unlikely event of a defect, HELLA Mining has the right to request information and to investigate the problem. Warranty claims are statute-barred after two years beginning with the end of the year in which the defect was reported. Verbal ancillary agreements do not exist. All ancillary agreements must be in writing. If a provision of these conditions should be or become invalid, this shall not impair the validity of the remaining provisions. The warranty terms are in addition to the compulsory legal provisions and do not preclude any legal rights or remedies.

NOTES

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