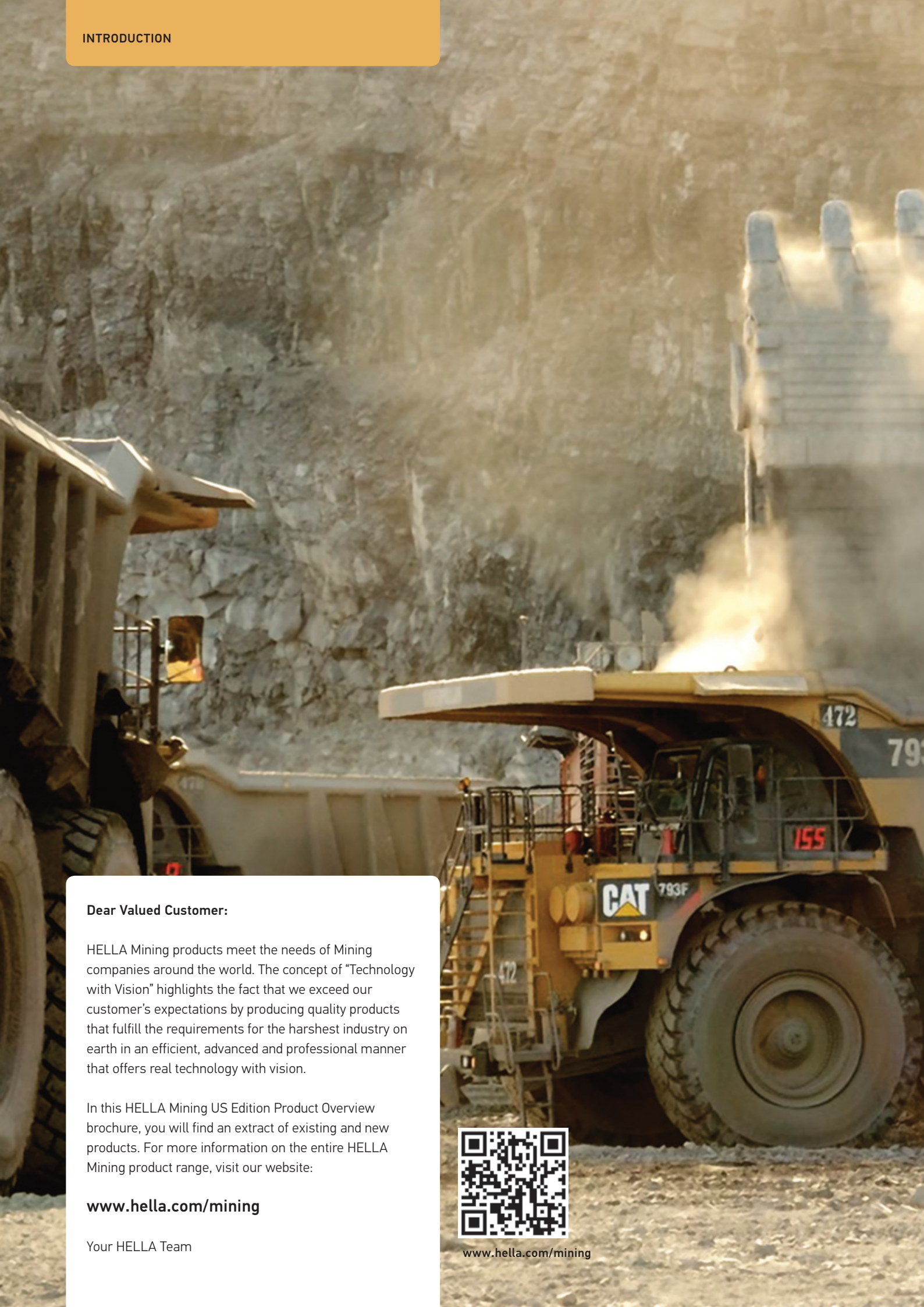




**PRODUCT OVERVIEW**  
HELLA MINING



**US 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](http://www.hella.com/mining)**

Your HELLA Team



[www.hella.com/mining](http://www.hella.com/mining)

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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 **ZEROGLARE** optical system to bring the safety and comfort of highway driving to Mining operations! The **ZEROGLARE** 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.

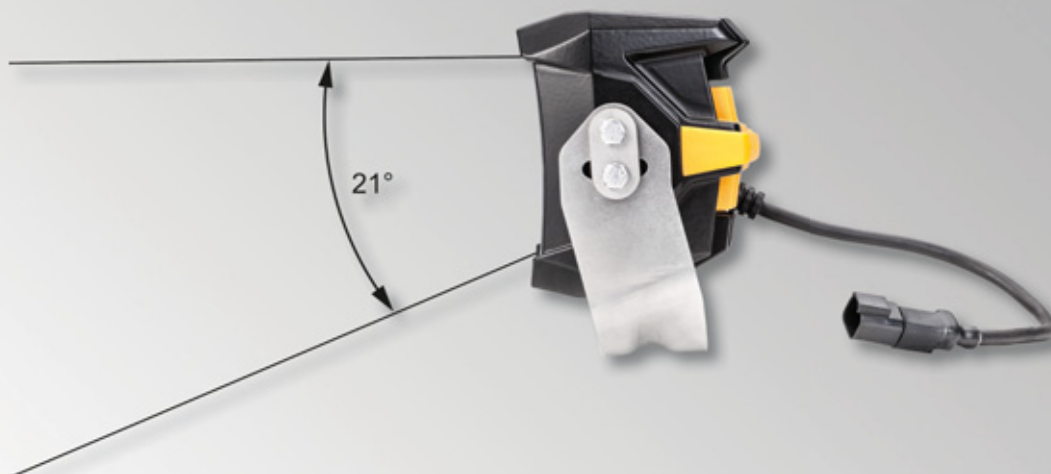
HELLA Mining utilised the HELLA Automotive LED optical developments for high end LED headlights for luxury cars and developed an extremely robust worklight which offers all the benefits of highway driving.

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 **ZEROGLARE** where operators get increased visibility and increased safety without blinding oncoming operators on-site for both surface and underground operations.

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





Traditional LED worklight vs. **ZEROGLARE** 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 **ZEROGLARE** 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](http://www.hella.com/mining)



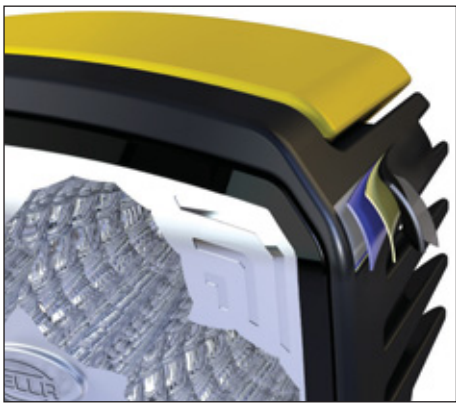
The **ZEROGLARE** optics ensure light vehicle operators are not blinded by oncoming Haul Trucks lighting systems

## FEATURES HELLA MINING WORKLIGHTS



### Lumen measurement according to LM-79-08

The correct way to measure the light output of head- and worklights is usage of a Goniometer. This instrument measures defined sphere angles, normally 90 degree in all directions (a half sphere). As a result we get the nominal illumination values of all detected section angles. With our software "Helios" we analyse the measured values and generate the correct lumen output. All measurements are performed at an ambient temperature of 23°C. The light output is measured after thermal stabilisation time of the light unit after 30 minutes in function, the LEDs have then reached their operating temperature.



### NanoSafe

HELLA Mining presents the new extreme corrosion resistant worklights with a special coating to improve the resistance of our Mining worklights in harsh conditions. We call this new technology: NanoSafe technology. For our NanoSafe coating, we implemented three more layers to make our worklights more corrosion resistant and implemented a non-stick and easy to clean surface coating. These three additional layers lead to a much higher and longer resistance against corrosion. The NanoSafe technology will be exclusive to our Mining LED worklights, where the conditions are extremely harsh.



### RFCommSafe Electromagnetic Compatibility (EMC)

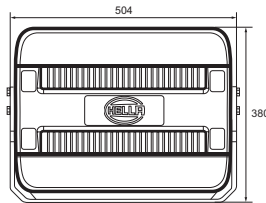
Every LED lamp contains electronic circuitry. It is essential that this circuitry does not cause harmful interference to other devices and at the same time is not susceptible to radiation from other devices.

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.

Lamps marketed as RFCommSafe are designed to go well beyond the requirements of CISPR15, CISPR25 and UNECE Standards.

# HypaLUME

This LED product has the following features

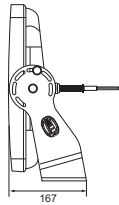


## HypaLUME 24-48VDC

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

Light output (measured): 25,000 lumen, power requirement: 260 Watt, color temperature: 5,700 Kelvin, Multivolt, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, double insulated silicone supply 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, mob (50 G)	<b>1GJ 011 872-501</b>
Long range illumination, mob (50 G)	<b>1GJ 011 872-511</b>
Extra wide illumination, mob (50 G)	<b>1GJ 011 872-521</b>

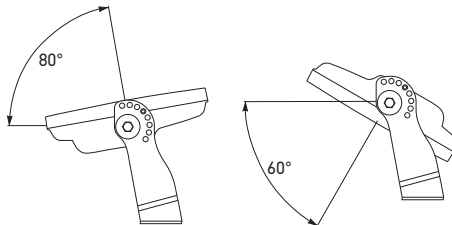


## Amber Version

Light output (measured): 13,000 lumen, 1,800 Kelvin, Heavy Duty surrounding-bracket, mounting standing / hanging.

Close range illumination, Amber	<b>1GJ 011 872-601</b>
Long range illumination, Amber	<b>1GJ 011 872-611</b>
Extra wide illumination, Amber	<b>1GJ 011 872-621</b>

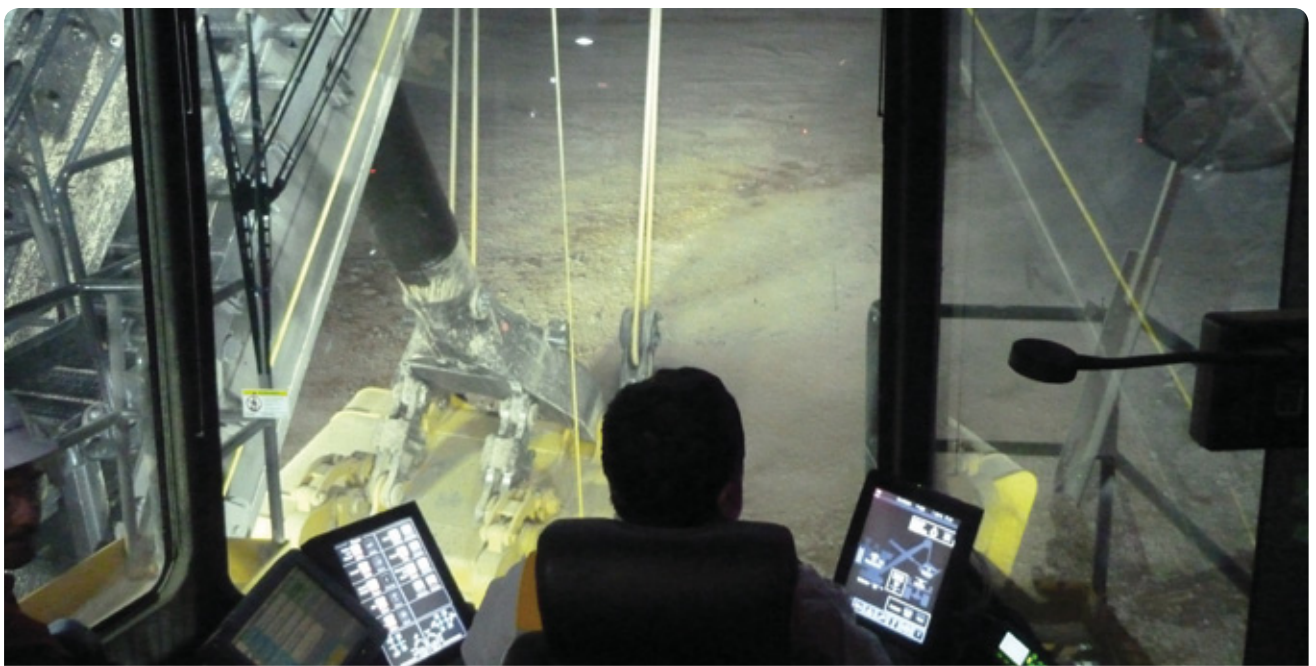
Amber version



Lamp can be rotated 140°

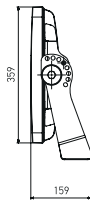
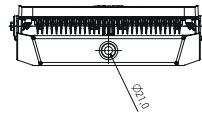
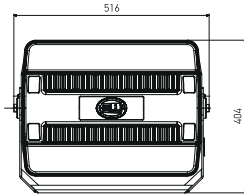
## Accessories

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



# HypaLUME 48V RFCommSafe

This LED product has the following features



## HypaLUME 48V RFCommSafe

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

Light output (measured): 28,000 lumen, power requirement: 300 Watt, color temperature: 5,700 Kelvin, 48 V, 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, mob (50 G)	<b>1GJ 011 872-221</b>
Long range illumination, mob (50 G)	<b>1GJ 011 872-231</b>
Extra wide illumination, mob (50 G)	<b>1GJ 011 872-241</b>

CR Close range  
 LR Long range  
 XW Extra wide

## Accessories

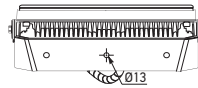
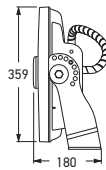
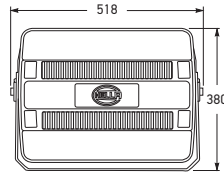
AC/DC Converter 320 W 48 V	<b>8EN 358 116-171</b>
48V RFCS Adapter Cable	<b>8KB 958 304-001</b>





# HypaLUME 100-240 V AC

This LED product has the following features



## HypaLUME 110/240 V AC

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

Light output (measured): 28,000 lumen, power requirement: 300 Watt, color temperature: 5,700 Kelvin, voltage input range 100-240 V AC, 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, mob (50 G)	<b>1GJ 958 334-011</b>
Long range illumination, mob (50 G)	<b>1GJ 958 334-021</b>
Extra wide illumination, mob (50 G)	<b>1GJ 958 334-031</b>

CR Close range  
LR Long range  
XW Extra wide



Amber version

## Amber Version

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

Close range illumination, AC lamp, Amber	<b>1GJ 958 334-111</b>
Long range illumination, AC lamp, Amber	<b>1GJ 958 334-121</b>
Extra wide illumination, AC lamp, Amber	<b>1GJ 958 334-131</b>



# RokLUME 380 N

This LED product has the following features

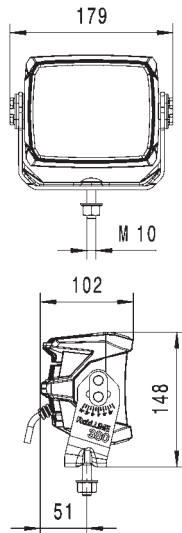


Pencil Beam Version

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 supply 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

## RokLUME 380 N Auxiliary Light

Light output (measured): 7,800 lumen, power requirement: 84 Watt, color temperature: 5,000 Kelvin, ECE-R112.01-B approved

RokLUME 380 N Auxiliary Light, 12 V	1FA 996 197-151
RokLUME 380 N Auxiliary Light, 24V	1FA 997 197-181

ZG	ZEROGLARE	F	Flood
CR	Close range	N	NanoSafe
LR	Long range	A	Amber
PB	Pencil Beam		



# RokLUME 280 N

This LED product has the following features



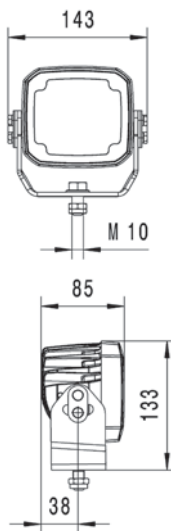
Long range Version

ZEROGLARE Version



Green Version

Amber Version



## RokLUME 280 N

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

Light output (measured): up to 4,400 lumen, power requirement: max. 55 Watt, color temperature: 5,000 Kelvin, 9 - 33 V, 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 surrounding-bracket,

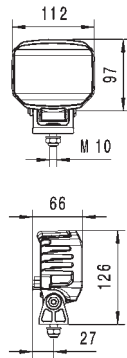
RokLUME 280 N CR	<b>1GA 995 606-501</b>
RokLUME 280 N LR	<b>1GA 995 606-511</b>
RokLUME 280 N PB	<b>1GA 995 606-521</b>
RokLUME 280 N ZG	<b>1GA 995 606-541</b>
RokLUME 280 N ZG PENDANT	<b>1GA 995 606-551</b>
RokLUME 280 A N CR	<b>1GA 995 606-601</b>
RokLUME 280 A N LR	<b>1GA 995 606-611</b>
RokLUME 280 A N PB	<b>1GA 995 606-621</b>
RokLUME 280 A N ZG	<b>1GA 995 606-641</b>
RokLUME 280 G N PB	<b>1GA 995 606-721</b>
RokLUME 280 G N ZG	<b>1GA 995 606-741</b>

ZG	ZEROGLARE	N	NanoSafe
CR	Close range	A	Amber
LR	Long range	G	Green
PB	Pencil Beam		



# RokLUME 190 TP

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

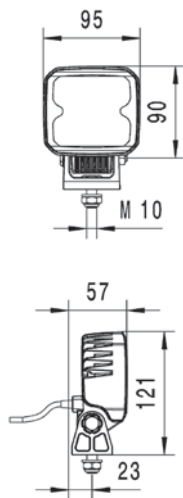
Light output (measured): 1,850 lumen, power requirement: 26 Watt, color temperature: 5,000 Kelvin, 10.5 - 32 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, thermo-conductive plastic housing, RCM compliance, mounting 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

# RokLUME 155 TP

This LED product has the following features



## RokLUME 155 TP

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

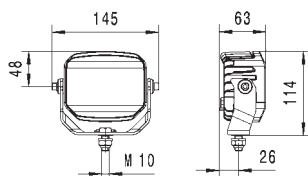
Light output (measured): 1,200 lumen, power requirement: 15 Watt, color temperature: 5,000 Kelvin, 9 - 33 V, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, ECE-R10 approved, RCM compliance, high quality thermo plastic housing, 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

# Power Beam 1500 LED

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

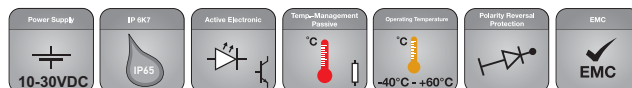
Light output (measured): 1,350 lumen, power requirement: 22 Watt, color temperature: 6,500 Kelvin, 9 -33 VDC, reverse polarity protection, transient spike circuit protection, over-voltage protection, thermal management, IP 6K9K / IP 6K7, RCM compliance, aluminium housing, DT connector.

Power Beam 1500 CR	<b>1GA 996 288-021</b>
Power Beam 1500 LR	<b>1GA 996 288-031</b>

CR Close range  
LR Long range

# RC 360 Gen. 2

This LED product has the following features

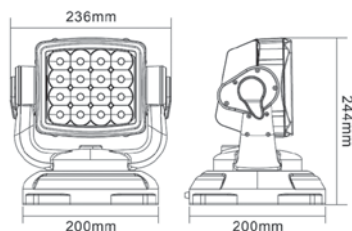


## RC 360 Gen. 2.0

- Remote controlled LED worklight
- 360° full rotation
- Remote control included
- Flash function: SOS Distress Signal (3 long flash-2 short flash)
- This is a rotatable remote-controlled LED light which possess 110 degree vertical rotation range and 360 degree horizontal rotation range. With the function of wireless control, it can be remotely adjusted by controller.

Light output (measured): 3,250 lumen, power requirement: 80 Watt, color temperature: 6,000 Kelvin, Multivolt 10-30 V, reverse polarity protection, over-voltage protection, Weight: 7.0lbs , IP65 (Protected against low pressure water jets from any direction), CE EMC approved, compliance 47 CFR FCC Part 15 Subpart B ANSI C63.4: 2014, IC CAN ICES-5 (B)/NMB-5(b), 15 ft cable with lighter plug, magnetic or fixed mounting.

RC 360 Gen. 2 - Black	<b>1GA 357 104-041</b>
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# RokLUME S700

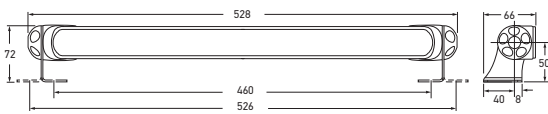
This LED product has the following features



### RokLUME S700 - Diffuse flood

- Diffuse beam illuminates a wide area
- High impact and chemical resistant Grilamid lens
- Light weight of only 930 g

Light output (measured): 3,600 lumen, power requirement: 36 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.



RokLUME S700 - Diffuse flood	<b>1GJ 958 130-521</b>
RokLUME S700 Combi (CR+LR)	<b>1GJ 958 130-461</b>

### Accessories and Spare Parts

Amber protective cover	<b>8XS 958 337-031</b>
HD double mount stainless steel feet (one pair)	<b>8HG 958 128-811</b>



P/N 8XS 958 337-031  
Amber protective cover



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

# RokLUME 210

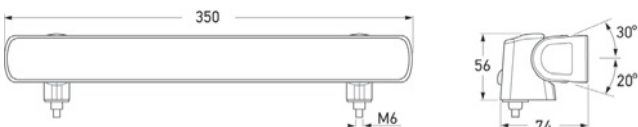
This LED product has the following features



### RokLUME 210

- Low profile LED lightbar for worklight applications
- Thermo Pro plastic housing
- Flexible mounting concept

Light output (measured): 2,200 lumen, power requirement: 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, high quality thermally conductive polymer housing, mounting hanging, connection via 2.5 m wire.

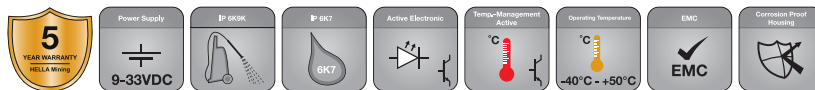


RokLUME 210 CR	<b>1GJ 958 040-521</b>
RokLUME 210 LR	<b>1GJ 958 040-641</b>
RokLUME 210 PB	<b>1GJ 958 040-071</b>

CR Close range  
LR Long range  
PB Pencil beam

# Repulse LED

This LED product has the following features

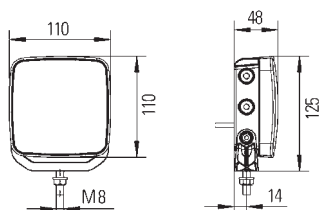


## Repulse LED Offroad Signal Light

- Low profile signal lights
- Thermo Pro plastic housing

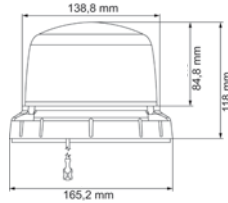
LED Offroad Signal Light, power requirement: 11 Watt, 9 - 33 VDC, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7, ECE-R10 approved, ADR approved, 2-pole DT connector and 150 mm cabling length, mounting standing / hanging bracket width 109 mm.

Amber	2ZR 012 456-411
Blue	2ZR 012 456-421
Green	2ZR 012 456-431
Red	2ZR 012 456-441



## KLX 1 LED

This LED product has the following features



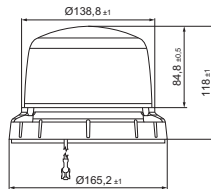
### KLX 1 LED

9 - 30 VDC, power requirement: 4 W, Light Source: 3 LEDs, Max Power: 4 W, Approvals: SAE J845 Class III, Connection fixed: wire leads, Connection magnetic: lighter plug with on/off switch, IP 6K9K/IP6K7, ECE-R10 approved. Light pattern: flashing

fixed mount, amber	2XD 012 480-001
magnetic mount, amber	2XD 012 480-101

## MiniRAY 2.1

This LED product has the following features

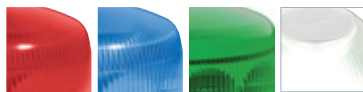


### MiniRAY 2.1

9-30 VDC, power requirement: 4 Watt, Transient spike protection, reverse polarity protection, IP 6K9K / IP 6K7, ADR / GGVSEB approved, ECE-R10 approved, RCM compliance, SAE J845 Class III, impact resistant polycarbonate lens. Light pattern: flashing.

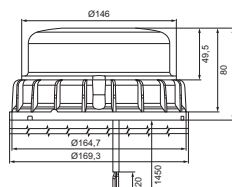
fixed mount, blue	2XD 012 480-321
fixed mount, red	2XD 012 480-311
fixed mount, green	2XD 012 480-341
fixed mount, white	2XD 012 480-331

magnet mount, blue	2XD 012 480-411
magnet mount, red	2XD 012 480-421
magnet mount, green	2XD 012 480-441
magnet mount, white	2XD 012 480-431



## K-LED Mining

This LED product has the following features



### K-LED Mining

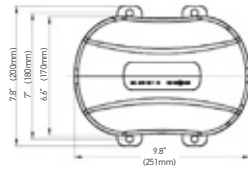
10 - 32 VDC, power requirement: 30 Watt, transient spike protection, reverse polarity protection, IP 6K9K / IP 6K7, ADR / GGVSEB approved, ECE-R10 approved, RCM compliance, low profile beacon, height only 87.6 mm, installation Ø 130 mm and SAE Ø 150 mm possible, impact resistant polycarbonate lens, , rotating or 17 flashing pattern, light sensor for daylight detection.

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



## MLB 40 Micro Light Bar

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

## MLB 50 Mini Light Bar

This LED product has the following features



### MLB 50 LED

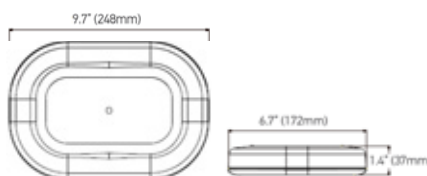
- Non-volatile memory recalls last flash pattern
- Low power function for night time use
- Multiple units can be synchronized

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

## MLB 100 Light Bar

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

# Full Size LED Light Bar

This LED product has the following features



## 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

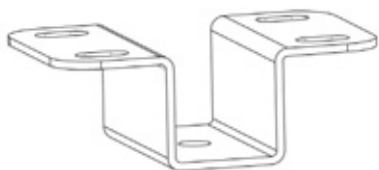
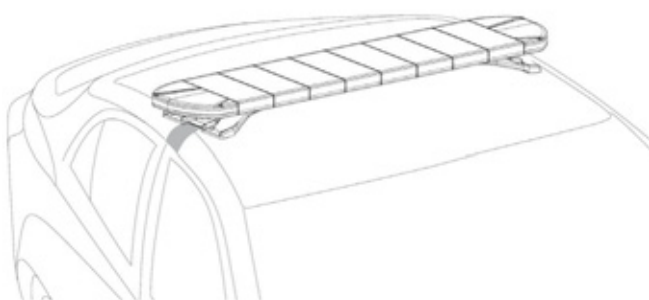
LED signals engineered for Heavy Duty applications where safety is important, 29 flash warning patterns, operating voltage 12/24 VDC, max power 103 W, 130 W, 143 W, 182 W. Approvals: SAE J845 Class 1(Amber, Red, White & Blue) CA Title 13 (Amber, Red & Blue), colors: amber, red, blue, green connections: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



Short Code	Color	Description	Part Number
LB4800A	●	LED Light Bar, 48", 12/24 V, amber	1EX 358 111-781
LB4800AL	●	LED Light Bar, 48", 12/24 V, amber, with takedown and alley lights	2WB 358 111-871
LB5600AL	●	LED Light Bar, 56", 12/24 V, amber, with stop, tail, turn, takedown and alley lights	1EX 358 111-801
LB6000AL	●	LED Light Bar, 60", 12/24 V, amber, with stop, tail, turn, takedown and alley lights	1EX 358 111-811



## Light Bar Accessories



### Light Bar Strap Kits

Application	Years	Part Number
CHEVY IMPALA	2014 - 2015	8HG 358 115-551
CHEVY SILVERADO	2014 - 2018	8HG 358 115-561
CHEVY TAHOE	2007 - 2014	8HG 358 115-571
GMC YUKON	2001 - 2014	8HG 358 115-581
DODGE CHARGER	2011 - 2018	8HG 358 115-591
DODGE RAM 1500	2012 - 2018	8HG 358 115-601
DODGE RAM 3500	2010 - 2014	8HG 358 115-611
FORD ESCAPE	2013 - 2018	8HG 358 115-621
FORD EXPLORER	2013 - 2018	8HG 358 115-631
FORD F150	2015 - 2018	8HG 358 115-641
FORD F150	2004 - 2014	8HG 358 115-651
FORD F250, 350, 450 & 550	1999 - 2016	8HG 358 115-661
FORD TAURUS	2013 - 2018	8HG 358 115-671



### Tow Truck Brackets

Durable corrosion resistance steel brackets provides an ideal permanent mounting solution for small and large tow trucks. Equipped with mounting screws.

Description	Part Number
Tow Truck Brackets	8HG 358 116-191

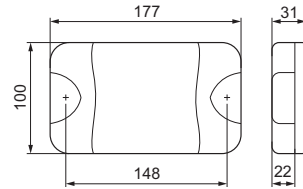
### Light Bar Controller

- 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

Description	Part Number
HELLA LED Light Bar Controller	8HG 358 115-681

# DURALED

This LED product has the following features



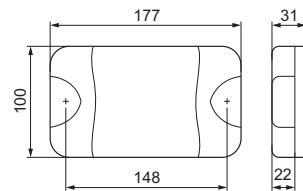
## DuraLED

9 - 33 VDC, power requirement: rear direction indicator 4 Watt, rear position lamp 2 Watt, tail lamp 2 Watt, stop lamp 8 Watt, reverse polarity protection, over-voltage protection, impact resistant polycarbonate lens, IP 6K6 / IP 6K7, low power, high efficiency, ultra long "Fit and Forget" service life and RCM compliance, ECE-R10 approved. Mounting horizontal and vertical standing. Connection via 2.5 m wire.

ECE, stop / rear position (amber/red, horizontal mount only)	2SB 959 060-621
ECE, rear direction indicator (amber/red, 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

# DURALED M - High Intensity

This LED product has the following features



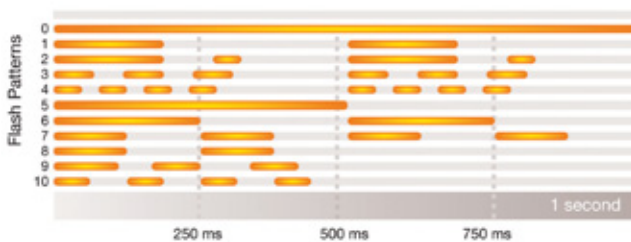
## DuraLED M - High intensity

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



## MultiFLASH®



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

## DURALED Combi RCL

This LED product has the following features

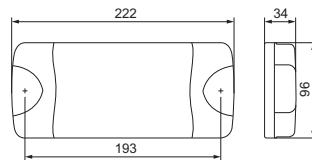


DuraLED RCL Part No. 2SK 980 615-021  
(with integrated DT) shown

### DuraLED Combi RCL

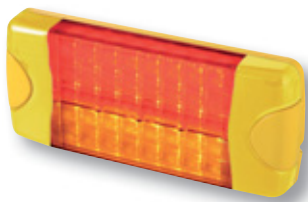
DuraLED rear combination lamp (stop / tail / indicator / reverse), 9 - 33 VDC, power requirement: < 10 Watt, reverse polarity protection, over-voltage protection, clear UV, impact and chemical resistant Grilamid lens, IP 6K9K / IP 6K7, ultra long "Fit and Forget" service life. Optic appears clear until illuminated and RCM compliance, ECE-R10 approved. Mounting horizontal.

2.5 m bare wire	<b>2SK 980 603-511</b>
0.25 m bare wire with 6-pole DT	<b>2SK 980 603-521</b>
Integrated 6-pole DT	<b>2SK 980 615-021</b>



## DURALED Combi

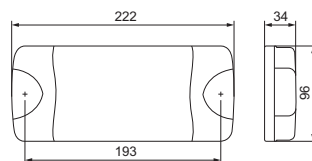
This LED product has the following features



### DuraLED Combi

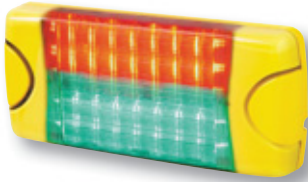
DuraLED rear combination lamp (stop / tail / indicator), 8 - 28 VDC, power requirement: 10 Watt, reverse polarity protection, over-voltage protection, clear UV, impact and chemical resistant Grilamid lens, IP 6K6 / IP 6K7, ultra long "Fit and Forget" service life and RCM compliance, ECE-R10 approved. Optic appears clear until illuminated. Mounting horizontal.

6 m bare wire	<b>2SD 959 050-061</b>
0.25 m bare wire with 4-pole DT	<b>2SD 959 050-071</b>



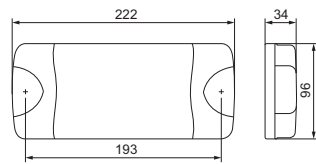
## DURALED Combi MSIP

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.

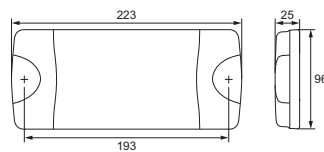


6 m bare wire

2XA 959 050-301

## DURALED Service Light

This LED product has the following features



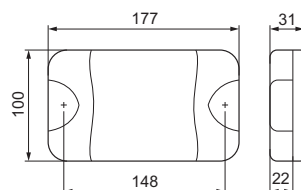
### DuraLED 1000 Lumen Service Light

Light output (measured): 1,000 lumen, 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.

Close range illumination, surface mount, connection via 2.5 m cable

2JA 980 604-021

This LED product has the following features



### DuraLED 700 Lumen Service Light

Light output (measured): 700 lumen, power requirement: 9 Watt, Multivolt, reverse polarity protection, over-voltage protection, thermal management, clear UV, impact and chemical resistant Grilamid lens, IP 6K6 / IP 6K7, ECE-R10 approved, 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

# Concealed Lighthead LED GEN. II

This LED product has the following features



<b>5</b> YEAR WARRANTY HELLA Miring	Power Supply 12/24VDC	IP 6K7	Flashing	Transient Spike Protection	Operating Temperature -40°C - +60°C	Polarity Reversal Protection	EMC	Approval <b>SAE</b>
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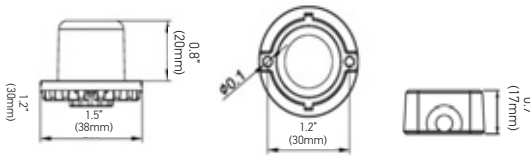
### Concealed Lighthead LED Gen. II

- Control unit with 2 LED concealed lighthead
- 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: 0.9A@12.8 VDC (varies with flash pattern), average power: 12 Watts (varies with flash pattern).

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

\* special order item



# MST6E LED Lighthead

This LED product has the following features



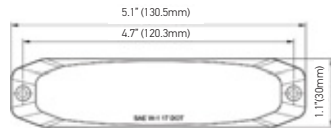
<b>5</b> YEAR WARRANTY HELLA Miring	Power Supply 12/24VDC	IP 6K7	Flashing	Transient Spike Protection	Operating Temperature -40°C - +60°C	Polarity Reversal Protection	EMC	Approval <b>SAE</b>
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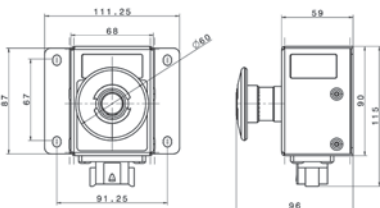
### MST6E LED Lighthead

- 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

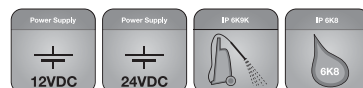
Light source: 6 LEDs, warning patterns: 21 flash patterns, operating voltage: 12/24 VDC Max power: 6 W, approvals: SAE J595 Class 1, connection: 8" (20 cm) wire leads, operating temperature: -30°C to +60°C, IP rating: IP67

MST6E LED Lighthead amber	<b>2WB 358 111-691</b>
MST6E LED Lighthead amber/ white	<b>2WB 358 111-741</b>





This product has the following features



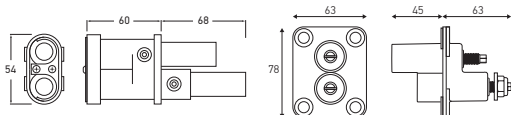
**HELLA Mine E-Stop**

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, high 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	<b>6HF 012 416-001</b>
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**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. Suitable for 70 mm<sup>2</sup> cable. Connection via crimping and soldering process.

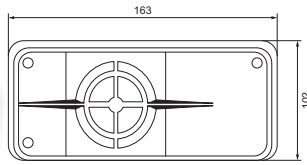
<b>8JA 177 305-101</b>
------------------------



**Jump Start Terminal**

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





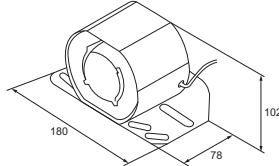
#### RetroVox Ultra Heavy Duty Reversing Alarm

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



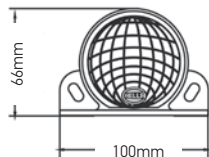
#### RetroVox Self Adjusting Reversing Alarm

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



#### Backup 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. Multivoltage: 9 V - 48 V. Frequency: 1200 Hz  
Rated Continuous Current: 0.1 - 0.6 A  
Operating temperature: -40 ° C to +85 ° C

110 db @ 2 m  
Protection class: IP67K (Resistant to water immersions)

9 - 48 V, Backup alarm

3SL 009 148-141

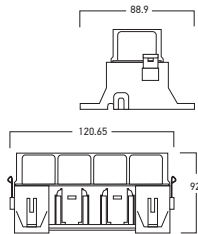


**LED Switches**

Provides a reliable power disconnection and safety cut-off that protects the vehicle against tampering. It also protects service personnel from electrical hazards during service operations.

Composite-engineered polymer housing that will not corrode. 300 A continuous current rating at 12 V and 250 A at 24 V. Temperature operating range -40°C to +85°C. Divider on base prevents accidental shorting of battery cables.

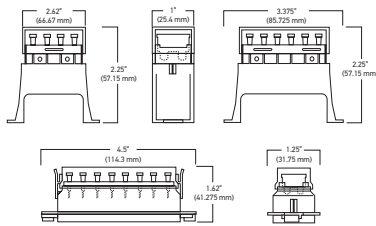
LED Switch, amber 24 VDC	<b>9MK 910 086-241</b>
LED Switch, amber 12 VDC	<b>9MK 910 086-001</b>
LED Switch, blue 24 VDC	<b>9MK 910 086-251</b>
LED Switch, blue 12 VDC	<b>9MK 910 086-011</b>
LED Switch, green 24 VDC	<b>9MK 910 086-261</b>
LED Switch, green 12 VDC	<b>9MK 910 086-021</b>
LED Switch, red 24 VDC	<b>9MK 910 086-271</b>
LED Switch, red 12 VDC	<b>9MK 910 086-031</b>



**Mini ISO Relay Box (Single)**

Splashproof relay box  
 Snap-fit clear plastic cover  
 0-Ring sealed, holds four plug-in type relays  
 Removable mounting feet  
 Multiple boxes can be snapped together

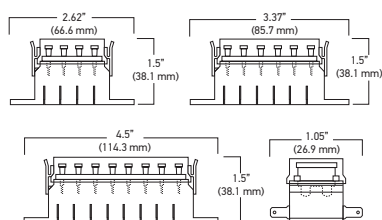
Relay Box Mini ISO, 4-gang	<b>4RA 358 112-221</b>
Relay Box Mini ISO, 7-gang	<b>4RA 358 112-211</b>



**Fuse Box**

Splashproof fuse box  
 Snap-fit clear plastic cover  
 0-Ring sealed  
 Max load: 20a per circuit  
 Fuses not included

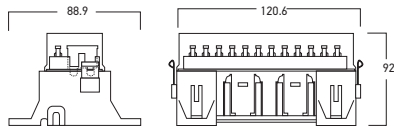
Fuse box - 4 terminals	<b>8JD 358 115-881</b>
Fuse box - 6 terminals	<b>8JD 358 115-901</b>
Fuse box - 8 terminals	<b>8JD 358 115-801</b>



**Fuse Box - Side connections**

Splashproof Fuse Box  
 Snap-Fit Clear Plastic Cover  
 0-ring Sealed  
 Max Load: 20A per circuit  
 Fuses not included

Fuse Box - 4 terminals, lateral connection	<b>8JD 358 115-891</b>
Fuse Box - 6 terminals, lateral connection	<b>8JD 358 115-781</b>
Fuse Box - 8 terminals, lateral connection	<b>8JD 358 115-791</b>



#### Fuse Box - 16 gang, Bottom tab connections

Splashproof Fuse Box  
 Snap-Fit Clear Plastic Cover  
 O-ring Sealed  
 Removable Mounting Feet  
 Boxes Can Be Snapped Together for 32,48 Fuses etc.  
 Max Load: 20A per circuit  
 Fuses not included

Fuse Box - 16 terminals, lateral connection

**8JD 358 115-871**



Fuse not included

#### Fuse Holder MAXI

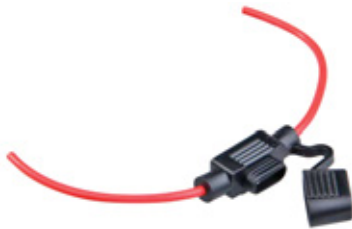
Splash proof  
 For MAXI fuses  
 8 AWG wire  
 32 cm in length

MAXI Fuse holder, quantity: 1 piece

**8JD 358 129-911**

MAXI Fuse holder, quantity: 5 pieces

**8JD 358 129-902**



#### Fuse Holder STANDARD

Splash proof  
 For STANDARD fuses  
 12 AWG wire  
 32 cm in length

STANDARD Fuse holder, quantity: 1 piece

**8JD 358 129-931**

STANDARD Fuse holder, quantity: 10 piece

**8JD 358 129-921**



#### MINI Fuse Assortment

Assortment of fast acting fuses. It contains:  
 20 pieces of each of the following fuses: 5A, 7.5A, 10A, 15A, 20A, 25A, 30A

##### Technical Data

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000A @ 58 VDC  
 Operating Temperature Range: -40° C a + 125° C  
 Complies: SAE J2077 / JASO D612 / ISO 8820-3 / ROHS

MINI Fuse assortment, quantity: 140 pieces

**8JS 358 129-961**



#### STANDARD Fuse Assortment

Assortment of fast acting fuses. It contains:  
 10 pieces of each of the following fuses: 5A, 7.5A, 25A, 30A  
 20 pieces of each of the following fuses: 10A, 15A, 20A

##### Technical Data

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000A @ 58 VDC  
 Operating Temperature Range: -40° C a + 125° C  
 Complies: SAE J1284 / JASOD612 / ISO 8820-3 / ROHS

STANDARD fuse assortment, quantity: 100 pieces

**8JS 358 129-991**



#### MAXIFuse Assortment

Assortment of slow-blow fuses. It contains:  
 5 pieces of each of the following fuses: 70A, 80A  
 10 pieces of each of the following fuses: 20A, 30A, 40A, 50A, 60A

##### Technical Data

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000A @ 58 VDC  
 Operating Temperature Range: -40° C a + 125° C  
 Complies: SAE J1888 / JASO D612 / ISO 8820-3 / ROHS

MAXI fuse assortment, quantity: 60pieces

**8JS 358 129-971**

Fast Acting



**MINI LP Fuses (Low Profile)**

**Technical data:**

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000 A @ 58 VDC, operating temperature range: -40° C a + 125° C  
 Complies: JASO D612 / ISO 8820-9 / ROHS

MINI LP fuse, boxed, 2A: gray, quantity: 200 pieces	<b>8JS 358 129-003</b>
MINI LP fuse, boxed, 3A: violet, quantity: 200 pieces	<b>8JS 358 129-013</b>
MINI LP fuse, boxed, 4A: pink, quantity: 200 pieces	<b>8JS 358 129-023</b>
MINI LP fuse, boxed, 5A: beige, quantity: 200 pieces	<b>8JS 358 129-033</b>
MINI LP fuse, boxed, 7.5A: brown, quantity: 200 pieces	<b>8JS 358 129-043</b>
MINI LP fuse, boxed, 10A: red, quantity: 200 pieces	<b>8JS 358 129-053</b>
MINI LP fuse, boxed, 15A: blue, quantity: 200 pieces	<b>8JS 358 129-063</b>
MINI LP fuse, boxed, 20A: yellow, quantity: 200 pieces	<b>8JS 358 129-073</b>
MINI LP fuse, boxed, 25A: white, quantity: 200 pieces	<b>8JS 358 129-083</b>
MINI LP fuse, boxed, 30A: green, quantity: 200 pieces	<b>8JS 358 129-093</b>

Fast Acting



**MINI Fuses**

**Technical data:**

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000 A @ 58 VDC, operating temperature range: -40° C a + 125° C  
 Complies: SAE J2077 / JASO D612 / ISO 8820-3 / ROHS

MINI fuse, boxed, 2A: gray, quantity: 200 pieces	<b>8JS 358 129-103</b>
MINI fuse, boxed, 3A: violet, quantity: 200 pieces	<b>8JS 358 129-113</b>
MINI fuse, boxed, 4A: pink, quantity: 200 pieces	<b>8JS 358 129-123</b>
MINI fuse, boxed, 5A: beige, quantity: 200 pieces	<b>8JS 358 129-133</b>
MINI fuse, boxed, 7.5A: brown, quantity: 200 pieces	<b>8JS 358 129-143</b>
MINI fuse, boxed, 10A: red, quantity: 200 pieces	<b>8JS 358 129-153</b>
MINI fuse, boxed, 15A: blue, quantity: 200 pieces	<b>8JS 358 129-163</b>
MINI fuse, boxed, 20A: yellow, quantity: 200 pieces	<b>8JS 358 129-173</b>
MINI fuse, boxed, 25A: white, quantity: 200 pieces	<b>8JS 358 129-183</b>
MINI fuse, boxed, 30A: green, quantity: 200 pieces	<b>8JS 358 129-193</b>
MINI fuse, boxed, 35A: dark green, quantity: 200 pieces	<b>8JS 358 129-203</b>

Fast Acting



**STANDARD Fuses**

**Technical data:**

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000 A @ 58 VDC, operating temperature range: -40° C a + 125° C  
 Complies: SAE J1284 / JASOD612 / ISO 8820-3 / ROHS

STANDARD fuse, boxed, 1A: black, quantity: 100 pieces	<b>8JS 358 129-213</b>
STANDARD fuse, boxed, 2A: gray, quantity: 100 pieces	<b>8JS 358 129-223</b>
STANDARD fuse, boxed, 3A: violet, quantity: 100 pieces	<b>8JS 358 129-233</b>
STANDARD fuse, boxed, 4A: pink, quantity: 100 pieces	<b>8JS 358 129-243</b>
STANDARD fuse, boxed, 5A: beige, quantity: 100 pieces	<b>8JS 358 129-253</b>
STANDARD fuse, boxed, 7.5A: brown, quantity: 100 pieces	<b>8JS 358 129-263</b>
STANDARD fuse, boxed, 10A: red, quantity: 100 pieces	<b>8JS 358 129-273</b>
STANDARD fuse, boxed, 15A: blue, quantity: 100 pieces	<b>8JS 358 129-283</b>
STANDARD fuse, boxed, 20A: yellow, quantity: 100 pieces	<b>8JS 358 129-293</b>
STANDARD fuse, boxed, 30A: green, quantity: 100 pieces	<b>8JS 358 129-303</b>
STANDARD fuse, boxed, 35A: dark green, quantity: 100 pieces	<b>8JS 358 129-323</b>
STANDARD fuse, boxed, 40A: orange, quantity: 100 pieces	<b>8JS 358 129-333</b>

Slow-blow



**MAXI Fuses**

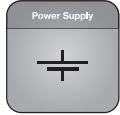
**Technical data:**

Voltage Rating: 58 VDC or less  
 Interrupting Rating: 1000A @ 58 VDC, operating temperature range: -40° C a + 125° C  
 Complies: SAE J1888 / JASO D612 / ISO 8820-3 / ROHS

MAXI fuse, boxed, 20A: yellow, quantity: 20 pieces	<b>8JS 358 129-343</b>
MAXI fuse, boxed, 30A: green, quantity: 20 pieces	<b>8JS 358 129-353</b>
MAXI fuse, boxed, 40A: orange, quantity: 20 pieces	<b>8JS 358 129-363</b>
MAXI fuse, boxed, 50A: red, quantity: 20 pieces	<b>8JS 358 129-373</b>
MAXI fuse, boxed, 60A: blue, quantity: 20 pieces	<b>8JS 358 129-383</b>
MAXI fuse, boxed, 70A: brown, quantity: 20 pieces	<b>8JS 358 129-393</b>
MAXI fuse, boxed, 80A: white, quantity: 20 pieces	<b>8JS 358 129-403</b>

# 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.



## 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.

## Electronic circuit

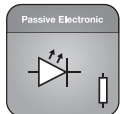


Basically, two different circuits are possible for LED lamps:

**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.

### Active



**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.

### Passive

## Thermal management



**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.

### Active



**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.

### Passive

## 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.

## 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.

## 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  
 → Deceptive 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.

## Operating Temperature



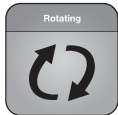
Whether it's in cold or warm climates, our products have to perform every time. Thermal management and a well designed housing allows full function of our products in all operating conditions. To ensure this performance we test our products from -40°C up to 100°C.

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

## 5 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.



A nighttime photograph of a mining truck, illuminated by several bright spotlights. The truck is positioned on the right side of the frame, and the spotlights are mounted on tripods. The scene is dark, with the truck and spotlights providing the primary light source. The truck has "THIESS" written on its side. In the background, there is a building with some lights on. The overall atmosphere is industrial and focused on the lighting technology being advertised.

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