



BRIEF INFORMATION

90 mm LED Module L 4060

- > 5 front light functions in LED with only 2 headlamps
- > For diverse applications and the highest demands
- > Maximum design and technological freedom thanks to modular system
- > More illumination and safety with innovative LED technology

PRODUCT FEATURES

- **Striking design:** Ring-shaped, homogeneous daytime running light/position light or direction indicator
- **Conversion:** Existing halogen versions can be converted to LED modules (compatible installation solutions)
- **90 mm LED upgrade:** All lighting functions available with LED technology, for maximum service life
- **Design:** 40 x 60 mm polycarbonate and polymethylmethacrylate lenses for varying light distribution as low beam, fog light, high beam and fog light with cornering light
- **Housing:** Robust die-cast aluminium housing with integrated electronics
- **Resistant to stone chipping:** Polycarbonate cover lens
- **Weight saving:** Lens made from lightweight yet durable polycarbonate and polymethylmethacrylate

Drive 20 times around the world without needing to replace the bulb.

- Bulb replacement has become a thing of the past. Maintenance-free due to passive cooling
- No moving parts are necessary (e.g. fan)
- Lower fuel consumption and reduced CO₂ emissions due to lower power consumption of max. 20 W on low beam or high beam
- LED headlamps improve safety. The illumination is similar to daylight, considerably improving vision and ease of driving (drivers do not tire as quickly)
- Multi-voltage (12 V, 24 V)
- ECE and SAE type-approved

TECHNICAL DETAILS

| Technical data | |
|-------------------------|---|
| Operating voltage range | Multi-voltage (9 – 32 V) |
| Rated voltage | 12 V and 24 V |
| Light function | Low beam, high beam, fog light, daytime driving light, position light, cornering light and direction indicator light |
| Approved | ECE-R112 series 01 (low beam, high beam), ECE-R19 F3 series 04 (fog light), ECE-R87 (daytime running light), ECE-R7 (position light), ECE-R119 (cornering light), FMVSS 108 (low beam, high beam) |
| Compliant | SAE J566, SAE J583 (fog light), SAE J2087 (daytime running light), SAE J222 (position light), SAE J852 (cornering light), CISPR 25 Class 4 |
| Connection | Low beam headlamp: with either FEP or DEUTSCH DT connector High beam headlamp and fog lamp: with integrated FEP connector; adaptation to DEUTSCH DT connector possible |

Upgrade to LED

HELLA offers you conversion to LED light technology for all 90 mm halogen/xenon single and multifunctional modules.

Main LED light functions



Low beam



Low beam with daytime running light and position light



High beam



High beam with daytime running light and position light



High beam and direction indicator light

Auxiliary LED light functions



Fog light



Fog light and cornering light

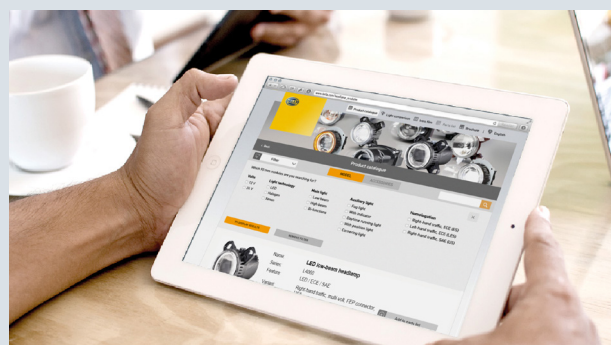


Fog light with daytime running light and position light

The module selector

www.hella.com/headlamp-modules

This tool shows you options for equipping a vehicle with original equipment or upgrading it with LED modules. See shots from Europe's biggest light testing facility and compare the light distribution of halogen and LED headlamps to help you make the right choice for your application.

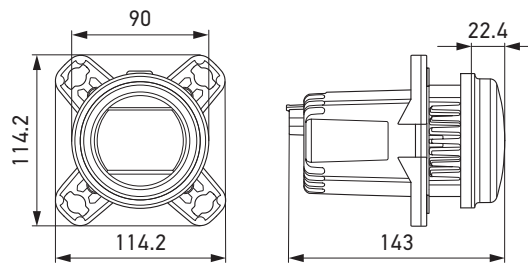


TECHNICAL DETAILS

Dimensional sketch

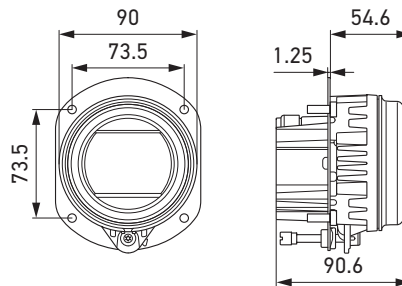
90 mm: L 4060 low beam

For performance mounting (enables replacement of existing halogen versions)



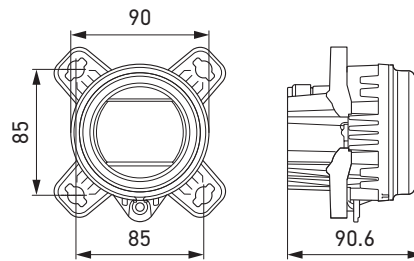
90 mm: L 4060 high beam/fog light

With preassembled carrier frame



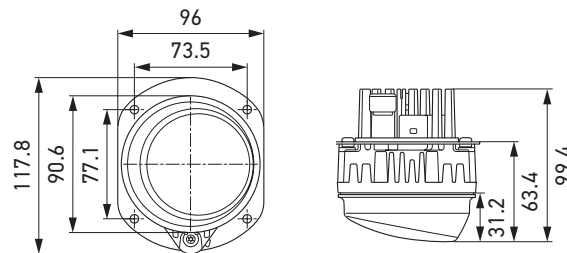
90 mm: L 4060 high beam

For performance mounting (enables replacement of existing halogen versions)



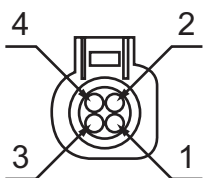
90 mm: L 4060 fog and cornering light

With preassembled carrier frame

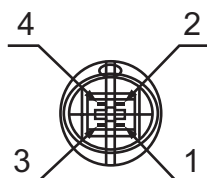


Pin assignment

DEUTSCH DT connector

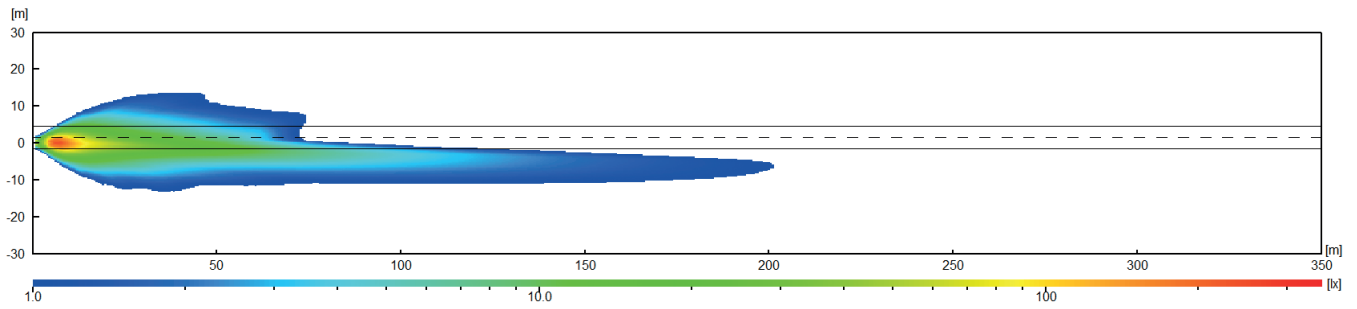


FEP connector

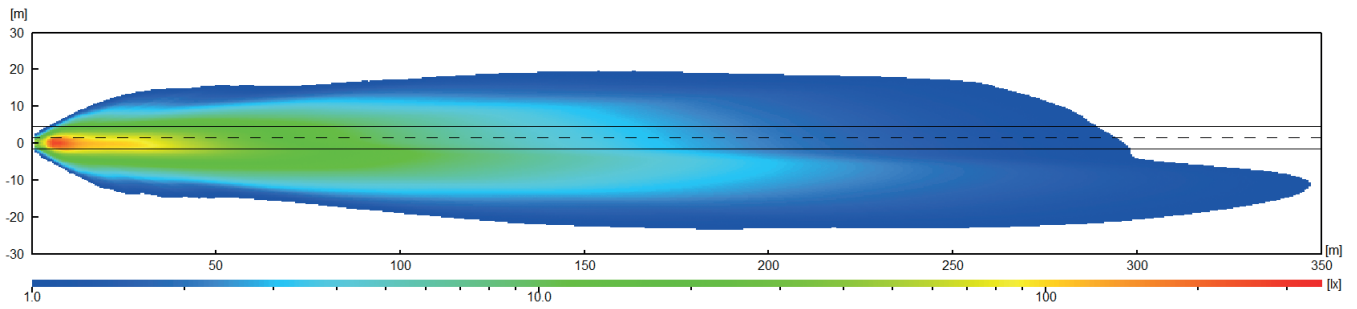


- 1) Central function (low beam, high beam, fog light and cornering light)
- 2) Position light (if available)
- 3) Ground
- 4) Daytime running light or direction indicator (if available)

LIGHT DISTRIBUTION



L 4060 low beam



L 4060 high beam (incl. low beam)

APPLICATION EXAMPLES









L 4060 low beam



L 4060 low beam and high beam

PROGRAM OVERVIEW

| Product picture | Description | Mounting concept/ versions | Part number |
|---|---|--|------------------------|
|  | Low beam headlamp L 4060 Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover, performance mounting | ES / SAE version, FEP connector | 1BL 012 488-001 |
| | | LES version, FEP connector | 1ML 012 488-011 |
| | | ES / SAE version, DEUTSCH connector | 1BL 012 488-101 |
| | | LES version, DEUTSCH connector | 1ML 012 488-111 |
|  | LED low beam headlamp L 4060 with daytime running and position light Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover, performance mounting | ES / SAE version, FEP connector | 1BL 012 488-021 |
| | | LES version, FEP connector | 1ML 012 488-031 |
| | | ES / SAE version, DEUTSCH connector | 1BL 012 488-121 |
| | | LES version, DEUTSCH connector | 1ML 012 488-131 |
|  | LED high beam headlamp L 4060 Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover | Preassembled carrier frame | 1F0 011 988-021 |
| | | For performance mounting | 1F0 011 988-121 |
|  | LED high beam headlamp L 4060, with daytime running and position light Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover | Preassembled carrier frame | 1F0 011 988-031 |
| | | For performance mounting | 1F0 011 988-131 |
|  | LED high beam headlamp L 4060 with direction indicator light Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover | With pulse generator, preassembled carrier frame | 1F0 011 988-081 |
| | | With pulse generator, Performance mounting | 1F0 011 988-181 |
| | | Without pulse generator, preassembled carrier frame | 1F0 011 988-071 |
| | | Without pulse generator, Performance mounting | 1F0 011 988-171 |
|  | LED fog lamp L 4060 Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover | Preassembled carrier frame | 1N0 011 988-001 |
|  | LED fog lamp L 4060, with daytime running and position light Module headlamp with 40 x 60 mm polycarbonate lens, rugged die-cast aluminium housing, silver design cover | Preassembled carrier frame | 1N0 011 988-011 |
|  | LED front fog lamp L 4060, with cornering light Module headlamp with 40 x 60 mm, polycarbonate lens, rugged die-cast aluminium housing, silver design cover | Preassembled carrier frame, right | 1N0 011 988-061 |
| | | Preassembled carrier frame, left | 1N0 011 988-051 |

ACCESSORIES

| Part number | Low beam 012 488-001/-011 | High beam, daytime running light and position light 012 488-021/-031 | Low beam 012 488-101/-111 | High beam, daytime running light and position light 012 488-121/-131 | Fog light 011 988-001 | Fog light, daytime running light and position light 011 988-011 | Fog light and cornering light 011 988-051/-061 | High beam 011 988-021 | High beam 011 988-121 | High beam, daytime running light and position light 011 988-031 | High beam, daytime running light and position light 011 988-131 | High beam, direction indicator (with pulse generator) 011 988-081 | High beam and direction indicator (with pulse generator) 011 988-181 | High beam and direction indicator (without pulse generator) 011 988-071 | High beam and direction indicator (without pulse generator) 011 988-171 | |
|---|------------------------------|---|------------------------------|---|--------------------------|--|---|--------------------------|--------------------------|--|--|--|---|--|--|----|
| Carrier frame | | | | | | | | | | | | | | | | |
| Premium carrier frame (up to truck) | 9AH 169 580-011 | XX | XX | XX | XX | - | - | - | - | XX | - | XX | - | XX | - | XX |
| Performance carrier frame (all classes)* | 9AH 254 228-012 | XX | XX | XX | XX | - | - | - | - | XX | - | XX | - | XX | - | XX |
| Surplus supply, LED FEP 4-pin connector | | | | | | | | | | | | | | | | |
| Housing, 10 units | 8JA 202 231-002 | X | X | - | - | X | X | X | X | X | X | X | X | X | X | X |
| Blade contact, 50 units | 8KW 863 933-013 | X | X | - | - | X | X | X | X | X | X | X | X | X | X | X |
| Individual conductor seal 0.35 – 0.5 mm ² or individual conductor seal 0.75 mm ² , 50 units | 9GD 863 952-022 | X | X | - | - | X | X | X | X | X | X | X | X | X | X | X |
| | 9GD 863 952-012 | X | X | - | - | X | X | X | X | X | X | X | X | X | X | X |
| Blind plug, 50 units | 9GD 863 952-002 | X | - | - | - | X | - | X | X | X | - | - | X | X | X | X |
| Surplus supply, LED DEUTSCH 4-pin connector (together with adapter cable, see¹, except for 012 488-1xx) | | | | | | | | | | | | | | | | |
| Male connector housing, 10 units (**1 unit in set) | 8JA 201 022-042 | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Lock/wedgeloek, 10 units (**1 unit in set) | 9NB 201 024-042 | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Contact sleeve 0.5 – 1.5 mm ² , 50 units (**5 units in set) | 8KW 201 025-112 | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Blind plug, 50 units (**3 units in set) | 9NB 201 026-012 | - | - | X | - | X | - | X | X | X | - | - | X | X | X | X |
| Set Amount, see ** | 8JA 201 022-821 | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Headlamp levelling system | | | | | | | | | | | | | | | | |
| Headlamp levelling, 12 V | 6NM 007 282-221 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Headlamp levelling, 24 V | 6NM 008 299-501 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Bracket for right-side mounting of actuator | 8HG 138 619-007 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Bracket for left-side mounting of actuator | 8HG 138 620-007 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Mounting set for leveling actuators (bracket and articulated element) | 8HG 183 586-001 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Adapter cable | | | | | | | | | | | | | | | | |
| ¹ Adapter from FEP connector to Deutsch connector (4-pin), 1 unit | 8KA 202 117-001 | XX | XX | - | - | XX | XX | XX | XX | XX | XX | XX | XX | XX | XX | XX |
| Adapter from FEP connector to Performance module series or DynaView (009 295), 1 unit | 8KA 202 117-011 | XX | - | - | - | - | - | - | XX | XX | - | - | - | - | - | - |
| Other accessories (only if the vehicle was registered i.a.w. ECE-R48, series 05. As of ECE-R48, series 06, supplement 03, no more mandatory accessories) | | | | | | | | | | | | | | | | |
| Function monitoring device 12 V, 1 unit | 5DS 011 630-001 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |
| Function monitoring device 24 V, 1 unit | 5DS 011 630-021 | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - |

X Accessory for proper connection

XX Optional accessories

* Still in development for AgroPlus low beam module