JEL PRODUCTS
SUSTAINABLE | LIGHTING | SOLUTIONS

INSTRUCTION MANUAL

Goby Series

Compact LED work light, one manual for three families: the Goby in four output levels, the Goby Mini, and the high temperature range.

DOCUMENT	REVISION	DATE	LANGUAGE
MAN-GOS-EN	1	04 / 09 / 2026	EN



Read before installation · Keep for future use · Qualified personnel only · GODC07 · GODC06 · GODC05 · GODC03 · GODC01 · GOHT01 · GOHT02

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Contents

This manual covers the whole Goby Series. Most of what follows applies to every version, because the bracket, the connector and the optics are shared. Where a section applies to one family only, the family is named in the heading or in the row.

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WHICH VERSION DO YOU HAVE

Code on the label	Version
GODC07	Goby Ultra, 8,200 lm, 20 to 32 VDC
GODC06	Goby Pro, 7,200 lm, 9 to 32 VDC
GODC05	Goby 9, 6,300 lm, 9 to 32 VDC
GODC03	Goby 6, 4,600 lm, 9 to 32 VDC
GODC01	Goby Mini, 2,300 lm, 9 to 32 VDC
GOHT01	Goby HT, AC, remote BLD075 driver
GOHT02	Goby HT, DC, drivers on board

The code is on the type label on the rear of the housing. Section 2.5 explains the label, including the second code that is not an article number.

PRODUCT PAGE

Photometric files per optic, drawings, the datasheets and the current version of this manual.

jelproducts.nl/en/products/goby

KEEP THIS MANUAL

Store it with the machine or site documentation and pass it on to every person who works on the luminaire.

1 About this document

Read this manual and understand its safety instructions before you install, operate or maintain the luminaire. Failure to do so can result in serious injury or death.

1.1 Who this document is for

This manual is written for the buyer, the installer, the maintenance technician and the end user. Assembly, installation, commissioning and maintenance may only be carried out by a qualified person: someone with electrical training who can recognise the risks described here and avoid the hazards that arise during the work.

Every person who works on the luminaire must have read these warnings and must follow them. Keep the manual for the service life of the installation.

1.2 Hazard classes

Safety information in this manual is graded. The class tells you how serious the consequence is if the instruction is ignored.

DANGER
A hazard with a high level of risk which, if not avoided, will result in death or serious injury.

WARNING
A hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

CAUTION
A hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

NOTE
Information that matters for a correct result but that is not related to a hazard.

1.3 Symbols


Electrical hazard
Live parts. Isolate the supply before working on the luminaire.


General hazard
Described in the text beside the symbol.


Optical radiation
Do not look into the operating light source.


Hot surface
High temperature range. The housing reaches process temperature.


Crush hazard
Moving parts during mounting and aiming.


Two persons
This step must be carried out by two people.


Read the manual
Read and understand it before use.


Protective earth
Terminal for the protective earth conductor.


CE marking
Complies with the applicable European legislation.


Separate collection
Not unsorted municipal waste.

1.4 Feedback

The latest version is on the product page. If you find an error, write to info@jelproducts.nl. We would rather correct a sentence than have an installer guess.

1.5 Revision history and what this edition replaces

Goby luminaires have been supplied since before 2024 and earlier editions exist. **This edition supersedes all of them, including the DCbright Goby operating instruction of 11 March 2026** and the separate sheet for the GO-9-65DC-24-DUAL-ULTRA. Where an older document and this manual disagree, this manual applies.

Date	Revision	Change
Before 2026	-	Earlier editions, issued per version. Superseded
11 March 2026	-	Operating Instruction DCbright Goby, and the separate sheet for the Ultra bi-colour build of 24 February 2026. Superseded
4 September 2026	1	First edition of the combined manual, covering the four output levels, the Goby Mini and the high temperature range in one document. Rewritten to the JEL Products manual standard. **Corrected against the 2026 instruction:** the article codes for the 6 and the Mini are GODC03 and GODC01, the warranty is 5 years and not 3, and the service life is stated as TM-21 L90B05 and not as the LM70 figures printed there

2 The product

The Goby is a compact LED work light with the drivers on the board and a Deutsch DTP04 connector fitted in the housing. It is designed to be fitted to a machine, a vehicle or a structure with one bolt and one plug, and it is specified where a floodlight is too large and a vehicle lamp is not built to last.

2.1 The three families

Same bracket, same single fixing hole, same connector and the same optics. What differs is the size of the housing and, on the high temperature versions, the driver and the cable.



Goby. Four output levels in one 120 by 120 mm housing, 4,600 to 8,200 lm, 1.8 kg. GODC07, GODC06, GODC05 and GODC03



Goby Mini. The same product in a 112 by 70 mm housing, 2,300 lm, 1.1 kg. GODC01



High temperature. Rated to plus 120 degrees Celsius, 2,600 lm at 13 W, glass front, silicone cable. GOHT01 and GOHT02

	Goby	Goby Mini	High temperature
Article base code	GODC07 · GODC06 · GODC05 · GODC03	GODC01	GOHT01 · GOHT02
Luminous flux	8,200 · 7,200 · 6,300 · 4,600 lm	2,300 lm	2,600 lm
Power	65 · 55 · 55 · 35 W	18 W	13 W
Efficacy	126 · 131 · 115 · 131 lm/W	128 lm/W	200 lm/W
Ambient	minus 45 to plus 50 °C	minus 45 to plus 50 °C	minus 45 to plus 120 °C on AC, plus 110 °C on DC
Housing	Cast aluminium, e-coated Titanium Black, 120 × 120 mm	Cast aluminium, e-coated Titanium Black, 112 × 70 mm	Cast aluminium, e-coated, 120 × 120 mm
Front	Polycarbonate IK10, chemically hardened glass IK09 on request	Polycarbonate IK10, chemically hardened glass IK09 on request	Chemically hardened glass IK09, or borosilicate
Optics	14, 38, 69 and 14 by 46 degrees, or .NOP without lenses	14, 38, 69 and 14 by 46 degrees, or .NOP without lenses	None, 120 degrees very wide
Supply	9 to 32 VDC. The Ultra 20 to 32 VDC	9 to 32 VDC	90 to 305 VAC on GOHT01, 9 to 32 VDC on GOHT02
Driver	On the board in the housing	On the board in the housing	Remote BLD075 on GOHT01, on the board on GOHT02
Termination	Deutsch DTP04 in the housing, no cable	Deutsch DTP04 in the housing, no cable	SiHF-OB silicone cable, 15.0 m
Ingress	IP66, IP67, IP68, IP69K	IP66, IP67, IP68, IP69K	IP66, IP67, IP68, IP69K
Weight incl. bracket	1.8 kg	1.1 kg	1.8 kg, driver separate on GOHT01
Warranty	5 years complete luminaire	5 years complete luminaire	5 years to plus 120 °C

The Goby and the Goby Mini share their optics and their connector, so a machine can carry both without a second cable specification. The Pro and the 9 run different LEDs at the same 55 W: the Pro is the preferred build, the 9 is for a budget that can accept slightly less light. The high temperature versions have their own photometry, without an optic, because the housing is too small to carry one.

2.2 Intended use

The Goby is intended for permanent or semi permanent professional installation as a work light or a machine light, outdoors or indoors, on a structure, a machine, a vehicle or a vessel, within the ambient temperature range and the supply range of the version you have. It is mounted with the bracket supplied and is aimed according to a lighting design. Typical applications:

Family	Where it is used
Goby, all four output levels	Mobile crane booms and counterweights, service and recovery vehicles, excavators, loaders and dumpers, agricultural and forestry machines, conveyor transfer points and crushers, engine and pump rooms, tugs and work boats, OEM integration on 12 and 24 V DC machines, container handling equipment, drilling and piling rigs, refuse collection vehicles, winter service vehicles
Goby Mini	The same job where there is less room: access platforms and stairs, cab roofs and mirror arms, inspection positions on a machine, loading docks and tail lifts, agricultural implements, small work boats and RIBs, forklift and telehandler masts, trailers and swap bodies, any position where a 120 mm housing does not fit
High temperature	Ovens and dryers, furnace platforms and charging floors, paint lines and curing tunnels, asphalt and bitumen plant, kiln and clinker cooler platforms, boiler halls, foundry and forge shops, glass works, food process lines with hot washdown, engine rooms above plus 50 degrees Celsius, any position where a standard luminaire is above its ambient rating

2.3 What the luminaire is not for

The following uses are outside the intended use. They are not covered by the warranty and, in several cases, they are unsafe.

- **Explosive atmospheres.** No Goby is ATEX or IECEx certified. None may be installed in a zoned hazardous area.
- **Mains on a standard version.** Every standard Goby and the Goby Mini is a 9 to 32 V DC luminaire. AC exists only in the GOHT01, and there the mains goes to the remote driver, never to the luminaire.
- **A 48 V system.** No version of the Goby accepts 48 V. On a 48 V machine a DC to DC converter feeds the luminaire, or the DarkLicht range is specified instead.
- **The Ultra on a 12 V system.** The GODC07 starts at 20 V. On 12 V it does not run, and on a 24 V system that sags under load it drops out where a Pro would not.
- **Ambient above plus 50 degrees Celsius** for the standard versions, and above the rating of a high temperature version: plus 120 on the GOHT01 and plus 110 on the GOHT02.
- **Hard wiring.** The DTP04 in the housing is part of the sealed assembly. Cutting it off and hard wiring the luminaire destroys the seal at the one point where the housing opens to the outside.
- **Chaining several luminaires on one pair** sized for one. The first pair in the chain carries the current of all of them.
- **Permanent immersion.** IP68 is verified as a test class, not as a continuous operating condition. IP69K covers washdown, not submersion.
- **Road lighting or vehicle signalling.** A Goby is a work light. It is not a headlamp, a reversing lamp or a beacon, and forward facing work lights are regulated on the public road.
- **Emergency or escape route lighting.** No Goby has battery back up or a self test.
- **Operation with a damaged housing, front, connector or bracket**, or on the GOHT01 with a driver other than the driver supplied for that luminaire.

2.4 Order codes

GODC07-65K.38

GODC07	Goby Ultra, 8,200 lm, 65 W, 20 to 32 VDC, 24 V nominal
GODC06	Goby Pro, 7,200 lm, 55 W, 9 to 32 VDC, 12 and 24 V nominal
GODC05	Goby 9, 6,300 lm, 55 W, 9 to 32 VDC
GODC03	Goby 6, 4,600 lm, 35 W, 9 to 32 VDC
GODC01	Goby Mini, 2,300 lm, 18 W, 9 to 32 VDC
GOHT01	Goby HT, AC 90 to 305 VAC, remote BLD075 driver
GOHT02	Goby HT, DC 9 to 32 VDC, drivers on board
65K to 22K	6500, 5000, 4000, 2700 K, amber 2200 K. HT: 6500, 4000, 2700 K only
BIC	Bi-colour 4000 K with amber 2200 K, switched in operation, section 9.3. Not on HT
.14 .38 .69 .14x46	Optic. Lens combinations within one luminaire are possible
.NOP	Supplied without lenses, 136 degrees very wide

DC versions run at a fixed constant current, so another power level is a custom build and not a setting. The four output levels are four products. The front material, the mating connector and the Ra 80 or Ra 90 option are confirmed at order and are not part of the code.

There is no 316L version of the Goby. For a stainless housing in this size class see the Piranha SS, and for a position with heavy handling damage see the Piranha.

2.5 The type label, and the second code on it

The type label on the rear of the housing carries the article code, the electrical data, the protection class, the ingress rating and the serial number. It also shows a **second code that is not an article number and that will not match what you ordered**. That is correct and it is deliberate.

> **NOTE**
>
> The second code is a JEL Products internal production code, such as GO-9-65DC-24-ULTRA. It records the specific printed circuit board fitted, the production batch and the production date. We use it for traceability, for warranty and for service. It carries no information you need in order to specify, order or reorder a luminaire.

When you contact us about a luminaire, quote both. The article code tells us what it is. The internal code tells us exactly which one it is, which board is in it and when it was built, and that is usually what settles a service question in one call instead of three. **Photograph the label before you fit the luminaire:** on a machine it ends up facing a structure.

> **WARNING, THE ULTRA STARTS AT 20 V**
>
> The Ultra, GODC07, has a supply range of **20 to 32 VDC**. Every other version runs from **9 to 32 VDC**. The housings are identical. **Read the range on the label, not the shape of the housing**, and check it against the machine supply before you connect.



The rear of the Goby: the fin field, the bracket, the type label and the DTP04 connector in the rear face

3 Technical data

All values apply to the standard configuration at 25 degrees Celsius ambient, including lens losses and driver consumption. A hyphen means the entry does not apply to that version.

	GODC07 Ultra	GODC06 Pro	GODC05 the 9	GODC03 the 6	GODC01 Mini	GOHT01 and GOHT02
PERFORMANCE						
Luminous flux	8,200 lm	7,200 lm	6,300 lm	4,600 lm	2,300 lm	2,600 lm
Power consumption	65 W	55 W	55 W	35 W	18 W	13 W
Efficacy	126 lm/W	131 lm/W	115 lm/W	131 lm/W	128 lm/W	200 lm/W
Colour temperature	6500 K, 5000 K, 4000 K, 2700 K, amber 2200 K, and bi-colour 4000 K with amber 2200 K					6500, 4000 or 2700 K. No amber and no bi-colour
Colour rendering	Ra above 70 standard, Ra 80 or Ra 90 on request					
Optics	14, 38, 69 and 14 by 46 degrees, or .NOP without lenses at 136 degrees					None, 120 degrees very wide
Upward light output ratio	0 per cent at nil tilt					
ELECTRICAL						
Supply voltage range	20 to 32 VDC, 24 V nominal	9 to 32 VDC, 12 and 24 V nominal			9 to 32 VDC, 12 and 24 V nominal	90 to 305 VAC on GOHT01. 9 to 32 VDC on GOHT02
Current draw	2.7 A at 24 V	2.3 A at 24 V, 4.6 A at 12 V	2.3 A at 24 V, 4.6 A at 12 V	1.5 A at 24 V, 2.9 A at 12 V	0.8 A at 24 V, 1.5 A at 12 V	0.1 A at 120 V, 0.05 A at 220 to 277 V. 0.55 A at 24 V, 1.1 A at 12 V
Driver	DC drivers on the board inside the housing. No external box					GOHT01: remote BLD075, 131 × 68 × 33.5 mm, 650 g, fits the DRB-1. GOHT02: on board
Reverse polarity and surge	Protected					Protected. On GOHT01 also 6 kV line to line and 10 kV line to earth, IEC 61000-4-5
Power factor at full load	-					Above 0.9 at 65 to 100 per cent load on GOHT01
Dimming	On request					0 to 10 V, PWM or DALI-2 on GOHT01. On request on GOHT02
TEMPERATURE AND LIFETIME						
Ambient temperature	minus 45 to plus 50 degrees Celsius					minus 45 to plus 120 degrees Celsius on GOHT01, plus 110 on GOHT02
LED service life, TM-21 L90B05	above 360,000 h at 50 °C					See the ladder in section 3.3

3 Technical data, continued

	Goby, all four output levels	Goby Mini	Goby HT
CONSTRUCTION			
Housing	Cast aluminium, less than 0.08 per cent copper		
Surface finish	Conversion layer plus two layer titanium-based e-coating, Titanium Black		The same e-coating
Bracket	High tensile 316L stainless steel, unlimited rotation from minus 60 to plus 30 degrees		
Front	Polycarbonate IK10 as standard, chemically hardened glass IK09 on request		Chemically hardened glass IK09, or borosilicate glass
Protection class	Class II		
Ingress protection	IP66, IP67, IP68 and IP69K, each class tested separately, so IP69K does not imply IP68		
Impact resistance	IK10 with polycarbonate, IK09 with glass, IEC 62262		IK09, set by the front cover
Corrosion class	C5 industrial and marine, ISO 9223. There is no 316L version; see the Piranha SS		
Vibration and shock	6 G at resonant frequency, IEC 60068-2-6. Shock tested to IEC 60068-2-27		
TERMINATION, DIMENSIONS AND WARRANTY			
Termination	**Deutsch DTP04 two pole connector fitted in the housing. There is no cable.** The mating connector is available as an accessory and is not supplied as standard		SiHF-OB heat resistant silicone, 15.0 m. Four cores on GOHT01, 2 × 1.0 plus 2 × 0.5 mm². Two cores on GOHT02, 2 × 1.0 mm²
Dimensions	120 × 141 × 79 mm including bracket. Housing 120 × 120 mm	112 × 90.5 × 60 mm including bracket. Housing 112 × 70 mm	120 × 141 × 79 mm including bracket
Fixing	One hole of Ø 8 mm in the centre of the bracket foot, 17.5 mm from the front edge of a foot 35 mm deep		The same single Ø 8 mm hole
Weight	1.8 kg including bracket	1.1 kg including bracket	1.8 kg including bracket, driver box separate
Storage temperature	minus 45 to plus 50 degrees Celsius, dry, in the original packaging		
Warranty	5 years on the complete luminaire		5 years to plus 120 degrees Celsius on GOHT01 and to plus 110 degrees Celsius on GOHT02

FIXED OUTPUT, BY DESIGN

DC versions run at a fixed constant current, so another power level is a custom build and not a setting. The four output levels are four products: the Pro and the 9 use different LEDs at the same 55 W, and the Ultra is the only version that starts at 20 V rather than 9 V.

NOTE, THERE IS NO CABLE AND NO GLAND ON A STANDARD GOBY

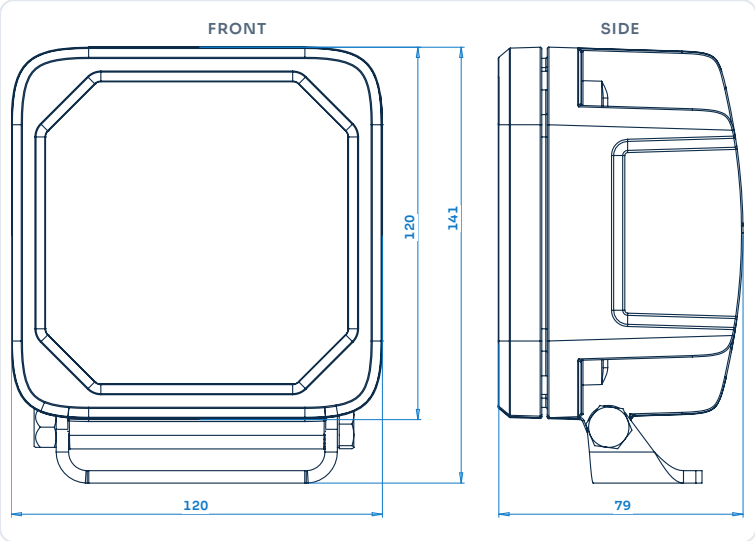
The standard Goby and the Goby Mini are delivered with a **Deutsch DTP04 two pole connector fitted in the rear face and no cable**. Nothing to route, nothing to shorten, nothing to damage on a machine. The mating connector, a DTP06 with a wedge lock and two seals, is an accessory: **order it with the luminaire** or the luminaire arrives with no way to connect it.

THREE THINGS THIS RANGE DOES NOT DO

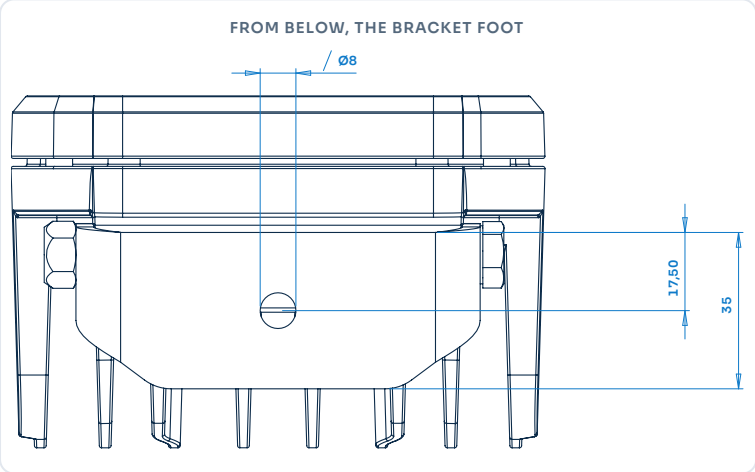
316L housing	Not available on the Goby. For a stainless housing in this size class see the Piranha SS
HT optics	Not possible: the housing is too small to carry one, so both high temperature versions are 120 degrees very wide. For high temperature with an optic see the Barracuda HT or the Orca HT
Mains on a standard version	Every standard Goby is a 9 to 32 V DC luminaire. AC exists only in the HT build

3.1 Dimensions, weight and wind load, Goby

All drawings are dimensioned in millimetres. DXF and STEP models are available on request. All four output levels share these dimensions, and so does the high temperature version.



Goby, front and side. Housing 120 × 120 mm, 141 mm high including the bracket, 79 mm deep



The bracket foot from below. One hole of Ø 8 mm in the centre, 17.5 mm from the front edge of a foot 35 mm deep

DIMENSIONS, FROM THE DRAWING

Housing	120 × 120 mm, w × h
With bracket	120 × 141 × 79 mm
Bracket foot	35 mm deep

MOUNTING INTERFACE

Fixing hole	1 × Ø 8 mm, in the centre of the foot
Hole position	17.5 mm from the front edge of the foot
Bolt size	M8, grade 8.8 or better. 20 Nm, see section 6.6
Adjustment	minus 60 to plus 30 degrees, continuous

WEIGHT

Luminaire with bracket	1.8 kg
HT, plus the driver in a DRB-1	6.0 kg as a system

WIND LOAD, CALCULATED FROM THE DRAWING

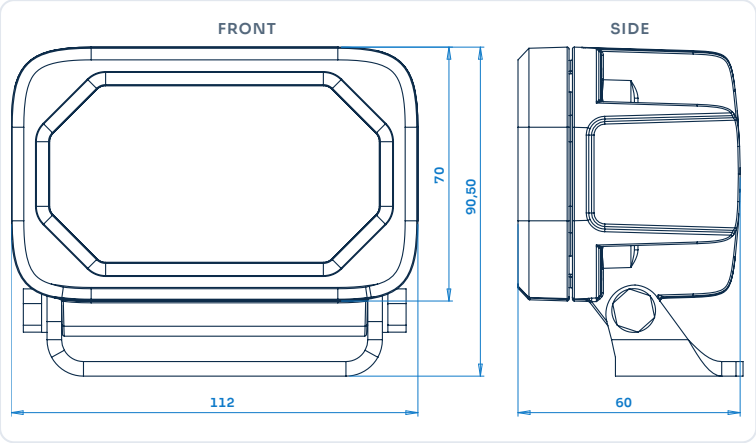
Frontal area	0.017 m²
Side view area	0.011 m²
Cd · A at Cd 1.2	0.020 m²
Force at 45 m/s	Approximately 26 N frontal, at an air density of 1.25 kg/m³

NOTE, ONE BOLT IS THE WHOLE FIXING

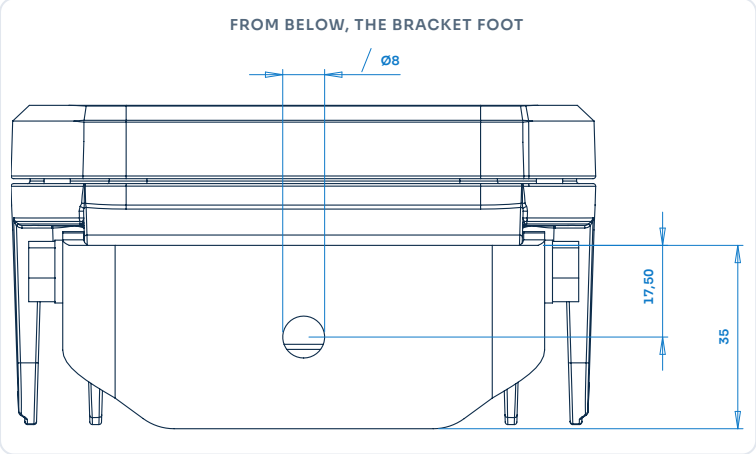
The Goby hangs on **one M8 bolt** through the foot. That is what makes it quick to fit and it is also the reason the bolt has to be right: correct grade, correct length, a washer under the head and the nut, and **tightened to 20 Nm**. A bolt that only just fills the hole lets the luminaire rotate about its own axis under vibration.

3.2 Dimensions, weight and wind load, Goby Mini

The Goby Mini is the same product in a smaller housing: the same bracket principle, the same single Ø 8 mm fixing hole, the same connector and the same optics.



Goby Mini, front and side. Housing 112 × 70 mm, 90.5 mm high including the bracket



The bracket foot from below. The same single Ø 8 mm hole, 17.5 mm from the front edge of a foot 35 mm deep

DIMENSIONS, FROM THE DRAWING

Housing	112 × 70 mm, w × h
With bracket	112 × 90.5 × 60 mm
Datasheet figure	112 × 70 × 60 mm, which is the housing height and not the height over the bracket
Bracket foot	35 mm deep

MOUNTING INTERFACE

Fixing hole	1 × Ø 8 mm, in the centre of the foot, 17.5 mm from the front edge
Adjustment	minus 60 to plus 30 degrees, continuous

WEIGHT

Luminaire with bracket	1.1 kg

WIND LOAD, CALCULATED FROM THE DRAWING

Frontal area	0.010 m²
Side view area	0.005 m²
Cd · A at Cd 1.2	0.012 m²

NOTE, A DIFFERENCE BETWEEN THE DRAWING AND THE DATASHEET

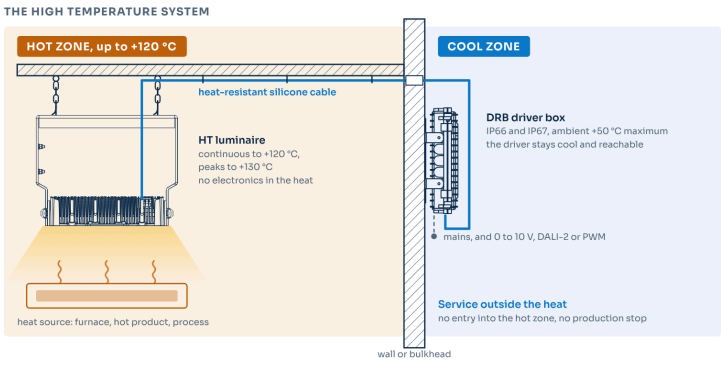
The Goby Mini datasheet gives **112 × 70 × 60 mm including bracket**. On the production drawing the 70 mm is the **housing** height and the height over the bracket is **90.5 mm**. Use 90.5 mm when you check the space in an enclosure or under a platform. This has been reported for correction on the datasheet.



Goby Mini. Three lenses, 2,300 lm, 1.1 kg, and the same bracket and connector as the larger housing

3.3 Dimensions and lifetime, high temperature range

Standard industrial LED luminaires stop at roughly plus 50 degrees Celsius, because the driver does: what fails in the heat is the electrolytic capacitor in the driver. On the **GOHT01** the driver therefore leaves the hot zone entirely and is joined to the luminaire with heat resistant silicone cable. On the **GOHT02** the drivers stay on the board, which is simpler to install and is why its limit is plus 110 rather than plus 120 degrees Celsius.



The high temperature system on the AC version: only the luminaire is in the heat. The driver sits in the cool zone, in a DRB-1 or on a tray, and it is reachable without entering the hot zone

	GOHT01, AC	GOHT02, DC
Ambient	minus 45 to plus 120 °C	minus 45 to plus 110 °C
Supply	90 to 305 VAC, 50/60 Hz	9 to 32 VDC, 0.55 A at 24 V, 1.1 A at 12 V
Driver	Remote BLD075, outside the hot zone, fits the DRB-1	On the board in the housing
Cable	SiHF-OB silicone, 4 cores, 2 × 1.0 plus 2 × 0.5 mm², 15.0 m	SiHF-OB silicone, 2 cores, 2 × 1.0 mm², 15.0 m
Dimming	0 to 10 V, PWM or DALI-2	On request
Flux and beam	2,600 lm at 13 W, 120 degrees very wide. No optic is available	
Dimensions	120 × 141 × 79 mm with bracket, as the standard Goby, section 3.1	
Weight	1.8 kg, plus 650 g driver. 6.0 kg with a DRB-1	1.8 kg



Goby HT with the silicone cable. The glass front is chemically hardened, or borosilicate where the glass sees direct radiant heat

LUMEN MAINTENANCE AT ELEVATED AMBIENT

The headline figure is measured at 50 degrees Celsius. In a hot zone the ambient governs, so use the row that matches the position. This ladder applies to every JEL high temperature luminaire.

Ambient	TM-21 L90B05
plus 50 degrees Celsius	360,000 h
plus 85 degrees Celsius	103,000 h
plus 105 degrees Celsius	71,700 h
plus 120 degrees Celsius	51,400 h

WARNING, THE DRIVER AMBIENT IS PLUS 50 DEGREES CELSIUS

On the AC version the luminaire is rated to plus 120 degrees Celsius. **The driver box is not.** It must sit in an ambient of at most plus 50 degrees Celsius, outside the hot zone. Mounting it on a wall that is at plus 80 degrees Celsius is the single most common installation error on a high temperature job.

BUILT-IN SELF-PROTECTION

An HT luminaire protects itself. As its internal temperature rises it dims back automatically, and on overheating it switches itself off and comes back when it has cooled.

That feedback is why the GOHT01 cable has four cores and not two: two of 1.0 mm² carry the power and two of 0.5 mm² carry the temperature signal between the luminaire and the driver. Conductors 7, 8, 11 and 12 in section 7.2 are that pair.

DANGER

Never install a GOHT01 with the temperature pair disconnected, shorted or left out of an extended cable run. Without it the luminaire has no thermal protection and will run itself past its rating in a hot zone.

3.4 Standards and verification

Subject	Standard	By
Luminaire safety	IEC/EN 60598-1, -2-5	In house
EMC emission and immunity	EN 55015, EN 61547	TÜV
Marine EMC	IEC 60533, bridge and open deck	TÜV
Ingress	IEC 60529, ISO 20653	In house
Impact	IEC 62262, IK10 with polycarbonate, IK09 with glass	In house

Subject	Standard	By
Vibration	IEC 60068-2-6, at 6 G	In house
Shock	IEC 60068-2-27	In house
Corrosion	ISO 9223, class C5	In house
Photometry	IES LM-79, TM-21 for lifetime	In house
Substances	RoHS, REACH	Self-declaration

This table lists how the product is verified. The harmonised standards named on the declaration of conformity are listed separately in section 14.1. Photobiological safety is covered in section 4.3. ISO 20653 is the road vehicle ingress standard, which is the relevant one for a machine light: it is where the IP69K high pressure and steam test comes from. To check the authenticity of a test or inspection report and certificate, contact JEL Products on +31 (0)33 785 9809 or at info@jelproducts.nl.

OPTICS AND BEAM ANGLES

The optic is part of the order code and is chosen from the lighting calculation. The beam angle is the full angle at 50 per cent of the peak intensity, the field angle at 10 per cent. Both are read from the IES files on the product page.

Lens	Distribution	Beam angle	Field angle	Typical use
14°	Spot, symmetric	13°	27°	Long throw from a boom
38°	Medium, symmetric	37°	69°	Work area at 10 to 30 m
69°	Wide, symmetric	72°	103°	Close work, walkways, platforms
14 by 46°	Flare, asymmetric	13 by 45°	30 by 70°	Conveyors, alleyways, dock edges
.NOP	Very wide, no lenses	136°	168°	Wide field at close range
HT versions	Very wide, no optic	120°	-	Oven and furnace zones

Lens combinations within one luminaire are possible: the library holds a file for the 9 with two 14 degree lenses and one 14 by 46, the crane boom combination. Nothing is emitted above the horizontal at nil tilt; section 6.7 shows what tilt does to that figure.



The 6, GODC03. Four output levels share one housing, one bracket and one connector

WHAT EACH RATING MEANS HERE

IP69K	Close range high pressure and steam cleaning. Tested separately from IP68, so **IP69K does not imply IP68**
IK10	The polycarbonate front. With glass the rating is IK09, and the glass is chosen for chemical resistance or radiant heat, not for impact
6 G	At the resonant frequency, which is the case that matters on a diesel machine or a crane boom
Class II	No protective earth of its own. On the GOHT01 the driver box and the tray **are** earthed

4 Safety

This chapter lists the hazards that arise when a Goby is installed, operated and maintained, and what to do about each of them. It does not replace the national and local electrical, vehicle and working at height regulations that apply on your site or your machine.

4.1 Electrical hazard

DANGER, LIVE PARTS

Working on the driver or the driver box of a GOHT01 while the supply is on can cause death or serious injury. Isolate the supply, secure it, and verify that the circuit is dead before you start. Check twice.

DANGER, NEVER MAINS TO A GOBY

Every standard Goby and the Goby Mini is a **9 to 32 V DC** luminaire. The GOHT01 is fed by its driver, and the mains goes to that driver only. Connecting mains to any Goby housing destroys it and creates a serious electrical hazard. See section 7.8.

- Every Goby is a Class II luminaire. The housing is not earthed through the supply, but on the GOHT01 the driver box, the driver tray and any metal enclosure must be earthed correctly.
- On a machine, isolating means the battery isolator or the relevant circuit, not only the switch in the cab.
- Make the connection to the standards that apply in your country and on your machine, within the supply range in chapter 3. **Read the range on the label before you connect: the Ultra starts at 20 V.**
- Only use the driver and the cable supplied for a GOHT01. Another driver can create a dangerous situation and voids the warranty. Keep one metre to a radio receiver.

4.2 Falling objects

WARNING, FALLING LUMINAIRE

A luminaire that comes loose from a boom, a roof or a platform can injure whoever is under it. Verify the structure before mounting, and fit a secondary retention wherever the luminaire is above a walkway or a working area, and always on anything that moves.

The luminaire and bracket weigh 1.8 kg, or 1.1 kg for the Mini. Under EN 60598-1 the suspension has to withstand four times the mass. **The Goby hangs on one M8 bolt**, and a bracket welded to sheet metal on a machine is not automatically strong enough for that bolt under 6 G. Have the structure checked, then fit the retention anyway.

4.3 Optical radiation

WARNING, OPTICAL RADIATION

Never look into the operating light source. Direct exposure at close range can cause permanent eye damage.

Photobiological safety is classified to **EN 62471**, with the blue light hazard assessed to **IEC/TR 62778**. That gives a **hazard distance**: beyond it the luminaire is Risk Group 1 and no exposure limit is reached in normal viewing. **It follows the optic**, because it is set by the peak intensity and not by the light output. The figures below come from our own LM-63 photometric files.

Version	14°	14 by 46°	38°	69°	.NOP
GODC07 Ultra	**5.2 m**	3.2 m	2.1 m	1.4 m	0.8 m
GODC06 Pro	4.8 m	3.0 m	2.0 m	1.3 m	0.8 m
GODC05 the 9	4.5 m	2.8 m	1.9 m	1.2 m	0.7 m
GODC03 the 6	3.9 m	2.4 m	1.6 m	1.0 m	0.6 m
GODC01 Mini	2.7 m	1.7 m	1.1 m	0.7 m	0.4 m
GOHT01 and GOHT02	-	-	-	-	0.5 m

The rule on site. Take **6 m** for a 14 degree spot and **3 m** for anything wider. Nobody works or stands within that distance looking towards the front. On a machine that matters more than the number suggests: a Goby on a boom or a cab roof sits at head height, and an operator walking past it is inside the hazard distance whether anyone planned for it or not. Aim or focus with the luminaire switched off.

Method: the square root of the peak intensity divided by the threshold illuminance at the Risk Group 1 boundary, taken as 3,500 lx for the 6500 K LED. The Ultra with a 14 degree optic peaks at about 93,000 cd, which is where the 5.2 m comes from. Calculated from our own photometric files, not a measurement report. At a lower colour temperature the threshold is higher and the distance shorter, so the 6500 K figure is the conservative one.

4.4 Hot surfaces, high temperature range



WARNING, HOT SURFACE

A Goby HT in a hot zone reaches the temperature of its surroundings, up to plus 120 degrees Celsius. Touching it causes immediate and severe burns. It stays hot long after the supply is switched off.

- Isolate the supply and let the luminaire cool to hand temperature before any work. Do not judge the temperature by looking at it. Nobody touches it without the zone being cooled and released.
- Wear heat resistant gloves and the personal protective equipment required for that zone.
- Never run cold water onto hot glass. The thermal shock can break the front. See section 10.5.
- Do not apply water at all to a luminaire warmer than plus 60 degrees Celsius.
- The silicone cable is rated for the hot zone but it also gets hot. Treat the cable as a hot surface up to the point where it leaves the zone.
- The driver case of a GOHT01 may reach plus 90 degrees Celsius in service, in an ambient of at most plus 50. Let it cool before you open the box.
- A standard Goby also runs warm: 65 W in a 120 mm housing is a small heat sink working hard. Let it cool before handling.

4.5 Crush and handling

CAUTION, MOVING PARTS

The housing pivots freely between the arms of the stirrup once the pivot is slack. Keep fingers clear of the pivot and of the gap between the housing and the bracket. One person can handle a Goby, but not with one hand while the other holds a ladder.

- Wear gloves, safety boots and a hard hat during assembly and installation.
- Do not work alone at height. Use rated and secured ladders, lifts or scaffolding, and on a machine use the access the machine provides, not the bracket and not the luminaire.

4.6 Heat and surroundings

- Keep at least 75 mm clear behind and around the luminaire, and 150 mm around a driver box. Do not cover or wrap the luminaire and do not install it against insulation material. Direct ceiling mounting is not recommended.
- Keep the space between the cooling fins clear. Trapped dirt reduces cooling and shortens the life of the LEDs. The Goby has no fan and no vents, so the fin field is the only cooling path.
- Do not install a standard Goby near a heat source that takes it beyond plus 50 degrees Celsius ambient: an exhaust, a hydraulic cooler outlet, an engine bay. For process heat, use the high temperature range.
- Do not expose the luminaire to corrosive chemicals outside its corrosion class without checking with your supplier first. There is no 316L Goby; for permanent salt exposure and process chemistry beyond C5 see the Piranha SS.

4.7 Laying the luminaire down

CAUTION

Rest the luminaire on its **front** or on its bracket, on the packaging or on a clean soft surface. **Never rest it on its back**, the side the connector is in.

On the Goby the DTP04 connector sits in the **rear face**, inside the fin field, and it stands proud of that face. Put the luminaire down on it and you load the connector in exactly the direction it is not designed for: the shroud cracks or the seal is disturbed, the ingress protection is no longer guaranteed, and the damage does not show until the first washdown. The front is a flat plate in a raised frame and it carries the weight without complaint. It may pick up a scratch on grit, which is cosmetic. A cracked connector shroud is not.

NOTE

Keep the connector capped until the mating connector goes on. A DTP04 with grit in the cavities does not seal, and grit in a pin cavity is the one fault that is not visible after the plug is pushed home.

4.8 What must never be done

DANGER, DO NOT OPEN THE LUMINAIRE

Do not remove the front or the glass, and do not open the housing. The seal, the ingress protection and the electrical safety all depend on a housing that has not been opened. Opening it voids the warranty and the declaration of conformity.

- Do not modify, repair or open the luminaire. Repairs are carried out by JEL Products or by a company it appoints.
- Do not install or switch on a luminaire with a cracked front, a damaged housing, bracket or connector, and do not use it in the applications listed in section 2.3.
- Do not connect mains to any Goby housing, do not feed an Ultra from 12 V, and do not put a Goby on a 48 V system.
- Do not cut off the connector and hard wire the luminaire, and do not chain several luminaires on one pair sized for one.
- Do not disconnect, short or omit the temperature pair on a GOHT01. See section 3.3.
- Do not fit the luminaire with a bolt that does not fill the Ø 8 mm hole, do not leave out the secondary retention on anything that moves, and do not put the driver box of a GOHT01 inside the hot zone.

4.9 Emergency and exceptional situations

- If an electrical fault occurs in a luminaire, a driver or a driver box, switch off the supply immediately.
- If a luminaire is severely damaged during operation, switch off the supply immediately and do not switch it on again until the luminaire has been replaced or released by JEL Products.
- No Goby has battery back up. None of them provides emergency or escape route lighting.

4.10 Potential health consequences

If ignored	Consequence
Working on a live driver or driver box	Severe injury or death by electric shock
Mains connected to a Goby housing	Destroyed luminaire, arc, fire and shock risk
Looking into the operating light source	Permanent eye damage, at head height on a machine
Touching a hot HT housing or its cable	Immediate severe burns
No secondary retention on a boom or a vehicle	Injury from a falling luminaire, and a luminaire on the road
Bracket or luminaire used as a handhold or step	Fall from the machine, bent bracket
Fingers at the pivot	Crushing, minor to moderate injury
Cold water on hot glass	Broken front, glass fragments, loss of ingress protection
Luminaire rested on its back, on the connector	Cracked shroud, water ingress, later failure
Temperature pair disconnected on a GOHT01	No thermal protection, LED and driver run past their rating

NEVER, ON ANY GOBY


Never open the housing or remove the front


Never rest the luminaire on its back, the cable side


Never carry or suspend it by the cable


Never aim a pressure washer at the gland


Never cover or wrap the luminaire


Never fit a driver other than the one supplied

5 Preparation

Everything that has to be right before the bolt goes in.

5.1 Transport and storage

- Transport and store the luminaire in its original packaging, in a dry place, at **minus 45 to plus 50 degrees Celsius**. That applies to every family, including the high temperature range: the rating of plus 120 degrees Celsius is an operating rating, not a storage rating.
- Do not stack pallets beyond the marking on the packaging.
- Store the box the right way up and keep the front off the ground.
- Keep the connector clean and capped until it is used. A DTP04 with grit in it does not seal.
- On a high temperature version the cable is 15 m long and is coiled in the box. Keep it coiled until the run is measured out. Silicone insulation is softer than PVC and picks up damage from being dragged.

5.2 Contents of the delivery

1 ×	Goby luminaire in the ordered configuration, with the standard bracket fitted. Standard versions with the DTP04 connector in the housing and no cable; high temperature versions with 15.0 m of silicone cable and free wire ends
1 ×	Remote BLD075 driver on the GOHT01. Bare, or in a DRB-1 driver box if ordered
1 ×	This instruction manual

> **WARNING, ORDER THE MATING CONNECTOR**
>
> The Goby is delivered with the DTP04 connector **in the housing and nothing on the cable side**. The mating connector, a Deutsch DTP06 two pole socket with a wedge lock and two seals, is an accessory. If it was not ordered, the luminaire cannot be connected. Check the order before the installation team is on the machine.

The contents change with the accessories ordered: mating connector, safety cable, Crane Light Director module. Mounting bolts for the structure are not supplied, because they depend on the structure. **The safety cable is not supplied as standard**, see section 6.5.

5.3 Unpacking

1. Read the label on the box and check that the article code matches what you ordered and what the lighting design specifies. Optics and colour temperatures differ between luminaires on the same machine, and an Ultra and a Pro look identical.
2. Cut the tape along the seams. Do not push the knife deeper than the tape.
3. Lift the luminaire out by the housing, not by the bracket alone and not by the cable.
4. Check that the article code on the type label matches the code on the box, note the internal production code as well, see section 2.5, and **read the supply range on the label**.
5. Inspect the housing, the front, the bracket, and the connector or the cable and gland for cracks, impact damage, grit in the pin cavities or exposed conductors.
6. Keep the packaging until the luminaire is installed and working. A luminaire that has to be returned travels in its own box.

> **WARNING, DAMAGED PRODUCT**
>
> If you find any damage, do not install the luminaire and do not switch it on. Contact JEL Products.

5.4 Tools

The Goby needs very little. The list names the bolt and not a spanner size, because the bolt is your choice: bring a socket or ring spanner that fits the M8 you have chosen.

Tool	Used for
Socket or ring spanner for the pivot bolts	Setting the tilt on the bracket
Socket or ring spanner for M8	The single bolt through the foot
Torque wrench, 5 to 30 Nm	The foot bolt and the pivot bolts, see section 6.6
Deutsch DTP crimp tool, size 16 contacts	The mating connector on the site cable, section 7.1
Wire stripper and cutter	Preparing the cable ends
End sleeve crimping tool	GOHT01 and GOHT02, the free wire ends at the driver or the distribution
Two open ended spanners for the cable gland	High temperature versions only, section 7.6
Heat gun	Heat shrink tubing over the gland, section 7.6
Voltage tester	Verifying that the circuit is dead
Multimeter	Checking the supply voltage under load, at the connector
Insulation resistance tester	Commissioning a GOHT01, chapter 8
Inclinometer, or a phone with one	Setting and recording the tilt
Heat resistant gloves	Any work in a hot zone on the HT range

Do not use a percussion drill on or near the bracket.

NOT SUPPLIED WITH THE LUMINAIRE

Mating connector	Deutsch DTP06-2S with wedge lock and seals. An accessory, ordered with the luminaire, section 7.1
Site cable, standard versions	Sized from section 7.7, terminated in the mating connector
Mounting bolt	M8, class 8.8 or better, A4 or 316 stainless steel or hot dip galvanised, with a washer under the head and the nut
Safety cable	Ordered separately, see section 6.5
Heat shrink tubing and self amalgamating tape	For sealing the gland on an HT version, section 7.6
Threadlocker	Where the installation calls for it, and on a vibrating machine it usually does

> **NOTE**
> The reason the tool list names a bolt and not a spanner size is that the bolt is your choice, not ours. The foot offers one hole of Ø 8 mm, and what goes through it follows from the structure and the vibration it sees.

TWO PEOPLE OR ONE

One person can carry and fit a Goby: 1.8 kg, or 1.1 kg for the Mini, is well within what one hand holds while the other starts the bolt. At height it is still two people, because the second person holds the ladder or the lift and passes the tools, and because the person on the machine should not be holding a luminaire and climbing at the same time.



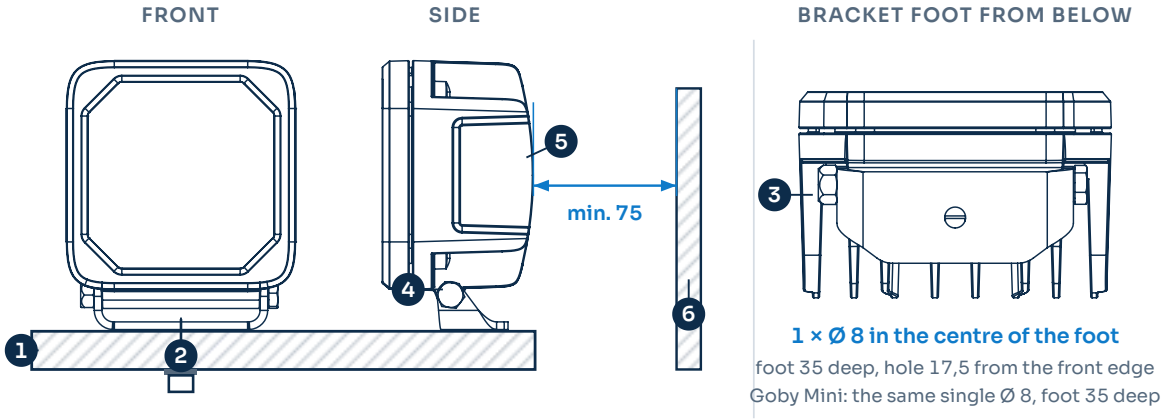
The Goby as delivered: one housing, one bracket, one connector, and no cable to route

6 Mechanical mounting

Every Goby is delivered with the standard bracket fitted: a high tensile 316L stirrup that bolts to the structure through a single hole in the foot. Mount the bracket first, then set the tilt, then make the electrical connection. The procedure is identical for all three families; the Goby Mini uses the same bracket principle and the same single hole.

DANGER

Isolate the supply and secure it against being switched on again before you start. On a machine that means the battery isolator or the circuit, not the switch in the cab. Installation may only be carried out by a qualified person.



Mounting principle. The three views are the production drawing of the Goby, all to the same scale, including the clearance behind. The Goby Mini foot is the same 35 mm deep with the same single Ø 8 mm hole, so one bolt position carries either housing

1	Load bearing structure. Level, sound, and checked for four times the weight of the luminaire and its bracket under the vibration of the machine
2	One M8 bolt through the foot, class 8.8 or better, a washer under the head and the nut, tightened to **20 Nm**, section 6.6
3	Mounting foot from below. One hole of Ø 8 mm in the centre of a foot 35 mm deep, 17.5 mm from the front edge
4	Pivot between the stirrup arms, one on each side. Slacken both to set the tilt, minus 60 to plus 30 degrees, continuous
5	DTP04 connector in the rear face, inside the fin field. Leave room to push the mating connector home and to release the latch again
6	Minimum **75 mm** free space behind the luminaire, drawn here to scale. The Goby has no fan and no vents, so the fin field is the only cooling path

BEFORE YOU GO UP

- The lighting design is on site, with the position, tilt and optic per luminaire, and the hazard distance in section 4.3 has been checked against where people walk.
- The mounting surface is clean, flat and suitable: a foot that bridges a weld or a rib is not clamped, whatever the torque reads.
- The load capacity of the structure is known and sufficient for four times the weight under 6 G. On a machine, the bracket welded to the sheet metal is part of that check.
- Mounting hardware is certified and suited to the environment: A4 or 316 stainless steel, or hot dip galvanised class 8.8.
- The cable route and the position of the mating connector are decided, with a drip loop below the connector.
- HT range: the driver position outside the hot zone is chosen and reachable, section 3.3.
- The supply circuit can be isolated and secured.

6.1 Standard bracket

1. **Check the position.** Follow the lighting design. Check that the mounting surface is flat, clean and free of obstructions, and that the structure carries the load.
2. **Mark and drill the hole,** or check the existing one on a retrofit. One hole of Ø 8.5 to 9 mm for an M8 bolt, in a surface the foot sits flat on. Do not use a percussion drill.
3. **On a GOHT01, mount the driver box first,** outside the hot zone, in an ambient of at most plus 50 degrees Celsius.
4. **Offer the luminaire up** and check that the foot sits flat on the surface.
5. **Fit the bolt,** a washer under the head and the nut, A4 or 316 stainless steel or hot dip galvanised class 8.8, and **tighten to 20 Nm** with a torque wrench, section 6.6.
6. **Set the tilt.** Support the housing, slacken the pivot on both sides of the stirrup no more than is needed, set the angle from the lighting design with an inclinometer rather than by eye, and tighten both sides evenly. The range is **minus 60 to plus 30 degrees**, continuous, so the aim depends entirely on how firmly the pivot is clamped.
7. **Check the tilt.** Do not tilt more than fifteen degrees above the design angle. Beyond that the upward light output ratio is no longer nil, see section 6.7. Record the angle.
8. **Fit the secondary retention** if section 6.5 applies, and on a machine it does.
9. **Check the aim again** after the first hours of operation on a machine that vibrates.

NOTE, ONE BOLT DOES NOT FIX THE ROTATION

A single bolt clamps the foot to the surface, and friction is what stops the luminaire turning about that bolt. On a machine that sees 6 G, friction alone is not enough over years: use a washer that spreads the load, tighten to **20 Nm**, use threadlocker, and where the position allows it add a locating pin or a second point. A Goby that has slowly rotated on its bolt is the most common aiming complaint on this product.

WARNING, DO NOT USE THE BRACKET AS A HANDHOLD

The bracket is dimensioned for the luminaire and the wind, not for a person. On a machine it is also the first thing a hand reaches for when climbing: neither the bracket nor the luminaire is a handhold or a step.



The stirrup bracket and the single bolt through the foot, seen from the rear

HOLE PATTERN PER FAMILY

	Goby and HT	Goby Mini
Fixing hole	1 × Ø 8 mm, in the centre of the foot	
Hole position	17.5 mm from the front edge of a foot 35 mm deep	
Bolt	M8, class 8.8 or better, 20 Nm	
Adjustment	minus 60 to plus 30 degrees, continuous	
Weight to carry	1.8 kg	1.1 kg

AFTER MOUNTING, BEFORE WIRING

- ☐ Foot bolt tightened to 20 Nm and marked.
- ☐ Tilt set and recorded, pivot tightened on both sides.
- ☐ Secondary retention fitted where required.
- ☐ Room left at the rear face to fit and release the mating connector.
- ☐ Cable route decided, with a drip loop and a clamp within 300 mm of the connector on a moving position.
- ☐ Nothing obstructs the cooling fins on the rear.
- ☐ HT only: the driver sits outside the hot zone.

6.2 The mounting configurations

Which one you have follows from the order and the accessories. The standard bracket is fitted to every version. The Crane Light Director is a separate steerable system for mobile cranes that carries the Goby and the Goby Mini as modules.



Standard bracket, Goby. High tensile 316L stirrup, minus 60 to plus 30 degrees continuous, one M8 through the foot



Standard bracket, Goby Mini. The same stirrup principle, the same single Ø 8 mm hole, in a 112 by 70 mm housing



High temperature. The same bracket and foot; the silicone cable leaves through a gland in the rear face instead of a connector

6.3 Mounting attitude and position

Frontal mounting	The Goby is designed to be mounted facing the area to be lit. That is also the attitude the frontal wind area in section 3.1 assumes
Clearance	At least 75 mm free behind and around the housing. Direct ceiling mounting is not recommended
Driver box clearance	At least 150 mm around a DRB-1 on a GOHT01 installation
Maximum mounting height	50 m. No limit on the elevation of the site itself
Connector	In the rear face. Leave room to push the mating connector home and to release the latch again
Wash down zones	The luminaire is IP69K and may sit in the wash down zone. **A driver box may not**: put it outside
Hot zones	Only the high temperature versions go in a hot zone. On the GOHT01 only the luminaire does

NOTE, MOUNTING ON A VEHICLE

On a vehicle, check the position against the vehicle rules that apply: forward facing work lights are regulated on the public road in most countries, and a work light that can be seen from the front while driving is often not permitted. That is a road approval question, not a product question, and it is settled before the bracket is drilled.

6.4 The Crane Light Director

What it is	Steerable boom lighting for mobile cranes, fitted as a retrofit. A separate system with its own documentation
Goby on the system	8,200 lm per tilting module, so the Ultra
Other luminaires	Goby Mini, Piranha, DarkLicht S and Marlin
Control	From the cabin, over a LoRa controller or a cabin switch
Not the same as	The Crane Light Stabilizer, which is a damped bracket for the larger floodlights and does not carry a Goby

Where a Goby is fitted to a Crane Light Director, the mounting, the cable routing and the control are covered by that system's documentation and not by this chapter. Everything else in this manual still applies to the luminaire itself.

WARNING

On anything that moves, the secondary retention in section 6.5 is not optional. A crane boom, a mobile mast, a vehicle and a vessel all count as moving.

6.5 Secondary retention

WARNING

Fit a secondary retention wherever the luminaire is mounted above a walkway, a working area or a road, and always on anything that moves: a crane boom, a mobile mast, a vehicle or a vessel. On a Goby that is nearly every installation.

NOTE, THE SAFETY CABLE IS AN ORDERED ITEM

The safety cable is **not supplied as standard**. It is supplied with the luminaire when it is ordered, and it is rated for the weight of the luminaire it is supplied for. State the luminaire type when you order it.

Length	1 m
Rating	Matched to the weight of the luminaire it is supplied for
Anchor	To the structure, not to the bracket and not to the housing
Supply	Ordered separately, never as standard

1. Choose an anchor point independent of the foot bolt that carries four times the mass of the luminaire. At 1 m the cable is short, so the anchor has to be close. Pick it before you drill.
2. Loop the cable around that anchor and attach the other end to the luminaire bracket, not to the housing and not to the site cable.
3. Leave a little slack, enough to adjust the tilt later but not so much that the luminaire can gather speed if the bolt fails.
4. Record the safety cable in the machine or site documentation, so that it is inspected at every maintenance visit.

DANGER

Do not substitute a cable, chain or strap of your own without having it rated. Vibration works fixings loose over years, and a luminaire coming off a moving machine is a hazard to everyone around it and to whatever is on the road behind it.

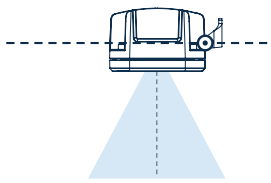
6.6 Tightening torques

Use a torque wrench. Overtightening a stainless bolt in a stainless thread causes galling and the joint cannot be undone. Undertightening lets it work loose under vibration, and the Goby is qualified to 6 G and is fitted to machines that shake.

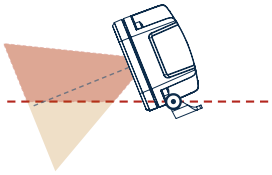
Connection	Size	Torque
Bolts on the luminaire	M8	20 Nm
Bolts on the bracket, class 8.8	M16	175 Nm
Bolts on the bracket, class 8.8	M20	341 Nm
Bolts on the bracket, class 8.8	M24	590 Nm
Bolts on the bracket, class 12.9	M20	576 Nm
Bolts on the bracket, class 12.9	M24	995 Nm

This is the range table. On the Goby the foot hole is Ø 8 mm, so **M8 at 20 Nm is the figure for the foot bolt and for the pivot bolts**; the larger sizes do not occur on this product. Torques apply to clean, dry, undamaged threads. For a stainless bolt in a stainless thread, use an anti-seize compound and reduce the torque accordingly. Where the mounting hardware comes from another supplier, that supplier's torque takes precedence.

6.7 Aiming and obtrusive light



Nil tilt
The luminaire hangs level and aims straight down. The whole beam stays below the horizontal, so the ULOR is nil. That is the figure we publish.



Tilted up
Aiming towards the horizontal throws light further, but part of the beam now crosses it. The ULOR is no longer nil and the obtrusive light check fails.

The bracket tilts continuously from minus 60 to plus 30 degrees.
What tilting costs you

Nil tilt means the luminaire hangs level and aims straight down. In that position the upward light output ratio is nil. That is the figure a permitting authority asks for, and it is the starting point for an assessment against NEN-EN 12464-2 and the NSVV guidance on obtrusive light.

On a machine the same picture explains a different problem: a Goby tilted up throws light into the eyes of everyone approaching the machine, and into the operator's mirrors. Aim from the lighting design; where none is available keep the tilt at or below fifteen degrees and have the result verified. Record the installed tilt.

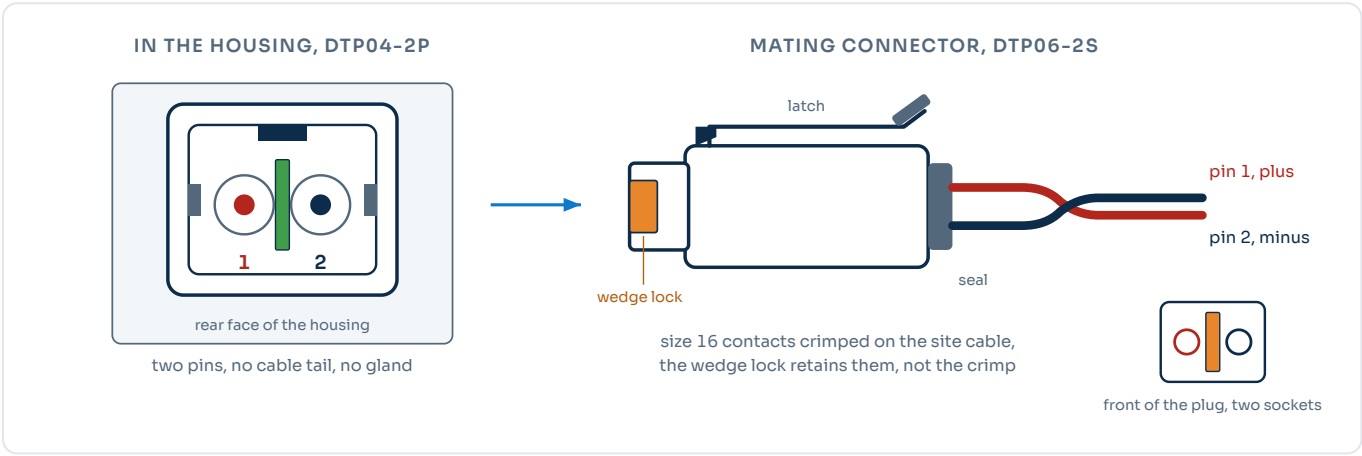
7 Electrical installation

DANGER, LIVE PARTS

Isolate the supply, secure it against being switched on again, and verify that the circuit is dead. Only a qualified person may make the electrical connection.

7.1 The connector, all standard versions

Every standard Goby and every Goby Mini has a **Deutsch DTP04 two pole connector fitted in the housing and no cable**. The drivers are on the board inside the housing. There is no external driver, no gland and no junction box, and the whole electrical installation is one pair of conductors and one plug.



The connector in the housing and the mating connector on the site cable. Pin 1 is positive and pin 2 is negative, on every standard version

CONDUCTORS, ALL STANDARD VERSIONS

Pin	Colour	Function
1	Red	DC IN plus. 9 to 32 VDC, or 20 to 32 VDC on the Ultra
2	Black	DC IN minus

There is no protective earth, because the luminaire is Class II. The cable is supplied by the installer and is sized from the table in section 7.7.

1. Crimp the two contacts onto the site cable with the correct Deutsch DTP crimp tool, size 16 contacts.
2. Insert the contacts into the DTP06 socket until they click, then fit the orange wedge lock. **The wedge lock is what retains the contacts**, not the crimp.
3. Check the two seals are in place and undamaged.
4. Push the connector home until the primary lock engages, and pull on the cable to confirm.
5. Support the cable with a drip loop below the connector, clamped so that no weight reaches it.

WARNING, REVERSE POLARITY

The DC versions are protected against reverse polarity and against surge, so a reversed connection does not damage the luminaire. It also does not light it: **a Goby that stays dark on first power up is a polarity check first**.

NOTE, ONE PAIR PER LUMINAIRE

Feed each luminaire on its own pair with its own fuse. Chaining puts the current of every luminaire through the first pair: on a 12 V machine with four Goby Pros that is 18 A in a cable sized for 4.6 A.

FUSING AND SWITCHING

Fuse	Sized to the cable, per luminaire
Switching	At the distribution or over a relay. The connector is not a switch
Inrush	Size a relay for the total inrush, not the running current

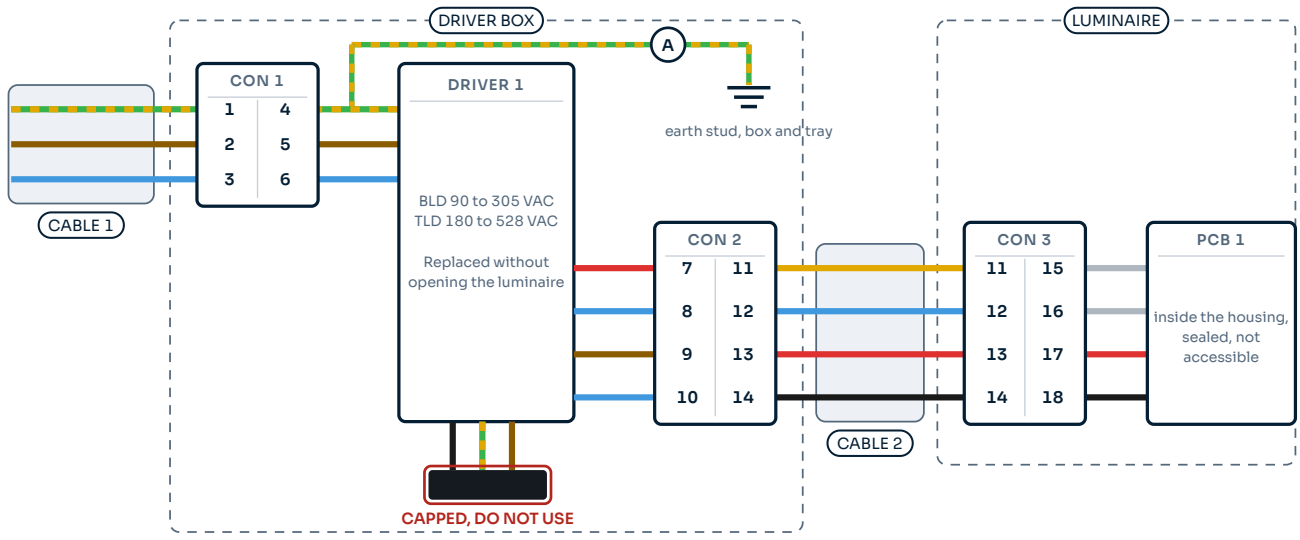
The same DTP04 termination is used on the Goby Mini and the DarkLicht Mini.

7.2 Architecture, the GOHT01 high temperature AC version

On the GOHT01 the driver sits outside the luminaire and outside the hot zone. Mains arrives at connector 1 in the driver box, the driver feeds connector 2, and cable 2 carries the driver output and the temperature signal to the luminaire over 15.0 m of heat resistant silicone cable.

ONE DIAGRAM FOR EVERY AC VERSION IN THE RANGE

The diagram below is the same diagram as in the other JEL floodlight manuals: the conductor count, the colours, the connectors and the terminal numbering are shared across the range. On the Goby HT the driver is the **BLD075** and the cable is SiHF-OB silicone with two cores of 1.0 mm² for power and two of 0.5 mm² for the temperature signal.



CABLE 1, mains	1 green and yellow earth · 2 brown phase · 3 blue phase or neutral. Mains voltage
DRIVER to CON 2	7 red TEMP + · 8 blue TEMP – · 9 brown DRI OUT + · 10 blue DRI OUT –
CABLE 2	11 yellow TEMP + · 12 blue TEMP – · 13 red DRI OUT + · 14 black DRI OUT –. No mains, no earth
CON 3 to PCB 1	15 grey · 16 grey · 17 red DRI OUT + · 18 black DRI OUT –
A	The incoming earth conductor lands on the earth stud of the driver box, and earths the box and the tray. The luminaire is Class II and is not earthed
CAPPED	**The black, green and brown conductors on the driver are capped off and are not connected. Do not use them**

Every conductor, colour and terminal number as on the production drawing. Cable 1 carries mains, cable 2 the driver output and the temperature feedback

DANGER, THE CAPPED CONDUCTORS ARE NOT SPARE WIRES

The driver leaves the factory with **three capped conductors: black, green and brown**. They are part of the driver control lead and they are **not connected on purpose**. Leave the cap in place. Do not use them as an earth, as a neutral or as a spare core. If dimming has to be added later, that is a driver change, done by JEL Products or by a qualified person with the driver documentation in hand.

The incoming **earth conductor lands on the earth stud of the driver box**, marked **A**, and earths the box and the tray. Cable 2 carries no protective earth and the luminaire itself is not earthed: the driver sits outside the housing, so the luminaire is Class II.

This diagram applies to models from 2025 onward. For an older luminaire, check the connection against the diagram supplied with it.

7.3 Conductors, the GOHT01

No	Colour	From, to	Function
1	Green and yellow	Incoming cable to CON 1	Earth
2	Brown	Incoming cable to CON 1	Phase
3	Blue	Incoming cable to CON 1	Phase or neutral
4	Green and yellow	CON 1 to driver 1	Earth
5	Brown	CON 1 to driver 1	Phase
6	Blue	CON 1 to driver 1	Phase or neutral
7	Red	Driver 1 to CON 2	Temperature, plus, NTC plus
8	Blue	Driver 1 to CON 2	Temperature, minus, NTC minus
9	Brown	Driver 1 to CON 2	Driver output, plus
10	Blue	Driver 1 to CON 2	Driver output, minus
11	Yellow	CON 2 to CON 3	Temperature, plus
12	Blue	CON 2 to CON 3	Temperature, minus
13	Red	CON 2 to CON 3	Driver output, plus
14	Black	CON 2 to CON 3	Driver output, minus
15	Grey	CON 3 to PCB	Dimming signal, plus
16	Grey	CON 3 to PCB	Dimming signal, minus
17	Red	CON 3 to PCB	Driver output, plus
18	Black	CON 3 to PCB	Driver output, minus

WARNING, CONDUCTORS 7 AND 8 ARE THE TEMPERATURE PAIR

Conductors 7 and 8, red and blue, carry the temperature signal from the luminaire to the driver. **Grey is the dimming pair, conductors 15 and 16, and nothing else.** An installation that treats 7 and 8 as a dimming input leaves the thermal protection disconnected.

On the production drawing the last four rows are labelled against PCB 1 and PCB 2. There is one printed circuit board assembly in the luminaire; conductors 15 to 18 run from connector 3 to that board. This has been reported for correction on the drawing.

7.4 The GOHT02, high temperature DC

On the GOHT02 the drivers are on the board, exactly as on a standard Goby. The difference is the cable: **15.0 m of two core silicone** instead of a connector in the housing, because a polymer connector does not survive the hot zone.

Supply	9 to 32 VDC, 0.55 A at 24 V and 1.1 A at 12 V
Cable	SiHF-OB silicone, 2 cores of 1.0 mm², 15.0 m
Polarity	Red is plus, black is minus. Reverse polarity protected
Ambient	to plus 110 degrees Celsius
Driver box	None. There is nothing outside the luminaire

WARNING, PLUS 110 AND NOT PLUS 120

The DC version has its drivers inside the housing, in the heat. That is why its ceiling is **plus 110 degrees Celsius** and the AC version reaches plus 120. Above plus 110 degrees Celsius the version to specify is the GOHT01 with the remote driver.

7.5 Circuit breakers, GOHT01

Maximum number of luminaires on one miniature circuit breaker, the manufacturer figure for the BLD075 on an ABB S200 at 220 V.

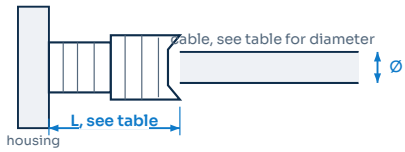
Driver	B16	C16	C25	D16
BLD075	11	19	30	32

It is the **inrush** that limits the count on this driver, not the running current: the BLD075 peaks at 66 A with a T50 of 170 microseconds while the luminaire draws only 0.05 A at 220 V. A guide for the engineering phase, not a substitute for the installation calculation.

7.6 Cable glands, high temperature versions only

A standard Goby has no gland: the cable side is the DTP04 connector. This section applies to the **GOHT01 and the GOHT02**, where the silicone cable enters the housing through a gland, and to the gland on the driver box.

Tighten the cap nut to the dimension in the table, measured over the gland. That is a more reliable instruction on a platform than a torque figure. Then apply heat shrink tubing and self amalgamating tape over the gland. Dimension L runs from the face of the housing to the end of the cap nut, with the cable fitted; it is not the thread length.



Where dimension L is measured

Cable	M12×1.5 -D-SI 4 to 8	M20×1.5 -2H 4 to 8	M20×1.5 -H 5 to 10	M20×1.5 6 to 12	M20×1.5 -D 8 to 14
H07BQ-F 4G0.5 mm², Ø 6.7 mm	17.7 mm	19.8 mm	n/a	n/a	n/a
H07BQ-F 2G2 mm², Ø 7.3 mm	18.4 mm	19.9 mm	n/a	n/a	n/a
H07BQ-F 2G1.5 + 2G0.5 mm², Ø 8 mm	18.9 mm	20.0 mm	20.4 mm	n/a	n/a
H07BQ-F 4G1.5 + 2G0.5 mm², Ø 10.4 mm	n/a	n/a	21.3 mm	22.2 mm	n/a
H07BQ-F 2G2.5 + 2G0.5 mm², Ø 9.5 mm	n/a	n/a	21.1 mm	n/a	n/a
H07BQ-F 4G2.5 + 2G0.5 mm², Ø 12.3 mm	n/a	n/a	n/a	n/a	21.0 mm
SiHF-08 2×1 mm², Ø 7.9 mm	**18.9 mm**	**20.0 mm**	n/a	n/a	n/a
SiHF-08 2×2.5 + 2×0.5 mm², Ø 10.7 mm	n/a	n/a	21.3 mm	n/a	n/a
EPDM H07RN-F 3G1.5 mm², Ø 10 mm	n/a	n/a	21.3 mm	n/a	n/a

This table is identical across the JEL floodlight range, so a site with Gobies, Snappers and Orcas on it works to one set of figures. The row in bold is the one that applies to the Goby HT. **The four core silicone cable of the GOHT01, 2 × 1.0 plus 2 × 0.5 mm², is also covered by dimension L** under the SiHF-08 entries. Here n/a means the combination is outside the clamping range of that gland and must not be used.

7.7 Cable length and voltage drop

On a standard Goby the cable is supplied by the installer, so the cross section is a decision and not a given. The rule is that the voltage drop between the source and the luminaire must not exceed **2 V**.

STANDARD VERSIONS AT 24 V

Cross section	Ultra 2.7 A	Pro and 9 2.3 A	the 6 1.5 A	Mini 0.8 A
1.0 mm²	21 m	25 m	38 m	71 m
1.5 mm²	32 m	37 m	57 m	107 m
2.5 mm²	53 m	62 m	95 m	179 m
4 mm²	85 m	99 m	152 m	286 m
6 mm²	127 m	149 m	229 m	429 m

STANDARD VERSIONS AT 12 V

Cross section	Pro and 9 4.6 A	the 6 2.9 A	Mini 1.5 A
1.5 mm²	9 m	15 m	29 m
2.5 mm²	16 m	25 m	48 m
4 mm²	25 m	39 m	76 m
6 mm²	37 m	59 m	114 m

NOTE, THE 12 V TABLE USES A 1 V LIMIT

At 24 V a drop of 2 V is 8 per cent. At 12 V the same 2 V would be **17 per cent**, which is more than the luminaire and the rest of the machine can be expected to tolerate together, so the 12 V lengths above are calculated at **1 V**. On a 12 V machine with a long run, the honest answer is usually a thicker cable or a 24 V feed, not a longer table.

HIGH TEMPERATURE VERSIONS

GOHT01, AC	Driver output 50 VDC at 0.26 A. The supplied 2 × 1.0 mm² silicone stays inside 2 V well beyond the 15.0 m as supplied
GOHT02, DC	0.55 A at 24 V. The supplied 2 × 1.0 mm² silicone stays inside 2 V to about **104 m**, so the 15.0 m as supplied is comfortable

All lengths are the maximum at the stated drop, copper, two conductors, one way. Where the installation calls for a tighter limit, size the cross section on that limit.

7.8 Making the connection

DANGER, MAINS NEVER GOES TO THE LUMINAIRE

On the GOHT01, **mains goes to the driver and the driver output goes to the luminaire**. The luminaire itself must never be connected directly to 230 VAC or any other mains supply, not even briefly and not even to test it. On every other version the luminaire is a 9 to 32 V DC device and mains destroys it instantly.

1. Confirm the circuit is dead and secured.
2. **Standard versions:** crimp and assemble the mating connector per section 7.1, check the seals, push it home until the lock engages, and pull on the cable to confirm.
3. **GOHT01:** mount the driver or the driver box outside the hot zone and outside the wash down zone, in an ambient between minus 40 and plus 50 degrees Celsius, reachable without entering the hot zone.
4. Earth the driver box, the tray and any metal enclosure. Use the earth clamp or the pre-installed earth conductor.
5. Strip and terminate the conductors per section 7.3. Use end sleeves. One conductor per terminal.
6. Keep the dimming conductors separated from the mains conductors.
7. Tighten the glands to dimension L in section 7.6, then seal with heat shrink tubing and self amalgamating tape.
8. Support and clamp the cable so that no load reaches the gland or the connector. Where the position moves, clamp within 300 mm of it.
9. Close the driver box. Check that the seal is in place and that no conductor is pinched.

DRIVER BOX FOR THE GOHT01

DRB-1	One driver up to 320 W, so it takes the BLD075 with room to spare. 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67
Bare driver	The BLD075 is supplied bare as standard, for mounting in an existing enclosure or on a tray
Ambient	plus 50 degrees Celsius maximum, wherever it goes

The driver case temperature may reach plus 90 degrees Celsius in service and its lifetime figure is quoted at a case temperature of 75 degrees Celsius, which is the metal case and not the air around it. Position the driver by the **ambient**.

8 Commissioning

Do not switch on until every item below has been checked. Most warranty cases that turn out not to be a product fault trace back to a step skipped here.

8.1 Checks before switching on

- ☐ Conditions within the range for that version, chapter 3, and no broken mechanical part: front, housing, bracket, connector.
- ☐ Supply voltage measured **under load**, within the range on the label. The Ultra needs at least 20 V at the luminaire, not at the battery.
- ☐ Polarity checked: pin 1 to plus, pin 2 to minus.
- ☐ The mating connector is fully home, the wedge lock is fitted, and the seals are in place.
- ☐ The M8 bolt is tightened to 20 Nm and marked, and the pivot is clamped on both sides.
- ☐ Secondary retention fitted where section 6.5 requires it.
- ☐ Cable supported with a drip loop and clamped, with no weight on the connector.
- ☐ **GOHT01 only:** the driver sits outside the hot zone within plus 50 °C ambient, all four cores are connected, and the box is earthed and closed.
- ☐ No insulation or structure within 75 mm, cooling fins clear, and nobody working within the hazard distance of section 4.3.

8.2 First power up

1. Restore the supply.
2. Confirm that it illuminates. **Do not look into the beam**, see section 4.3.
3. Check that the light lands where the design says, from beside or behind the luminaire.
4. Correct the aiming if required: switch off, loosen the pivot, adjust, clamp both sides to torque, switch on and check again.
5. Record the installation: both label codes, the serial number, the position, the optic, the colour temperature, the tilt, the date and the installer.

8.3 Handover

Leave this manual with the machine or site documentation, together with the record from step 5 of section 8.2.

> **NOTE, MEASURE THE VOLTAGE AT THE LUMINAIRE**
>
> On a machine the battery may read 24.6 V while the luminaire sees 21 V under load, because of the run and the other consumers on the same feed. **Measure at the luminaire with everything running**, not at the battery with the engine off. That single measurement prevents most of the dropout complaints on this product.

> **NOTE, MARK THE OPTICS ON THE DRAWING**
>
> Mark the position and the optic of each luminaire. A 14 degree and a 38 degree optic in the same housing look identical, and a luminaire swapped between two positions during maintenance takes its optic with it.

> **NOTE, A BI-COLOUR LUMINAIRE ON FIRST POWER UP**
>
> A bi-colour build comes up in its default colour, which is normally the white one. Section 9.3 explains how it is switched, and it is worth demonstrating that at handover: the switching is done with the supply and not with a separate control line.



The Goby fitted and aimed. On a machine the first hours of vibration are what show whether the bolt and the pivot were tightened properly

9 Operation and dimming

9.1 Normal operation

A Goby needs no operator action in normal service. It switches with the circuit and reaches full output immediately, with no warm up and no restrike delay, and it may be switched as often as the application requires. There is no lamp to change and nothing to adjust from year to year.

9.2 What each version accepts

Version	What it accepts
All standard DC versions	**On request.** The drivers are on the board, so dimming is a build option and not a site fitted accessory. A standard Goby is a switched luminaire
GOHT01, HT AC	**0 to 10 V, PWM or DALI-2**, through the remote BLD075. Two grey conductors, 15 and 16, carry the signal
GOHT02, HT DC	On request
Bi-colour, BIC	4000 K with amber 2200 K, switched with the supply. See section 9.3. Not available on the high temperature versions

9.3 Bi-colour and amber

A bi-colour Goby carries two colours in one housing and switches between them **on the supply itself**, using how long the luminaire has been off. There is no second control line and no separate switch on the luminaire.

What you do	What happens
Switch on after more than 5 seconds off	The luminaire comes up in its **default colour**, normally the white one, whatever colour it was showing before
Switch off and back on within 5 seconds	The luminaire changes to the **second colour**, the amber one
Repeat the short cycle	It toggles back and forth between the two colours, as often as you like
Several luminaires out of step	Switch the whole group off, **wait 30 seconds**, and switch on. All of them reset to the default colour and are back in step

Because the switching is on the supply, a bi-colour Goby fed from a relay that chatters, or from an ignition feed that dips at engine start, can change colour on its own. Where the colour has to be dependable, feed it from a clean switched circuit.

NOTE, DIMMING AND THE FLUX FIGURES

Every luminous flux figure in chapter 3 is the figure at full output. A dimmed luminaire delivers proportionally less light and slightly better efficacy. If the design relies on a dimmed level, the lighting calculation states that level.

9.4 What the luminaire does by itself

- **Thermal foldback.** The luminaire measures its internal temperature and reduces the current as it rises. On overheating it switches off and comes back when it has cooled. This is active on every version.
- **Reverse polarity protection.** A reversed supply does not damage the luminaire and does not light it.
- **Surge protection.** On every version, and on the GOHT01 also 6 kV line to line and 10 kV line to earth.

WARNING, DO NOT SWITCH ON THE LUMINAIRE SIDE

Switch a Goby at the distribution or over a relay, not by unplugging the connector. The DTP04 is a connector, not a switch: breaking it under load arcs across the contacts and that is what eventually stops it sealing.

CONSTANT CURRENT, ONE DRIVER PER LUMINAIRE

Every Goby has its own drivers on its own board. Do not attempt to run two luminaires from one driver, and do not interchange boards between output levels: the Pro and the 9 are different LEDs at the same wattage, and the driver is matched to the board it sits on.

10 Maintenance

The Goby has no serviceable parts inside the housing. Maintenance is inspection and cleaning, plus a connector check that matters more on this product than on any other in the range.

10.1 Interval

Interval	Task
Every 6 months	Visual check: still aimed where it was, bolt tight, nothing hanging from the cable
Annually	Close inspection per section 10.2, clean the front per section 10.3, check the connector and its seals
Annually on a machine	Check the bolt torque, the pivot clamp and the safety cable. Vibration is what loosens fixings and a machine sees it every hour
After a wash	On a machine that is washed under pressure, check the connector and the front for water ingress at the first wash
As required	Clean the fin field. A blocked heat sink raises the junction temperature

10.2 Inspection

- [ ] Front: cracks, crazing, deep scratches, loss of clarity. A crazed front scatters light and is replaced.
- [ ] Housing and coating: impact damage, and any breach of the coating down to the metal.
- [ ] Bracket and foot: distortion, corrosion, and the bolt present, tight and marked.
- [ ] Pivot: clamped on both sides, and no sign of the luminaire having moved or rotated on its bolt.
- [ ] **Connector: fully home, lock engaged, seals intact, no green or white deposit on the contacts.**
- [ ] Cable: chafing, cuts, hardening, and support within 300 mm where the position moves.
- [ ] **GOHT01 only:** driver box closed, dry inside, seal intact, ambient still below plus 50 °C.
- [ ] Safety cable: present, undamaged, anchored to the structure.

DANGER, DO NOT OPEN THE LUMINAIRE

A luminaire that has taken in water is **replaced, not opened and dried**. Opening it destroys the seal, the IP rating and the warranty, and a housing that has been opened once never seals to IP69K again.

10.3 Cleaning

1. Switch off and let the luminaire cool.
2. Rinse loose dust, salt and mud off with clean water.
3. Clean the front with a soft cloth and water with a neutral detergent. **No solvents, no abrasives, no scouring pads.** Rinse and let it dry.
4. Clear the fin field with a soft brush or low pressure air, away from the seal line and away from the connector.
5. Check the front, the seals and the connector before the luminaire goes back in service.

WARNING, HIGH PRESSURE CLEANING AND THE CONNECTOR

The luminaire is IP69K and withstands high pressure and steam cleaning. That does **not** mean a lance held at 50 mm on the connector. Keep the jet moving, keep at least 300 mm away, and never aim it straight into the connector or at the seal joint. On a machine that is washed weekly, the connector is where a Goby fails first.

10.4 The connector, in service

- Do not disconnect and reconnect the DTP04 for routine checks. It is rated for a limited number of cycles and every cycle disturbs the seals.
- Where it has to be disconnected, do it dry and clean, and check the seals before it goes back together.
- A green or white deposit on the contacts means water has been in the connector. Replace the mating connector and find out where the water came in.
- Keep the cap on a spare mating connector until it is used.

10.5 The high temperature protocol

- Work in the hot zone only when the zone has been cooled and released by the plant.
- Check the driver box ambient at least once a year. Plant changes, and a wall that was cool when the luminaire was installed may not be cool now.
- Check the silicone cable where it passes any structure. Silicone stays flexible but is not abrasion resistant.
- Check the glass front for deposits. On a borosilicate front in a radiant position, a deposit is also a thermal shock risk.

11 Fault finding

Work through this table before reporting a fault. Isolate the supply before any action that involves touching the wiring. On this product the three most common reports, a luminaire that stays dark, one that drops out under load and one that dims by itself, are almost always the supply and not the luminaire.

Symptom	Applies to	Probable cause	Action
No light at all	DC	Polarity reversed. The DC versions are protected, so a reversed supply gives no light and no damage	Check pin 1 to plus and pin 2 to minus, section 7.1
No light at all	DC	Supply below the range on the label. The Ultra needs 20 V, the others 9 V	Measure at the luminaire **under load**. A long thin cable on a loaded machine is the usual cause, section 7.7
No light at all	All	Connector not fully home, or a contact not retained by the wedge lock	Pull on the cable, then open the connector and check that the contacts are locked. A backed out contact reads as an open circuit
No light at all	All	Fuse blown at the distribution	Check the fuse and, if it has blown again, the cable and the load on that circuit
No light, supply present at the driver	GOHT01	Driver failed, or the temperature pair not connected so the driver reads an open circuit	Check all four cores through to the luminaire, then replace the driver at ground level, section 12.2
Luminaire destroyed on switch on	All	Mains connected to the housing, or a 48 V supply	Not a warranty case. Read the label, section 2.5, and replace the luminaire
Drops out under load	DC	Voltage sag on the machine supply	Measure at the luminaire with the machine working. Increase the cross section per section 7.7, or move the feed to a less loaded circuit
Dims back by itself	All	**Normal behaviour.** The thermal self-protection is dimming the luminaire	Check the ambient against chapter 3, the clearance behind the luminaire and whether the fin field is blocked
Switches off and comes back	All	Overtemperature cut out	As above. On a GOHT01, also check the driver box ambient
Changes colour on its own	Bi-colour	The supply is being interrupted for less than 5 seconds	A chattering relay or an ignition dip toggles the colour. Feed it from a clean switched circuit, section 9.3
Bi-colour lights out of step	Bi-colour	Their internal timers have drifted apart	Switch the group off, wait **30 seconds**, switch on. All of them reset to the default colour
Flicker or unstable output	All	Loose contact in the connector, or a poor crimp	Remake the crimp with the correct tool and contacts. A flicker that follows the machine vibration is a mechanical fault
Output visibly lower than the design	All	Dirty front or blocked cooling fins	Clean per section 10.3, then measure again
Light lands in the wrong place	All	The luminaire has rotated on its single bolt, or the pivot has slipped	Re-aim, clamp the pivot on both sides and tighten the bolt to 20 Nm. Where it recurs, add a locating pin or a second point
Moisture inside the luminaire	All	Damaged seal, damaged front, or water tracked in through the connector	Do not open it. Return to JEL Products, section 12.4, and check the connector on every other luminaire on that machine
Green deposit on the contacts	All	Water has been in the connector	Replace the mating connector, find the ingress path, and check whether the wash routine aims a jet at it
Corrosion on the housing	All	Coating breached, or an environment above C5	Repair the coating where the breach is small. Above C5 the position needs a stainless product, the Piranha SS
Luminaire came loose on moving plant	All	Vibration, and no secondary retention	Refit per chapter 6 with a rated safety cable. On a vehicle this is the failure mode that matters
Handling damage to the front	All	The position is exposed to knocks	IK10 polycarbonate is already the tougher front. Where the position takes real handling damage, the product is the Piranha
Early driver failure, repeated	GOHT01	The driver box ambient is above plus 50 degrees Celsius, or the box is inside the hot zone	Measure the ambient at the driver. Relocate the box, section 3.3

If the fault is not in this table, or if the action does not resolve it, contact JEL Products with the article code and the internal production code from the type label, the supply voltage measured at the luminaire under load, the ambient temperature, the position on the machine, the date of installation and what you have already checked. See section 2.5 for the two codes.

12 Repair and spare parts

12.1 What is replaceable and what is not

Part	On site
Mating connector, DTP06	**Yes.** A wear item on a machine that is washed or that vibrates. Keep spares
Remote driver, GOHT01	**Yes.** The BLD075 sits outside the luminaire and is replaced without opening the housing
Driver box, DRB-1	Yes, as a unit
Cable gland, HT versions	Yes, like for like, with the same clamping range
Bracket	Yes, as a complete bracket
Safety cable	Yes
Front cover	**No.** Returns to JEL Products. The front is part of the sealed assembly
LED board, optics, seals	**No.** Inside the sealed housing. Returns to JEL Products
Connector in the housing	**No.** It is part of the sealed assembly. A damaged DTP04 in the housing is a return
Silicone cable, HT versions	**No.** Fitted and sealed at the factory

DANGER, OPENING THE LUMINAIRE

The housing is a sealed assembly. Opening it destroys the IP rating, voids the warranty and leaves a luminaire that cannot be resealed on site. There is no procedure in this manual that requires the luminaire to be opened.

12.2 Driver replacement, GOHT01

1. Isolate the circuit and secure it against being switched on. Verify it is dead.
2. Open the driver box. Note the ambient: if it is above plus 50 degrees Celsius, the position is the fault and the new driver will fail as well.
3. Photograph the wiring before disconnecting anything.
4. Disconnect and remove the driver. Leave the capped conductors capped.
5. Fit a replacement BLD075 of the **same programmed power**.
6. Reconnect per the table in section 7.3. One conductor per terminal, end sleeves fitted.
7. Earth the box and the tray. Close the box and check the seal.
8. Restore the supply and check per chapter 8.

12.3 Ordering a spare part

Quote the **article code and the serial number** from the type label.

Mating connector	Deutsch DTP06 two pole with wedge lock and seals, plus two size 16 contacts
Driver, GOHT01	BLD075, 90 to 305 VAC, 131 × 68 × 33.5 mm, 650 g
Driver box	DRB-1, 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67
Bracket	Standard 316L stirrup bracket, per housing size

12.4 Returning a luminaire

1. Contact JEL Products before returning anything.
2. Send the photograph of the type label, the serial number, the fault description and what has been checked from chapter 11.
3. Pack the luminaire so that the front and the connector are protected.
4. Do not open the luminaire before returning it. An opened housing changes a warranty case into a repair quotation.

On a fleet of machines the part that gets replaced is not the luminaire, it is the **mating connector**. It is a wear item where machines are washed, and a machine standing still for a connector costs more than a box of them. Order spares with the luminaires.

13 Removal and disposal

13.1 Taking the luminaire out of service

1. Isolate the supply and secure it. On a machine that means the battery isolator or the circuit. Verify the circuit is dead.
2. On the HT range, let the luminaire and its cable cool to hand temperature and wait for the zone to be released. It gives no visual warning that it is still hot.
3. Release the latch of the mating connector and unplug it, or disconnect at the driver box on a GOHT01. Never pull a connection apart under load.
4. Support the luminaire, then release the secondary retention last, not first.
5. Undo the M8 foot bolt with the luminaire held throughout.
6. Cap the connector and the cable end, and label the luminaire with its position and article code before it leaves the machine. If it is to be reinstalled, pack it in its original box, resting on its front and never on its back.

WARNING, WORKING AT HEIGHT

Removal is the moment a luminaire falls. Have the second person on the platform before you loosen anything, and keep the area below clear. Light as it is, a Goby from a boom still lands on somebody.

13.2 Disposal



Electrical equipment does not belong in household or unsorted municipal waste. Under European Directive 2012/19/EU it must be collected separately and processed by an approved recycling facility. Observe the national and regional rules at the place of disposal.

The cast aluminium housing and the 316L bracket are recyclable materials; the LED board, the driver of a GOHT01, the connector and the cable go to electronic waste. Separate the housing from the electronics at the recycler rather than in the field. The Goby contains no mercury and no lead above the RoHS limits.

Glossary

Beam angle	Full angle between the directions where the intensity has fallen to 50 per cent of the peak. The field angle uses 10 per cent
BIC	Bi-colour build, 4000 K with amber 2200 K, switched from the supply
C5	Corrosivity category per ISO 9223, industrial and marine
Cd · A	Drag coefficient times frontal area, the figure used for wind load
CLD	Crane Light Director, the steerable boom lighting system that carries the Goby
CRI, Ra	Colour rendering index
DALI-2	Addressable digital lighting control protocol, on the GOHT01
DTP04, DTP06	The Deutsch two pole connector in the housing, and its mating half on the site cable
Hazard distance	The distance beyond which the luminaire is Risk Group 1 per IEC/TR 62778
HT	High temperature range
IK	Impact rating per IEC 62262
ISO 20653	The road vehicle ingress standard, where the IP69K test comes from
L90B05	90 per cent of initial output retained by 95 per cent of the units
MCB	Miniature circuit breaker
NTC	Negative temperature coefficient, the temperature sensor in the luminaire
PWM	Pulse width modulation, a dimming method
SiHF-OB	Heat resistant silicone cable, used on the high temperature range
Ta	Ambient temperature
Tc	Case temperature of the driver, not the ambient
ULOR	Upward light output ratio
Wedge lock	The orange insert in a DTP connector that retains the contacts
WEEE	Waste electrical and electronic equipment

Specifications are subject to change. This manual describes the standard configurations. Where a project specification differs, the project documentation takes precedence.

14 Appendix

14.1 Declaration of conformity

EU Declaration of Conformity, 9 December 2025

JEL Products B.V., Ampèrestraat 19e, 3861 NC Nijkerk, The Netherlands, declares under its sole responsibility that the products it covers are in conformity with the essential requirements of the directives below. The Goby Series is named in its product scope as **Goby Series, GO-9, GO-6 and GO-3 including the HT versions**, with all electrical, optical and mechanical variants within the defined type codes, wattages, voltages and colour temperatures.

DIRECTIVES	
Low Voltage	2014/35/EU
EMC	2014/30/EU
RoHS	2011/65/EU and (EU) 2015/863
WEEE	2012/19/EU

DECLARATION	
Date	9 December 2025
Place of issue	Nijkerk
Signed by	L. de Graaf, Technical Director
Serial number	See product marking
Year of manufacture	2024 to 2026

APPLIED HARMONISED STANDARDS

EN IEC 60598-1 luminaires, general requirements. EN IEC 60598-2-5 floodlights. EN IEC 61347-1 lamp controlgear, general. EN IEC 61347-2-13 LED controlgear. EN IEC 62384 LED driver performance. EN IEC 60529 IP classification. EN IEC 61000-6-2 EMC immunity, industrial. EN IEC 61000-6-4 EMC emission, industrial. EN ISO 12100 risk assessment, where applicable.

The technical file is compiled and maintained by JEL Products B.V. at the address above. The **signed declaration** is available on request and is supplied with the project documentation. Document: EU DECLARATION OF CONFORMITY_DCbright_EU_09122025.

14.2 Warranty

Family	Housing	Electrical and seals
Goby, all four output levels	5 years on the complete luminaire	
Goby Mini	5 years on the complete luminaire	
High temperature	5 years on the complete luminaire, to plus 120 degrees Celsius on the GOHT01 and plus 110 on the GOHT02	
Mating connector	A wear item on a washed or vibrating machine, not a warranty part	

Warranty runs from the date of delivery under the JEL Products warranty terms and covers material and manufacturing defects.

It does not apply where the luminaire has been installed, operated or maintained contrary to this manual, where the housing has been opened, where the connector in the housing has been cut off or modified, where mains has been connected to a standard version, where the supply was outside the range on the type label, where the temperature pair of a GOHT01 has been disconnected or shorted, where the driver has been installed inside a hot zone or above plus 50 degrees Celsius ambient, where it has been cleaned outside the limits in section 10.3, or where it has been used outside the intended use in section 2.2.

> **NOTE**
>
> Improper installation, operation or maintenance may also invalidate the certificate and the declaration of conformity, not only the warranty.

14.3 Related documents

Document	Where
Goby datasheet, the four DC output levels	Product page
Goby Mini datasheet	Product page
Goby HT datasheet	Product page
Crane Light Director documentation	On request
Photometric files per optic, EULUMDAT and IES, including the mixed 2 × 14 plus 1 × 14 by 46 file	Product page
Dimensioned drawings, DXF and STEP	On request
Driver box manual, DRB-1	On request
Signed declaration of conformity	On request, and with the project documentation
Test and inspection reports, see section 3.4	On request

14.4 What this manual replaces

This edition supersedes all earlier Goby operating instructions, including the DCbright Goby operating instruction and the separate sheet for the GO-9-65DC-24-DUAL-ULTRA. Where an older document and this manual disagree, this manual applies.

Four points are corrected against documents in circulation: the article codes for the 6 and the Mini are **GODC03** and **GODC01** and not GODC04 and GODC02; the Goby Mini is **90.5 mm high over the bracket** and the 70 mm in the datasheet is the housing height; the warranty is **5 years** and not the 3 years printed in the 2026 operating instruction; and the expected life is stated as **TM-21 L90B05 above 360,000 h at 50 degrees Celsius**, not as the LM70 figures of up to 1,262,596 h that appear in that document.

> **NOTE**
> If you hold a printed copy, check the revision on the cover against the version on the product page before you rely on a figure. A manual in a site file can be several years old.

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To verify the authenticity of a test or inspection report and certificate, contact us on the number above. Quote both codes from the type label.

Product page

Photometric files, drawings, the datasheets and the current version of this manual.

jelproducts.nl/en/products/goby

DOCUMENT

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