JEL PRODUCTS
SUSTAINABLE | LIGHTING | SOLUTIONS

INSTRUCTION MANUAL

Snapper Series

Lightweight LED floodlight, one manual for all four families: cast aluminium AC and DC, 316L stainless steel, the high temperature range, and the modular Snapper HC.

DOCUMENT	REVISION	DATE	LANGUAGE
MAN-SNS-EN	2	18 / 11 / 2026	EN



Read before installation · Keep for future use · Qualified personnel only · SNAC01 · SNDC01 · SNSS01 · SNSS02 · SNHT01 to SNHT05 · SNHC02 to SNHC06

Contents

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

BEFORE YOU START

1	**About this document**	Who it is for, symbols, hazard classes, revision history
2	**The product**	The four families, intended use, order codes, the type label
3	**Technical data**	Specification per family, dimensions, weight and wind load, standards
4	**Safety**	Electrical, optical, falling, hot surfaces, and what must never be done

INSTALLATION

5	**Preparation**	Transport, storage, contents of the delivery, tools, unpacking
6	**Mechanical mounting**	Standard bracket, the retrofit footprint, the other brackets, retention, torques, aiming
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THROUGH LIFE

10	**Maintenance**	Intervals, inspection, cleaning, and the stainless and HT protocol
11	**Fault finding**	Symptom, probable cause, action
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14	**Appendix**	Declaration of conformity, warranty, contact and documents

WHICH VERSION DO YOU HAVE

Code on the label	Family
SNAC01	Cast aluminium, AC, remote driver
SNDC01	Cast aluminium, DC 24 V, drivers on board
SNSS01	316L stainless steel, AC
SNSS02	316L stainless steel, DC 24 V
SNHT01 · SNHT02	High temperature, cast aluminium, AC and DC
SNHT03 · SNHT04	High temperature, 316L, AC and DC
SNHT05	High temperature, HT-CHEM, 316L with a chemically resistant seal
SNHC02 to SNHC06	Snapper HC, two or three modules on one bracket

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/snapper

ONE MODULE OR THREE

The Snapper HC is the same cast module in a housing that carries two or three of them on a single bracket. The module is identical, so most chapters read the same for an HC as for a single Snapper. What differs is the weight, the bracket, the driver and the wind load, and those are called out where they matter.

KEEP THIS MANUAL

Store it with the site documentation and pass it on to everyone 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

Snapper luminaires have been supplied since before 2024 and earlier editions exist. **This edition supersedes all of them, including the Operating Instruction of 19 February 2024** and the separate instructions issued for the AC models. Where an older document and this manual disagree, this manual applies.

Date	Revision	Change
Before 2024	-	Earlier editions, issued per version. Superseded
19 February 2024	-	Operating Instruction Snapper Series, and the separate installation sheet for the AC models. Superseded
4 September 2026	1	First edition of the combined manual, covering all four families in one document. Rewritten to the JEL Products manual standard: numbered chapters, hazard classes and symbols, intended use and foreseeable misuse, weight and wind load, the AC and DC wiring diagrams, the high temperature system, the cleaning protocol, the type label, cable length, fault finding and spare parts. **Two corrections against the 2024 edition:** conductors 7 and 8 are the temperature sense pair and not the dimming pair, and the bracket turns through 360 degrees and not 240
18 November 2026	2	EMC corrected: EN 55015 and EN 61547 third-party tested, not by TÜV. IEC 60533 withdrawn.

2 The product

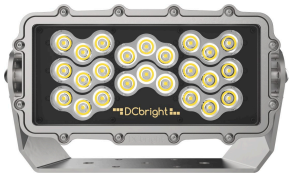
The Snapper is a lightweight heavy-duty LED floodlight in a cast aluminium or 316L stainless steel housing. It carries a full industrial lumen package at 3.1 kg, which is what puts it on structures, booms and vehicles that were never designed to take an industrial floodlight.

2.1 The four families

Same module, same bracket interface, same connectors and the same wiring. Front view of each, because that is where they differ most.



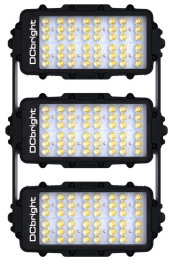
Cast aluminium. Titanium-based e-coating, glass front. 31,000 lm at 3.1 kg. SNAC01 and SNDC01



316L stainless steel. Solid stainless, electrolytically polished, IP69K. SNSS01 and SNSS02



High temperature. Rated to plus 120 degrees Celsius, 200 lm/W. SNHT01 to SNHT05



Snapper HC. Two or three modules on one bracket, up to 83,000 lm. SNHC02 to SNHC06

	Cast aluminium	316L stainless steel	High temperature	Snapper HC
Article base code	SNAC01 · SNDC01	SNSS01 · SNSS02	SNHT01 to SNHT05	SNHC02 to SNHC06
Luminous flux	31,000 lm AC · 25,000 lm DC	26,000 lm AC · 22,000 lm DC	7,000 lm	55,000 lm x2 · 83,000 lm x3
Power	180 W AC · 150 W DC	180 W AC · 150 W DC	35 W	320 W x2 · 500 W x3
Efficacy	173 lm/W AC · 168 lm/W DC	144 lm/W AC · 147 lm/W DC	200 lm/W	172 lm/W x2 · 166 lm/W x3
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	minus 45 to plus 50 °C
Housing	Cast aluminium, e-coated	316L, electrolytically polished	Cast aluminium, 316L, or 316L with a chemically resistant seal	Cast aluminium, one piece per module
Front	Impact resistant glass, IK08	Impact resistant glass, IK08	Impact resistant glass, or borosilicate on request	Impact resistant glass, IK08
Optics	15, 30, 60, 90, 20 by 50 and 20 by 85 degrees	14, 38, 69 and 14 by 46 degrees	None, 120 degrees very wide. HT optics are not possible	15, 30, 60, 90, 120, 20 by 50 and 20 by 85 degrees, per module
Supply	90 to 305 VAC, or 20 to 35 VDC	90 to 305 VAC, or 20 to 35 VDC	90 to 305 VAC, or 20 to 35 VDC	90 to 305 or 180 to 528 VAC, or 20 to 35 VDC
Ingress	IP66, IP67, IP68	IP66, IP67, IP68, IP69K	IP66, IP67, IP68. IP69K on 316L and HT-CHEM	IP66, IP67, IP68
Cable as supplied	H07BQ-F, 2.0 m	H07BQ-F, 2.0 m	SiHF-OB silicone, 25.0 m on aluminium AC, 15.0 m on the others	H07BQ-F, 2.0 m
Corrosion class	C5, ISO 9223	C5 and CX, ISO 9223	C5, and C5 with CX on 316L	C5, ISO 9223
Weight incl. bracket	3.1 kg	7.0 kg	3.1 kg aluminium · 7.0 kg 316L	9.9 kg x2 · 12.6 kg x3
Warranty	5 years complete luminaire	20 years housing, 5 years electrical and seals	5 years to plus 120 °C on AC and plus 110 °C on DC. 316L housings 20 years	5 years complete luminaire

The aluminium and the 316L versions do not share their photometry: 15, 30, 60 and 90 degree lenses against the standard JEL optics of 14, 38, 69 and 14 by 46 degrees, so a mixed site needs two light calculations. The HT range is always 120 degrees very wide.

2.2 Intended use

The Snapper is intended for permanent professional installation as area and task lighting, within the ambient temperature range and the supply range of the version you have. It is mounted on a mast, a bracket, a crane boom, a vehicle or a structure capable of carrying its weight and wind load, and is aimed according to a lighting design. Typical applications:

Family	Where it is used
Cast aluminium, AC and DC	Retrofit of discharge floodlights on existing brackets, crane booms and hoisting equipment, excavators and service vehicles, mobile plant, vessel deck and working area lighting, mobile light towers on 24 V DC, temporary and project site lighting, scaffolding and shutdown lighting, loading bays and yards, workshops and vehicle bays, perimeter and fence line lighting
316L stainless steel	Offshore platforms and jack-up rigs, vessel decks and working areas, splash zones and permanent salt spray, chemical and fertiliser plant, water and waste water treatment, desalination and brine handling, food and beverage process areas, cold stores and freezer plant, fish farms and aquaculture, wash-down and cleaning regimes, coastal terminals and jetties
High temperature	Drying ovens and curing tunnels, paint lines and powder coating booths, bakery and food process ovens, heat treatment and forging shops, foundry and melt shop service positions, glass works and annealing lehrs, paper machine drying sections, climate and test chambers, sterilisation and autoclave rooms, chemical reactors and process skids, asphalt and bitumen plant
Snapper HC	Ship to shore, RTG and RMG crane booms, container terminal and quay apron lighting, mobile light towers directly on 24 V DC, ro-ro ramps and vehicle decks, offshore terminals and jetties, warehouse and cold store high bay, production halls with mixed bay heights, aircraft and vehicle maintenance hangars, bulk handling and conveyor transfer towers, outdoor process plant and tank farms

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 Snapper is ATEX or IECEx certified. None may be installed in a zoned hazardous area.
- **Ambient above plus 50 degrees Celsius, for the aluminium, the stainless steel and the HC families.** Above that the driver is the limit. For process heat, use the high temperature range instead. There is no Snapper HC HT.
- **Ambient above the rating of a high temperature version:** plus 120 degrees Celsius continuous on AC, plus 110 on DC. Short peaks to plus 130 are permitted on AC. Sustained operation above the rating is not.
- **Permanent immersion.** IP68 is verified as a test class, not as a continuous operating condition.
- **Direct mounting against thermal insulation or a closed ceiling.** A minimum of 75 mm clear space to insulation and building parts is required.
- **Consumer, decorative, domestic or vessel accommodation lighting.**
- **Emergency or escape route lighting.** No Snapper has battery back up or a self test.
- **Uplight applications.** Nothing is emitted above the horizontal at nil tilt, and the luminaire is not designed to be aimed upward.
- **Operation with a damaged housing, front, cable or bracket**, or with a driver other than the driver supplied for that luminaire.

2.4 Order codes

SNAC01-65K.30

SNAC01	Cast aluminium, AC, remote BLD240
SNDC01	Cast aluminium, DC 20 to 35 VDC, drivers on board
SNSS01	316L stainless steel, AC
SNSS02	316L stainless steel, DC
SNHT01 · SNHT02	HT, cast aluminium, AC and DC
SNHT03 · SNHT04	HT, 316L, AC and DC
SNHT05	HT-CHEM, 316L with a chemically resistant seal
SNHC02 · SNHC03	HC x2 at 320 W, AC and DC
SNHC04 · SNHC05	HC x3 at 400 W and at 500 W, AC
SNHC06	HC x3, DC
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. Not available on HT
BORO	Borosilicate front instead of impact resistant glass, HT only
.15 .30 .60 .90 .20x50 .20x85	Optic, aluminium and HC. Selectable per module on the HC
.14 .38 .69 .14x46	Optic, 316L versions

All high temperature versions are 120 degrees very wide and carry no optic suffix. A lower wattage is ordered as an extra suffix on any AC version, because power is a driver setting. Bracket type, control protocol and cable length are confirmed at order and are not part of the code.

The single module version is not an HC code: it is the Snapper itself, SNAC01 or SNDC01. The HC datasheet lists the AC codes only; SNHC03 and SNHC06 are the DC codes.

2.5 The type label, and the second code on it

The type label on the housing carries the article code, and the driver carries a label of its own. Both labels also show 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. 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.

Do not use the internal code on a purchase order and do not treat a difference between the two codes as a delivery error.



Snapper HC x2 in the top mount bracket. Two modules, one bracket, one driver, and the optic can differ between the two

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. A bi-colour or high CRI build changes the luminous flux; the quotation states the figure.

	Aluminium AC	Aluminium DC 24 V	316L SS, AC and DC	High temperature	Snapper HC
PERFORMANCE					
Luminous flux	31,000 lm	25,000 lm	26,000 lm AC, 22,000 lm DC	7,000 lm	55,000 lm x2, 83,000 lm x3
Power consumption	180 W	150 W	180 W AC, 150 W DC	35 W	320 or 270 W x2, 500 or 400 W x3
Efficacy	173 lm/W	168 lm/W	144 or 147 lm/W	200 lm/W	172 lm/W x2, 166 lm/W x3
Colour temperature	6500 K, 5000 K, 4000 K, 2700 K, amber 2200 K. 6500 K delivers the same flux as 4000 K			6500, 4000 or 2700 K. No amber, no bi-colour	As the aluminium versions
Colour rendering	Ra above 70 standard, Ra 80 or Ra 90 on request. MacAdam step 3 or better				
Optics	15, 30, 60, 90, 20 by 50 and 20 by 85 degrees		14, 38, 69 and 14 by 46 degrees	None, 120 degrees very wide	As the aluminium, plus 120 degrees, per module
Upward light output ratio	0 per cent at nil tilt				
TEMPERATURE AND LIFETIME					
Ambient temperature	minus 45 to plus 50 degrees Celsius			minus 45 to plus 120 degrees Celsius on AC, plus 110 on DC, peaks to plus 130 on AC	minus 45 to plus 50 degrees Celsius
LED service life, TM-21 L90B05	above 360,000 h at 50 °C, so the driver is the wear part			See section 3.3	above 360,000 h at 50 °C
ELECTRICAL AND DRIVER					
Supply voltage range	90 to 305 VAC via BLD240, 50/60 Hz	20 to 35 VDC, 24 V nominal	As the aluminium versions	90 to 305 VAC, or 20 to 35 VDC	90 to 305 or 180 to 528 VAC, or 20 to 35 VDC
Current draw	1.7 A at 110 V, 0.8 A at 220 V	6.3 A at 24 V	As the aluminium versions	0.3 A at 110 V, 0.2 A at 220 V, 1.5 A at 24 V	x2: 2.9 A at 110 V, 1.5 A at 220 V, 12.5 A at 24 V. x3: 4.6 A at 110 V, 2.3 A at 220 V, 18.8 A at 24 V
Power factor at full load	Above 0.95 at 60 to 100 per cent load	-	Above 0.95 on AC	Above 0.9 at 65 to 100 per cent load	Above 0.95 x2, above 0.9 x3
THD at full load	Below 15 per cent at 65 to 100 per cent load	-	Below 15 per cent on AC	Below 15 per cent	Below 15 per cent at 60 to 100 per cent load
Inrush current at 220 V	66.0 A peak, T50 0.5 ms	-	66.0 A peak, T50 0.5 ms on AC	BLD075: 66 A peak, T50 170 microseconds	x2 BLD320: 31.2 A, T50 1.3 ms. x3 TLD400: 64 A, T50 400 microseconds. TLD600: 5.4 A, T50 8 ms
Surge protection	6 kV line to line, 10 kV line to earth, IEC 61000-4-5, on all AC versions				
Dimming and control	0 to 10 V, PWM, DALI-2, or over NFC. DC on request		As the aluminium versions	0 to 10 V, PWM, DALI-2, or over NFC. DC on request	As the aluminium versions
Driver	Remote BLD240, 215 × 67.5 × 33.5 mm, 1,100 g	DC drivers on board	Remote BLD240, or DC on board	Remote BLD075, 131 × 68 × 33.5 mm, 650 g, always outside the hot zone	x2 BLD320, 225 × 68 × 38.5 mm. x3 TLD400 or TLD600. DC on board
Driver life	At least 100,000 h at case temperature 75 degrees Celsius, MTBF at least 280,000 h			At least 100,000 h at Tc 75 °C, MTBF at least 320,000 h	At least 100,000 h at Tc 75 °C, MTBF at least 280,000 h

3 Technical data, continued

	Aluminium AC	Aluminium DC 24 V	316L SS, AC and DC	High temperature	Snapper HC
CONSTRUCTION					
Housing	Cast aluminium, less than 0.08 per cent copper		Solid 316L stainless steel	Cast aluminium, 316L, or 316L with a chemically resistant seal	Cast aluminium, one piece per module, no seams and no end caps
Surface finish	Conversion layer plus two layer titanium-based e-coating, Titanium Black		Electrolytically polished	E-coating on aluminium, electrolytically polished on 316L	As the aluminium versions
Bracket	High tensile 316L stainless steel, fully rotatable through 360 degrees in 30 degree steps				High tensile 316L, plus or minus 180 degrees in 30 degree steps
Front	Impact resistant glass, IK08			Impact resistant glass, or diffuse borosilicate on request	Impact resistant glass, IK08
Protection class	Class II				
Ingress protection	IP66, IP67 and IP68, each class tested separately		IP66, IP67, IP68 and IP69K	IP66, IP67, IP68. IP69K on 316L and HT-CHEM	IP66, IP67 and IP68
Impact resistance	IK08, IEC 62262. For an IK10 front see the Barracuda or the Shark				
Corrosion class	C5 industrial and marine, ISO 9223		C5 and CX, ISO 9223. 316L is CRC III per EN 1993-1-4, PREN approximately 24	C5 on aluminium, C5 and CX on 316L, with added chemical resistance on HT-CHEM	C5 industrial and marine, ISO 9223
Vibration and shock	6 G at resonant frequency, IEC 60068-2-6. Shock tested to IEC 60068-2-27				
CABLE AND WARRANTY					
Cable and termination	H07BQ-F, 4 cores, 2 × 2.5 mm² plus 2 × 0.5 mm², 2.0 m, free wire ends	H07BQ-F, 2 cores, 2 × 2.5 mm², 2.0 m	As the aluminium versions	SiHF-OB silicone, 4 cores, 2 × 1.0 mm² plus 2 × 0.5 mm². 25.0 m on aluminium AC, 15.0 m on the others	H07BQ-F, 4 cores, 2 × 2.5 mm² plus 2 × 0.5 mm², 2.0 m
Storage temperature	minus 45 to plus 50 degrees Celsius, dry, in the original packaging				
Warranty	5 years on the complete luminaire		20 years on the housing, 5 years on the electrical components and the seals	5 years to plus 120 °C on AC and plus 110 °C on DC. 316L housings 20 years on the housing	5 years on the complete luminaire

POWER IS A DRIVER SETTING

Every AC version can be ordered programmed to a lower wattage, by adding the wanted power to the article code as an extra suffix. DC versions run at a fixed constant current, so another power level there is a custom build. High voltage DC between 250 and 740 V is available on request.

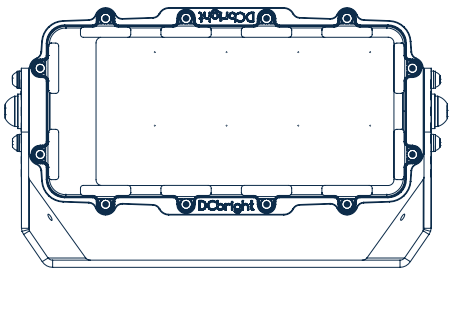
> **NOTE, THE CABLE LENGTH AS SUPPLIED**
>
> The standard cable is **2.0 m** on the aluminium, the 316L and the HC versions, and **25.0 m** on the aluminium AC high temperature version, **15.0 m** on the other high temperature versions. Longer lengths are available on request and the silicone cable runs to roughly 150 m as a custom build. **Check the length against the packing list or the quotation**, not against a figure in a manual or a datasheet.

TWO THINGS THIS RANGE DOES NOT DO

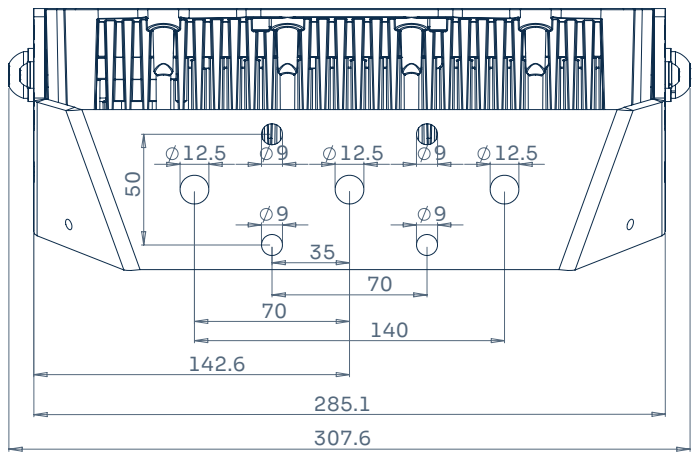
HT optics	Not possible on the Snapper. The housing is too small to carry one, so every high temperature version is 120 degrees very wide. For high temperature with optics, see the Barracuda HT or the Orca HT
Snapper HC HT	Does not exist. For that output at high ambient temperature, see the Orca HT
IK10 front	Not available on the Snapper. See the Barracuda or the Shark

3.1 Dimensions, weight and wind load, cast aluminium

All drawings are dimensioned in millimetres. DXF and STEP models are available on request. The figures below are what the structural engineer needs, and on the Snapper that conversation is usually short: at 3.1 kg the luminaire goes onto the bracket that is already there.



Cast aluminium Snapper, front and side. Overall 307.6 × 180.7 × 118.2 mm, mounting foot 72.2 mm deep



The rear, with the fin field and the mounting foot in plan. Both hole patterns are dimensioned: 3 × Ø 12.5 on the centre line and 4 × Ø 9 around it

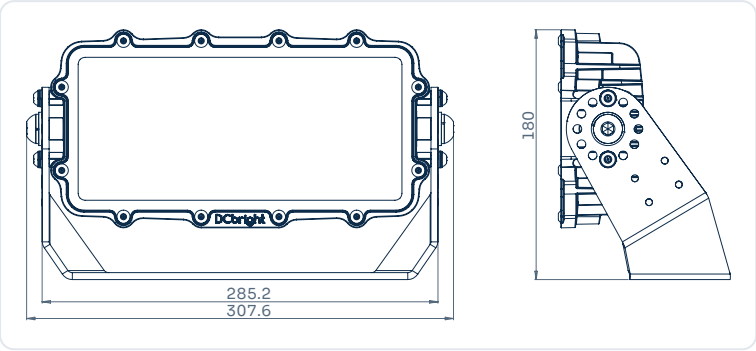
DIMENSIONS, FROM THE DRAWING	
Overall	307.6 × 180.7 × 118.2 mm, w × h × d
Housing without the bolt heads	285.1 mm wide
Mounting foot depth	72.2 mm. The luminaire itself is 118.2 mm deep because it stands forward of the foot
Datasheet figure	312 × 181 × 118 mm
MOUNTING INTERFACE	
Fixing holes, main row	3 × Ø 12.5 mm on the centre line, 70 mm pitch
Hole centres, main row	140 mm between the outer holes
Fixing holes, second pattern	4 × Ø 9 mm at 70 mm pitch on two lines 50 mm apart
Adjustment	360 degrees in 30 degree steps
WEIGHT	
Housing only	2.7 kg
Luminaire with bracket	3.1 kg
Plus loose BLD240 driver	4.2 kg
Plus driver in DRB-1	7.3 kg
WIND LOAD	
Frontal area	0.056 m²
Side view area	0.021 m²
Cd · A at Cd 1.2	0.067 m²

NOTE, THE MOUNTING ATTITUDE

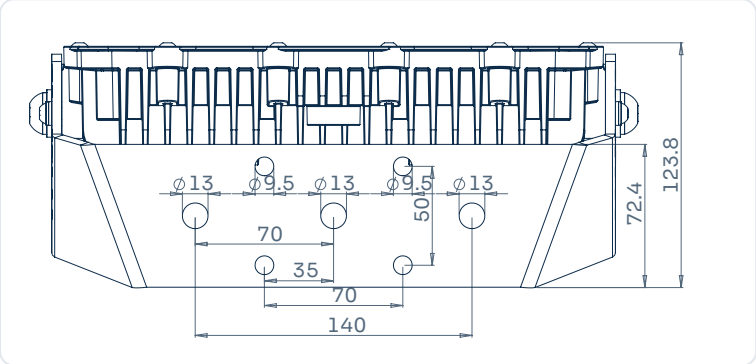
The frontal area assumes the luminaire is mounted **facing the wind**, which is the normal case on a mast, a bracket or a boom. That is the larger of the two figures and it is the one to use unless the position is known to be different. The wind load figure is the area, not the force: multiply by the drag coefficient and the dynamic pressure for your site.

3.2 Dimensions, weight and wind load, 316L stainless steel and HT-CHEM

Solid 316L is more than twice the weight of the cast aluminium housing and 5.6 mm deeper. The envelope and the hole positions are otherwise the same, so a 316L luminaire goes onto an aluminium footprint without redrilling. **The load does not transfer, though: check the structure again.**



Snapper SS and Snapper HT in 316L, front and side. Overall 307.6 × 180.0 × 123.8 mm



The rear and the mounting foot in plan. Same 70 mm pitch as the aluminium version, in Ø 13 and Ø 9.5

DIMENSIONS, FROM THE DRAWING

Overall	307.6 × 180.0 × 123.8 mm, w × h × d
Housing without the bolt heads	285.2 mm wide
Mounting foot depth	72.4 mm
Datasheet figure	320 × 180 × 100 mm

MOUNTING INTERFACE

Fixing holes, main row	3 × Ø 13 mm on the centre line, 70 mm pitch
Hole centres, main row	140 mm between the outer holes
Fixing holes, second pattern	4 × Ø 9.5 mm at 70 mm pitch on two lines 50 mm apart
Adjustment	360 degrees in 30 degree steps
Fasteners	316L throughout, including on the SS rear mount bracket

WEIGHT

Luminaire with bracket	7.0 kg
Plus loose BLD240 driver	8.1 kg
Plus driver in DRB-1	11.2 kg
Aluminium equivalent	3.1 kg

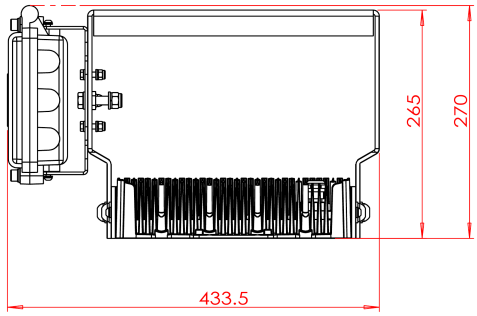
WIND LOAD

Frontal area	0.055 m²
Side view area	0.022 m²
Cd · A at Cd 1.2	0.066 m²

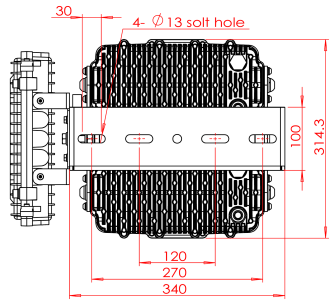
WARNING

At 7.0 kg with the bracket and 11.2 kg with a driver box, the stainless steel version is more than twice the weight of the aluminium one. If you are replacing aluminium with stainless, check the load capacity of the structure again, and check the secondary retention rating in section 6.5.

3.3 Dimensions, weight and wind load, Snapper HC



Snapper HC x2 in the top mount bracket, elevation. Overall 433.5 mm, height 265 to 270 mm



The same bracket in plan: plate 340 × 265 mm, four slotted holes of Ø 13 mm on a 270 × 100 mm pattern

	HC x2	HC x3
Dimensions	320 × 314 × 205 mm	320 × 484 × 205 mm
Weight incl. bracket	9.9 kg	12.6 kg
Driver	BLD320	TLD400 or TLD600
Driver box	DRB-1	DRB-2
System weight	14.1 kg with DRB-1	23.0 kg with DRB-2
Frontal wind area	0.100 m²	0.155 m²
Side view area	0.064 m²	0.099 m²
Cd · A at Cd 1.2	0.121 m²	0.186 m²
Adjustment	Plus or minus 180 degrees in 30 degree steps	

Three brackets are available and all three take the same luminaire interface: top mount, side mount and the standard bracket. Their dimensions are in section 6.3.

WARNING, THE HC IS NOT A SNAPPER ON A BRACKET

An HC x3 with its driver box is 23.0 kg and has three times the frontal wind area of a single Snapper. The reason to specify an HC is that it is light for its output, not that it is light. Every structural check that a single Snapper usually skips has to be done here.

3.4 Lumen maintenance of the high temperature range

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

NOTE

Even at plus 120 degrees Celsius continuous the LED engine outlasts more than five driver lifetimes. That is the whole point of putting the driver outside the heat. See section 7.5.

BUILT-IN SELF-PROTECTION, HIGH TEMPERATURE RANGE

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 HT 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 an HT luminaire 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.

An HT luminaire that comes up at full output when the process is cold and drops back when the oven is at temperature is doing exactly what it is designed to do. See chapter 11 before you report it.

3.5 Standards and verification

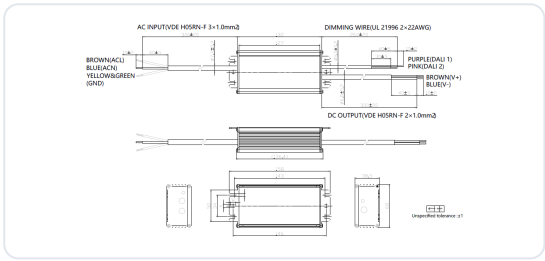
Subject	Standard	By
Luminaire safety	IEC/EN 60598-1, -2-5	In house
EMC emission and immunity	EN 55015, EN 61547	Third party
Ingress	IEC 60529, ISO 20653	In house
Impact	IEC 62262, IK08	In house
Vibration	IEC 60068-2-6, at 6 G	In house
Shock	IEC 60068-2-27	In house
Corrosion	ISO 9223, EN 1993-1-4 for 316L	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. 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.

TEST REPORTS HELD FOR THE SNAPPER

Report	Subject
TR-IES-LM79-19_DCB-SN48-180AC	Photometric measurement of the 180 W AC version to IES LM-79-19
TR-ISTMT_DCB-SN48-180AC	In situ temperature measurement test of the 180 W AC version
DCB TR-HT Boro Glass	Borosilicate front for the high temperature range
Inrush current, Snapper AC 180 W	66.0 A peak with a T50 of 0.5 ms, the figure behind section 7.3

Reports are issued on request and with the project documentation.



Remote driver BLD240, 215 × 67.5 × 33.5 mm, 1,100 g. It fits the DRB-1

4 Safety

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

4.1 Electrical hazard

DANGER, LIVE PARTS

Working on the luminaire, the driver or the driver box 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 THE LUMINAIRE

An AC Snapper is **always** fed by its driver. The luminaire itself must never be connected directly to any mains supply. Mains goes to the driver, the driver output goes to the luminaire. Connecting mains to the luminaire destroys it and creates a serious electrical hazard. See section 7.8.

- Every Snapper is a Class II luminaire. The housing is not earthed through the supply cable, but the driver box, driver tray and any metal enclosure must be earthed correctly.
- Only use the driver and the cable supplied for that luminaire. Another driver can create a dangerous situation and voids the warranty.
- Make the connection to the standards and directives that apply in your country, within the supply range in chapter 3 and of the right type, AC or DC.
- Provide surge protection where the installation sees lightning or switching transients, and keep one metre between the luminaire and a radio receiver.

4.2 Falling objects

WARNING, FALLING LUMINAIRE

A luminaire that comes loose from height can kill. Verify the load capacity of the mast, bracket or structure before mounting, and fit a secondary retention where the luminaire is above a walkway, a working area or a road, or on anything that moves.

The luminaire and bracket weigh 3.1 kg in cast aluminium, 7.0 kg in 316L, 9.9 kg as an HC x2 and 12.6 kg as an HC x3, and up to 23.0 kg with a driver box. Under EN 60598-1 the suspension has to withstand four times the mass. **The light weight cuts both ways:** a Snapper is often fitted without a structural check, but that never removes the need for a retention. A 3.1 kg object from 20 m is still fatal.

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 and the module count**, 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 and optic	Peak intensity	Hazard distance
HC x3, 500 W, 15 degree spot	940,000 cd	**17 m**
HC x2, 320 W, 15 degree spot	623,000 cd	13.3 m
Aluminium AC, 15 degree spot	351,000 cd	**10.0 m**
Aluminium DC, 15 degree spot	283,000 cd	9.0 m
HC x3, 500 W, 30 degrees	168,000 cd	6.9 m
HC x3, 500 W, 60 degrees	82,000 cd	4.9 m
HC x2 60 degrees, SS DC 30 degrees	55,000 cd	3.9 to 4.0 m
Aluminium AC, 60 degrees	31,000 cd	3.0 m
Aluminium DC and SS AC, 60 degrees	25,000 to 26,000 cd	2.7 m
High temperature, all versions	1,900 cd	0.7 m

The rule on site. Take **17 m** where the version and the optic are not known, because that covers the sharpest build in the range. On a site with single Snappers only, **10 m** covers every build, and **4 m** where no spot optic is fitted. Nobody works or stands within that distance looking towards the front.

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. Calculated from our own photometric files, not a measurement report. **The 15 degree spot is not yet measured on the Snapper**, so those rows are derived from the measured 13 degree file of the JEL range, 11,320 cd per 1000 lm, scaled to the luminous flux of each version. The two asymmetric optics are not in the library either; ask us for the figure with the quotation.

4.4 Hot surfaces, high temperature range



WARNING, HOT SURFACE

A Snapper HT in a hot zone reaches the temperature of its surroundings, up to plus 120 degrees Celsius and briefly plus 130. 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.
- 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 aluminium, stainless steel and HC families also become warm in service, but stay within the range that a bare hand tolerates briefly. Let them cool anyway.

4.5 Crush and handling

CAUTION, MOVING PARTS

The housing rotates against the bracket during mounting and aiming. Keep fingers clear of the pivot and of the detent ring, which has twelve holes and two index bolts. Two people on the HC x3 at 12.6 kg.

- Wear gloves, safety boots and a hard hat during assembly and installation.
- A single Snapper at 3.1 kg is a one hand job on a platform. A 316L version at 7.0 kg and an HC are not.

4.6 Heat and surroundings

- Keep at least 75 mm clear between the luminaire and thermal insulation or building parts. Do not cover or wrap the luminaire. 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 Snapper has no fan and no vents, so the fin field is the only cooling path.
- Do not install an aluminium, stainless steel or HC Snapper near a heat source that takes it beyond plus 50 degrees Celsius ambient. 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. For process chemistry beyond C5 and CX, see the HT-CHEM version.

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 cable comes out of.

On the Snapper the cable gland sits in the **rear face**, inside the fin field, and it stands proud of that face. Put the weight of the luminaire on it and you load the gland in exactly the direction it is not designed for: the seal is disturbed, the ingress protection is no longer guaranteed, and the damage does not show. The front is a flat glass plate in a raised frame and it carries the weight without complaint. It may pick up a scratch on grit, which is cosmetic. A crushed gland is not.

NOTE

Some versions carry a second sealed fitting in the rear face beside the gland. It is closed at the factory. Do not open it, do not remove it, and do not use it as a second cable entry.

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 cable, and do not use it in the applications listed in section 2.3.
- Do not connect mains directly to an AC luminaire, and do not reverse the polarity on a DC luminaire.
- Do not disconnect, short or omit the temperature pair on a high temperature version. See section 3.4.
- Do not open or remove the second sealed fitting in the rear face, and do not use it as a second cable entry.

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 Snapper 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 luminaire, driver or box	Severe injury or death by electric shock
Mains connected directly to an AC luminaire	Destroyed luminaire, arc, fire and shock risk
Looking into the operating light source	Permanent eye damage
Touching a hot HT housing or its cable	Immediate severe burns
No secondary retention above a walkway	Fatal injury from a falling luminaire
Fingers at the pivot or the detent ring	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 gland	Damaged gland, water ingress, later failure
Temperature pair disconnected on an HT version	No thermal protection, LED and driver run past their rating

NEVER, ON ANY SNAPPER


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 first 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.
- On a high temperature version the cable is 15 or 25 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 ×	Snapper luminaire in the ordered configuration, with the standard bracket fitted and a pre-fitted cable with free wire ends
1 ×	Remote driver on the AC versions: BLD240 on a single Snapper, BLD075 on a high temperature version, BLD320 on an HC x2, TLD400 or TLD600 on an HC x3. Bare, or in a DRB driver box or a 316L Power Box if ordered
1 ×	This instruction manual

> **NOTE, CABLE LENGTH**
>
> The standard length is **2.0 m** on the aluminium, 316L and HC versions and **25.0 m** on the aluminium AC high temperature version, **15.0 m** on the other high temperature versions. Longer runs are specified per order. **Check the length against the packing list or the quotation**, not against a figure in a manual or a datasheet.

The contents change with the accessories ordered: rear mount bracket, retrofit bracket, top or side mount bracket for the HC, safety cable, Crane Light Stabilizer or crane boom lighting frame. Mounting bolts for the structure are not supplied, because they depend on the structure. **The safety cable is not supplied as standard on a single Snapper**, 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 project, and on an HC they can differ between modules of the same luminaire.
2. Cut the tape along the seams. Do not push the knife deeper than the tape.
3. Lift the luminaire out with both hands, holding the housing and not the cable.
4. Check that the article code on the type label matches the code on the box, and note the internal production code as well, see section 2.5.
5. Inspect the housing, the front, the bracket, the cable and the cable gland for cracks, impact damage 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 sizes follow the bolts you use for the structure, so the list names the bolt and not a spanner size. Bring a socket or ring spanner that fits the bolt you have chosen.

Tool	Used for
Socket or ring spanner for M8	The pivot and index bolts on the bracket
Socket or ring spanner for the structure bolts	M10 or M12 through the Ø 12.5 mm holes, or M8 through the Ø 9 mm holes
Torque wrench, 5 to 30 Nm	M8 bolts and the cable gland
Torque wrench for the structure bolts	The bracket bolts, see section 6.6
Two open ended spanners for the cable gland	One holds the body, one turns the cap nut
Wire stripper and cutter	Preparing the cable ends
End sleeve crimping tool	Preparing the cable ends
Voltage tester	Verifying that the circuit is dead
Insulation resistance tester	Commissioning, chapter 8
Heat gun	Heat shrink tubing over the gland, section 7.6
NFC reader or smartphone with the driver app	Setting the output level over NFC, where fitted
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

Mounting bolts	They depend on the structure. Use A4 or 316 stainless steel, or hot dip galvanised class 8.8, matched to the environment
Safety cable	Ordered separately on a single Snapper, see section 6.5
Cable gland for an extended run	Where the run is extended on site
Heat shrink tubing and self amalgamating tape	For sealing the gland, section 7.6
Anti-seize compound	For a stainless bolt in a stainless thread, section 6.6
Threadlocker	Where the installation calls for it

> **NOTE**
>
> The reason the tool list names bolts and not spanner sizes is that the bolt is your choice, not ours. The mounting foot offers three holes of 12.5 mm and four of 9 mm, and what goes through them follows from the structure and the wind load.

TWO PEOPLE OR ONE

A cast aluminium Snapper with bracket is 3.1 kg and one person holds it easily while the bolts go in. That is the point of the product. A 316L version is 7.0 kg, an HC x2 is 9.9 kg and an HC x3 is 12.6 kg. On a ladder or a narrow platform, plan for two on anything but the aluminium version.



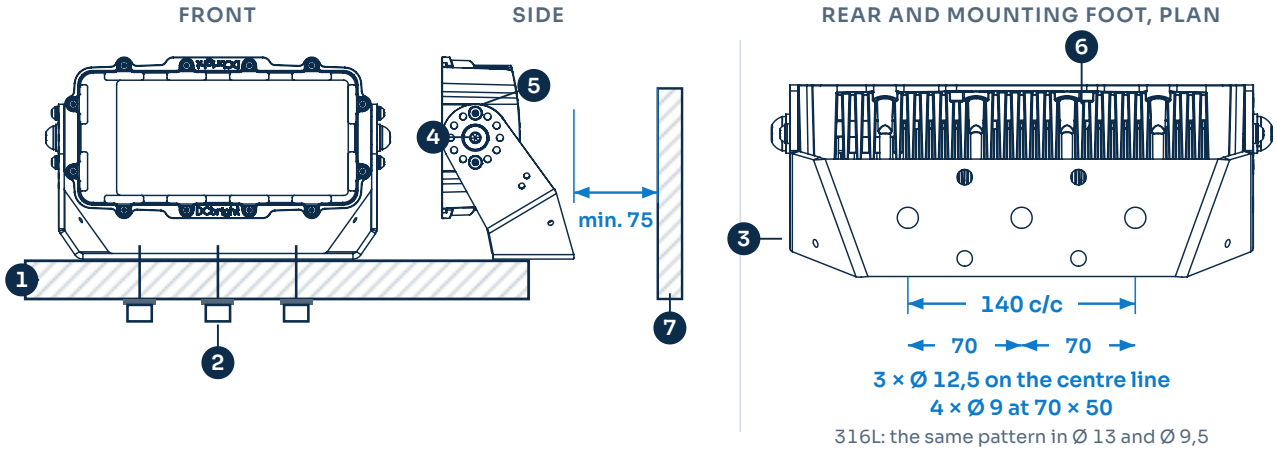
Cast aluminium Snapper in the standard bracket, as delivered

6 Mechanical mounting

Every Snapper is delivered with the standard bracket fitted. Mount the bracket to the structure first, then set the angle, then make the electrical connection. The procedure is identical for all four families; the hole positions are the same on aluminium and on 316L, and only the weight and the bracket of the HC differ.

DANGER

Isolate the supply and secure it against being switched on again before you start. Installation may only be carried out by a qualified person.



Mounting principle. The three views are the production drawing of the cast aluminium version, all to the same scale, including the clearance behind. The 316L housing is 5.6 mm deeper and its holes are Ø 13 and Ø 9.5, but **the hole positions are identical**, so one footprint carries either housing

1. Load bearing structure. Verify its capacity for the weight in chapter 3 plus the wind load
2. Bolts through the fixing holes, a washer under each nut, tightened to the torque in section 6.6. **At least two bolts must be used**
3. Mounting foot in plan. Three holes of Ø 12.5 mm on the centre line at 70 mm pitch, plus four of Ø 9 mm at 70 mm pitch on two lines 50 mm apart. On the 316L the same pattern in Ø 13 and Ø 9.5. That double pattern is what lets the Snapper land on an existing discharge floodlight footprint
4. Central pivot bolt through the detent ring, one on each side. Slacken both to set the aiming angle
5. Index bolt in the detent ring, one above and one below the pivot on each side. The ring has **twelve holes**, and that is where the 30 degree steps come from
6. Cooling fin field on the rear, with the cable gland inside it. Route the cable clear of the fins and clamp it so that no load reaches the gland
7. Minimum **75 mm** free space behind the luminaire, drawn here to scale from the deepest point of the assembly. The Snapper 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, angle and optic per luminaire.
- The mounting surface is clean, flat and suitable for the mounting method.
- The load capacity of the structure is known and sufficient for the weight in chapter 3 plus the wind load. On a retrofit onto an existing bracket, check that the existing bracket is sound before you trust it.
- Mounting hardware is certified and suited to the environment: A4 or 316 stainless steel, or hot dip galvanised class 8.8.
- HT range: the driver position outside the hot zone is chosen and reachable, section 7.5.
- The supply circuit can be isolated and secured. Start as close as possible to the point of supply.

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 prepare the holes,** or check the existing pattern on a retrofit. Use the hole pattern opposite. Do not use a percussion drill.
3. **Fit the bracket.** At least two bolts, a washer under each nut. A4 or 316 stainless steel, or hot dip galvanised class 8.8.
4. **Tighten to the torque** in section 6.6, with a torque wrench.
5. **Set the aiming angle.** Slacken the two M8 index bolts and the central pivot bolt on each side plate, turn the housing to the required angle, move each index bolt into the hole of the detent ring for that angle, and retighten. The bracket rotates through **360 degrees in steps of 30**.
6. **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.
7. **Fit the secondary retention** if section 6.5 applies.

> **CAUTION, CRUSH HAZARD**
>
> The housing swings freely once the pivot bolts are slack. Support the housing with one hand while you set the angle, and keep fingers out of the detent ring.

> **NOTE, WHY THE SNAPPER FITS AN OLD BRACKET**
>
> The mounting foot carries two hole patterns at once and both are on 70 mm pitch. That covers most existing discharge floodlight footprints, which is why a retrofit rarely needs a new plate. **Fitting the old holes is not the same as trusting the old bracket.** Inspect it for corrosion and for cracks around its own fixings first.



The detent ring: twelve holes, a central pivot bolt and two index bolts. Twelve holes is where 30 degrees comes from

HOLE PATTERN, ALL SINGLE SNAPPERS

	Aluminium	316L and HT-CHEM
Main row	3 × Ø 12.5	3 × Ø 13
Pitch and centres	70 mm pitch, 140 mm outer holes	
Second pattern	4 × Ø 9	4 × Ø 9.5
On	70 × 50 mm	
Adjustment	360 degrees in 30 degree steps	
Weight to carry	3.1 kg	7.0 kg

The Snapper HC uses its own top mount or side mount bracket, see section 6.3.

AFTER MOUNTING, BEFORE WIRING

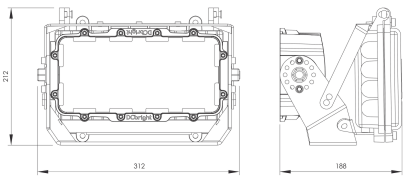
- [ ] All bracket bolts tightened to torque and marked.
- [ ] Housing angle set, index bolts seated in the detent ring, pivot bolts tightened.
- [ ] Secondary retention fitted where required.
- [ ] Cable is free, is not under tension, and does not carry any part of the weight of the luminaire.
- [ ] Cable is supported and clamped so that movement cannot be transmitted to the gland or to the terminations.
- [ ] 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 code and the accessories. The standard bracket and the rear mount bracket are available on the single Snapper in aluminium and in 316L. On the high temperature range the standard bracket is the normal choice, because the driver has to sit outside the hot zone anyway.



Standard bracket. High tensile 316L, turns through 360 degrees in steps of 30. Driver remote, in a driver box elsewhere



Rear mount bracket. AC only. Flat against a structure, cable entry through the mounting plate. Overall 312 × 212 × 188 mm



Crane Light Stabilizer. For a crane boom. The swing arm keeps the luminaire level while the boom moves. Separate datasheet

6.3 Snapper HC brackets

The HC carries two or three modules and has its own brackets. All three take the same luminaire interface, so the choice is a site decision and not a different article.

Bracket	Plate and pattern
Top mount	Plate 340 × 265 mm, 4 × Ø 13 mm slotted on a 270 × 100 mm pattern. Overall 433.5 mm, height 265 to 270 mm
Side mount	Plate 330 × 278 mm, 4 × Ø 13 mm slotted on a 270 × 120 mm pattern. Overall 457.1 × 423.5 mm. For a vertical structure or a boom web
Standard bracket	Also available, same luminaire interface

NOTE

The HC bracket adjusts through **plus or minus 180 degrees in 30 degree steps**, not the full 360 of the single Snapper. The slots in the mounting plate give a little lateral adjustment on the structure, which is what you want on a boom web that was drilled for something else.

6.4 Other mounting options

Option	Note
Retrofit bracket	On request, codes are issued per structure
Rear mount bracket, 316L	Separate part for the Snapper SS, 316L fasteners throughout
Crane Light Stabilizer	AC and DC, for crane boom mounting. Separate datasheet
Crane boom lighting frame	AC versions

WARNING

On anything that moves, a crane boom, a mobile mast, a vehicle or a vessel, the secondary retention in section 6.5 is not optional. The Snapper is specified on moving plant more often than any other luminaire in the range, so this applies to most Snapper installations.

NOTE

The Crane Light Stabilizer and the crane boom lighting frame have their own documentation, because the frame carries several luminaires and a distribution unit. Ask JEL Products for the set that matches your boom length.

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.

NOTE, THE SAFETY CABLE IS AN ORDERED ITEM ON A SINGLE SNAPPER

On the Snapper, the Snapper SS and the Snapper HT the safety cable is **not supplied as standard**. It must be ordered separately. On the **Snapper HC it is supplied as standard with every luminaire**, because the HC goes on booms and masts. There are several variants, matched to the housing and to the weight: the 316L version uses a different cable from the aluminium version. State the luminaire type when you order it.

Length	1 m
Rating	Matched to the weight of the luminaire it is supplied for
Variants	Per housing material. The 316L version has its own cable
Supply	Ordered separately on a single Snapper. Standard on the HC

1. Choose an anchor point independent of the bracket fixing 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 mount the bracket.
2. Loop the cable around that anchor and attach the other end to the luminaire bracket, not to the housing and not to the cable.
3. Leave a little slack, enough to adjust the aiming later but not so much that the luminaire can gather speed if the main fixing fails.
4. Record the safety cable in the installation 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. The supplied cable is matched to the mass of that luminaire and to a drop of one metre. A longer cable turns a drop into a swing.

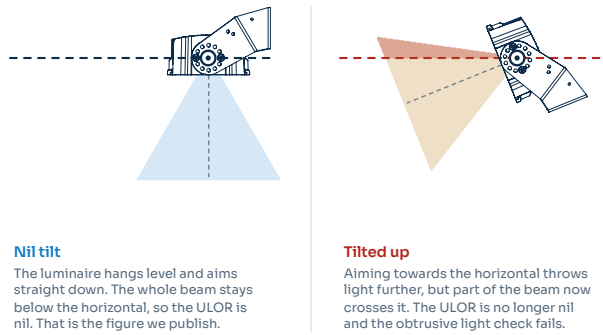
6.6 Tightening torques

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 Snapper is qualified to 6 G and is often fitted to plant that shakes.

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 and it runs to M24, far larger than anything that fits a Snapper mounting foot: the holes are 13 mm and 10 mm, so in practice you use M10 or M12 through the large holes and M8 through the small ones, with the torque from the bolt manufacturer. 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.

6.7 Aiming and obtrusive light



The bracket turns through 360 degrees in steps of 30. 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 when a terminal borders a residential area or a protected zone, and it is the starting point for an assessment against NEN-EN 12464-2 and the NSVV guidance on obtrusive light.

Every degree away from straight down eats into that figure, and beyond a certain angle the beam crosses the horizontal. Aim from the lighting design; where none is available keep the tilt at or below fifteen degrees and have the result verified. A wide optic crosses the horizontal at a smaller tilt, so a 90 degree Snapper is less forgiving than a 15 degree one.

7 Electrical installation

DANGER, LIVE PARTS

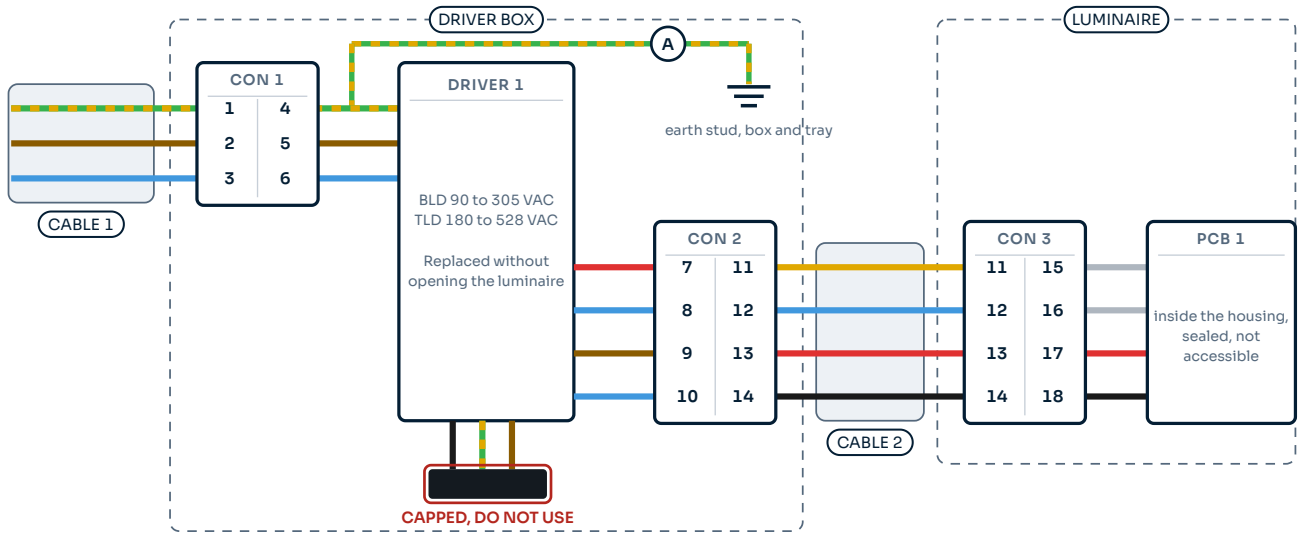
Isolate the supply, secure it against being switched on again, and verify that the circuit is dead. Only a qualified person may make the electrical connection.

7.1 Architecture, all AC versions

On every AC Snapper the driver sits outside the luminaire. 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. That is why a driver fault is a ground level job.

ONE DIAGRAM FOR EVERY AC VERSION

The diagram below applies to **all** AC versions of the Snapper: SNAC01, SNSS01, every high temperature model in its AC build, and the Snapper HC. The conductor count, the colours, the connectors and the terminal numbering are shared across the JEL range. Only the driver type and the cable differ: H07BQ-F on the aluminium, 316L and HC versions and SiHF-OB silicone on the high temperature range.



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 **not connected on purpose**. Leave the cap in place and do not use them as an earth, a neutral or a spare core. Adding dimming later is a driver change, done by JEL Products.

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 before you rewire anything.

7.2 Conductors, all AC versions

Cable 1 runs from the grid to connector 1 inside the driver box. Cable 2 runs from connector 2 in the driver box to the luminaire. Connector 3 and the printed circuit board are inside the luminaire. The numbers match the diagram in section 7.1.

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, A CORRECTION TO THE 2024 INSTRUCTION

The Snapper instruction of 19 February 2024 listed conductor 7 as black or white and conductor 8 as grey, and treated them as the dimming pair. **That was wrong.** Conductors 7 and 8 are the temperature sense pair from the driver, red and blue. Grey is the dimming pair, conductors 15 and 16, and nothing else. The diagram in section 7.1 is the reference.

On a Snapper HC x2 or x3 the same driver output feeds every module, so conductors 17 and 18 continue from one printed circuit board to the next inside the housing. That wiring is factory made and is not a site connection.



DRB-1 driver box. It takes one driver up to 320 W, so every driver used on a single Snapper and on an HC x2 fits it

WARNING

One conductor per terminal entry point. Two conductors in one terminal is a loose connection waiting to happen.

7.3 Circuit breakers

Maximum number of luminaires on one miniature circuit breaker, the manufacturer figure for ABB S200 at 220 V. A guide for the engineering phase, not a substitute for the installation calculation.

Driver	B16	C16	C25	D16
BLD075, HT 35 W	11	19	30	32
BLD240, 180 W	3	6	9	10
BLD320, HC x2	2	4	7	8
TLD400, HC x3 400 W	4	5	8	6
TLD600, HC x3 500 W	3	3	5	4

Inrush is what limits the count on the smaller drivers and running current on the larger ones. The BLD240 peaks at 66.0 A with a T50 of 0.5 ms, the BLD075 at 66 A with a T50 of 170 microseconds, the BLD320 at 31.2 A with a T50 of 1.3 ms, the TLD400 at 64 A with a T50 of 400 microseconds and the TLD600 at only 5.4 A but over 8 ms. That is why the TLD600 allows fewer luminaires than the TLD400 despite the lower peak.

NOTE

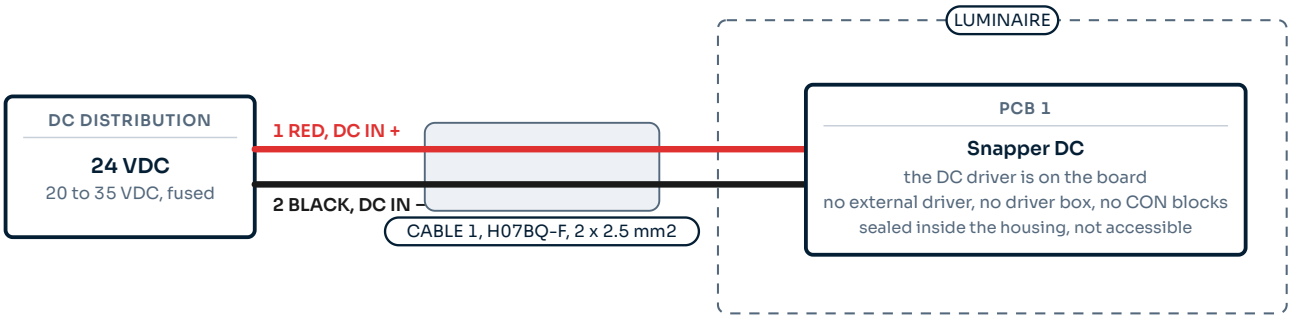
Where a residual current device is fitted, size it for the leakage current of all luminaires on the circuit together. One Snapper draws at most 0.7 mA.

7.4 Architecture, all DC versions

The DC versions have their drivers on board. There is no external driver and no driver box. A two core cable carries 24 V from the distribution to the luminaire, and that is the installation.

ONE DIAGRAM FOR EVERY DC VERSION

The diagram below applies to **all** DC versions: the cast aluminium SNDC01, the stainless steel SNSS02, the high temperature SNHT02 and SNHT04, and the Snapper HC in its DC build, SNHC03 and SNHC06. Red is plus and black is minus on every one of them, the two cores go straight to the board, and there is no connector block and no earth conductor in that cable.



CABLE 1 1 red DC IN + · 2 black DC IN –. Two cores, no earth conductor and no control conductors
POLARITY **Reversing plus and minus does not light the luminaire and can damage the board. Check the marking at both cable ends**
CLASS II No protective earth conductor runs to the luminaire. Earth the DC distribution and any metal enclosure per the installation

Never connect a DC luminaire to an AC supply, and never connect an AC luminaire to mains without its driver.

CONDUCTORS, DC VERSIONS

No	Colour	Function
1	Red	DC IN plus, 20 to 35 VDC, 24 V nominal
2	Black	DC IN minus

Cable as supplied: H07BQ-F, 2 cores of 2.5 mm², 2.0 m, free wire ends. The two cores go straight to the board: no connector block and no earth conductor. **Red and black apply to every DC luminaire in the JEL range.**

Supply	20 to 35 VDC
Current draw, SNDC01 and SNSS02	6.3 A at 24 V
Current draw, HT DC	1.5 A at 24 V
Current draw, HC x2 and x3	12.5 A and 18.8 A at 24 V
Luminous flux	25,000 lm at 150 W on the aluminium version
Driver	On board, not replaceable in the field
Dimming	On request, see chapter 9
Protection class	Class II

High voltage DC between 250 and 740 V is available on request. That is a different build with a different driver and is not covered by this diagram.

DANGER, POLARITY AND SUPPLY TYPE

Never connect a DC luminaire to an AC supply. Never connect an AC luminaire to a DC supply. Never reverse the polarity on a DC luminaire. Each of these destroys the luminaire and none of them is covered by the warranty.

WARNING, THE CURRENT IS WHAT LIMITS THE RUN

At 6.3 A the DC Snapper draws roughly eight times the current of the AC version at 220 V, and an HC x3 on 24 V draws 18.8 A. The cable run is short unless the cross section goes up. See section 7.7.

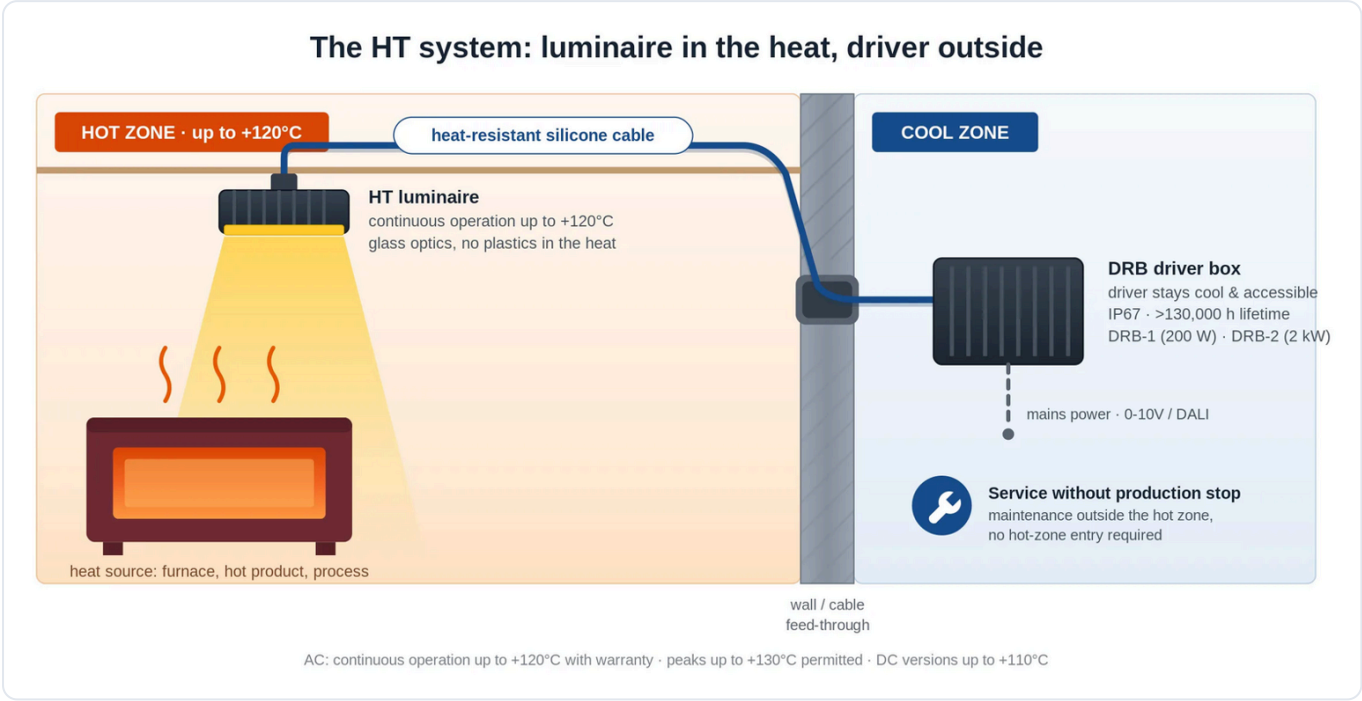
ON BOARD DRIVER

A driver fault on a DC luminaire is not a ground level repair. The luminaire is exchanged. That is the trade the DC version makes for needing no driver box and no mains at the mast.

The DC version is the usual choice on vessels, mobile light towers and mobile plant, which is where most Snappers go. On a fixed installation with mains available, the AC version with its serviceable remote driver is normally the better choice.

7.5 The high temperature system

Standard industrial LED luminaires stop at roughly plus 50 degrees Celsius, because the driver does. In virtually every failure of LED lighting in heat, the driver gives up first. The HT range is therefore a system in two parts: the luminaire in the hot zone and the driver outside it. That split is why the luminaire arrives with 25 m of silicone cable on it.



The luminaire in the heat, the driver outside it, joined by silicone cable

What this means on site

1. **Choose the driver position first, not last.** Outside the hot zone, within minus 40 to plus 50 degrees Celsius ambient, and reachable. Everything else follows from that choice.
2. **Measure the run against what you were sent.** The cable is **25.0 m** on aluminium AC and **15.0 m** on the others; confirm it on the packing list. Beyond that the cable goes to roughly 150 m, but only as a custom build.
3. **Use only the silicone cable supplied,** and keep it off hot surfaces. SiHF-OB is rated for the ambient in the hot zone, not for contact with a furnace wall. Route it clear.
4. **Keep the temperature pair intact.** Two of the four cores are the thermal feedback that makes the luminaire protect itself, see section 3.4. If the run is extended, extend all four cores. **Fit the driver in a DRB-1** where the position is exposed, or bare in an enclosure that meets the ingress requirement.

> **DANGER**
>
> Never install the driver in the hot zone, in a duct that passes through it, or above a heat source. A driver failure in a hot zone is a fire risk as well as a light failure.

THE SNAPPER HT SYSTEM

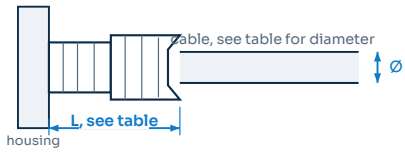
Luminaire ambient	minus 45 to plus 120 °C continuous on AC, peaks to plus 130. minus 45 to plus 110 °C on DC
Driver ambient	minus 40 to plus 50 °C, outside the hot zone
Cable	SiHF-OB heat resistant silicone, 4 cores, 2 × 1.0 plus 2 × 0.5 mm². 25.0 m on aluminium AC, 15.0 m on the others, to roughly 150 m as a custom build
Driver	BLD075, remote, always. 131 × 68 × 33.5 mm, 650 g, in a DRB-1 which takes one driver up to 320 W
Front	Impact resistant glass, or diffuse borosilicate where the glass sees direct radiant heat
Optics	None. Every version is 120 degrees very wide; the housing is too small for an HT optic
Ingress	IP66, IP67, IP68. IP69K on 316L and HT-CHEM
Self-protection	Dims back on rising internal temperature, switches off on overheating

HT-CHEM, SNHT05, is the 316L housing with an extra chemically resistant seal, AC only. Everything here applies to it unchanged.

7.6 Cable glands

Tighten the cap nut of the cable gland to the dimension in the table, measured over the gland. That is a more reliable instruction on a mast than a torque figure, because the gland is usually tightened by hand with a spanner and no torque wrench fits. Then apply heat shrink tubing and self amalgamating tape over the gland to seal against moisture and dust.

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. On the Snapper the gland sits inside the fin field, so leave yourself room for two spanners before you route the cable.



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 6G1.5 + 2G0.5 mm², Ø 13.6 mm	n/a	n/a	n/a	n/a	20.8 mm
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
H07BQ-F 6G2.5 + 2G0.5 mm², Ø 13.8 mm	n/a	n/a	n/a	n/a	21.1 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 Snappers, Barracudas and Orcas on it works to one set of figures. Dimensions are measured over the assembled gland. Here n/a means the combination is outside the clamping range of that gland and must not be used. Where a cable and a gland do not appear together in this table, ask JEL Products before you fit them. **The four core silicone cable of the high temperature range, 2 × 1.0 plus 2 × 0.5 mm², is also covered by dimension L**, under the SiHF-08 entries.

7.7 Cable length and voltage drop

The cable as supplied is 2.0 m on most versions and 15 or 25 m on the high temperature range, see section 5.2. Where the run is extended on site, the voltage drop between the source and the luminaire must not exceed 2 V.

Both circuits are low voltage DC: the driver output to an AC luminaire is **50 VDC**, the supply to a DC luminaire is 24 VDC. Neither of them carries mains.

AC VERSIONS, DRIVER OUTPUT TO LUMINAIRE, 50 VDC

Cross section	180 W 3.6 A	HC x2 6.4 A	HC x3 10.0 A	HT 35 W 0.7 A
1.0 mm²	15 m	n/a	n/a	81 m
2.5 mm²	39 m	22 m	14 m	204 m
4 mm²	63 m	36 m	23 m	327 m
6 mm²	95 m	54 m	34 m	490 m
10 mm²	159 m	89 m	57 m	816 m
16 mm²	254 m	143 m	91 m	1,306 m

DC VERSIONS, 24 VDC

Cross section	150 W 6.3 A	HC x2 12.5 A	HC x3 18.8 A	HT DC 1.5 A
2.5 mm²	23 m	11 m	8 m	95 m
4 mm²	36 m	18 m	12 m	152 m
6 mm²	54 m	27 m	18 m	229 m
10 mm²	91 m	46 m	30 m	381 m
16 mm²	145 m	73 m	49 m	610 m

All lengths are the maximum at a 2 V drop, copper, two conductors, one way. Where the installation calls for a tighter limit than 2 V, size the cross section on that limit.

> **NOTE, THE HT CABLE AT LENGTH**
>
> The supplied silicone cable is **2 × 1.0 mm²** for the power pair. At 25 m the drop is 0.61 V, which is comfortable. That cross section stays inside 2 V up to **81 m**. For a run towards the 150 m maximum the power pair has to go up to **2.5 mm²**, and that is one of the reasons a long run is a custom build rather than a longer reel.

7.8 Making the connection

> **DANGER, MAINS NEVER GOES TO THE LUMINAIRE**
>
> On an AC Snapper, **mains goes to the driver and the driver output goes to the luminaire**. The luminaire itself must never be connected directly to 230 VAC, 110 VAC, 400 VAC or any other mains supply, not even briefly and not even to test it. Connecting mains to the luminaire destroys it immediately and creates a serious electrical hazard.

1. Confirm the circuit is dead and secured.
2. Mount the driver or the driver box outside the wash down zone, in a position with an ambient between **minus 40 and plus 50 degrees Celsius**, and reachable from the ground or from a platform. On the HT range that means outside the hot zone, see section 7.5.
3. Earth the driver box, the driver tray and any metal enclosure. Use the earth clamp or the pre-installed earth conductor.
4. Strip and terminate the conductors according to the table in section 7.2, or section 7.4 for a DC luminaire. Use end sleeves. One conductor per terminal.
5. Keep the dimming conductors separated from the mains conductors.
6. Tighten the cable glands to dimension L in the table in section 7.6, then seal with heat shrink tubing and self amalgamating tape.
7. Support and clamp the cable so that no load reaches the gland or the terminations. On a vehicle, a boom or a mast that moves, clamp the cable within 300 mm of the gland.
8. Close the driver box. Check that the seal is in place and undamaged and that no conductor is pinched.

The driver case may reach plus 90 degrees Celsius in service. That is the temperature of the metal case, not of the air around it: you position the driver by the **ambient**, and the ambient limit is plus 50 degrees Celsius.

DRIVER BOXES AND THE 316L POWER BOX

DRB-1	One driver up to 320 W. 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67. Takes the BLD075, the BLD240 and the BLD320
DRB-2	Systems to 2,000 W, and the box for the HC x3. 441 × 290 × 145 mm, 10.4 kg, IP66 and IP67
316L Power Box BLD075	Solid 316L, 260 × 130 × 80 mm. Same driver as the DRB, chosen where the box sits in the same wash-down or salt zone as the luminaire

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 are traced back to a step that was skipped here.

8.1 Checks before switching on

- [ ] Environmental conditions within the range for that family, chapter 3, and no broken mechanical part: front, housing, bolts, bracket, gland.
- [ ] Cable and glands show no breach of insulation and no exposed conductor.
- [ ] All bolts tightened to torque and marked, index bolts seated in the detent ring.
- [ ] Secondary retention fitted where section 6.5 requires it.
- [ ] **AC only:** the luminaire is fed from the driver output and not from mains.
- [ ] **DC only:** polarity checked, red to plus and black to minus.
- [ ] **HT only:** the driver sits outside the hot zone within plus 50 degrees Celsius ambient, and all four cores are connected including the temperature pair.
- [ ] Driver box closed, seal intact, no pinched conductor, and earthing verified at the furthest point of the earthing system by a competent person.
- [ ] Supply voltage measured, within range and of the right type, and the number of luminaires per breaker within section 7.3.
- [ ] No thermal insulation or building part within 75 mm, cooling fins clear.

8.2 First power up

1. Restore the supply.
2. Confirm that the luminaire illuminates. Do not look into the light source, see section 4.3.
3. Check that the light lands where the design says it should.
4. Correct the aiming if required: isolate, slacken the pivot and index bolts, adjust, reseat the index bolts, retighten to torque, restore the supply, check again.
5. Record the installation: both codes from the label, position, optic, colour temperature, aiming angle, date and installer, and on an HC the optic per module. That record is what makes a later fault report useful.

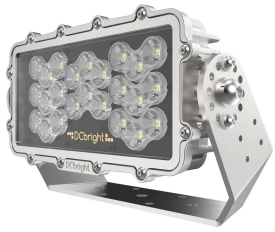
8.3 Handover

Leave this manual with the site documentation, together with the record from step 5 of section 8.2 and the lighting design.

> **WARNING**
> Never adjust, open or work on the luminaire while it is energised. Isolate first, every time.

> **NOTE**
> On a project with several optics or families, mark the position of each luminaire on the drawing. A Snapper HT and a Snapper SS look different, but a 30 and a 60 degree optic in the same housing do not, and on an HC two modules of one luminaire can carry different optics.

> **NOTE, AN HT LUMINAIRE ON FIRST POWER UP**
> An HT luminaire in a cold oven comes up at full output and dims back by itself once the process is at temperature. That is the thermal protection working, not a fault, see section 3.4. Note the behaviour at handover so the person who sees it later does not report it.



Snapper SS in 316L. On a wash-down site the first wash is where a badly sealed gland shows up, so commission with section 10.5 in hand

9 Operation and dimming

9.1 Normal operation

A Snapper needs no operator action in normal service. It switches with the circuit and reaches full output immediately.

9.2 What each version accepts

Control is not the same across the range, and part of it is built to order. The table is what is available per family, not what is fitted to your luminaire. **What your luminaire actually accepts is set at order and is stated on the quotation.**

Method	Aluminium and SS, AC	DC versions	High temperature	Snapper HC
0 to 10 V	Available	On request	Available	Available on AC
PWM	Available	On request	Available	Available on AC
DALI-2	Available	On request	Available	Available on AC
NFC	Available	Not available	Available	Available on AC
LoRa Mesh	On request	Not available	On request	On request
Not dimmable	Available on every family, and the default where no control is specified			

> **NOTE**
> Do not assume a protocol is present because the range offers it. Sending a DALI signal to a luminaire built for 0 to 10 V does nothing, and wiring a control pair into a non dimmable build does nothing either. Check the quotation, or read the driver over NFC where that is fitted.

0 to 10 V	Analogue. Two dimming conductors, conductors 15 and 16, kept separate from the mains conductors along the whole run
PWM	Pulse width over the same two conductors
DALI-2	Addressable. For a site with a night regime or a lighting management system
NFC	The output level is written into the driver with an NFC reader or a smartphone, without power and without control wiring. Useful where one luminaire in a row has to be turned down, or where a light tower has to be set once and left alone

POWER IS A DRIVER SETTING, NOT A DIFFERENT LUMINAIRE

Any AC Snapper can be ordered programmed to a lower wattage, and the wanted power is added to the article code as a suffix. That is why an SNAC01 on site may draw less than 180 W and still be the right luminaire. DC versions run at a fixed constant current, so a different power level there is a custom build.

9.3 Bi-colour and amber

A bi-colour build switches between 4000 K and amber 2200 K, for a site with a night regime or a light sensitive surrounding. The switching is part of the control design and is described in the project documentation, not here.

> **NOTE**
> Amber and bi-colour are **not available on the high temperature versions**. Those are 6500, 4000 or 2700 K only.

9.4 Module switching on the HC

An HC x2 or x3 switches all its modules together as standard. Switching them separately is available on request and is a different build, not a site modification.

9.5 What the luminaire does not do

- It does not report its own status. There is no feedback channel on 0 to 10 V or PWM, and a luminaire that is off looks the same as one that has failed.
- It does not switch itself. Time control, daylight control and presence detection sit in the installation, not in the luminaire.
- It does not carry an emergency function. See section 4.9.

> **NOTE**
> On a DALI-2 build the driver does report, and that is the reason to choose it on a site large enough that walking the yard to find a dark luminaire costs more than the control gear.

> **THE ONE EXCEPTION**
> A high temperature version does act on its own: it dims back as its internal temperature rises and switches off on overheating. That is thermal self-protection and it is not controllable. See section 3.4.

10 Maintenance

DANGER

Isolate the supply and secure it before any maintenance work. Let the luminaire cool to hand temperature before touching it. On the high temperature range that takes time, and the housing gives no visual warning that it is still hot.

10.1 Interval

Environment	Interval
Normal outdoor, aluminium or stainless	Once a year
Dust, salt, exhaust or process residue	Twice a year or more
Vehicles, mobile plant and light towers	With the machine service interval
Crane booms and moving structures	Twice a year, and check the retention every time
Bird fouling	As required, before the fin field closes up
Food production	Weekly, daily on heavy soiling, and after every run on a high fat load. Protocol in section 10.5
Hot process zones, HT range	Every planned shutdown, never while hot

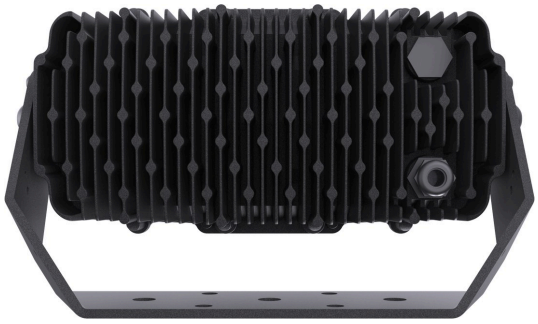
Too little cleaning shortens the life of the product.

10.2 Inspection

- [ ] Housing, front and seals: damage, cracks, corrosion, rust.
- [ ] All fixings tight. Retighten to the torque in section 6.6.
- [ ] Pivot and index bolts tight, index bolts still seated in the detent ring.
- [ ] Bracket, mast and structure sound and free of corrosion.
- [ ] Secondary retention present, intact and correctly attached.
- [ ] Cable and wiring: damage, corrosion, loose connections, intact insulation, no exposed conductor.
- [ ] Cable gland tight, seal effective, and the clamp within 300 mm of it still holding on anything that moves.
- [ ] Cooling fins clear of dirt.
- [ ] Nothing has grown, been stacked or been built within 75 mm of the luminaire or in the beam.
- [ ] Aiming unchanged since installation.
- [ ] **HT only:** the driver is still outside the hot zone and nothing has been built around it.
- [ ] **HT only:** the silicone cable is not resting against a hot surface and its insulation is intact.

10.3 Records

Record every inspection, fault, repair and replacement, with both codes from the label. Under warranty, that record is the difference between a fast decision and a long discussion.



The fin field on the rear, with the cable gland inside it. This is what has to stay clear

WHY THE FINS MATTER

The Snapper has no fan, no vents and no moving part. Everything the LEDs produce leaves through this surface, and the housing is sealed precisely so that nothing gets in. Dirt between the fins raises the junction temperature, and the lifetime figures in chapter 3 assume a clean heat sink. **The efficacy holds for the life of the installation, but only if the fin field is kept clear.** A Snapper on a service vehicle collects more dirt in a month than a mast luminaire does in a year, so brush it out at every machine service.

CAUTION

Do not hammer, pry or scrape between the fins. A soft brush and compressed air clear them. A screwdriver breaks a fin, and the fin is cast into the housing.

10.4 Cleaning, cast aluminium versions

1. Switch off the supply and let the luminaire cool.
2. Remove loose debris with a soft brush.
3. Clean the housing and the front with a soft cloth or sponge, water and a mild detergent.
4. Clear the space between the cooling fins, then dry the front with a soft cloth.

CAUTION

Do not use solvents, caustic cleaners or abrasives. Do not aim a high pressure washer at the cable gland. The cast aluminium Snapper is rated IP68, but the installation around it may not be, and the gland is the one place where pressure does damage.

10.5 Cleaning, stainless steel and high temperature versions

Stainless steel and high temperature luminaires are cleaned to JEL Products protocol B5.17, version 1.0 of 27 May 2026. Written for the food industry, it is the stricter of the two procedures. One exception: the HT range does tolerate steam.

BEFORE YOU START

- Switch off the supply to the luminaire.
- Let the luminaire cool to hand temperature.
- Inspect the glass, the seals, the glands, the cable and the housing for damage.

PERMITTED

Water	Clean mains water, lukewarm, maximum plus 40 degrees Celsius
Cloth	Soft microfibre cloth
Sponge	Soft sponge

NOT PERMITTED

Cleaning agents	No aggressive or chemical cleaners, no foaming agents, no solvents
Chemistry	No chlorine based, acid based or alkaline cleaners, no alcohols, no degreasers
Mechanical	No wire brushes, no abrasives, no scouring agents
Steam	No steam cleaning on a stainless steel luminaire outside the high temperature range. **On the high temperature range steam cleaning is permitted**
Pressure	No high pressure above 80 bar

IP69K is what makes this possible. The Snapper SS and the 316L high temperature versions are the only Snappers that carry IP69K, the high pressure steam jet test. That is what a wash-down regime actually applies, and it is why a coated aluminium housing is the wrong choice in a food or process area even though it is IP68.

PROCEDURE

1. **Pre-rinse.** Rinse the luminaire with clean water to remove loose soiling. Use a broad jet and do not hold it on the seals or the glands.
2. **Manual cleaning.** Clean the surface with a soft sponge or microfibre cloth and clean lukewarm water only.
3. **High pressure cleaning.** Maximum 80 bar, maximum plus 40 degrees Celsius, minimum distance 50 cm. Do not spray at right angles onto the seals for any length of time.
4. **Rinse.** Rinse the luminaire with clean water.
5. **Inspect.** Check the glass, the seals, the fixings and for any sign of moisture inside.

PREVENTING DAMAGE

WARNING, THERMAL SHOCK

Never clean hot glass with cold water. Avoid large temperature differences. **Do not apply water at all to a luminaire warmer than plus 60 degrees Celsius.** Let it cool first. On the high temperature range that is not a formality: the front can break, and it breaks towards whoever is holding the lance.

Cleaning outside these limits can damage the glass, cause leakage, attack the seals and void both the ingress classification and the warranty.

FREQUENCY

Normal production environment	Weekly
Heavy soiling	Daily
High fat load	After every production run

Source: JEL Products document B5.17, version 1.0, 27 May 2026. Ask us for the full protocol if you need it for a HACCP file.

11 Fault finding

Work through this table before reporting a fault. Isolate the supply before any action that involves touching the wiring. Most faults reported to us turn out to be one of the first five rows.

Symptom	Applies to	Probable cause	Action
No light at all	All	Supply off, breaker tripped, or a break in the run	Check the breaker and measure the supply at the driver input, or at the DC distribution
No light, supply present at the driver	AC, HT, HC	Driver failed	Replace the driver, see section 12.3. The luminaire does not have to be opened
No light, supply present at the luminaire	DC	Reversed polarity, or an on board driver failed	Check red to plus and black to minus. If correct, the luminaire is exchanged
Luminaire destroyed on switch on	AC, HT, HC	Mains connected directly to the luminaire instead of to the driver	Not a warranty case. Rewire per section 7.1 and replace the luminaire
Breaker trips on switch on	AC, HT, HC	Too many luminaires on one breaker for the inrush	Reduce the number per breaker or change the characteristic, see section 7.3
Residual current device trips	AC, HT, HC	Combined leakage current of the circuit	Split the circuit or size the device for 0.7 mA per luminaire
Output drops back after the process heats up	HT	**Normal behaviour.** The thermal self-protection is dimming the luminaire	No action. See section 3.4. Report it only if the output drops with the process cold
Luminaire switches itself off in the hot zone	HT	Ambient above the rating, or radiant heat onto the front	Measure the ambient at the luminaire. Consider the borosilicate front where the glass sees direct radiant heat
Flicker or unstable output	All	Loose terminal, or a dimming signal picking up interference from the mains conductors	Retighten the terminals and separate the dimming conductors from the mains conductors
Luminaire stays at partial output	AC, HT, HC	Dimming input at a low level, an NFC setting from a previous project, or a programmed lower wattage	Check the control signal, then read the driver over NFC. Check the article code for a wattage suffix, see section 9.2
Control signal does nothing	All	That protocol is not in this build	Check the quotation against section 9.2. Sending DALI to a 0 to 10 V build has no effect
Output visibly lower than the design	All	Dirty front or blocked cooling fins	Clean per section 10.4 or 10.5, then measure again
Part of the light field is dark	All	Wrong optic fitted for that position	Compare the article code on the type label with the lighting design. On an HC, check the optic of each module
One module dark on an HC	HC	Internal board or interconnection fault	Not a field repair. The luminaire returns, see section 12.2
Water inside the driver box	AC, HT, HC	Gland not tightened, seal damaged, or the box not closed correctly	Isolate, dry, replace the seal, retighten to dimension L in section 7.6 and reseal
Moisture inside the luminaire	All	Damaged gland or a luminaire that has been rested on its back	Do not open it. Return to JEL Products, see section 12.2
Corrosion on the bracket or the fixings	All	Mounting hardware not suited to a C5 or CX environment	Replace with A4 or 316 stainless steel
Corrosion on a stainless housing	SS	Deposit from carbon steel tooling or grinding dust, not the 316L itself	Clean per section 10.5. Do not use a wire brush, it makes it worse
Luminaire has moved out of aim	All	Index bolts not seated in the detent ring, or pivot bolts loosened by vibration	Re-aim, seat the index bolts and retighten to torque. Check the secondary retention
Luminaire came loose on moving plant	All	Vibration, and no secondary retention	Refit per chapter 6 with a rated safety cable. This is the most common Snapper failure mode on vehicles and booms
Early driver failure, repeated	HT	The driver is not far enough outside the hot zone	Measure the ambient at the driver. It must stay below plus 50 degrees Celsius. Relocate it, see section 7.5
Broken front after cleaning	SS, HT	Cold water on hot glass, or pressure above 80 bar, or closer than 50 cm	Not a warranty case. Follow section 10.5
Output falls faster than expected	HT	Ambient at the luminaire is higher than the design assumed	Measure the ambient and compare with the lifetime ladder in section 3.4

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 position on site, the date of installation and what you have already checked. See section 2.5 for the two codes.

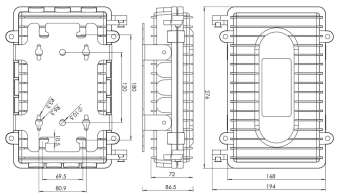
12 Repair and spare parts

The Snapper is built so that the part that wears is the part you can reach. On the AC, HT and HC versions the LEDs outlive three drivers, and the driver sits outside the housing. On the DC versions the driver is on board, and that changes the answer.

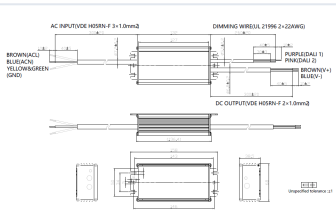
12.1 What is replaceable on site

Part	Reference	Note
Remote driver, 35 W HT	BLD075	131 × 68 × 33.5 mm, 650 g, 90 to 305 VAC or 127 to 420 VDC. Fits the DRB-1
Remote driver, 180 W	BLD240	215 × 67.5 × 33.5 mm, 1,100 g. Used on the aluminium AC and the SS AC. Replaced without opening the luminaire
Remote driver, HC x2	BLD320	225 × 68 × 38.5 mm, 1,120 g
Remote driver, HC x3	TLD400 · TLD600	180 to 528 VAC or 250 to 740 VDC. TLD400 at 400 W, TLD600 at 500 W
Driver box, one driver	DRB-1	276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67. Takes the BLD075, BLD240 and BLD320
Driver box, systems to 2,000 W	DRB-2	441 × 290 × 145 mm, 10.4 kg, IP66 and IP67. The box for the HC x3
316L Power Box	Power Box BLD075	Solid 316L, 260 × 130 × 80 mm. Same driver as the DRB, chosen where the box sits in the same wash-down or salt zone as the luminaire
Standard bracket	On request	High tensile 316L. Same hole positions on aluminium and 316L, see section 6.1
Rear mount bracket	On request	AC versions. Separate part for aluminium and for 316L
HC top or side mount bracket	On request	Same luminaire interface, see section 6.3
Safety cable	On request	1 m, rated to the luminaire weight. Separate variant for the 316L version. Not supplied as standard on a single Snapper, see section 6.5
Cable assembly	On request	H07BQ-F, or SiHF-OB silicone for the HT range. Length per order

Brackets, safety cables and cable assemblies are supplied against a specification rather than a shelf article number, because they follow the structure, the housing material and the run length. State both codes from the type label and we issue the right part.



DRB-1 driver box, dimensioned drawing. It takes every driver used on a single Snapper and on an HC x2



The BLD240 remote driver, 215 × 67.5 × 33.5 mm, 1,100 g

Quote the article code and the internal production code from the type label in any spare part order, see section 2.5. A BLD240, a BLD320 and a TLD are not interchangeable.

12.2 What is not replaceable on site

DANGER

Do not open the housing and do not remove the front or the glass. Opening the luminaire ends its ingress protection, its electrical safety, its warranty and its declaration of conformity.

- The light source is not replaceable in the field. At the end of its life the complete luminaire is returned or replaced.
- The optics are fitted at the factory. A change of beam angle is a change of luminaire, and on an HC that applies per module.
- The pre-fitted cable is not replaceable in the field. If it is damaged, the luminaire returns to JEL Products. On a high temperature version that means a 15 or 25 m silicone cable comes back with it.
- **On a DC luminaire the driver is on board** and is not a field part. A driver fault means the luminaire is exchanged.
- The interconnection between the modules of an HC is factory made and is inside the housing. One dark module is a return, not a repair.
- Repair, overhaul and modification are carried out by JEL Products or by a company it appoints. In case of doubt, return the luminaire for inspection.

12.3 Driver replacement, AC, HT and HC

1. Isolate the supply and secure it. Verify the circuit is dead. On the HT range, let the luminaire and the cable cool.
2. Open the driver box and photograph the wiring before you disconnect anything.
3. Disconnect the driver at CON 1 and CON 2, following the table in section 7.2.
4. Fit the replacement driver of the same type, and reconnect according to section 7.2, one conductor per terminal. A different driver is not permitted.
5. Close the box, check the seal, restore the supply and run the checks in section 8.1. Record the replacement, with the date and both codes from the label, in the site documentation.

NOTE

The internal production code tells us which board is in the luminaire the driver has to work with. Quote both codes.

12.4 Returning a luminaire

1. Contact JEL Products before you send anything. We will tell you whether the fault is a field repair, a driver exchange or a return.
2. Have both codes from the type label ready, plus the position on site, the date of installation and what you have already checked from chapter 11.
3. Pack the luminaire in its original box, resting on its front and never on its back.
4. On an HT luminaire, let it cool completely and state the ambient it was working in. Coil the silicone cable rather than folding it.

NOTE

Do not open a luminaire before returning it, not even to look. An opened housing changes a warranty assessment into a discussion, and the evidence we need is usually inside the seal you would break.

WHAT WE LOOK AT ON A RETURN

The internal code	Which board, which batch, which production date
The seal and the gland	Whether water got in, and from where
The driver, if returned with it	Case temperature history and failure mode
The front	Thermal shock, impact or abrasion
The bracket	Whether it came loose, and whether a retention was fitted



Snapper HT. The high temperature version returns with its silicone cable, which is part of the luminaire and not an accessory

13 Removal and disposal

13.1 Taking the luminaire out of service

1. Isolate the supply and secure it. Verify the circuit is dead, then disconnect the luminaire at the driver box or at the DC distribution.
2. On the HT range, let the luminaire and its cable cool to hand temperature. It gives no visual warning that it is still hot.
3. Support the luminaire, or have a second person hold it, before you release the bracket. Two people on the 316L version at 7.0 kg and on any HC.
4. Release the secondary retention last, not first.
5. Lower the luminaire in a controlled way, never on its cable. 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. Rig the lifting arrangement before you loosen anything, and keep the area below clear for the whole operation. A 3.1 kg luminaire feels like something you can hold with one hand from a ladder. Do not.

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, the 316L housing and the 316L bracket are all recyclable materials, and a stainless steel luminaire has a real scrap value. Separate the housing from the electronics at the recycler rather than in the field.

Glossary

Cd · A	Drag coefficient times frontal area, the figure used for wind load
CRC	Corrosion resistance class, EN 1993-1-4
CRI, Ra	Colour rendering index
CX	Extreme corrosion category, ISO 9223
DALI-2	Addressable digital lighting control protocol
Detent ring	The perforated plate in the bracket side plate. Twelve holes give the 30 degree steps
Hazard distance	The distance beyond which the luminaire is Risk Group 1 per IEC/TR 62778
HC	High capacity. Two or three Snapper modules on one bracket
HT	High temperature range
HT-CHEM	316L high temperature housing with an additional chemically resistant seal, SNHT05
L90B05	90 per cent of initial output retained by 95 per cent of the units
MCB	Miniature circuit breaker
MTBF	Mean time between failures
NFC	Near field communication, used to set the driver without power
NTC	Negative temperature coefficient, the temperature sensor in the luminaire
PREN	Pitting resistance equivalent number, a measure of stainless steel corrosion resistance
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
THD	Total harmonic distortion
ULOR	Upward light output ratio
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 Snapper Series is named in its product scope as **Snapper Series, SN-48 and SN-32 including HT, SS and HC 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-x particular requirements. 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
Cast aluminium, AC and DC	5 years on the complete luminaire	
316L stainless steel	20 years	5 years
High temperature, aluminium	5 years on the complete luminaire, to plus 120 degrees Celsius on AC and plus 110 degrees Celsius on DC	
High temperature, 316L and HT-CHEM	20 years	5 years, to plus 120 degrees Celsius on AC and plus 110 degrees Celsius on DC
Snapper HC	5 years on the complete luminaire	

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 a driver or cable other than the one supplied has been used, where mains has been connected directly to an AC luminaire, where the polarity of a DC luminaire has been reversed, where the temperature pair of a high temperature version has been disconnected or shorted, where it has been cleaned outside the limits in section 10.5, 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
Snapper datasheet, cast aluminium	Product page
Snapper SS datasheet	Product page
Snapper HT datasheet	Product page
Snapper HC datasheet	Product page
Photometric files per optic, EULUMDAT and IES	Product page, per optic and per module count
Dimensioned drawings, DXF and STEP	On request
Driver box manual, DRB-1 and DRB-2	On request
Cleaning protocol B5.17, stainless and HT	On request
Crane Light Stabilizer datasheet and documentation	Product page and on request
Crane boom lighting frame documentation	On request
Lifting tables for the Snapper crane sets, T130 at 42 and 50 m	On request
Signed declaration of conformity	On request, and with the project documentation
Test and inspection reports, see section 3.5	On request

14.4 What this manual replaces

This edition supersedes all earlier Snapper operating instructions, including the edition of 19 February 2024 and the separate installation sheet issued for the AC models. Where an older document and this manual disagree, this manual applies. See section 1.5 for the full revision history.

Three figures in circulation are wrong and are corrected here: the bracket turns through 360 degrees and not plus or minus 240; conductors 7 and 8 are the temperature sense pair and not the dimming pair; and the single hazard distance of 11.688 m in the 2024 instruction did not come from a Snapper photometric file. Section 4.3 gives the figure per version and per optic.

> **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/snapper