

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Search Lights

with type designation(s)

SS 188, SS 190/192., SS 250., SS 350., SS 450., SS 450 LED RV, SS 630, BS LED

Issued to

Karl Dose GmbH
Hamburg, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

DNV GL rules for classification – Naval vessels

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Vibration class	A
Degree of protection	C (IP X6)
Temp. class	D
Voltage (V)	12-400V
Suitable for Hazardous areas	No

Issued at **Hamburg** on **2020-04-30**

This Certificate is valid until **2025-04-29**.

DNV GL local station: **Hamburg CMC**

for **DNV GL**

Approval Engineer: **Uwe Supke**

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Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Type 188 (LED)
version R

Type 190/192 (LED)
version D, DP, C, CP, R, RP

Type 250 (halogen, xenon, metal halide, LED)
version D, DP, DS, C, CP, R, RP, RS

Type 350 (halogen, xenon, metal halide, LED)
version D, DP, DS, C, CP, R, RP, XD, XC, XR

Type 450 (halogen, xenon, metal halide, LED)
version D, DP, DS, C, CP, R, RP, XD, XR

Type 630 (halogen, xenon, LED)
version D, DP, DS, C, CP, R, RP, XD, XR

Type BS (LED)

Ingress protection	IP X6	
Voltage	110V - 230V, 50/60Hz	type 250.., 350.., 450..and 630
	380-400V 3ph. 50/60Hz	type 450..and 630
	24V DC	optional for type 250.., type 188, BS
	12V DC	type 188

Andromeda with halogen, Canis with xenon, Virgo with LED, Cassiopeia with metal halide

Virgo	188 LED R	Searchlight with remote control
Virgo	190-D LED	Searchlight deck
Virgo	190-DP LED	Searchlight deck with pedestal
Virgo	190-C LED	Searchlight cabin
Virgo	190-CP LED	Searchlight cabin with pedestal
Virgo	190-R LED	Searchlight with remote control
Virgo	192-R LED	Searchlight with remote control
Virgo	192-RP LED	Searchlight remote control pedestal
Andromeda	250-D	Searchlight deck
Andromeda	250-DP	Searchlight deck with pedestal
Andromeda	250-C	Searchlight cabin
Andromeda	250-CP	Searchlight cabin with pedestal
Andromeda	250-R 24V	Searchlight 24VDC with remote control
Andromeda	250-R 230VAC	Searchlight 230VAC with remote control
Andromeda	250-DS	Searchlight deck with shutter
Andromeda	250-CS	Searchlight cabin with shutter
Andromeda	250-RS 230VAC	Searchlight 230VAC remote control with shutter
Andromeda	250-RP 230VAC	Searchlight 230VAC remote control with pedestal
Virgo	250-D LED	Searchlight deck with LED
Canis	250-XD	Searchlight Xenon deck
Canis	250-XC	Searchlight Xenon cabin
Canis	250-XR	Searchlight Xenon remote control
Virgo	250-C LED	Searchlight cabin with LED
Virgo	250-R LED	Searchlight remote with LED
Virgo	250-R LED RF	Searchlight remote with LED and remote focus

Andromeda	350-D	Searchlight deck
Andromeda	350-DP	Searchlight deck with pedestal
Andromeda	350-C	Searchlight cabin
Andromeda	350-CP	Searchlight cabin with pedestal
Andromeda	350-R	Searchlight with remote control
Andromeda	350-R-FL	Searchlight with remote control with freewheeling
Andromeda	350-DS	Searchlight deck with shutter
Virgo	350-D LED	Searchlight deck with LED
Canis	350-XD	Searchlight Xenon deck
Canis	350-XC	Searchlight Xenon cabin
Canis	350-XR	Searchlight Xenon remote control
Andromeda	350-CS	Searchlight cabin with shutter
Andromeda	350-RP	Searchlight remote with pedestal
Andromeda	350-RS	Searchlight remote with shutter
Virgo	350-R LED	Searchlight remote with LED
Virgo	350-C LED	Searchlight cabin with LED
Virgo	350-R LED RF	Searchlight remote with LED and remote focus
Virgo	350-R LED RV	Searchlight remote with LED and bus servo
Andromeda	450-D	Searchlight deck
Andromeda	450-DP	Searchlight deck with pedestal
Andromeda	450-C	Searchlight cabin
Andromeda	450-CP	Searchlight cabin with pedestal
Andromeda	450-R	Searchlight with remote control
Andromeda	450-DS	Searchlight deck with shutter
Virgo	450-D LED	Searchlight deck with LED
Canis	450-XD	Searchlight Xenon deck
Canis	450-XR	Searchlight Xenon remote control
Andromeda	450-CS	Searchlight cabin with shutter
Andromeda	450-RP	Searchlight remote with pedestal
Andromeda	450-RS	Searchlight remote with shutter
Virgo	450-R LED	Searchlight remote with LED
Virgo	450-C-LED	Searchlight cabin with LED
Virgo	450 LED RF	Searchlight remote with LED and remote focus
Virgo	450 LED RV	Searchlight remote with LED and bus servo
Andromeda	630-D	Searchlight deck
Andromeda	630-DP	Searchlight deck with pedestal
Andromeda	630-C	Searchlight cabin
Andromeda	630-CP	Searchlight cabin with pedestal
Andromeda	630-R	Searchlight with remote control
Andromeda	630-DS	Searchlight deck with shutter
Canis	630-XD	Searchlight Xenon deck
Canis	630-XR	Searchlight Xenon remote control
Andromeda	630-RP	Searchlight remote control with pedestal
Andromeda	630-CS	Searchlight cabin with shutter
Andromeda	630-RS	Searchlight remote with shutter
Virgo	630-C LED	Searchlight cabin with LED
Virgo	630-R LED	Searchlight remote with LED
Virgo	630-R LED RF	Searchlight remote with LED and remote focus
Virgo	630-R LED RV	Searchlight remote with LED and bus servo
Scorpius	SS190 LED R	Searchlight remote with LED
Scorpius	SS190 LED C	Searchlight cabin with LED
Scorpius	SS190 LED D	Searchlight deck with LED
Scorpius	SS250 LED D	Searchlight deck with LED
Scorpius	SS250 LED DP	Searchlight deck on pedestal with LED

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Scorpius	SS250 LED C	Searchlight cabin with LED
Scorpius	SS250 LED CP	Searchlight cabin on pedestal with LED
Scorpius	SS250 LED R	Searchlight remote with LED
Scorpius	SS250 LED RP	Searchlight remote on pedestal with LED
Scorpius	SS350 LED D	Searchlight deck with LED
Scorpius	SS350 LED DP	Searchlight deck on pedestal with LED
Scorpius	SS350 LED C	Searchlight cabin with LED
Scorpius	SS350 LED CP	Searchlight cabin on pedestal with LED
Scorpius	SS350 LED R	Searchlight remote with LED
Virgo	BS LED	Bow Searchlight LED

Place of manufacture

pc-schneider s.r.o
Kyjova 27
CZ-69641 Vlkost

Application/Limitation

Operating and installation instructions of the manufacturer to be observed.
All versions/types available with mechanical and electric shutter device as far as applicable.

Cassiopeia SS350/ SS450 ARCFiFi (metal halide) versions deck, cabin, remote, pedestal;
Andromeda SS450 FiFi (halogen) version deck, cabin, remote, pedestal;
fulfil the requirements in DNVGL Rules (RU-SHIP) Part 5: Ship types Ch 10: Vessels for special operations Sec.9 Fire fighters [2.3.1]: "50 lux at 250meter distance on a target of 11 meter"

Type Approval documentation

Tests carried out

Applicable tests according to DNVGL Guideline DNVGL-CG-0339, Edition November 2016

Marking of product

The products to be marked with:

- Manufacturer name
- Model name
- Serial number
- Power supply ratings
- Degree of protection

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE



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