Zone 1 & 2 LED floodlights for extreme environments

luminell®
Light Matters



Photo: Geert-Jan Wagt Hest

- ATEX and IECEx approved. Zone 1, 2, 21 and 22
- Powerful light performance
- Compact and low weight
- Designed to be appreciated by the installer and the end user
- Wide operating temperatures
- Temperature classes T6/T5/T4/T3
- Extreme lifetime
- Light efficiency up to 80% from conventional lighting
- No flame path, no maintenance
- MIL-STD-461, excellent EMC/EMI characteristics
- Crafted for demanding marine and offshore conditions

5 YEAR WARRANTY



Design protected

RLX™ Cx FLOODLIGHT Zone 1/21



Design protected

RLX™ Dx FLOODLIGHT Zone 1/21

Zone 1 and 21



Design protected

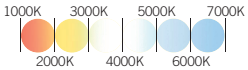
RLX™ Dx FLOODLIGHT Zone 2/21

Zone 2 and 21

IEC IECEx Ex

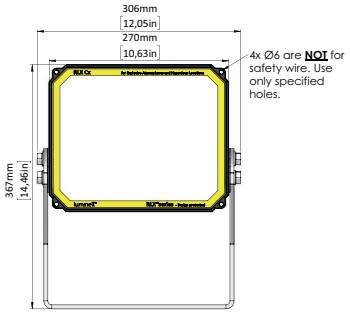
RLX CxZ1.21				
Electrical Specifications	**40 W**	**80 W**	**120 W**	**160 W**
Input voltage range	100 - 277 VAC, 100 - 300 VDC			
Frequency range	50 - 60 Hz			
Power factor @ 230 VAC	cos ϕ < 0.9			
Current @ 230 VAC	0,17 A	0,35 A	0,52 A	0,7 A
Leakage current	0,5 mA RMS @ 230 VAC 50 Hz			
Recommended fuse	MCB16 type C for up to 10 floodlights connected in parallel			
Inrush current	50A (duration of 600µs measured @ 50% I-peak) at 230VAC			
Dim control interface	(10-100%) 0 - 100 kΩ, 4 - 20 mA or 0 - 10 VDC			
Terminal dimensions	Mains: 0,2 - 6 mm², Grounds: 0,2 - 16 mm², Dim and batteries: 0,08 - 2,5 mm² – spring terminals with looping (sketch available under “Dimensions”)			
Light Specifications				
Initial luminous flux	6.589	11.290	15.342	19.021
Lumen per watt	165	141	128	119
100% light output		Ta < 55°C		Ta < 45°C
Color rendering index (CRI)	> 70			
Color temperature 1000K 3000K 5000K 7000K 2000K 4000K 6000K	5.000 K (3.000 K on request)			
Beam angles (degrees)	Spot 15°, Medium 40°, Medium 60°, Medium 60° x 40°, Wide 80° x 60°, Oval 45° x 15°, See illustration on page 6 for more information. Photometric files available on request.			
Ex and Environmental				
Ambient temperature (Ta)	- 55°C to + 55°C			
Storage temperature	- 55°C to + 80°C			
Markings	Zone 1, 2, 21, 22			
ATEX classification	CE 2804 Ex II 2G II 2D			
IEC classification gas	Ex eb mb IIC T6 Gb	Ex eb mb IIC T4, T5** Gb	Ex eb mb IIC T4 Gb	Ex eb mb IIC T3, T4* Gb
IEC classification dust	Ex tb IIIC T85 Db	Ex tb IIIC T135, T100** Db	Ex tb IIIC T135 Db	Ex tb IIIC T200, T135* Db
Classification with alternative ambient temperature	*T4, T135 @Ta <40°C **T5, T100 @TA <50°C			
General Spesifications				
Startup time	1 second			
Weight	9,7 kg (approx.)			
Cable glands	2xM25 10-18mm Through Gland 2xM20 Blind Cap Other glands and blind caps on request.			
IP class	IP 66/67			
Predicted lifetime L70 (70% light output) **Ta 25°C**	>320k hours	>320k hours	>320k hours	175k hours
Predicted lifetime L70 (70% light output) **Ta 45°C**	>180k hours	>120k hours	>100k hours	80k hours
Corrosion class	C5 m ISO 9223/12944 (for offshore and maritime environments)			

RLX™ DxFLOODLIGHT Zone 1/21 RLX™ DxFLOODLIGHT Zone 2/21

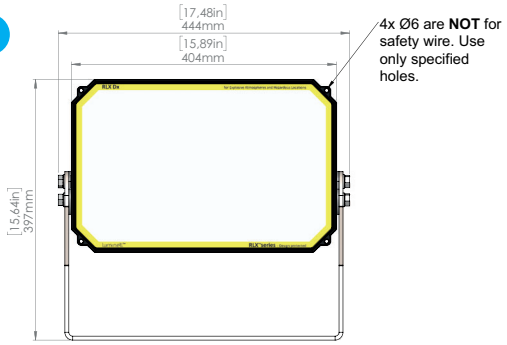
	RLX DxZ1.21			RLX DxZ2.21
Electrical Specifications	**80 W**	**160 W**	**240 W**	**240 W**
Input voltage range	100 - 277 VAC, 100 - 300 VDC			
Frequency range	50 - 60 Hz			
Power factor @ 230VAC	cos ϕ < 0.98			
Current @ 230VAC	0,35 A	0,7 A	1,04 A	1,04 A
Leakage current	0,5 mA RMS @ 230 VAC 50 Hz			
Inrush current	200A (duration of 150µs measured @ 50% I-peak) at 230VAC			
Recommended fuse	MCB16 type C for up to 10 floodlights connected in parallel			
Dim control interface	(0-100%) 0 - 100 kΩ, 4 - 20 mA or 0 - 10 VDC			
Terminal dimensions	Mains: 0,2 - 6 mm², Grounds: 0,2 - 16 mm2, Dim and batteries: 0,08 - 2,5 mm² – spring terminals with looping (sketch available under “Dimensions”)			
Light Specifications				
Initial luminous flux	13.178	22.580	30.684	30.684
Lumen per watt	165	141	128	128
100% light output	Ta < 55°C			
Color rendering index (CRI)	> 70			
Color temperature 	5.000 K (3.000 K on request)			
Beam angles (degrees)	Spot 15°, Medium 40°, Medium 60°, Medium 60° x 40°, Wide 80° x 60°, Oval 45° x 15°,See illustration on page 6 for more information. Photometric files available on request.			
Ex and Environmental				
Ambient temperature (Ta)	- 55°C to + 55°C			
Storage temperature	- 55°C to + 80°C			
Markings	Zone 1, 2, 21, 22			Zone 2, 21, 22
ATEX classification	CE 2804 Ex II 2G II 2D			CE 2804 Ex II 3G II 2D
IEC classification gas	Ex eb mb IIC T6 Gb	Ex eb mb IIC T5 Gb	Ex eb mb IIC T4 Gb	Ex ec mc IIC T4 Gc
IEC classification dust	Ex tb IIIC T85 Db	Ex tb IIIC T100 Db	Ex tb IIIC T135 Db	Ex tb IIIC T135 Db
Classification with alternative ambient temperature	N/A	N/A	N/A	N/A
General Spesifications				
Startup time	1 second			
Weight	15,2 kg			14,8 kg
Cable glands	2xM25 10-18mm Through Gland 2xM20 Blind Cap Other glands and blind caps on request.			
IP class	IP 66/67			
Predicted lifetime L70 (70% light output) **Ta 25°C**	>320k hours	>320k hours	>320k hours	>320k hours
Predicted lifetime L70 (70% light output) **Ta 45°C**	>180k hours	>120k hours	>100k hours	>100k hours
Corrosion class	C5 m ISO 9223/12944 (for offshore and maritime environments)			

Dimensions and Installation

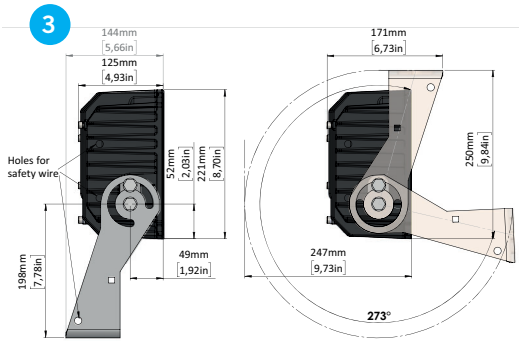
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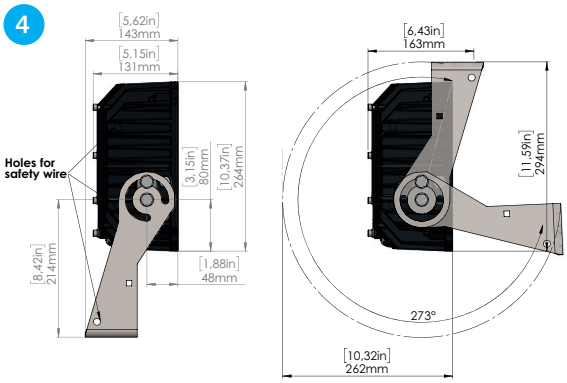
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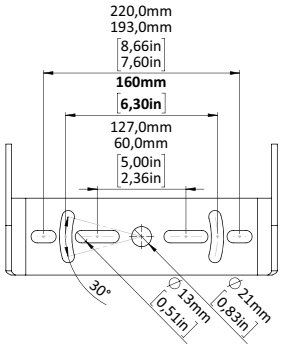
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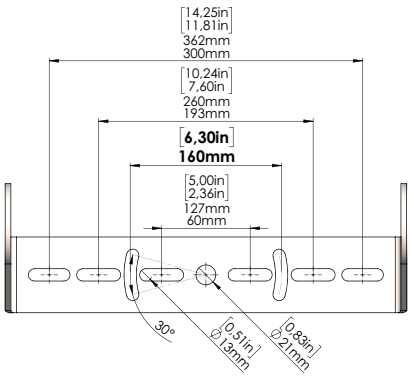
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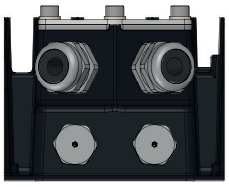
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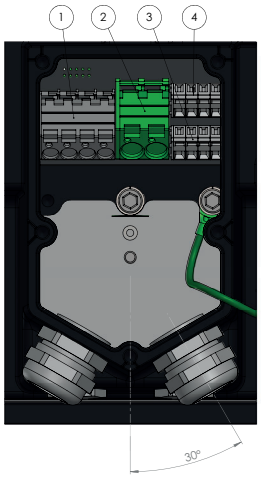
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Angled to reduce cable bend

Dimensions and Mounting	RLX™ Cx FLOODLIGHT Zone 1/21	RLX™ Dx FLOODLIGHT Zone 1/21	RLX™ Dx FLOODLIGHT Zone 2/21
Front view	Fig.1	Fig.2	Fig.2
Side view	Fig.3	Fig.4	Fig.4
Bracket	Fig.5	Fig.6	Fig.6
Cable glands	Fig.7	Fig.7	Fig.7
Terminal box	Fig.8	Fig.8	Fig.8

Mounting positions:

RLX CxZ1.21

With two M12 bolts the pattern fits 90-220 mm holes with full +/-15° adjustments at 160 mm.

RLX DxZ1.21 and DxZ2.21

With two M12 bolts the pattern fits 60-362mm holes with full +/-15° adjustment at 160 mm.

Materials

Body / casing / chassis	Seawater resistant; casted, anodized and powder coated aluminium
Glass	Tempered glass
Bracket, bolts, nuts etc.	Stainless steel AISI 316L (1.4404), A4

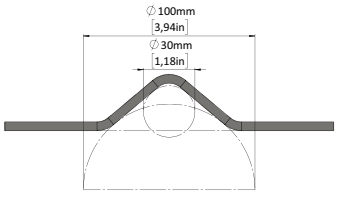
Approvals and Declarations

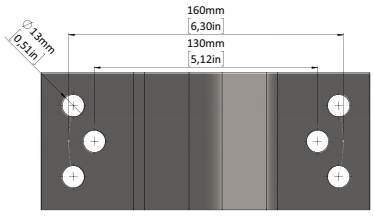
Low Voltage Directive (LVD) 014/35/EU	EN 62031:2008/A1:2013/A2:2015 – LED Modules for general lighting
Photobiological safety	EN 62471:2008 – Photobiological safety of lamps and lamp systems
EMC and immunity	EN 55015:2013 – Radiated and conducted emissions
	EN 60945:2002 – Marine Equipment. EMC Immunity, Radiated and Conducted Emissions
	MIL-STD461F CE101, CE102 and RE102 - Navy Top Deck
	MIL-STD461F CE101, CE102 and RE102 - Navy Mobile & Army
Explosion proof standards	IEC/EN 60079-0:2018 – Equipment General Requirements
	IEC/EN 60079-7:2015+A1:2018 – Equipment protection by increased safety “e”
	IEC/EN 60079-18:2015+A1:2017 – Equipment protection by type of protection “m”
	IEC/EN 60079-31:2014 – Equipment dust ignition protection by enclosure “t”

Options and Accessories

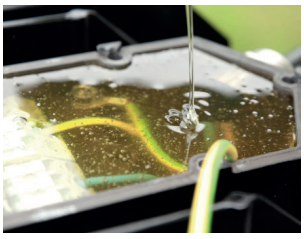
1. Pole mount bracket Ø30-Ø100
2. Protection Guard Set
3. Retrofit bracket 130, 160 to 225-260, 350-380
4. Connection Box Gel KIT (Only RLX DxZ1.21 and DxZ2.21)

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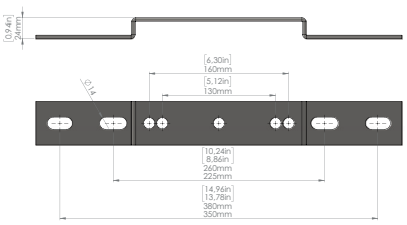
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3



Beam Alternatives

Beam group	Beam code	Light projection – diameter @ 10m distance	Color code
Spot beams	Spot 15	2,6 m	●
Medium beams	Medium 40	7 m	
	Medium 60	10 m	●
	Medium 60 x 40	10 x 7 m	
Wide beams	Wide 80 x 60	14 x 10,5 m	●
Oval beams	Oval 45 x 15	8 x 2,6 m	●

