

MUSTANG

vizulo

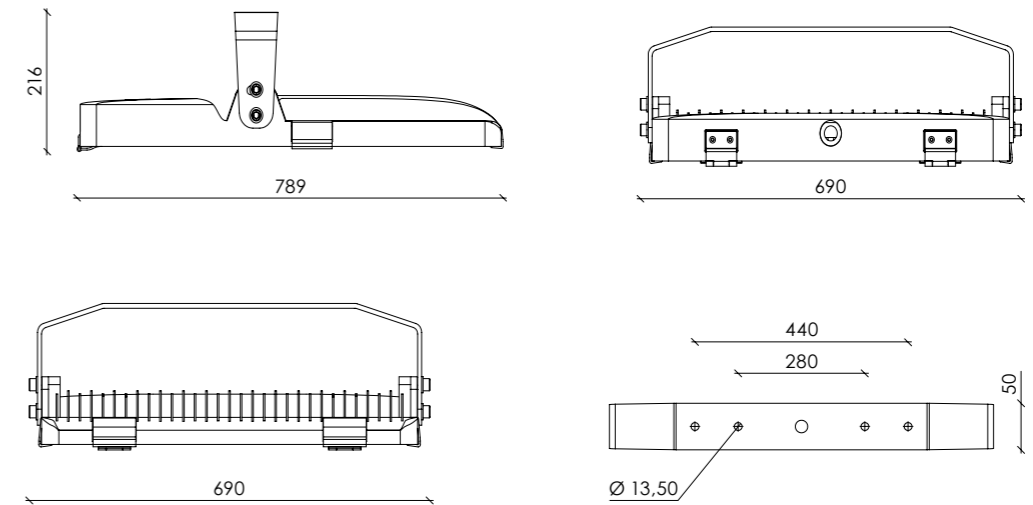


- | Sports lighting
- | Airport infrastructure
- | Port infrastructure





Dimensions

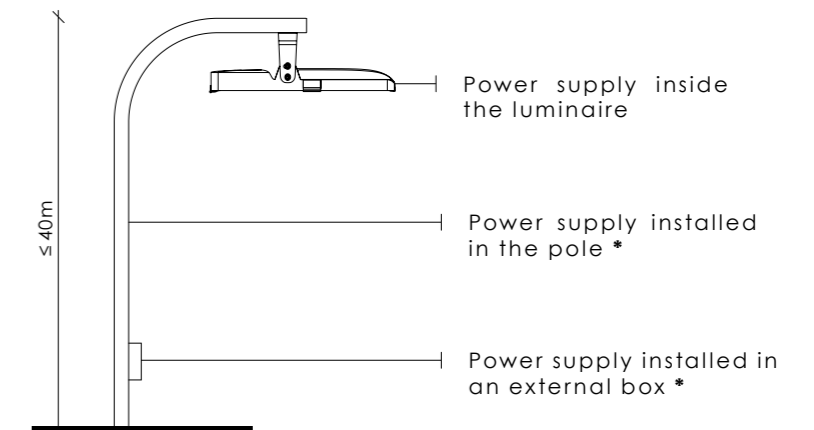


Power supply position possibilities

Max. cable length between drivers and luminaire/LED modules: **50 m**

Min. conductor cross section area: **1.5 mm²**

* Luminaire to driver cable must be ordered from the accessories list



Ventilation plug

Pressure equalisation. It ensures high air flow rates as well as high water protection capacity

Glass

Flat glass. Glass is fixed to die-cast aluminium frame with metal clips and can be easily replaced

LED module

High quality LED's with optimal thermal resistance and energy consumption characteristic, for high lumen output and long expected life time. Color temperature available: 3000K, 4000K (5000K, 5700K available on customer request)

Intelligent light control system

Radio frequency

Protection

IP66 for the complete luminaire

Module temperature control

The LED driver will start reducing the light output when the LED's approach critical temperature. The temperature is measured via a sensor placed on the PCB (function available on customer request)

Body

Die-cast aluminium

Lighting protection

Built-in surge protection 10 kV

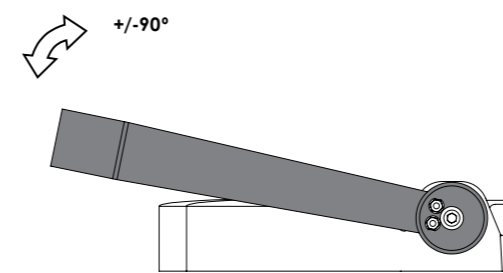
Light regulation

MUSTANG drivers offer integrated midnight dimming and network-controlled 1-10V and DALI protocols

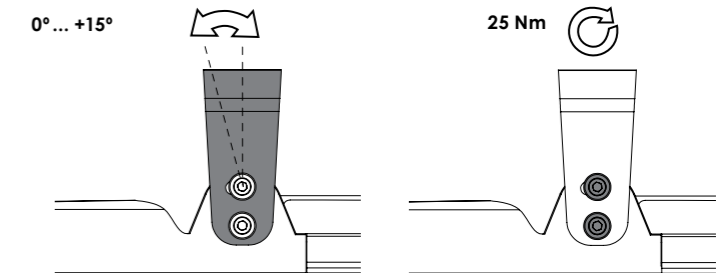
Opening

Die-cast aluminium clips for tool-less opening and closing, fixed to the frame with stainless steel spring for easy maintenance

Angle position





Flood light mounting angle



Standard mounting angle

Technical information

V 220 - 240	Radio frequency ¹³	  IP66
Hz 50 - 60	Die-cast aluminum	
K 3000/4000 ¹¹	1-10V, DALI, Midnight dimming	
°C -40 to +50	Surge protection 6; 10 kV (optional) ¹⁴	
CRI >70 ¹²	100 000 h (L90B10C10) ¹⁵	
	Warranty 5 years	

¹ 5000 / 5700 available on request

² Luminaires with color rendering index (CRI): Ra >80 and Ra >90 on request

³ Optional. Available only with DALI ; 1 - 10 V

⁴ 10 kV (L-N; L/N-PE) surge protection device available on request

⁵ at Ta=25°, this value is only informative and may change according to selected article.

Custom modules 4000K

	72			96			
Number of LED's							
Nominal current, mA	350	500	700	350	430	520	580
Power, W	300	400	500	400	500	600	675
Luminous Flux, lm	34449	43792	51875	45820	55294	63654	69087
Efficacy, lm/W	114	109	103	114	110	106	102
Power factor, PF	0,97	0,98	0,99	0,97	0,98	0,99	0,99

Standard modules 4000K

	264			352		
Number of LED's						
Nominal current, mA	350	500	700	350	500	700
Power, W	275	390	525	365	518	700
Luminous Flux, lm	38740	52950	68070	51390	70310	90540
Efficacy, lm/W	141	136	130	141	136	129
Power factor, PF	0,96	0,97	0,98	0,96	0,97	0,98

Dimming

DALI

Digital Addressable Lighting Interface – digital signal interface specially developed for lighting applications. DALI network consists of a controller and one or more lighting devices (e.g., electrical ballasts, LED drivers and dimmers) that have DALI interfaces. The controller can monitor and control each light by means of a bi-directional data exchange. DALI requires a single pair of wires to form the bus for communication to all devices on a single DALI network.

0 - 10 V

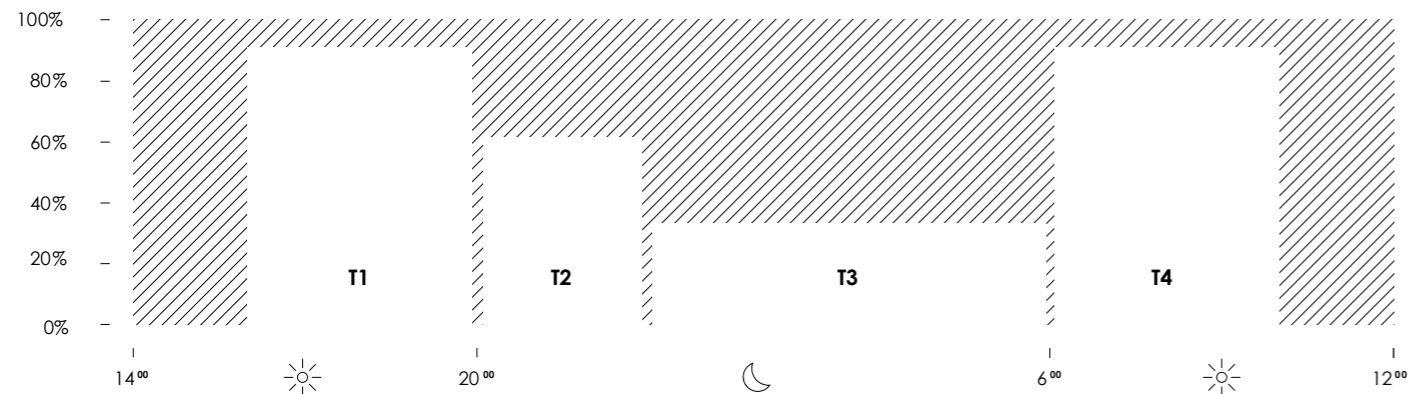
Analog signal interface with no feedback from driver. For this dimming interface 100% is the maximum of driver and 10% is the minimum level. The output status is not guaranteed when the dimming signal is less than 1V. The output of LED driver could be completely switched off or there is still some light coming out of LED module. If application requirement is to completely turn off the driver, then additional switch at AC mains of driver is required.

1 - 10 V

Analog signal interface with no feedback from driver. For this dimming interface 100% is the maximum of driver and 10% is the minimum level. The output status is not guaranteed when the dimming signal is less than 1V. The output of LED driver could be completely switched off or there is still some light coming out of LED module. If application requirement is to completely turn off the driver, then additional switch at AC mains of driver is required.

MIDNIGHT DIMMING

Midnight dimming provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the pre-defined scheduled reference to the midpoint, which is calculated based on the power on / off times.



MS E - Eco

Power [W] 050...700

Color rendering index
 ≥70 - 7
 ≥80 - 8
 ≥90 - 9

Color temperature [K] 2700 ... 5700
 Standard values: 4000 K - 40
 5700 K - 57

Lens
 Type 2x2 - L01...L99
 Asymmetric front - AFR
 Asymmetric left - ALT
 Asymmetric right - ART

LED module type
 6 LEDs, type X lens - Y
 44 LEDs, type 2x2 lens - X

LED quantity 001 ... 352

Color
 Silver (RAL9006) - CS
 Asphalt (DB703) - CA
**other color available on request*

Mounting
 Standard - A
 Flood light (reinforced) - R

Dimming
 non dimmable - N
 DALI - D
 1-10V - A
 midnight dimming - M
 step dimming - S
 mains dimming - L
 power line communication - P
 wireless - W
 NEMA socket (DALI) - Y
 Zhaga socket (DALI) - Z

Surge protection
 6 kV ... 10 kV integrated in driver - G
 separate built-in 10 kV/10 kA SPD - H
 separate built-in 30 kV/15 kA SPD - K

Insulation
 Class I - 1
 Class II - 2
 Class I with external driver - 4
 Class II with external driver - 5

| Custom LED modules 96 LEDs

Article	Model Number	Power, w	Color temperature, K	Luminous flux, lm	Luminous efficacy, lm/W	Lens	Body color	Dimming
61000002	MS 400 740 M17 X096 SA DH1	400 W	4000 K	45820 lm	114 lm/W	M17	Silver	DALI
61000003	MS 400 740 L48 X096 SA DH1	400 W	4000 K	45820 lm	114 lm/W	48	Silver	DALI
61000004	MS 400 740 L47 X096 SA DH1	400 W	4000 K	45820 lm	114 lm/W	47	Silver	DALI
61000005	MS 500 740 M17 X096 SA DH1	500 W	4000 K	55294 lm	110 lm/W	M17	Silver	DALI
61000006	MS 500 740 L48 X096 SA DH1	500 W	4000 K	55294 lm	110 lm/W	48	Silver	DALI
61000007	MS 500 740 L47 X096 SA DH1	500 W	4000 K	55294 lm	110 lm/W	47	Silver	DALI
61000008	MS 600 740 M17 X096 SA DH1	600 W	4000 K	63654 lm	106 lm/W	M17	Silver	DALI
61000009	MS 600 740 L48 X096 SA DH1	600 W	4000 K	63654 lm	106 lm/W	48	Silver	DALI
61000010	MS 600 740 L47 X096 SA DH1	600 W	4000 K	63654 lm	106 lm/W	47	Silver	DALI
61000011	MS 675 740 M17 X096 SA DH1	675 W	4000 K	69087 lm	102 lm/W	M17	Silver	DALI
61000012	MS 675 740 L48 X096 SA DH1	675 W	4000 K	69087 lm	102 lm/W	48	Silver	DALI
61000013	MS 675 740 L47 X096 SA DH1	675 W	4000 K	69087 lm	102 lm/W	47	Silver	DALI
61000014	MS 400 750 M17 X096 SA DH1	400 W	5000 K	49871 lm	124 lm/W	M17	Silver	DALI
61000015	MS 400 750 L48 X096 SA DH1	400 W	5000 K	49871 lm	124 lm/W	48	Silver	DALI
61000016	MS 400 750 L47 X096 SA DH1	400 W	5000 K	49871 lm	124 lm/W	47	Silver	DALI
61000017	MS 500 750 M17 X096 SA DH1	500 W	5000 K	60116 lm	120 lm/W	M17	Silver	DALI
61000018	MS 500 750 L48 X096 SA DH1	500 W	5000 K	60116 lm	120 lm/W	48	Silver	DALI
61000019	MS 500 750 L47 X096 SA DH1	500 W	5000 K	60116 lm	120 lm/W	47	Silver	DALI
61000020	MS 600 750 M17 X096 SA DH1	600 W	5000 K	69705 lm	116 lm/W	M17	Silver	DALI
61000021	MS 600 750 L48 X096 SA DH1	600 W	5000 K	69705 lm	116 lm/W	48	Silver	DALI
61000022	MS 600 750 L47 X096 SA DH1	600 W	5000 K	69705 lm	116 lm/W	47	Silver	DALI
61000023	MS 675 750 M17 X096 SA DH1	675 W	5000 K	76249 lm	113 lm/W	M17	Silver	DALI
61000024	MS 675 750 L48 X096 SA DH1	675 W	5000 K	76249 lm	113 lm/W	48	Silver	DALI
61000025	MS 675 750 L47 X096 SA DH1	675 W	5000 K	76249 lm	113 lm/W	47	Silver	DALI

| Standard LED modules 352 LEDs

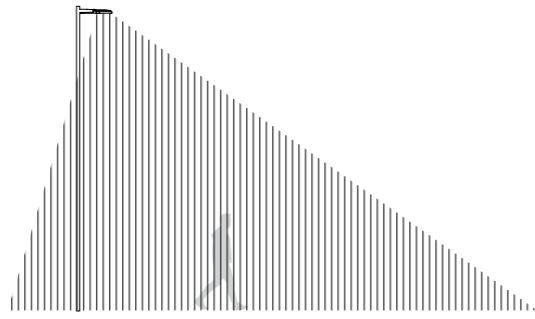
Article	Model Number	Power, w	Color temperature, K	Luminous flux, lm	Luminous efficacy, lm/W	Lens	Body color	Dimming
61000056	MS 365 750 L07 Y352 SA DH1	365 W	5000 K	51900 lm	142 lm/W	L07	Silver	DALI
61000057	MS 365 750 L08 Y352 SA DH1	365 W	5000 K	52930 lm	145 lm/W	L08	Silver	DALI
61000058	MS 365 750 L13 Y352 SA DH1	365 W	5000 K	51394 lm	140 lm/W	L13	Silver	DALI
61000059	MS 365 750 L14 Y352 SA DH1	365 W	5000 K	53963 lm	147 lm/W	L14	Silver	DALI
61000060	MS 365 750 L15 Y352 SA DH1	365 W	5000 K	55505 lm	152 lm/W	L15	Silver	DALI
61000061	MS 365 750 L20 Y352 SA DH1	365 W	5000 K	50366 lm	138 lm/W	L20	Silver	DALI
61000062	MS 365 750 L35 Y352 SA DH1	365 W	5000 K	47796 lm	131 lm/W	L35	Silver	DALI
61000063	MS 365 750 L37 Y352 SA DH1	365 W	5000 K	52421 lm	143 lm/W	L37	Silver	DALI
61000064	MS 520 750 L07 Y352 SA DH1	520 W	5000 K	71020 lm	136 lm/W	L07	Silver	DALI
61000065	MS 520 750 L08 Y352 SA DH1	520 W	5000 K	72426 lm	139 lm/W	L08	Silver	DALI
61000066	MS 520 750 L13 Y352 SA DH1	520 W	5000 K	70317 lm	135 lm/W	L13	Silver	DALI
61000067	MS 520 750 L14 Y352 SA DH1	520 W	5000 K	73832 lm	142 lm/W	L14	Silver	DALI
61000068	MS 520 750 L15 Y352 SA DH1	520 W	5000 K	75942 lm	146 lm/W	L15	Silver	DALI
61000069	MS 520 750 L20 Y352 SA DH1	520 W	5000 K	68910 lm	132 lm/W	L20	Silver	DALI
61000070	MS 520 750 L35 Y352 SA DH1	520 W	5000 K	65394 lm	126 lm/W	L35	Silver	DALI
61000071	MS 520 750 L37 Y352 SA DH1	520 W	5000 K	72723 lm	139 lm/W	L37	Silver	DALI
61000072	MS 700 750 L07 Y352 SA DH1	700 W	5000 K	91449 lm	130 lm/W	L07	Silver	DALI
61000073	MS 700 750 L08 Y352 SA DH1	700 W	5000 K	93260 lm	133 lm/W	L08	Silver	DALI
61000074	MS 700 750 L13 Y352 SA DH1	700 W	5000 K	90544 lm	129 lm/W	L13	Silver	DALI
61000075	MS 700 750 L14 Y352 SA DH1	700 W	5000 K	95071 lm	135 lm/W	L14	Silver	DALI
61000076	MS 700 750 L15 Y352 SA DH1	700 W	5000 K	97787 lm	139 lm/W	L15	Silver	DALI
61000077	MS 700 750 L20 Y352 SA DH1	700 W	5000 K	88733 lm	126 lm/W	L20	Silver	DALI
61000078	MS 700 750 L35 Y352 SA DH1	700 W	5000 K	84205 lm	120 lm/W	L35	Silver	DALI
61000079	MS 700 750 L37 Y352 SA DH1	700 W	5000 K	92354 lm	132 lm/W	L37	Silver	DALI

| Standard LED modules 352 LEDs

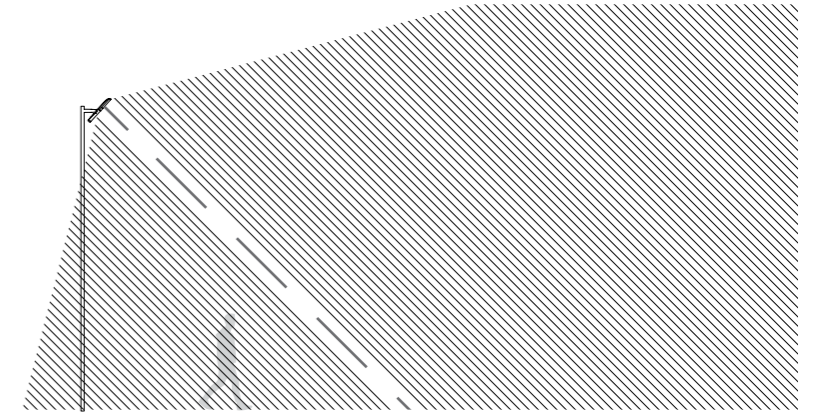
Article	Model Number	Power, w	Color temperature, K	Luminous flux, lm	Luminous efficacy, lm/W	Lens	Body color	Dimming
61000032	MS 365 740 L07 Y352 SA DH1	365 W	4000 K	51900 lm	142 lm/W	L07	Silver	DALI
61000033	MS 365 740 L08 Y352 SA DH1	365 W	4000 K	52930 lm	145 lm/W	L08	Silver	DALI
61000034	MS 365 740 L13 Y352 SA DH1	365 W	4000 K	51394 lm	140 lm/W	L13	Silver	DALI
61000035	MS 365 740 L14 Y352 SA DH1	365 W	4000 K	53963 lm	147 lm/W	L14	Silver	DALI
61000036	MS 365 740 L15 Y352 SA DH1	365 W	4000 K	55505 lm	152 lm/W	L15	Silver	DALI
61000037	MS 365 740 L20 Y352 SA DH1	365 W	4000 K	50366 lm	138 lm/W	L20	Silver	DALI
61000038	MS 365 740 L35 Y352 SA DH1	365 W	4000 K	47796 lm	131 lm/W	L35	Silver	DALI
61000039	MS 365 740 L37 Y352 SA DH1	365 W	4000 K	52421 lm	143 lm/W	L37	Silver	DALI
61000040	MS 520 740 L07 Y352 SA DH1	520 W	4000 K	71020 lm	136 lm/W	L07	Silver	DALI
61000041	MS 520 740 L08 Y352 SA DH1	520 W	4000 K	72426 lm	139 lm/W	L08	Silver	DALI
61000042	MS 520 740 L13 Y352 SA DH1	520 W	4000 K	70317 lm	135 lm/W	L13	Silver	DALI
61000043	MS 520 740 L14 Y352 SA DH1	520 W	4000 K	73832 lm	142 lm/W	L14	Silver	DALI
61000044	MS 520 740 L15 Y352 SA DH1	520 W	4000 K	75942 lm	146 lm/W	L15	Silver	DALI
61000045	MS 520 740 L20 Y352 SA DH1	520 W	4000 K	68910 lm	132 lm/W	L20	Silver	DALI
61000046	MS 520 740 L35 Y352 SA DH1	520 W	4000 K	65394 lm	126 lm/W	L35	Silver	DALI
61000047	MS 520 740 L37 Y352 SA DH1	520 W	4000 K	72723 lm	139 lm/W	L37	Silver	DALI
61000048	MS 700 740 L07 Y352 SA DH1	700 W	4000 K	91449 lm	130 lm/W	L07	Silver	DALI
61000049	MS 700 740 L08 Y352 SA DH1	700 W	4000 K	93260 lm	133 lm/W	L08	Silver	DALI
61000050	MS 700 740 L13 Y352 SA DH1	700 W	4000 K	90544 lm	129 lm/W	L13	Silver	DALI
61000051	MS 700 740 L14 Y352 SA DH1	700 W	4000 K	95071 lm	135 lm/W	L14	Silver	DALI
61000052	MS 700 740 L15 Y352 SA DH1	700 W	4000 K	97787 lm	139 lm/W	L15	Silver	DALI
61000053	MS 700 740 L20 Y352 SA DH1	700 W	4000 K	88733 lm	126 lm/W	L20	Silver	DALI
61000054	MS 700 740 L35 Y352 SA DH1	700 W	4000 K	84205 lm	120 lm/W	L35	Silver	DALI
61000055	MS 700 740 L37 Y352 SA DH1	700 W	4000 K	92354 lm	132 lm/W	L37	Silver	DALI

Optics

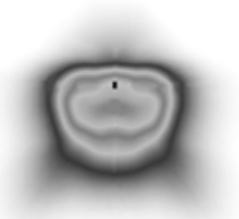
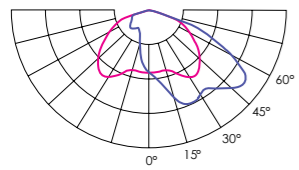
Asymmetric



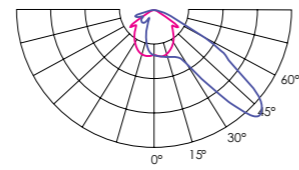
Symmetric



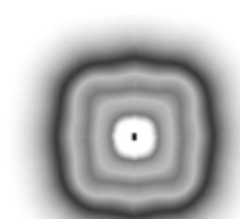
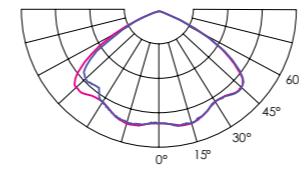
L 07



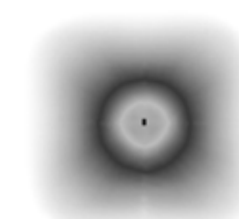
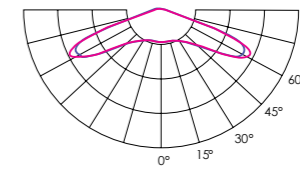
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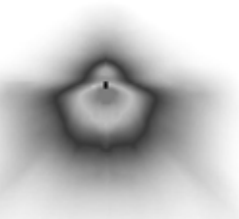
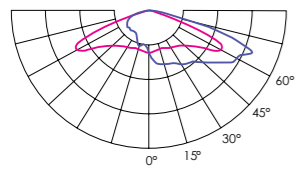
L 10



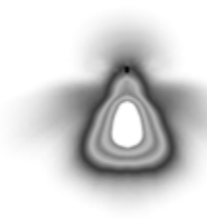
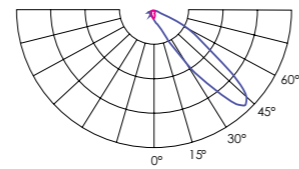
L 20



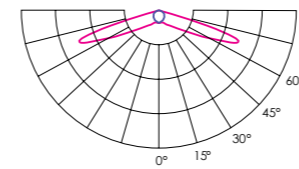
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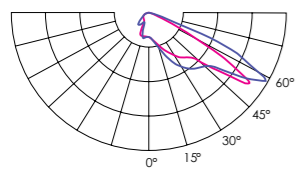
L 37



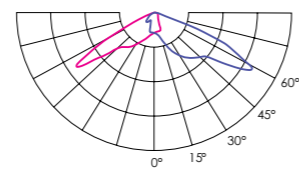
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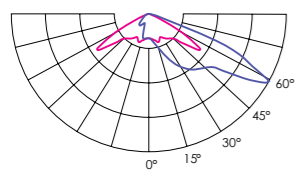
L 47



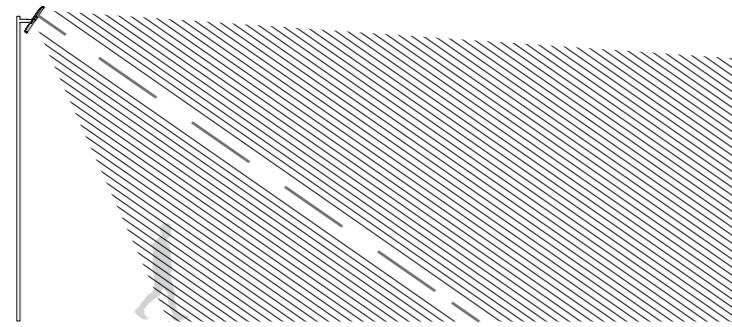
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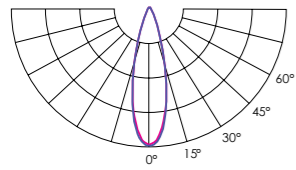
M 17



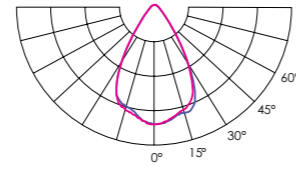
Rotosymmetric



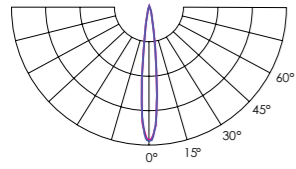
L 13



L 14

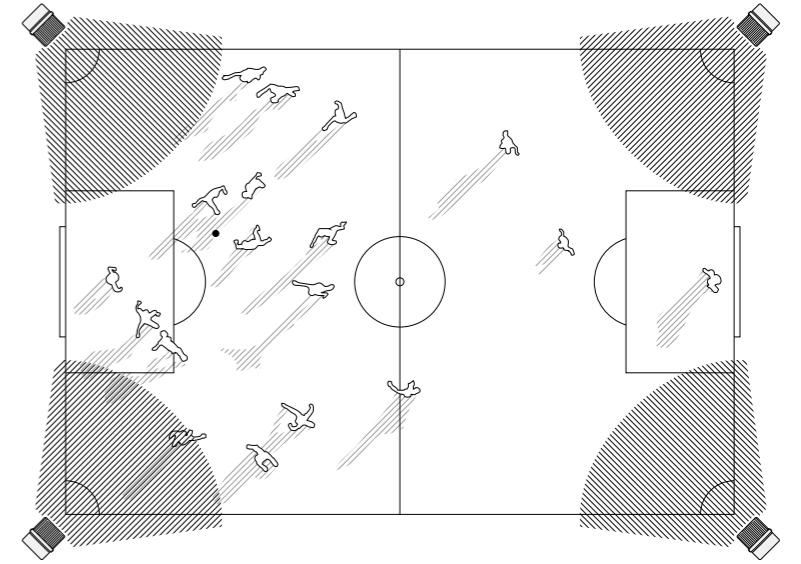


L 15

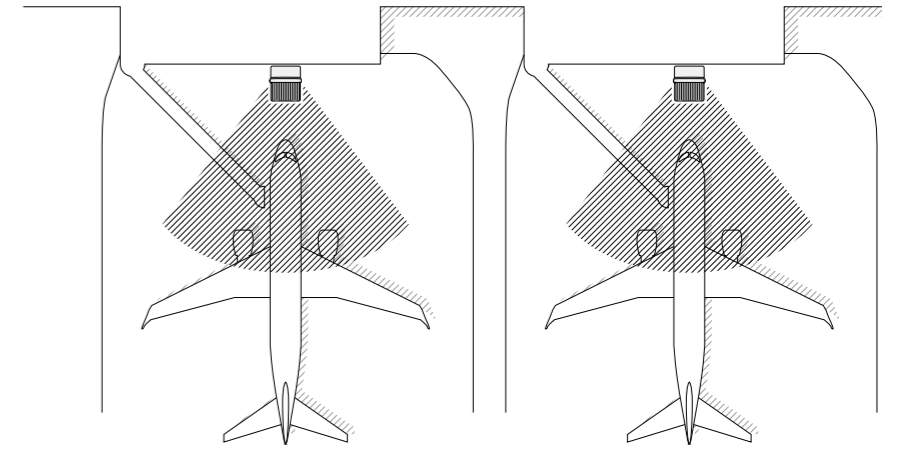


| Application

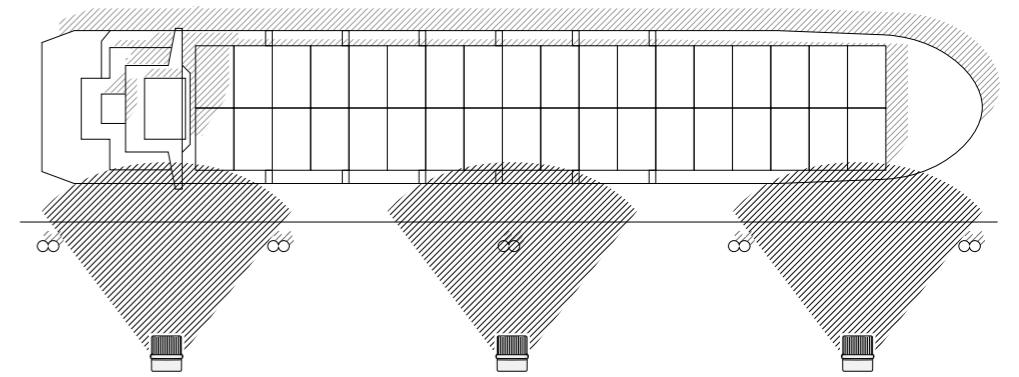
Sports lighting



Airport infrastructure



Port infrastructure

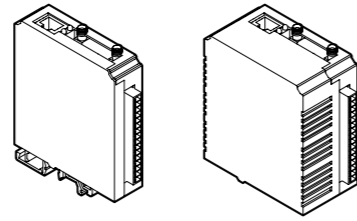


Accessories

Citintelly Segment controller

Segment Controller receives commands from Citintelly server via GSM and transmits tasks to Luminaire Controller via radio frequency communication.

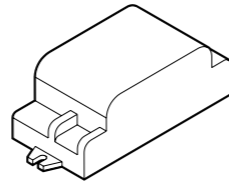
Art. 70010004



Citintelly Luminaire controller

Luminaire Controller is wireless mesh-networking device that uses 868 MHz for communication with Segment Controller and other Luminaire Controllers. It is delivered in various configurations to meet the needs of your applications.

Art. 70010001 | Luminaire controller, 2 relay
Art. 70010002 | Luminaire controller, 1 relay

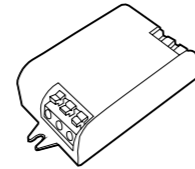


Citintelly Surge Protection device

Surge Protection device offers protection against lighting surges:
Voltage Protection level up (L-N) $\leq 1,5$ kV
Voltage Protection level up (L/N-PE) $\leq 1,8$ kV

$U_{oc} = 10$ kV
 $I_{max} = 10$ kA
 $I_{nom} = 5$ kA

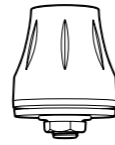
Art. 70002001



Radio Frequency Antenna

Heavy duty IP67 enclosure
Mounted in cabinet or luminaire body with 14 mm screw
SMA connector

Art. 70000108

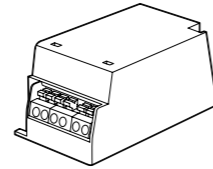


Surge Protection device

Surge Protection device offers protection against lighting surges:
Voltage Protection level up (L-N) $\leq 1,5$ kV
Voltage Protection level up (L/N-PE) $\leq 2,0$ kV

$U_{oc} = 10$ kV
 $I_{max} = 10$ kA
 $I_{nom} = 5$ kA

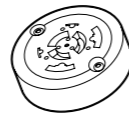
Art. 70000203



NEMA Socket

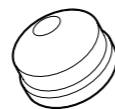
2213362-3, 5 pin NEMA socket 105°C wires
2213362-4, 7 pin NEMA socket 105°C wires

Art. 70000362
Art. 70000333



Dummy Link for NEMA Socket

Art. 70000113



Zhaga socket no cap

Art. 70000612



Zhaga socket with cap

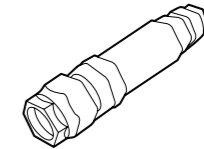
Art. 70000613



Connector

IP66 rated connector offers easy installation of luminaires.
3 wire cable connector

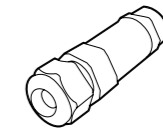
Art. 70000313



Connector

IP66 rated connector offers easy installation of luminaires.
5 wire cable connector

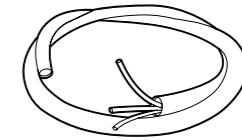
Art. 70000315



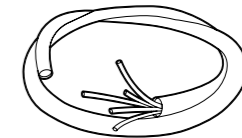
Pre-installed cable sets

For internal power supply:

3 x 1,5 mm - 0,5 m long cable	Art. 70000319
3 x 1,5 mm - 5 m long cable	Art. 70000320
3 x 1,5 mm - 6 m long cable	Art. 70000321
3 x 1,5 mm - 8 m long cable	Art. 70000322
3 x 1,5 mm - 10 m long cable	Art. 70000323
3 x 1,5 mm - 12 m long cable	Art. 70000324
3 x 1,5 mm - 18 m long cable	Art. 70000325
3 x 1,5 mm - 20 m long cable	Art. 70000425
3 x 1,5 mm - 22 m long cable	Art. 70000426
3 x 1,5 mm - 25 m long cable	Art. 70000427
3 x 1,5 mm - 32 m long cable	Art. 70000430
3 x 1,5 mm - 42 m long cable	Art. 70000431
3 x 1,5 mm - 50 m long cable	Art. 70000432

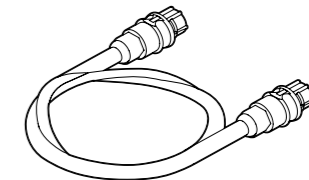


5 x 1,5 mm - 0,5 m long cable	Art. 70000305
5 x 1,5 mm - 5 m long cable	Art. 70000316
5 x 1,5 mm - 6 m long cable	Art. 70000317
5 x 1,5 mm - 8 m long cable	Art. 70000318
5 x 1,5 mm - 10 m long cable	Art. 70000306
5 x 1,5 mm - 12 m long cable	Art. 70000307
5 x 1,5 mm - 18 m long cable	Art. 70000308
5 x 1,5 mm - 20 m long cable	Art. 70000428
5 x 1,5 mm - 22 m long cable	Art. 70000429
5 x 1,5 mm - 25 m long cable	Art. 70000429
5 x 1,5 mm - 32 m long cable	Art. 70000433
5 x 1,5 mm - 42 m long cable	Art. 70000434
5 x 1,5 mm - 42 m long cable	Art. 70000435



Pre-installed cable sets For external power supply

0,5 m long cable	Art. 70000436
5 m long cable	Art. 70000437
6 m long cable	Art. 70000438
8 m long cable	Art. 70000439
10 m long cable	Art. 70000440
12 m long cable	Art. 70000441
18 m long cable	Art. 70000442
20 m long cable	Art. 70000443
22 m long cable	Art. 70000444
25 m long cable	Art. 70000445





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