



# OrbitX

**Direct Drive LED Lights**

**Specifications**

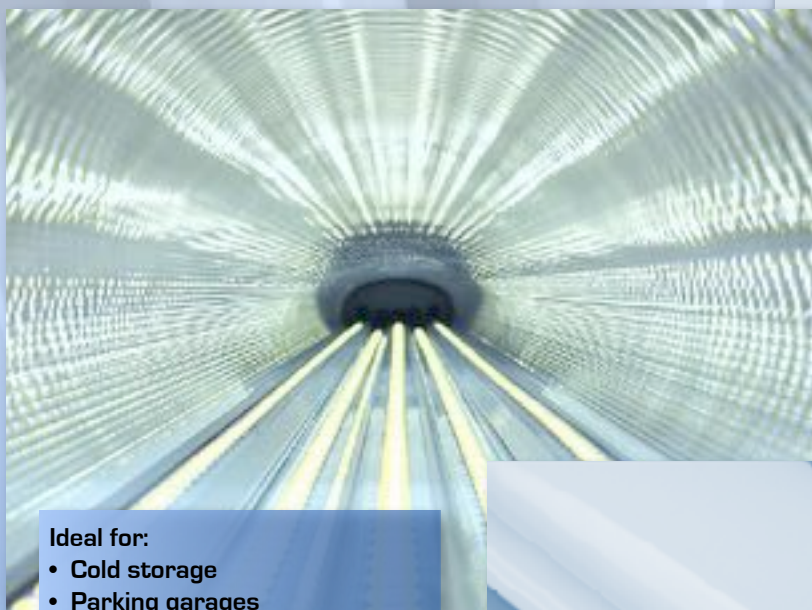
February 2020

**OrbitX Direct Drive LED lights offer up to 8-year guarantees, near-unity power factor and do not cause wireless interference often associated with traditional LED lamps.**

# OrbitX

## Neptune IP65/Highbay

Integrated IP65 fitting  
Dust proof, Moisture proof, Vapour proof  
OrbitX Direct Drive Technology



#### Ideal for:

- Cold storage
- Parking garages
- Mining
- Warehouses
- Packhouses
- Storerooms
- Factories
- Cellars, breweries, distilleries
- Food industry: kitchens, packing, storage
- Retail stores
- Schools, Colleges, Universities
- Dormitories
- Canopy lights
- Residential garages, kitchens
- Passages
- Printing industry
- TV and film studio lighting
- Exhibition halls
- Inspection areas
- Gyms
- Art studios and galleries
- Interior decorating
- Outdoor use: parking areas, open areas



Available in 1200mm and 1800mm in the following outputs:

2000lm - 20W	High bay (1800mm):
4000lm - 40W	12000lm - 120W
6000lm - 60W	15000lm - 150W
8000lm - 80W	

Optional: Radar motion-sensing  
Battery backup

# OrbitX Neptune

	<b>OrbitX Neptune</b> Direct Drive LED
<b>Configuration</b>	Integrated IP65 1200mm, 1500mm and 1800mm available
<b>Guarantee (24h/365d)</b>	<b>8 Years Operational</b> <b>(5y light output)</b>
<b>Lifespan (L70)</b> <b>IES LM-80, TM-21</b>	<b>30 years (8h/d, 5d/week)</b> <b>8 years (24h/d, 7d/week)</b> <b>70 000h</b>
<b>Power Rating</b>	<b>20W / 40W / 60W / 80W</b> <b>Highbay 120W / 150W</b>
<b>Luminous Flux (downwards)</b>	<b>2000 / 4000 / 6000 / 8000</b> <b>Highbay 12000 lm / 15000lm</b>
<b>Luminous efficacy</b>	<b>100 - 110 lm/W</b>
<b>Wi-Fi, barcode scanner, radio frequency interference</b>	<b>IEC 61547, SANS 215 (CISPR15)</b> <b>compliant</b> <b>Very Low</b>
<b>Power Factor</b>	<b>&gt;0.95</b>
<b>Total Harmonic Distortion</b>	<b>IEC 61000-3-2</b> <b>Class D compliant</b>
<b>Correlated Colour Temperature (CCT)</b>	<b>4000K, 5000K</b>
<b>CRI (Ra); GAI</b>	<b>83; 96</b> <b>Type A Retail Lighting Compliant</b>
<b>Beam angle</b>	<b>200°</b>
<b>On/Off Switching</b>	<b>Unlimited</b>
<b>Delay to full brightness</b>	<b>Instant</b>
<b>Operating Voltage</b>	<b>220-240V AC</b>
<b>Surge Voltage</b>	<b>1 500 V</b>
<b>Fire rating</b>	<b>VO (no flaming droplets)</b>
<b>Risk of breakage</b>	<b>Very low (extra thick polycarbonate housing)</b>



# OrbitX Neptune

## Radar Motion-Sensing

	OrbitX Neptune Radar Direct Drive LED
Configuration	Radar Motion-Sensing is available for any Standard Neptune IP65 fitting
Guarantee	5 years operational
Light output: 20W Neptune 100% = 2000lm	Motion: 100% Dimmed: 0%
Light output: 40W Neptune 100% = 4000lm	Standard: Motion: 100% Dimmed: 50% Option 2: Motion: 100% Dimmed: 0%
Light output: 60W Neptune 100% = 6000lm	Standard: Motion: 100% Dimmed: 33% Option 2: Motion: 100% Dimmed: 67% Option 3: Motion: 100% Dimmed: 0%
Sensing distance	Minimum 6m
Sensing range	270°
Power consumption when dimmed to 0%	<100mW
Radar frequency	2.4 – 2.4835 GHz
Standard on-time from motion until dimmed	2 minutes
On/Off Switching	Unlimited
Delay to full brightness	Instant

# OrbitX Neptune Battery Backup

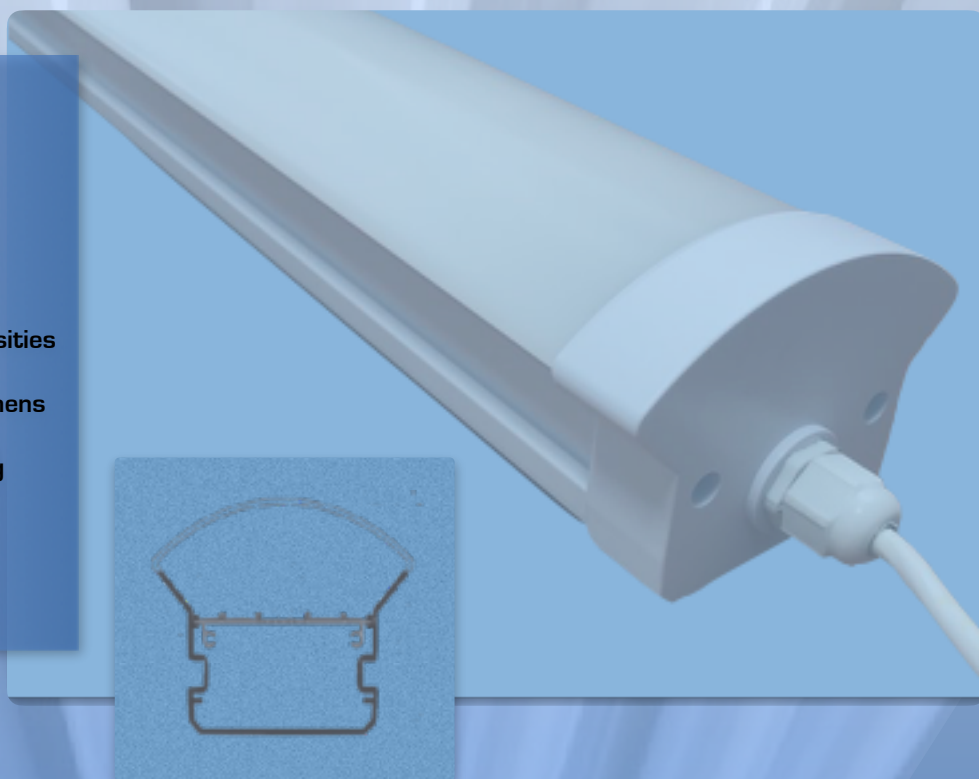
	OrbitX Neptune Backup Direct Drive LED
Configuration	Battery backup is available internally for the standard Neptune IP65 fitting and as an external option for OrbitX Tube Lamps
Guarantee	1 year operational
Light output: 40W Neptune 100% = 4000lm	Standard: Mains on: 100% Battery: 50% for 1h Option 2: Mains on: 100% Battery: 100% for 0.5h
Light output: 20W Neptune or Tube 100% = 2000lm	Mains on: 100%; Battery Power: 100% for 1h
Light output: 60W Neptune 100% = 6000lm	Standard: Mains on: 100% Battery: 30% for 1h Option 2: Mains on: 100% Battery: 67% for 0.5h
Minimum charging time	24h
Switched Line	Available in three-wire configuration
On/Off Switching	Unlimited
Delay to full brightness	Instant

# OrbitX Titan IP65

Integrated IP65 fitting  
Dust proof, Moisture proof, Vapour proof  
OrbitX Direct Drive Technology

**Ideal for:**

- Offices
- Commercial areas
- Parking garages
- Storerooms
- Food industry: kitchens, packing, storage
- Retail stores
- Schools, Colleges, Universities
- Dormitories
- Residential garages, kitchens
- Passages
- TV and film studio lighting
- Exhibition halls
- Inspection areas
- Gyms
- Art studios and galleries
- Interior decorating



Available in 600mm, 1200mm and 1500mm in the following outputs:

600mm - 1800lm - 18W

1200mm - 3600lm - 36W

1200mm - 5400lm - 54W

1500mm - 5800lm - 58W

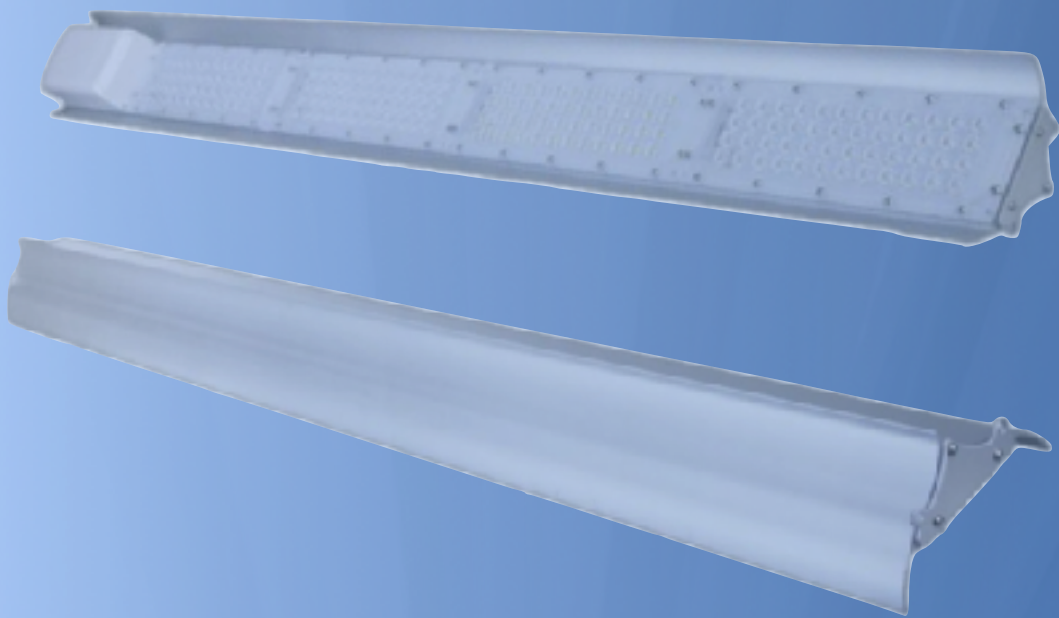
# OrbitX Titan

	<b>OrbitX Titan</b> <b>Direct Drive LED</b>
<b>Configuration</b>	Integrated IP65 600mm, 1200mm and 1500mm available
<b>Guarantee (24h/365d)</b>	<b>6 Years Operational</b> <b>(3y light output)</b>
<b>Lifespan (L70)</b> <b>IES LM-80, TM-21</b>	<b>30 years (8h/d, 5d/week)</b> <b>8 years (24h/d, 7d/week)</b> <b>70 000h</b>
<b>Power Rating</b>	<b>18W / 36W / 54W / 58W</b>
<b>Luminous Flux</b> <b>(downwards)</b>	<b>1800 / 3600 / 5400 / 5800lm</b>
<b>Luminous efficacy</b>	<b>100 - 110 lm/W</b>
<b>Wi-Fi, barcode scanner, radio frequency interference</b>	<b>IEC 61547, SANS 215 (CISPR15)</b> <b>compliant</b> <b>Very Low</b>
<b>Power Factor</b>	<b>&gt;0.95</b>
<b>Total Harmonic Distortion</b>	<b>IEC 61000-3-2</b> <b>Class D compliant</b>
<b>Correlated Colour Temperature (CCT)</b>	<b>4000K, 5000K</b>
<b>CRI (Ra); GAI</b>	<b>83; 96</b> <b>Type A Retail Lighting Compliant</b>
<b>Beam angle</b>	<b>160°</b>
<b>On/Off Switching</b>	<b>Unlimited</b>
<b>Delay to full brightness</b>	<b>Instant</b>
<b>Operating Voltage</b>	<b>220-240V AC</b>
<b>Surge Voltage</b>	<b>1 500 V</b>
<b>Fire rating</b>	<b>VO (no flaming droplets)</b>
<b>Risk of breakage</b>	<b>Very low (extra thick polycarbonate housing)</b>



# OrbitX Racking IP65 Highbay

Narrow beam angle to light up aisles between highbay racking  
Integrated IP65 fitting  
Dust proof, Moisture proof, Vapour proof



**Ideal for:**

- Cold storage
- Warehouses
- Packhouses
- Storerooms
- Factories
- Cellars, breweries, distilleries
- Food industry

**Available in the following outputs.**

High bay (1200mm):

11000lm - 100W

20000lm - 200W



# OrbitX

## Racking IP65 Highbay

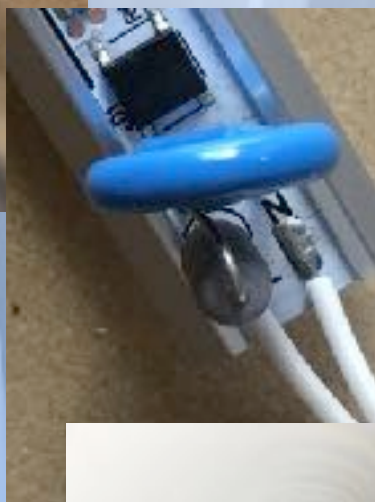
	OrbitX Racking Highbay
Configuration	Integrated IP65 1200mm
Guarantee (24h/365d)	5 Years Operational (3y light output)
Lifespan (L70) IES LM-80, TM-21	50 000h
Power Rating	Highbay 100W / 200W
Luminous Flux (downwards)	11000 lm / 20000lm
Luminous efficacy	100 - 110 lm/W
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547, SANS 215 (CISPR15) compliant Very Low
Power Factor	>0.95
Total Harmonic Distortion	IEC 61000-3-2 Class D compliant
Correlated Colour Temperature (CCT)	5700-6500K
CRI (Ra); GAI	83; 85 Type A Lighting Compliant
Beam angle	62° - 90°
On/Off Switching	Unlimited
Delay to full brightness	Instant
Operating Voltage	220-240V AC 50Hz
Surge Voltage	Line - Line >2000V Line - GND >4000V

# OrbitX T8/T5 Tube Lamps

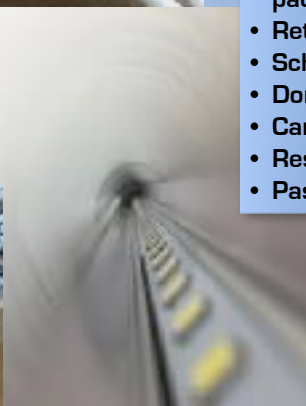


Large MOV  
ensures spike  
resistance of  
1.5kV

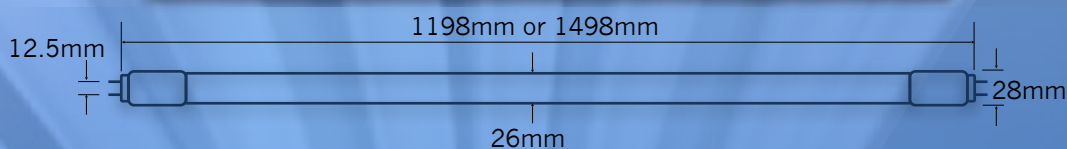
Low running  
temperature  
for capacitor  
results in life  
expectancy  
of >100  
000h



Direct Drive IC replaces traditional LED driver



Low mounting in housing allows viewing angle of 270°



Line and Neutral on same end of tube

Ideal for:

- Offices
- Commercial areas
- Display fridges
- Under counter lighting
- Printing industry
- TV and film studio lighting
- Exhibition halls
- Inspection areas
- Gyms
- Art studios and galleries
- Interior decorating
- Sign boxes
- Cold storage
- Parking garages
- Warehouses
- Packhouses
- Storerooms
- Factories
- Cellars, breweries, distilleries
- Food industry: kitchens, packing, storage
- Retail stores
- Schools, Colleges, Universities
- Dormitories
- Canopy lights
- Residential garages, kitchens
- Passages

# OrbitX Retrofit (Optional)

SABS Passed

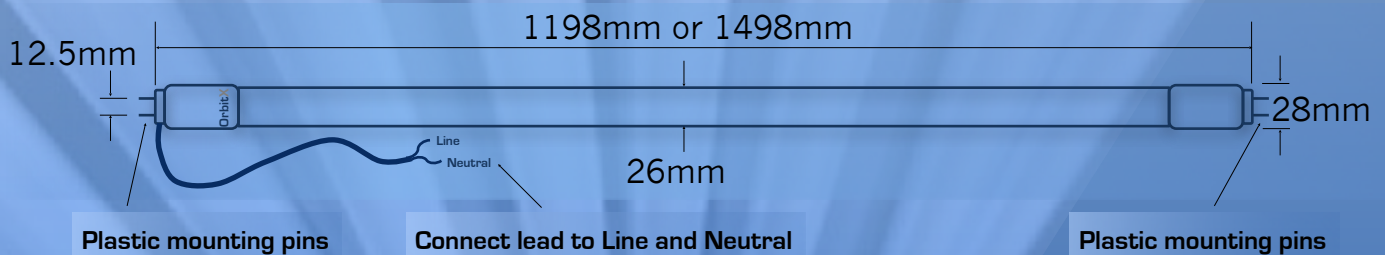


Unique non-conducting mounting pins combined with lead for electrical connection allows retrofitting without modifying existing luminaire



No modification to existing luminaire – simply connect the OrbitX Direct Drive LED tube lamp lead directly to the AC supply.

No modification: SABS and other certifications of the existing luminaire remain unaffected by OrbitX Retrofit.

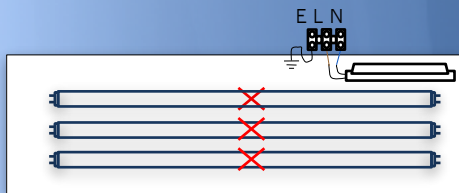




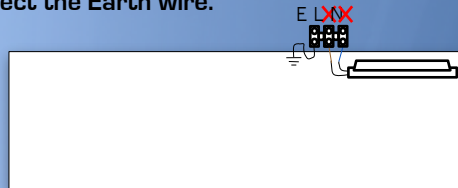
# OrbitX Retrofit Installation

No modification is made to the existing luminaire. SABS and other certifications of the existing luminaire remain unaffected by OrbitX Retrofit.

1. Remove the old fluorescent tube lamps.



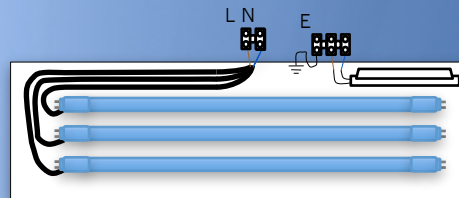
2. Disconnect the Line and Neutral wires of the building power supply from the existing lamp holder. Do not disconnect the Earth wire.



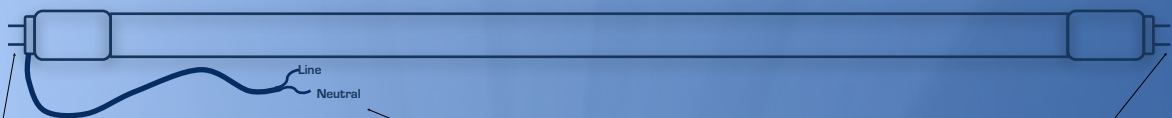
3. Fit the OrbitX lamps into the existing lamp holder.



4. Connect the Line and Neutral wires of the building power supply directly to the integrated lead(s) of the OrbitX lamp(s) by means of standard terminal blocks.



The Retrofit lamp has plastic pins on both sides of the lamp. These pins are electrically insulated and their sole purpose is to allow the lamp to be physically fitted in existing lamp holders.



Plastic mounting pins

Connect lead to Line and Neutral

Plastic mounting pins

# OrbitX T8

	OrbitX 2400mm	OrbitX 1800mm	OrbitX 1500mm	OrbitX 1200mm	OrbitX 900mm	OrbitX 600mm
<b>Guarantee (24h/365d)</b>	<b>6 Years Operational (3y light output L70)</b>					
Power Factor	>0.95					
Luminous efficacy	>100 lm/W					
Light output compared to fluorescent (downwards)	>100%					
Power saving compared to fluorescent	>50%					
Surge Voltage	1 500 V					
Operating Voltage	220-240V AC					
<b>Lifespan (L70) IES LM-80, TM-21</b>	<b>26 years (8h/d, 5d/week) 6 years (24h/d, 7d/week) 55 000h</b>					
Beam angle	270°					
<b>Luminous Flux (downwards)</b>	<b>3600lm</b>	<b>2700lm</b>	<b>2000lm</b>	<b>1800lm</b>	<b>1500lm</b>	<b>900lm</b>
<b>Power Rating (220V-240V)</b>	<b>36W</b>	<b>27W</b>	<b>19.5W</b>	<b>18W</b>	<b>14.5W</b>	<b>8.5W</b>
Correlated Colour Temperature (CCT)	4000K, 5000K					
Light Quality: CRI (Ra); GAI	CRI=83; GAI=96 Type A Retail Lighting Compliant					
Total Harmonic Distortion	IEC 61000-3-2 Class D compliant					
<b>Wi-Fi, barcode scanner, radio frequency interference</b>	<b>IEC 61547,SANS 215 (CISPR15) compliant Very Low</b>					
Delay to full brightness	Instant					
Risk of electric shock	No external metal (SANS1662 compliant)					
On/Off Switching	Unlimited					
Fire rating	VO (no flaming droplets)					
Risk of breakage	Very low (polycarbonate tube)					

**Specifications ±10% at 230V. Generic values are estimated and typical for the particular technology**

# OrbitX T5

	OrbitX 1450mm Low Power	OrbitX 1150mm Low Power
Power Rating (220V-240V)	18W	15W
Luminous Flux (downwards)	1800lm	1500lm
Guarantee (24h/365d)	6 Years Operational (3y light output L70)	
Lifespan (L70) IES LM-80, TM-21	26 years (8h/d, 5d/week) 6 years (24h/d, 7d/week) 55 000h	
Power saving compared to T5 fluorescent	50%	50%
Light output compared to fluorescent (downwards)	>100%	
Luminous efficacy	>100 lm/W	
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547,SANS 215 (CISPR15) compliant Very Low	
Power Factor	>0.95	
Total Harmonic Distortion	IEC 61000-3-2 Class D compliant	
Correlated Colour Temperature (CCT)	4000K, 5000K	
Light Quality: CRI (Ra); GAI	CRI=83; GAI=96 Type A Retail Lighting Compliant	
Beam angle	270°	
On/Off Switching	Unlimited	
Delay to full brightness	Instant	
Operating Voltage	220-240V AC	
Surge Voltage	1 500 V	
Fire rating	VO (no flaming droplets)	
Risk of electric shock	No external metal (SANS1662 compliant)	
Risk of breakage	Very low (polycarbonate tube)	

Specifications ±10% at 230V. Generic values are estimated and typical for the particular technology



# OrbitX Floodlights with ALS

**Integrated Automatic Light Sensor (ALS)**  
**Switches on at dusk and off at dawn**  
**No risk of light being on during day time**



**Ideal for:**

- Security lighting
- Mining
- Construction
- Earth moving
- Outdoor industrial operations
- Sports fields
- Outdoor parking areas
- Open areas
- Perimeter lighting
- Flood lighting of buildings

**Integrated IP65 fitting**  
**Dust proof, Moisture proof, Vapour proof**  
**Direct Drive Technology**

Available in the following sizes:

10W, 20W, 30W, 50W, 100W, 200W

Lois van der Spuy **t** 021 879 1483 **m** 082 900 6093 **e** lois@orbitx.co.za  
Frans Rossouw **t** 021 879 1483 **m** 082 883 5008 **e** frans@orbitx.co.za

# OrbitX

## Lamp for Life Floodlights

with integrated automatic light sensor

Power Rating (220V-240V)	200W	100W	50W	30W	20W	10W
Luminous Flux	20000lm	10000lm	5000lm	3000lm	2000lm	1000lm
Guarantee (24h/365d)	5 Years					
Lifespan (L70) IES LM-80, TM-21	15 years (8h/d, 5d/week) 10 years (12h/d, 7d/week) 50 000h					
Power saving compared to Metal Halide / Halogen	>50%					
Light output compared to Metal Halide / Halogen	>110%					
Luminous efficacy	100 lm/W					
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547, SANS 215 (CISPR15) compliant Very Low					
Power Factor	>0.95					
Safety	IEC60598-1, IEC60598-2-5					
Correlated Colour Temperature (CCT)	5700 - 6500K					
Light Quality: CRI (Ra)	>80					
Beam angle	120°					
On/Off Switching	Unlimited					
Delay to full brightness	Instant					
Operating Voltage	220-240V AC					
Surge Voltage	IEC61000-4-5: 2000 V line-ground, 1000 V line-line					
Working temperature range	0 - 40°C					
IP Protection	IP65					
Ambient light sensore	100-400 lux threshold ±50 lux hysteresis, avg. 1 min					
Risk of breakage	Vibration and shock resistant					

Specifications ±10% at 230V. Generic values are estimated and typical for the particular technology

# OrbitX

## EX Lamp for Life Floodlights

Zone 1, 2, 21 and 22 applications  
Certified explosion protected  
Integrated Automatic Light Sensor (ALS)  
Switches on at dusk and off at dawn



#### Ideal for:

- Oil and gas industry
- Petroleum industry
- Paint booths
- Solvent storage areas
- Processes utilising solvents
- Security lighting
- Mining
- Construction
- Earth moving
- Outdoor industrial operations
- Corrosive marine applications

Ex nA IIC T5 Gc, Ex t IIIC T100°C IP65 Db  
and Ex e IIC T5 Gb  
Integrated over temperature protection  
Direct Drive Technology

Available in the following sizes:  
10W, 50W, 100W, 200W

Lois van der Spuy **t** 021 879 1483 **m** 082 900 6093 **e** lois@orbitx.co.za  
Frans Rossouw **t** 021 879 1483 **m** 082 883 5008 **e** frans@orbitx.co.za



# OrbitX

## EX Lamp for Life Floodlights

with integrated automatic light sensor

Power Rating (220V-240V)	200W	100W	50W	10W
Luminous Flux	18000lm	9000lm	4500lm	900lm
Guarantee (24h/365d)	5 Years			
Lifespan (L70) IES LM-80, TM-21	15 years (8h/d, 5d/week) 10 years (12h/d, 7d/week) 50 000h			
Power saving compared to Metal Halide / Halogen	>50%			
Light output compared to Metal Halide / Halogen	>110%			
Luminous efficacy	90 lm/W			
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547, SANS 215 (CISPR15) compliant Very Low			
Power Factor	>0.95			
Safety	IEC60598-1, IEC60598-2-5			
Correlated Colour Temperature (CCT)	5700 - 6500K			
Light Quality: CRI (Ra)	>80			
Beam angle	90 - 120°			
On/Off Switching	Unlimited			
Delay to full brightness	Instant			
Operating Voltage	220-240V AC			
Surge Voltage	IEC61000-4-5: 2000 V line-ground, 1000 V line-line			
Working temperature range	-20 to 40°C			
IP Protection	IP65			
Ambient light sensore	100-400 lux threshold ±50 lux hysteresis, avg. 1min threshold			
Risk of breakage	Vibration and shock resistant			

Specifications ±10% at 230V. Generic values are estimated and typical for the particular technology

# OrbitX Tracklights

**Slim design without bulky external driver**  
**Easy installation and on-site adjustment in tracks**  
**Type A lighting - mimics sunlight**



**Ideal for:**

- Retail
- Merchandise
- Signage
- Feature illumination
- Commercial lighting
- Exhibition halls
- Inspection areas
- Gyms
- Art studios and galleries
- Interior decorating

**Integrated over temperature protection**  
**Direct Drive Technology**  
**IP20 rating**

**Available in the following sizes:**  
**30W, 40W**

Lois van der Spuy **t** 021 879 1483 **m** 082 900 6093 **e** lois@orbitx.co.za  
Frans Rossouw **t** 021 879 1483 **m** 082 883 5008 **e** frans@orbitx.co.za

# OrbitX

## Lamp for Life Tracklights

Power Rating (220V-240V)	40W	30W
Luminous Flux	3200lm	2500lm
Beam angle	45°	
Guarantee (24h/365d)	5 Years	
Lifespan (L70) IES LM-80, TM-21	15 years (8h/d, 5d/week) 10 years (12h/d, 7d/week) 50 000h	
Power saving compared to Metal Halide / Halogen	>50%	
Light output compared to Metal Halide / Halogen	>110%	
Luminous efficacy	>80 lm/W	
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547, SANS 215 (CISPR15) compliant Very Low	
Power Factor	>0.95	
Safety	IEC60598-1, IEC60598-2-5	
Correlated Colour Temperature (CCT)	3800 - 4500K, 5700 - 6200K	
Light Quality: CRI (Ra), GAI	>80, >90 Type A Lighting (as per Lighting Research Centre)	
On/Off Switching	Unlimited	
Delay to full brightness	Instant	
Operating Voltage	220-240V AC	
Surge Voltage	IEC61000-4-5: 2000 V line-ground, 1000 V line-line	
Working temperature range	0 - 40°C	
IP Protection	IP20	
Risk of breakage	Vibration and shock resistant	

Specifications ±10% at 230V. Generic values are estimated and typical for the particular technology



# OrbitX

## Low Glare Down Lights

Recessed fitting - low glare  
Surface mount adapter available  
Type A lighting - mimics sunlight



**Ideal for:**

- Retail
- Commercial lighting
- Shopping malls
- Corridors and passageways
- Office lighting
- Exhibition halls
- Schools, Colleges, Universities
- Dormitories
- Gyms

Integrated over temperature protection  
Direct Drive Technology  
IP20 rating

Available in the following sizes:  
29W, 42W

# OrbitX

## Lamp for Life Down Lights

Power Rating (220V-240V)	42W	29W
Luminous Flux	3600lm	2500lm
Beam angle	90°	
Guarantee (24h/365d)	5 Years	
Lifespan (L70) IES LM-80, TM-21	14 years (8h/d, 5d/week) 7 years (12h/d, 7d/week) 30 000h	
Power saving compared to Metal Halide / Halogen	>50%	
Light output compared to Metal Halide / Halogen	>110%	
Luminous efficacy	>80 lm/W	
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547,SANS 215 (CISPR15) compliant Very Low	
Power Factor	>0.95	
Safety	IEC60598-1, IEC60598-2-5	
Correlated Colour Temperature (CCT)	4000K, 5800K	
Light Quality: CRI (Ra)	>80	
On/Off Switching	Unlimited	
Delay to full brightness	Instant	
Operating Voltage	220-240V AC	
Surge Voltage	IEC61000-4-5: 2000 V line-ground, 1000 V line-line	
Working temperature range	0 - 40°C	
IP Protection	IP20	
Risk of breakage	Vibration and shock resistant	

Specifications  $\pm 10\%$  at 230V. Generic values are estimated and typical for the particular technology

# OrbitX

## GU10 Down Light

Recessed fitting - low glare  
Type A lighting - mimics sunlight  
Direct Drive Technology



**Ideal for:**

- Retail
- Commercial lighting
- Shopping malls
- Corridors and passageways
- Office lighting
- Exhibition halls
- Schools, Colleges, Universities
- Dormitories
- Gyms

**Integrated over temperature protection**  
**Non dimmable**  
**Trim ring available separately**

Available in the following size:  
**3.5W**



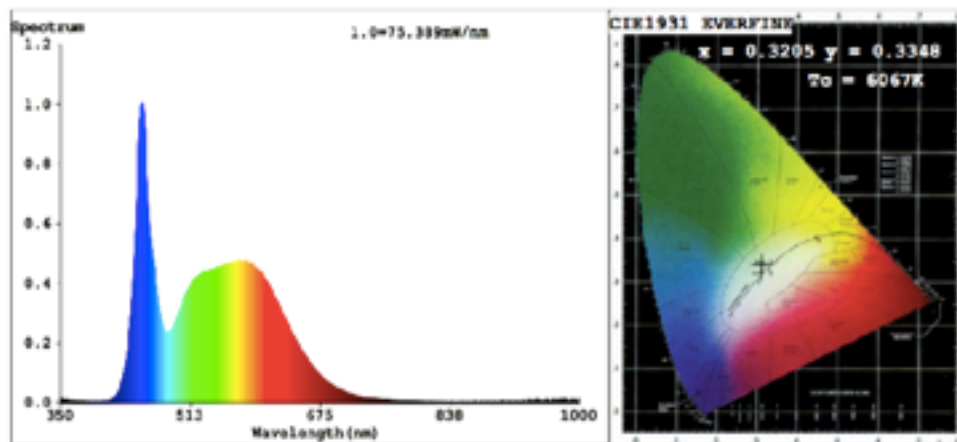
# OrbitX

## Lamp for Life GU10 Down Light

Power Rating (220V-240V)	3.5W
Luminous Flux	227lm
Beam angle	38°
Guarantee (24h/365d)	5 Years
Lifespan (L70) IES LM-80, TM-21	20 years (8h/d, 5d/week) 10 years (12h/d, 7d/week) 40 000h
Power saving compared to Metal Halide / Halogen	>90%
Light output compared to Metal Halide / Halogen	>110%
Luminous efficacy	>65 lm/W
Wi-Fi, barcode scanner, radio frequency interference	IEC 61547, SANS 215 (CISPR15) compliant Very Low
Power Factor	>0.90
Safety	IEC60598-1, IEC60598-2-5
Correlated Colour Temperature (CCT)	3000K 4000K
Light Quality: CRI (Ra)	>80
On/Off Switching	Unlimited
Delay to full brightness	Instant
Operating Voltage	220-240V AC
Surge Voltage	IEC61000-4-5: 2000 V line-ground, 1000 V line-line
Working temperature range	0 - 40°C
IP Protection	IP20
Risk of breakage	Vibration and shock resistant
Optional trim ring diameter	80mm
Optional trim ring cut diameter	70mm
Optional trim ring specification	Twist and lock, non-tilt

Specifications **±10% at 230V**. Generic values are estimated and typical for the particular technology

## Spectrum Test Report



## Color Parameters:

Chromaticity Coordinate:  $x=0.3205$   $y=0.3348$   $u'=0.2011$   $v'=0.4726$

$T_c=6067K$  (Duv=0.0023) Dominant WL:Ld =493.2nm Purity=4.2%

Red Ratio:R=15.3% Peak WL:Lp=451.9nm HNL:Lhd=21.6nm

Render Index:Ra=83.3

R1 =82 R2 =89 R3 =92 R4 =83 R5 =82 R6 =84 R7 =87

R8 =68 R9 =5 R10=73 R11=62 R12=59 R13=84 R14=96 R15=77

## Photo Parameters:

Flux = 2296 lm Eff. : 111.21 lm/W  $P_e = 7.331$  W

## Electrical parameters:

V = 231.7 V I = 0.09235 A P = 20.64 W PF = 0.9649

LEVEL:OUT WHITE:ANSI\_6500K

Status: Integral T = 194 ms  $I_p = 55619$  (85%)

Model:  
Tester:  
Temperature:25.Deg



# OrbitX

## Life Cycle Cost Comparison

	OrbitX Retrofit	Leading Brand LED	Budget LED	T5 Fluorescent	T8 Fluorescent
Power rating	20W PF 0.98	18W PF 0.8	18W PF 0.5	28W PF 0.9	36W PF 0.9
Light output (downward lm) (fluorescent 60% downward)	2000lm	1800lm	1600lm	1 980lm	2 010lm
Evaluation period [years]	6y	6y	6y	6y	6y
Guarantee / Proven lifetime	8y	5y	1y	4y	3y
Purchase Cost	R 235	R 145	R 59	R 35	R 30
Labour for first installation	R 47	R 93	R 93	R 33	R 33
Electricity cost per year*	R 106	R 116	R 186	R 169	R 217
Lamp Replacement + Labour Cost		R 178	R 462	R 68	R 127
Lamp Disposal				R 40	R 40
Ballast Replacement Cost				R 290	R 290
Total Cost over 4 years per Lamp	<b>R 707</b>	<b>R 881</b>	<b>R 1357</b>	<b>R 1141</b>	<b>R 1387</b>
% Lifecycle Cost Compared to OrbitX over 6 years	<b>100%</b>	<b>125%</b>	<b>192%</b>	<b>161%</b>	<b>196%</b>

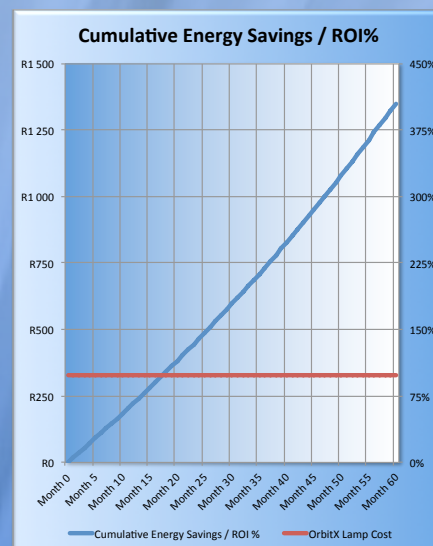
\* Calculated at 9.5h\*5+5h=52.5h operating hours per week; R1.89/kWh; power factor taken into account (Budget LEDs have a very poor power factor).

### Payback and ROI calculation

Assumptions:

Lamp cost + installation	R328
Electricity price (current)	R1.69/kWh
Electricity price escalation	10% per y
Light operating hours	12h/d

<b>Payback period</b>	<b>17 months</b>
<b>ROI after 60 months</b>	<b>411%</b>





# OrbitX Luminaires

## Standard Luminaires

1200mm (4ft) LED Tube Open Channel Fitting | SINGLE  
1200mm (4ft) LED Tube Open Channel Fitting | DOUBLE  
1500mm (5ft) LED Tube Open Channel Fitting | SINGLE  
1500mm (5ft) LED Tube Open Channel Fitting | DOUBLE

1200mm (4ft) LED Tube Vapour Proof IP65 Fitting | SINGLE  
1200mm (4ft) LED Tube Vapour Proof IP65 Fitting | DOUBLE  
1500mm (5ft) LED Tube Vapour Proof IP65 Fitting | SINGLE  
1500mm (5ft) LED Tube Vapour Proof IP65 Fitting | DOUBLE

600x600mm Recessed Grill Plate LED Tube Fitting (3 tube)  
600x600mm Recessed Prismatic LED Tube Fitting (3 tube)  
1200x600mm Recessed Grill Plate LED Tube Fitting (3 tube)  
1200x600mm Recessed Prismatic LED Tube Fitting (3 tube)  
1200x600mm Recessed Grill Plate LED Tube Fitting (4 tube)  
1200x600mm Recessed Prismatic LED Tube Fitting (4 tube)

**All luminaires are LED-ready and SABS certified**

# OrbitX Direct Drive LED

OrbitX Direct Drive technology eliminates the need for a traditional LED driver board. The following benefits are associated with OrbitX Direct Drive LED lights.

- Lower component count reduces potential failure modes and increases lifespan. A guarantee of 5 to 8 years (3 to 5 years light output) is standard on OrbitX Direct Drive LED lights.
- The reliability and predictability of the lifespan of the driver is a significant advantage in reducing risk of failure under warranty. A further risk mitigating factor is the voltage spike protection that is designed for South African and African power system conditions.
- Without a driver, the LEDs are mounted much lower in the housing, resulting in a much wider angle of luminance (200°).
- The design of the OrbitX Direct Drive LED light inherently emits very low levels of radio frequencies. Inductors and transformers are eliminated and no high frequency PWM switching is required. Traditional LED drivers require extensive EMI/EMC engineering to reduce radio frequency interference, which is often neglected to achieve acceptable cost factors. This results in poor FM and VHF radio reception in the vicinity of LED lights. Barcode scanners, RFIDs and two-way radio systems may also be impacted in commercial and industrial environments. OrbitX Direct Drive LED lights comply with the IEC EMI/EMC standards and have no significant impact on radio systems.
- Very low total harmonic distortion.
- Efficacy of 100-110 lumens per Watt
- The heat sink is totally enclosed in the polycarbonate outer housing, which eliminates any risk of electric exposure to the end user.
- OrbitX Direct Drive LED lights are constructed from polycarbonate that carries a V0 ULP fire rating. This means it will not allow flaming droplets to form, should it be involved in a fire. Most other LED tube lights carry a V2 fire rating, which allows flaming droplets.
- OrbitX Direct Drive LED lights are serviceable – the driver and LEDs are easily replaceable.
- OrbitX Direct Drive LED lights are cost effective when replacing traditional metal-halide, mercury-vapour, high pressure sodium, halogen, fluorescent and incandescent lights, and as a new installation, offers replaceability at the end of the LED lifetime.



# OrbitX

## Direct Drive Guarantee

OrbitX provides the following guarantee, which extends to the purchaser of the OrbitX product who purchased directly from OrbitX or from an authorised OrbitX reseller.

Please note that any guarantee services or questions must be accompanied by the invoice number from the transaction through which the guaranteed product was purchased and the serial number of the product, as found on the product label. The invoice number serves as your guarantee number and must be retained. OrbitX will offer no guarantee service without this number.

OrbitX guarantees that its products and their parts are free of defects in materials or workmanship from the original ship date for the following duration:

- OrbitX Direct Drive Neptune Integrated LED Luminaires: 8 years
- OrbitX Direct Drive LED Tube Lamps: 6 years
- OrbitX Direct Drive Titan Integrated LED Luminaires: 6 years
- Luminaires supplied by third parties: as per third party guarantee
- Battery backup solutions supplied by third parties: as per third party guarantee.

Furthermore, OrbitX guarantees that the total light output per lamp will remain higher or equal to 70% of the light output stated on the original OrbitX invoice for the following duration:

- OrbitX Direct Drive Neptune Integrated LED Luminaires: 5 years
- OrbitX Direct Drive Europa LED Tube Lamps: 3 years
- OrbitX Direct Drive Titan Integrated LED Luminaires: 3 years.

During these periods, OrbitX will repair or replace defective parts with new or reconditioned parts at OrbitX's option, without charge to the purchaser.

Shipping fees incurred from returns for under-guarantee service in the first 60 days will be paid by OrbitX. All shipping fees both to and from OrbitX following this 60-day period must be paid by the customer.

All original parts replaced by OrbitX or its authorised service centre, become the property of OrbitX. Any after-market additions or modifications will invalidate the OrbitX guarantee. The Purchaser is responsible for the removal and reinstallation of faulty products and the associated costs.

OrbitX makes no other guarantee or warranty, either express or implied, including but not limited to implied warranties of merchantability, fitness for a particular purpose, or conformity to any representation or description, with respect to OrbitX products other than as set forth herein.

Except as provided herein, OrbitX is not liable for any loss, cost, expense, inconvenience or damage that may result from use or inability to use an OrbitX product, including, but not limited to, commercial losses, business interruption, injuries and fatalities. Under no circumstances shall OrbitX be liable for any loss, cost, expense, inconvenience or damage exceeding the purchase price paid to OrbitX of the original OrbitX product. In no event shall OrbitX be liable for costs of procurement of substitute goods by the purchaser or for unauthorised repairs undertaken by the purchaser.

The guarantee and remedies set forth herein are exclusive and in lieu of all others, oral or written, expressed or implied. No reseller, agent or employee is authorised to make any modification, extension or addition to this guarantee.

This guarantee shall not apply to any damages caused as a result of force majeure, misuse or improper use of the products, faulty installation, poor electrical connections or negligence by any party other than OrbitX. In addition, this guarantee is not applicable to any OrbitX product improperly shipped, stored, installed, operated, and used, including, inter alia, shipping, storage, installation, operation and use otherwise than in accordance with one or more of the following: OrbitX specifications, including for maximum operating temperature; installation and operating instructions, wiring diagrams and guidelines; poor or loose connections, or faulty lamp holders.

This warranty does not cover any peripheral devices, pc boards or any other components not installed and supplied by OrbitX. OrbitX products are supplied with integrated voltage spike arresting circuitry designed to withstand surges up to 1500V. Despite OrbitX's best efforts to protect its products against poor electricity supply, the guarantee is invalidated if the electricity supply to the product does not conform to the latest version of NRS048 (available from the SABS) or if the circuit supplying the product does not comply to SABS electrical wiring standards.

Moreover, this guarantee shall not apply if the unit was subjected to abnormal stresses or operating conditions or the purchaser is in arrears to OrbitX.

Notwithstanding principles of conflicts of law of any jurisdiction to the contrary, all terms and provisions of this agreement are to be construed and governed according to South African law.