



TEMPEST

# Tornado Marine

Lighting  
Enclosures



# Tornado Marine Lighting Enclosures

Tempest, the world's leading manufacturer of specialist lighting and projector enclosures, brings you Tornado Marine, the only lighting enclosure in the world designed to protect valuable automated luminaires from weather, condensation, and salt fog.

Developed from fifteen years experience protecting lights in all climates around the world, Tornado Marine is specifically designed for cruise ships and beachside resort location, where salt air corrosion is a major hazard.

Now Tornado Marine offers the best ever protection:

- Hydrophobic HEPA filter prevents ingress of moisture and moisture-born contaminants like salt or chlorine
- Powerful fans change the air every 1-2 seconds in the enclosure when the luminaire is on, maintaining a cool operating environment and optimizing equipment and lamp life.
- Marine grade stainless steel latches require a tool to open and close, for additional security
- Aluminum outer parts are specially treated prior to painting, to prevent corrosion in saline environments

Thousands of Tornado enclosures are in daily use in every climate type there is, from the frozen North to the tropics and deserts, in theme parks, resorts, attractions and cruise ships.

Tornado Marine is our finest lighting enclosure yet, building on a solid base, and offering you the best protection in the world for your lighting investment.



*Tornado Marine 2300, for most moving lights 1200-1700W*



*Tornado Marine 1925V, base up, globe down, for Super Sharpy and similar luminaires*

# Tornado Marine Lighting Enclosures

## Tornado Marine

UV-resistant acrylic globe is guaranteed not to yellow for 5 years. In fact, they last indefinitely.

Spun aluminum top shell, finished with polyester powder coat. Standard color white, other colors to order.

Stainless steel marine latches hold the globe securely in place even in high winds

EPDM Rubber seal resists oil, salt and chemicals

Fan chimneys duct cool air up into the globe. They also contain heaters to maintain minimum temperatures and combat condensation.

DEC4 User Interface

Universal stainless steel luminaire mount with two height settings and universal mounting for bolts, quarter-turn fasteners or omega clamps.

Hydrophobic inlet filter slides out this side

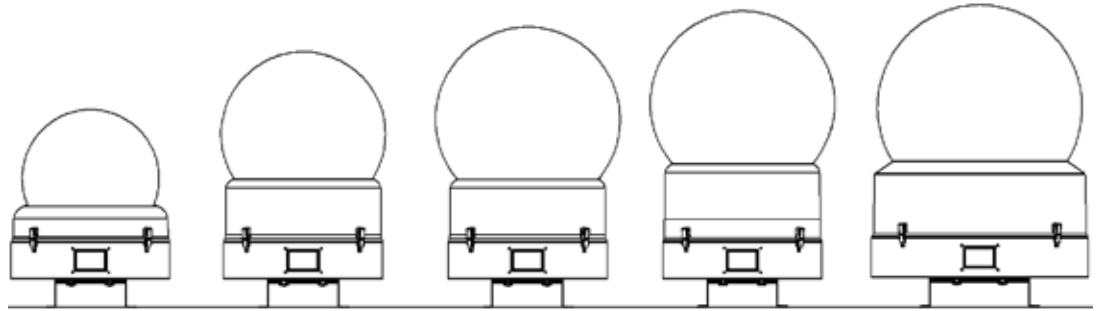
DEC4 control electronics are readily accessible without removing the luminaire

Bolt to structure through holes in stainless steel legs. Slots provided to attach safety cables where required

Exhaust air is expelled both sides of the housing base. When the lamp is off, fans maintain positive pressure to prevent outside air ingress

# Tornado Marine Lighting Enclosures

## Which Tornado Marine?



### Tornado Marine 1850

Luminaire max:  
A: 16.5"/420mm  
B: 16"/410mm  
Watts: 500  
Globe Ø: 20"/510mm

### Tornado Marine 1900

Luminaire max:  
A: 24.5"/620mm  
B: 16"/410mm  
Watts: 600  
Globe Ø: 24"/610mm

### Tornado Marine 1925/1935

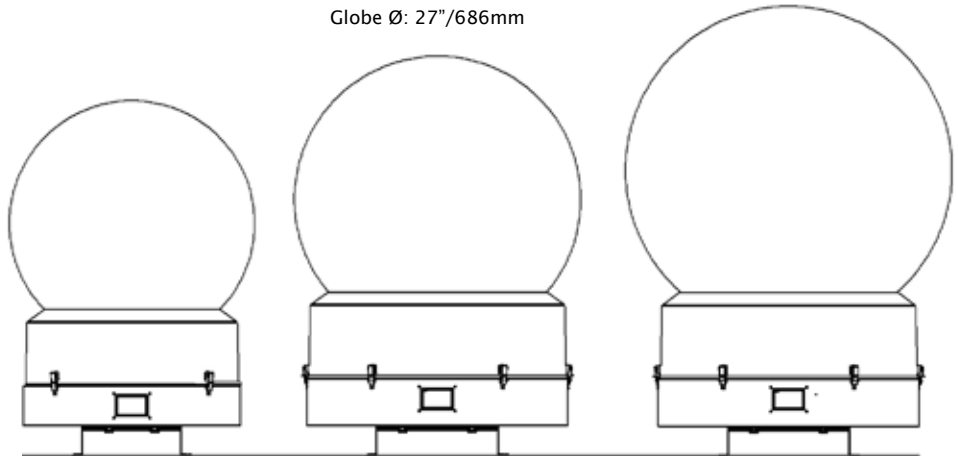
Luminaire max:  
A: 28"/710mm  
B: 16"/410mm  
Watts: 1925: 600  
1935: 800  
Globe Ø: 27"/686mm

### Tornado Marine 1975

Luminaire max:  
A: 30.5"/775mm  
B: 16"/410mm  
Watts: 600  
Globe Ø: 27"/686mm

### Tornado Marine 2000

Luminaire max:  
A: 30.5"/775mm  
B: 24"/610mm  
Watts: 1,200  
Globe Ø: 30"/762mm



### Tornado Marine 2300/2360

Luminaire max:  
A: 38"/970mm  
B: 24"/610mm  
Watts: 1,600  
Globe Ø: 36"/915mm

### Tornado Marine 2400

Luminaire max:  
A: 44"/1,115mm  
B: 28"/710mm  
Watts: 2,500  
Globe Ø: 42"/1,067mm

### Tornado Marine 2500

Luminaire max:  
A: 52"/1,320mm  
B: 28"/710mm  
Watts: 3,000  
Globe Ø: 48"/1,219mm

**\* NEW!**

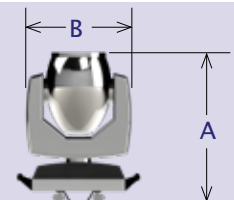
Tornado 2360,  
just for Vari\*Lite  
VL6000  
Beam



### Notes:

- Luminaire Max Watts means total power consumption, not lamp wattage
- LED luminaires with multiple LED circuits — it is ok to exceed max watts if luminaires will rarely be used in white

- Luminaire Max Height assumes luminaire mounting in low fixture beam setting, using omega clamps. For maximum luminaire height, omit omegas and mount directly to luminaire base (see manual)



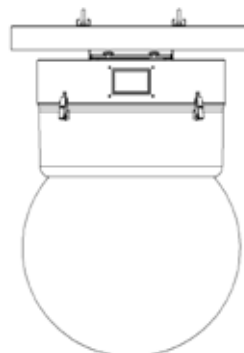
### Globe Up

(Standard Configuration)



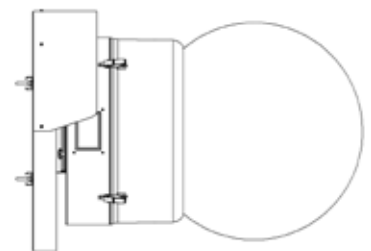
### Globe Down

Add V to model number



### Horizontal (Models 1850-2300)

Add H to model number



Yeosu, Korea — the 2012 Maritime World Fair. The Big O, constructed on a man-made island in Yeosu harbor, is 50m in diameter, and houses 48 Martin MAC2K luminaires, in Tornado enclosures. There are another 32 Tornados around the base and on shore, with MAC3 luminaires.

Now the bad news — between each light on the Big O is an automated water jet — like a programmable fire hose creating an amazing water ballet. Oh yes, and it's SALT water, pumped right out of the harbor!

So, since 2012 these lights have been running every night in a kind of saltwater Niagara Falls — probably the worst environment you could imagine.

The good news?

No problems.



**Big O:**  
Design by ECA2, Paris  
Integration By Hansam Systems, Seoul

Watch the video at  
[tempest.biz/installations](http://tempest.biz/installations)



# Tornado Marine Lighting Enclosures

Tempest System Manager is a Windows app running on a local PC connected to your enclosures over a local area network.

TSM discovers any Tempest enclosures present on the network at initialization, and monitors system attributes in real time, including lamp, fan and heater status, temperature, relative humidity and more.

TSM may also be used to upload firmware updates to enclosure controllers over the network, without having to visit each enclosure.

The TSM license includes 12 months unlimited user support from Tempest electronics partner JESE, and continuing support is available for a modest annual fee.

# Tempest System Manager

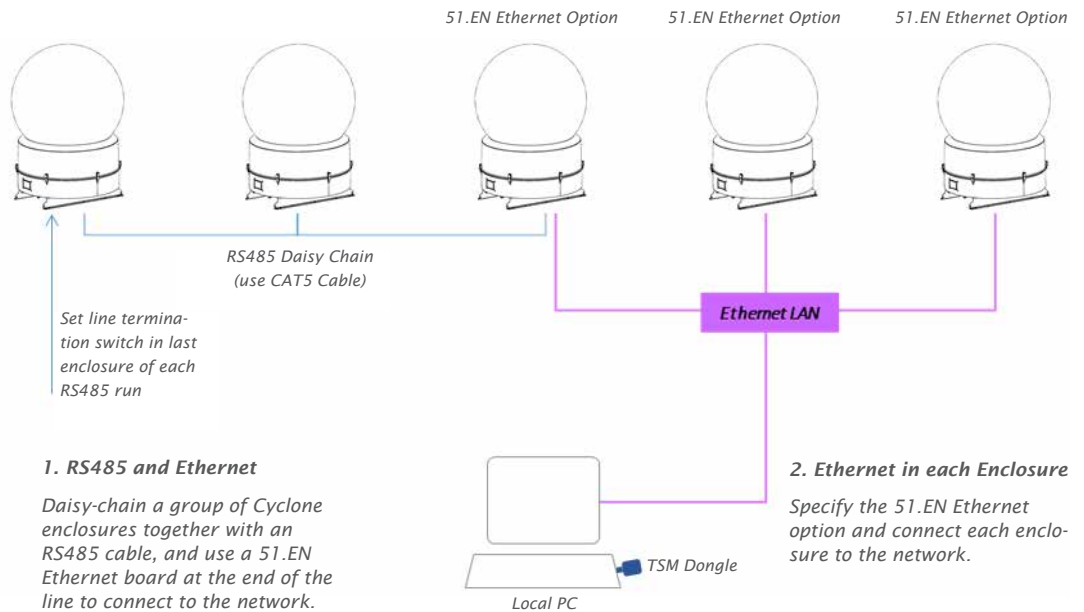
Index	Description	Label	Status	Voltage	Current	RPM	Temp °C	H% %	Fan %
1	DECA Controller	Cyclone 330 Left 1	Lamp On	231V	12.2A	45.7%	23.4°C	0.0%	100.0%
2	DECA Controller	Cyclone 330 Left 2	Lamp on	231V	13.2A	46.0%	23.8°C	0.0%	100.0%
3	DECA Controller	Cyclone 330 Left 3	Override	231V	0.0A	49.4%	22.6°C	0.0%	0.0%
4	DECA Controller	Cyclone 330 Left 4	Fripped	231V	0.1A	1.2%	86.2°C	0.0%	100.0%
5	DECA Controller	Cyclone 330 Left 5	Lamp on	231V	12.2A	46.1%	23.4°C	0.0%	100.0%
6	DECA Controller	Cyclone 330 Left 6	Lamp on	231V	12.2A	46.3%	23.5°C	0.0%	100.0%
7	DECA Controller	Cyclone 330 Right 1	Lamp on	231V	13.2A	46.4%	23.8°C	0.0%	100.0%
8	DECA Controller	Cyclone 330 Right 2	Lamp on	231V	13.2A	46.3%	23.5°C	0.0%	100.0%
9	DECA Controller	Cyclone 330 Right 3	Lamp on	231V	12.2A	46.0%	23.2°C	0.0%	100.0%
10	DECA Controller	Cyclone 330 Right 4	Lamp on	231V	12.2A	46.1%	23.1°C	0.0%	100.0%
11	DECA Controller	Cyclone 330 Right 5	Lamp on	231V	12.2A	46.0%	23.7°C	0.0%	100.0%
12	DECA Controller	Cyclone 330 Right 6	Lamp on	231V	12.2A	46.2%	23.4°C	0.0%	100.0%
13	DECA Controller	ard 100 UST 1	Standby	231V	0.2A	51.3%	22.1°C	0.0%	0.0%
14	DECA Controller	ard 100 UST 2	Standby	231V	0.2A	51.8%	22.0°C	0.0%	0.0%
15	DECA Controller	ard 100 UST 3	Standby	231V	0.2A	51.4%	22.2°C	0.0%	0.0%
16	DECA Controller	ard 100 UST 4	Standby	231V	0.2A	51.3%	22.5°C	0.0%	0.0%
17	DECA Controller	ard 100 UST 5	Standby	231V	0.2A	51.3%	21.8°C	0.0%	0.0%
18	DECA Controller	ard 100 UST 6	Standby	231V	0.2A	51.6%	22.1°C	0.0%	0.0%
19	DECA Controller	ard 100 UST 7	Standby	231V	0.2A	51.5%	21.6°C	0.0%	0.0%
20	DECA Controller	ard 100 UST 8	Standby	231V	0.2A	51.7%	22.2°C	0.0%	0.0%

## Monitoring Connections

There are two ways to connect enclosures to the TSM PC:

## TSM Model Numbers

- 51.TSM.10 Up to 10 enclosures
- 51.TSM.25 Up to 25 enclosures
- 51.TSM.50 Over 25 enclosures



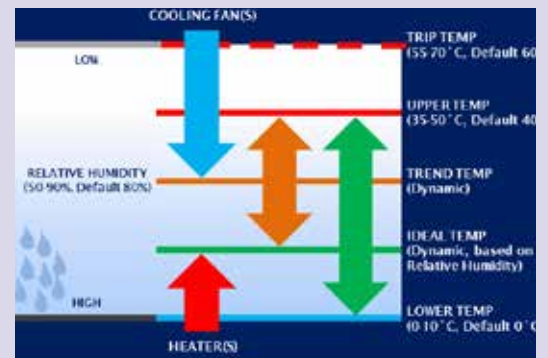
## Goldilocks™

Tempest's unique Goldilocks™ Operating System (patents pending) brings enclosure control to a new level.

Goldilocks keeps the air temperature inside your enclosure just right, removing heat when the lamp is on or when the enclosure is heated by the sun. We're changing the air every few seconds.

Goldilocks uses a heater to maintain a minimum temperature in cold climates.

And Goldilocks tracks temperature and humidity 24/7, keeping relative humidity inside your enclosure

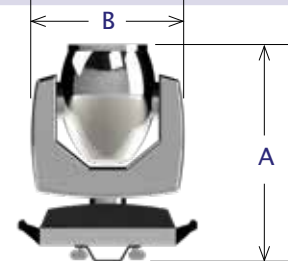


just right by using heaters to raise the air temperature when needed, adapting constantly to prevent deadly condensation.



# Ordering Guide

Part #	Description	Globe ↑↓	Volts 50/60Hz	Globe Ø in [cm]	Height in [cm]	Weight lbs [kg]	Luminaire Max A in [cm]	Luminaire Max B in [cm]	Luminaire Max Watts	Shipping ** Dimensions (lwh) in [cm]	Shipping Weight lbs [kg]
1850.INM	Tornado Marine 1850, Globe Up	↑	200-250*	20 [51]	32 [82]	42 [19]	16.5 [42]	16 [41]	500	32x32x46 [81x81x102]	67 [30]
1850.INMV	Tornado Marine 1850, Globe Down	↓	200-250*	20 [51]	32 [82]	45 [21]	16.5 [42]	16 [41]	500	32x32x46 [81x81x102]	70 [32]
1850.INMH	Tornado Marine 1850, Horizontal	→	200-250*	20 [51]	32 [82]	46 [21]	16.5 [42]	16 [41]	500	32x32x46 [81x81x102]	70 [32]
1900.INM	Tornado Marine 1900, Globe Up	↑	200-250*	24 [61]	38 [98]	52 [24]	24.5 [62]	16 [41]	500	32x32x46 [81x81x102]	75 [34]
1900.INMV	Tornado Marine 1900, Globe Down	↓	200-250*	24 [61]	39 [99]	60 [27]	24.5 [62]	16 [41]	500	32x32x46 [81x81x102]	83 [38]
1900.INMH	Tornado Marine 1900, Horizontal	→	200-250*	24 [61]	39 [99]	60 [27]	24.5 [62]	16 [41]	500	32x32x46 [81x81x102]	83 [38]
1925.INM	Tornado Marine 1925, Globe Up	↑	200-250*	27 [69]	42 [107]	54 [25]	28 [71]	16 [41]	600	32x32x46 [81x81x102]	77 [35]
1925.INMV	Tornado Marine 1925, Globe Down	↓	200-250*	27 [69]	43 [109]	62 [28]	28 [71]	16 [41]	600	32x32x46 [81x81x102]	91 [41]
1925.INMH	Tornado Marine 1925, Horizontal	→	200-250*	27 [69]	43 [109]	62 [28]	28 [71]	16 [41]	600	32x32x46 [81x81x102]	91 [41]
1935.INM	Tornado Marine 1935, Globe Up	↑	200-250*	27 [69]	42 [107]	54 [25]	28 [71]	16 [41]	800	32x32x46 [81x81x102]	77 [35]
1935.INMV	Tornado Marine 1935, Globe Down	↓	200-250*	27 [69]	43 [109]	62 [28]	28 [71]	16 [41]	800	32x32x46 [81x81x102]	91 [41]
1935.INMH	Tornado Marine 1925, Horizontal	→	200-250*	27 [69]	43 [109]	62 [28]	28 [71]	16 [41]	800	32x32x46 [81x81x102]	91 [41]
1975.INM	Tornado Marine 1975, Globe Up	↑	200-250*	27 [69]	45 [115]	57 [26]	30.5 [78]	16 [41]	600	32x32x48 [81x81x122]	80 [36]
1975.INMV	Tornado Marine 1975, Globe Down	↓	200-250*	27 [69]	46 [117]	65 [30]	30.5 [78]	16 [41]	600	32x32x48 [81x81x122]	90 [41]
1975.INMH	Tornado Marine 1975, Horizontal	→	200-250*	27 [69]	45 [115]	57 [26]	30.5 [78]	16 [41]	600	32x32x48 [81x81x122]	80 [36]
2000.INM	Tornado Marine 2000, Globe Up	↑	200-250*	30 [76]	45 [115]	110 [50]	30.5 [78]	21 [53]	1200	39x39x54 [100x100x137]	145 [66]
2000.INMV	Tornado Marine 2000, Globe Down	↓	200-250*	30 [76]	46 [117]	115[55]	30.5 [78]	21 [53]	1200	39x39x54 [100x100x137]	160 [73]
2000.INMH	Tornado Marine 2000, Horizontal	→	200-250*	30 [76]	46 [117]	120 [55]	30.5 [78]	21 [53]	1200	39x39x54 [100x100x137]	165 [75]



\* May be supplied 120V to special order

\*\* All Schedule B Export Code:  
9405.99.0000

## Ordering Guide

Part #	Description	Globe ↑↓	Volts 50/60Hz	Globe Ø in [cm]	Height in [cm]	Weight lbs [kg]	Luminaire Max A in [cm]	Luminaire Max B in [cm]	Luminaire Max Watts	Shipping ** Dimensions (lwd) in [cm]	Shipping Weight lbs [kg]
2300.INM	Tornado Marine 2300, Globe Up	↑	200-250	36 [91]	53 [135]	111 [51]	38 [97]	21 [53]	1,700	39x39x54 [100x100x137]	145 [66]
2300.INMV	Tornado Marine 2300, Globe Down	↓	200-250	36 [91]	54 [137]	126 [57]	38 [97]	21 [53]	1,700	39x39x54 [100x100x137]	160 [73]
2300.INMH	Tornado Marine 2300, Horizontal	→	200-250	36 [91]	53 [135]	130 [59]	38 [97]	21 [53]	1,700	39x39x54 [100x100x137]	165 [75]
2360.INM	Tornado Marine 2300, Globe Up	↑	200-250	36 [91]	53 [135]	111 [51]		Vari-lite VL6000		39x39x54 [100x100x137]	145 [66]
2360.INMV	Tornado Marine 2360, Globe Down	↓	200-250	36 [91]	54 [137]	126 [57]		Vari-lite VL6000		39x39x54 [100x100x137]	160 [73]
2360.INMH	Tornado Marine 2300, Horizontal	→	200-250	36 [91]	53 [135]	130 [59]		Vari-lite VL6000		39x39x54 [100x100x137]	165 [75]
2400.INM	Tornado Marine 2400, Globe Up	↑	200-250	42 [107]	61 [153]	204 [93]	44 [112]	28 [71]	2,500	48x48x69 [122x122x175]	245 [111]
2400.INMV	Tornado Marine 2400, Globe Down	↓	200-250	42 [107]	61 [153]	209 [95]	44 [112]	28 [71]	2,500	48x48x69 [122x122x175]	250 [114]
2500.INM	Tornado Marine 2500, Globe Up	↑	200-250	48 [122]	67 [170]	192 [87]	52 [132]	28 [71]	3,000	54x54x75 [137x137x191]	260 [118]
2500.INMV	Tornado Marine 2500, Globe Down	↓	200-250	48 [122]	68 [172]	212 [96]	52 [132]	28 [71]	3,000	54x54x75 [137x137x191]	270 [123]

### Options

51.EN	Ethernet Board (Links an enclosure or a group of enclosures with RS485 boards to an Ethernet network, for use with TEMP protocol)
51.TSM.xx	Tempest System Manager
20.SWR	Stainless Steel Safety Wire ring on Globe Assembly (safety wire not included)
51.HF.23	Spare Salt Fog Inlet Filter, Tornado Marine 1850-1975
51.HF.32	Spare Salt Fog Inlet Filter, Tornado Marine 2000-2300
51.HF.38	Spare Salt Fog Inlet Filter, Tornado Marine 2400-2500
0000.CL	Custom Base Color (standard is RAL9003 White Gloss). Specify Black or any RAL number

### Custom Colors

All the enclosures in this brochure are shown in Tornado Marine standard white (RAL 9003 Gloss) finish. Black or any RAL color are available to special order.

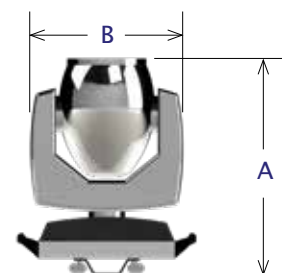


\* May be supplied 120V to special order.

\*\* All Schedule B Export Code: 9405.99.0000

All Tornado Enclosures are built to order. Please consult factory for lead times.

All sales are subject to Tempest Lighting, Inc. Standard Terms and Conditions, available for download at [www.tempest.biz](http://www.tempest.biz).





# Tornado Marine Configurator

Please complete this form and email to us at [info@tempest.biz](mailto:info@tempest.biz)

Name	
Company	
Email	
Phone	
Project Name and Location	
Luminaire type	
Tornado Model	
Quantity	
Destination Country	
Install Date	
Orientation	Globe Up <input type="checkbox"/> Globe Down <input type="checkbox"/> Horizontal <input type="checkbox"/>
<b>Required Options</b>	
51.EN Ethernet Board	Yes, Qty _____ No <input type="checkbox"/>
20.SWR Safety Wire Ring	Yes, Qty _____ No <input type="checkbox"/>
Spare Inlet Filter	Yes, Qty _____ No <input type="checkbox"/>
Color	Standard, RAL 9003 White Gloss <input type="checkbox"/>
	Custom, RAL # _____ Gloss Level _____%

Custom Requests:

Factory Use Only:	
SO Number	
Date	
Electrical	IEC <input type="checkbox"/> NEMA <input type="checkbox"/>

