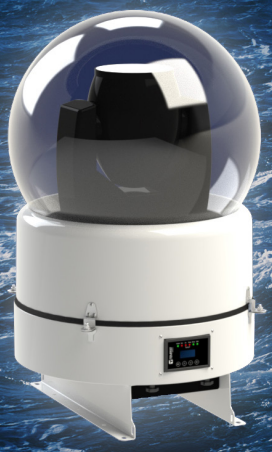
TEMPEST

Tornado G4 Marine

Lighting Enclosures



G4 Fourth Generation Lighting Enclosures

Tornado Marine
Lighting Enclosures

Tempest, the world's leading manufacturer of specialist lighting and projector enclosures, brings you Tornado Marine G4, 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 G4 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

TEMPEST

Tornado Marine
Lighting Enclosures

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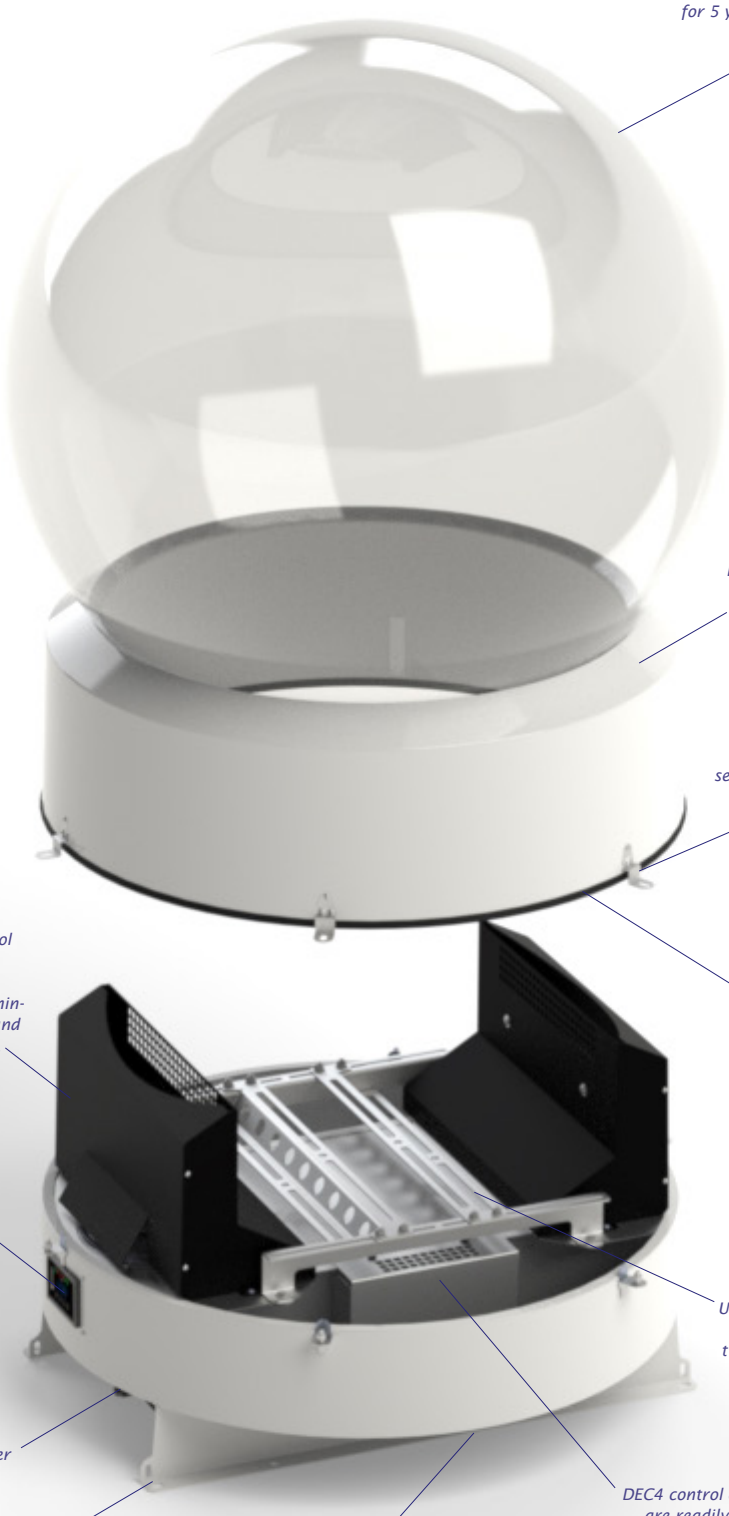
Tornado Marine G4



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

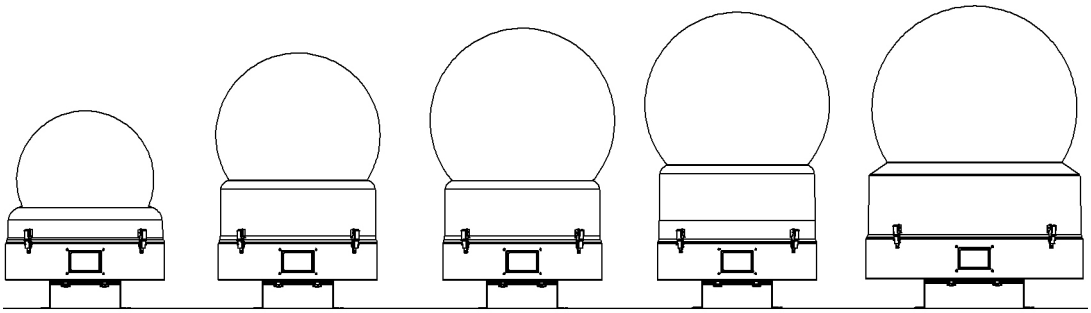
Bolt to structure through holes in stainless steel legs. Slots provided to attach safety cables where required

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 2400, for larger luminaires up to 2,500W

Tornado Marine
Lighting Enclosures

Which Tornado Marine?



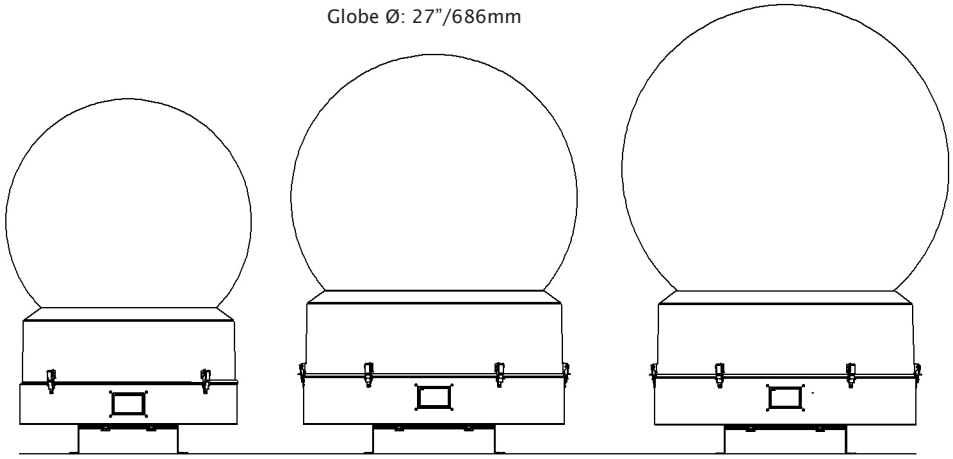
Tornado Marine 1850
Luminaire max:
A: 16.5"/420mm
B: 16"/410mm
Watts: 500
Globe Ø: 20"/510mm

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: 21"/530mm
Watts: 1,200
Globe Ø: 30"/762mm



Tornado Marine 2300/2360
Luminaire max:
A: 38"/970mm
B: 21"/530mm
Watts: 1,600
Globe Ø: 36"/915mm

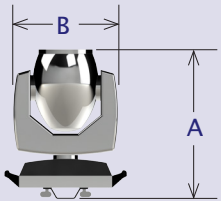
Tornado Marine 2400
Luminaire max:
A: 44"/1,115mm
B: 28"/710mm
Watts: 2,500
Globe Ø: 42"/1,067mm

Tornado Marine 2500
Luminaire max:
A: 52"/1,320mm
B: 28"/710mm
Watts: 3,000
Globe Ø: 48"/1,219mm

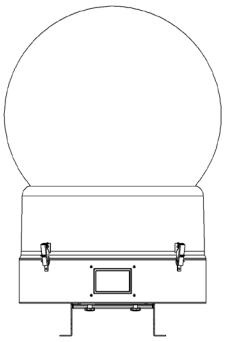
*** NEW!**
*Tornado 2360, just for Vari*Lite VL6000 Beam*

Notes:

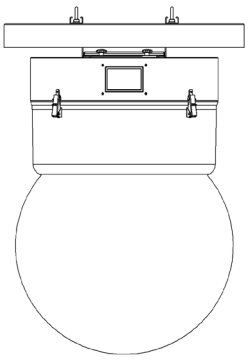
- *Luminaire Max Watts means total power consumption, not lamp wattage*
- *LED luminaires with multiple LED circuits — it is ok to exceed max watts if luminaires will rarely be used in white*
- *Luminaire Max Height assumes luminaire mounting in low fixture beam setting, using omega clamps. For maximum luminaire height, omit omegas and mount directly to luminaire base (see manual)*



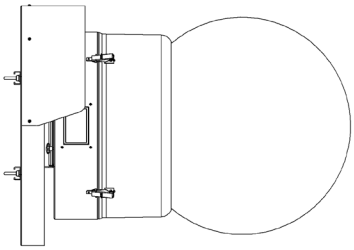
Globe Up
(Standard Configuration)



Globe Down
Add V to model number



Horizontal *(Models 1850-2300)*
Add H to model number



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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

Tornado Marine
Lighting Enclosures

Goldilocks™

How do we keep moving lights from melting when it's 50˚C and there's no shade?

And prevent condensation from destroying your equipment overnight?

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 from the luminaire when the lamp is on or when the enclosure is heated by the sun. Goldilocks uses heaters 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.

Remote Monitoring

It's important to understand that most Tornado installations are running on factory default settings and are not connected to any kind of network. In many cases that's just fine, but in larger systems or mission-critical applications a remote monitoring sysyem is a lifesaver.

Tornado reports everything it knows on the user interface display on the back door. Now you can get the same information remotely, in several different ways:

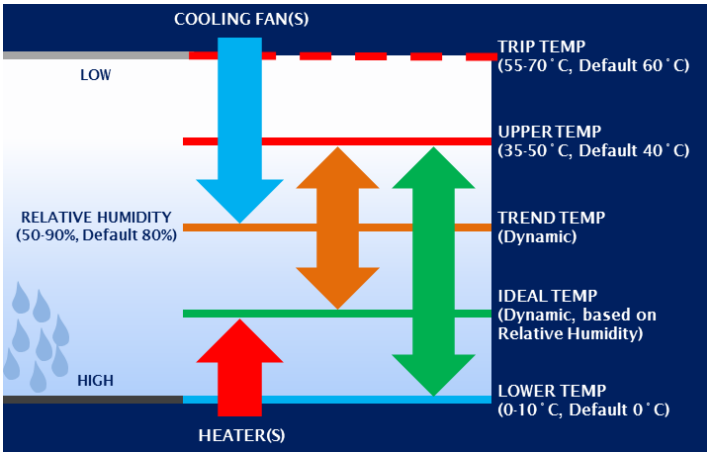
TCP/IP Direct

Plug in an Ethernet board to your Tornado, and now you can find out what's going on in the enclosure. Temperature, humidity, line voltage, current, projector, fan and heater status are just some of the data you can monitor using this feature.

Use Tempest's prepackaged front end, write your own, or integrate with many popular projector control protocols.

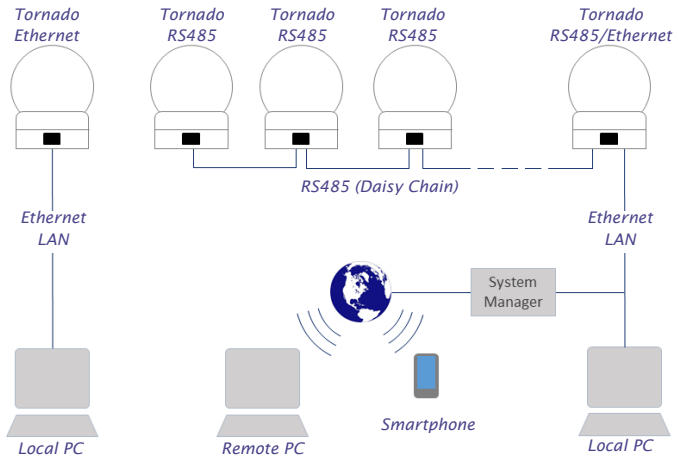
RS485 to TCP/IP

For larger systems we offer a simple RS485/Ethernet adapter so you can daisy-chain between groups of enclosures, bridging to Ethernet at one or more enclosure locations. Either way, you get all the information we know about back in the control room.



Data Logging

Also new with G4, Goldilocks logs all system events for a week, providing invaluable insights in the event of a field service issue. Data logs will be recorded longer term in the G4 System Manager (see below) and will be available locally via USB or remotely over a network or the internet.



Web-based Monitoring

With the addition of a Tempest G4 System Manager (coming soon), the system now serves up a web page that can be monitored anywhere.

With the G4 System Manager, Tempest will offer a real-time system monitoring service, alerting you by email if anything happens to your system.

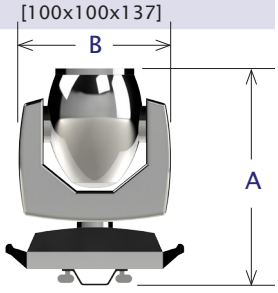
And on your Smartphone!

Not cool enough for you? System Monitor will also feature a smartphone ap, so you can stay connected to your Tempest enclosures anytime, anywhere.

For more on DEC4, Goldilocks and remote monitoring, download the Tornado Marine User Manual from www.tempest.biz

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]	Luminnaire 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]		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*

CAD drawings and user manuals at www.tempest.biz

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)										
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

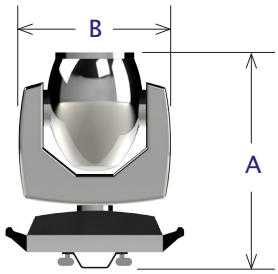
All the enclosures in this brochure are shown in Tornado Marine standard white (RAL 9003 Gloss) finish. Black or any RAL color are available to special order.

** 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.



Tornado Marine Configurator

Please complete this form and email to us at info@tempest.biz

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

Custom Requests:

Made in the USA

In the interest of continuous product improvement, specifications are subject to change without notice

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