STARMAX

OPzS FLOODED TUBULAR BATTERIES

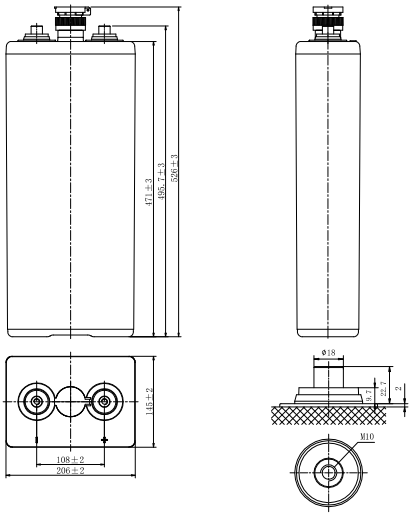
OPzS420-2

UPS

www.starmaxbatteries.com

OPzS420-2 (2V 420Ah)

LAYOUT



General Features

- 20 years design life(20°C)
- Lower self discharge
- Higher thermal capacity, no thermal runaway will occur
- Superior deep cycle performance
- Wide operation temperature range

Applications

- Telecommunications
- Buoy lighting
- Standby power
- Railway signalling
- Emergency lighting systems
- Alternative power (solar, wind)
- Maritime standby power on ships and ashore

Standards

- ACC. to IEC60896, DIN 40736
- Manufactured by Starmax ISO 45001, ISO 9001 and ISO 14001 certified production facilities

SPECIFICATIONS

Rated Voltage	2V	
Nominal Capacity	C_{10} ,1.80V/cell	420.0Ah
Dimensions	Length	145±2mm (5.71 inches)
	Width	206±2mm (8.11 inches)
	Container height	471±3mm (18.54 inches)
	Total height	526±3mm (20.71 inches)
Approx. weight	Without Electrolyte 24.5kg (54.0lbs) | With Electrolyte 32.7 kg (72.1lbs)	
Terminal	M10	
Container material	SAN transparent container	
Rated capacity (25°C)	420.0 Ah	(10hr,42.0A,1.80V/cell)
	373.0 Ah	(5hr,74.6A,1.75V/cell)
	323.7 Ah	(3hr,107.9A,1.75V/cell)
	239.8 Ah	(1hr,239.8A,1.60V/cell)
Max. discharge current	3360A (5s)	
Internal resistance (25°C)	Approx 0.88mΩ	
Operating temp. range	Discharge	-15～55°C (5～131°F)
	Charge	0～45°C (32～113°F)
	Storage	-15～45°C (5～113°F)
Nominal operating temp. range	25±5℃ (77±9°F)	
Cycle Use	Initial Charging Current less than 0.15CA.Voltage 2.40V~2.45V at 20°C(68°F)Temp. Coefficient -5mV/°C	
Standby Use	Initial Charging Current less than 0.15CA. Voltage 2.23V~2.25V at 20°C(68°F)Temp. Coefficient -3mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	20°C (68°F)	100%
	0°C (32°F)	86%
Self discharge	≤4% per month at 20°C	

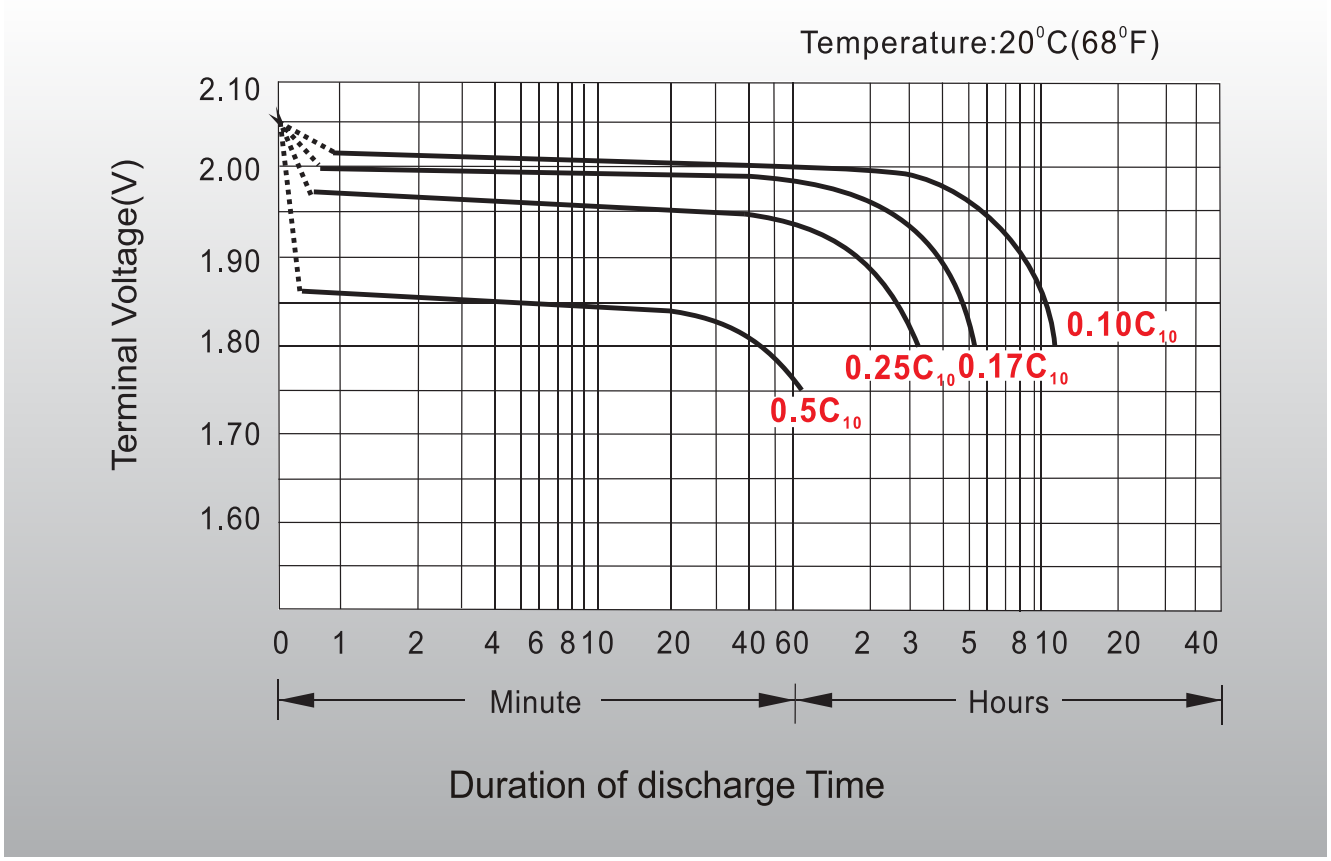
Constant Current Discharge (Amperes) at 20°C (68°F)

F.V/Time	1h	2h	3h	4h	5h	6h	8h	10h	20h	24h	72h	100h	120h
1.85V/cell	166.7	121.8	93.8	77.7	67.0	58.9	48.0	40.2	22.1	18.5	6.65	4.99	4.27
1.80V/cell	194.9	134.2	102.5	83.9	71.5	62.5	50.5	42.0	23.0	19.3	6.92	5.19	4.45
1.75V/cell	211.7	142.8	107.9	87.7	74.6	64.9	51.9	42.9	23.4	19.6	7.04	5.28	4.52
1.70V/cell	223.0	149.1	111.4	90.4	76.6	66.5	52.8	43.7	23.8	/	/	/	/
1.65V/cell	231.8	152.7	114.8	92.5	78.3	67.8	53.7	44.4	24.1	/	/	/	/
1.60V/cell	239.8	156.2	116.8	93.9	79.4	68.7	54.4	44.9	24.4	/	/	/	/

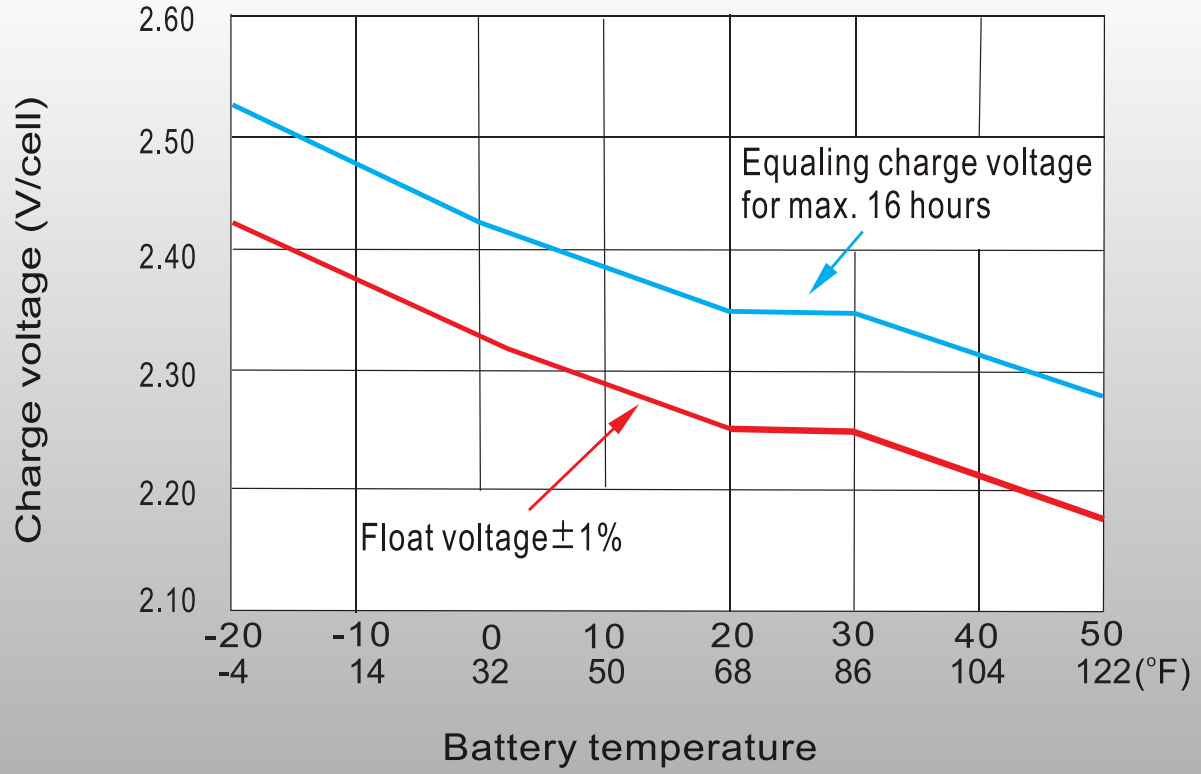
Constant Power Discharge (Watts/Cell) at 20°C (68°F)

F.V/Time	1h	2h	3h	4h	5h	6h	8h	10h	20h	24h	72h	100h	120h
1.85V/cell	312.0	229.7	177.8	147.8	128.1	113.1	92.5	77.9	43.0	36.0	12.8	9.59	8.20
1.80V/cell	359.4	250.3	192.2	158.1	135.5	119.1	96.6	80.8	44.3	37.1	13.2	9.88	8.44
1.75V/cell	385.4	264.0	200.9	164.2	140.7	122.9	98.8	82.1	44.9	37.6	13.4	10.01	8.56
1.70V/cell	402.3	273.7	206.1	168.4	143.8	125.5	100.1	83.1	45.5	/	/	/	/
1.65V/cell	415.0	279.0	211.3	171.8	146.4	127.5	101.5	84.2	46.0	/	/	/	/
1.60V/cell	425.8	284.1	213.8	173.4	147.7	128.7	102.2	84.8	46.2	/	/	/	/

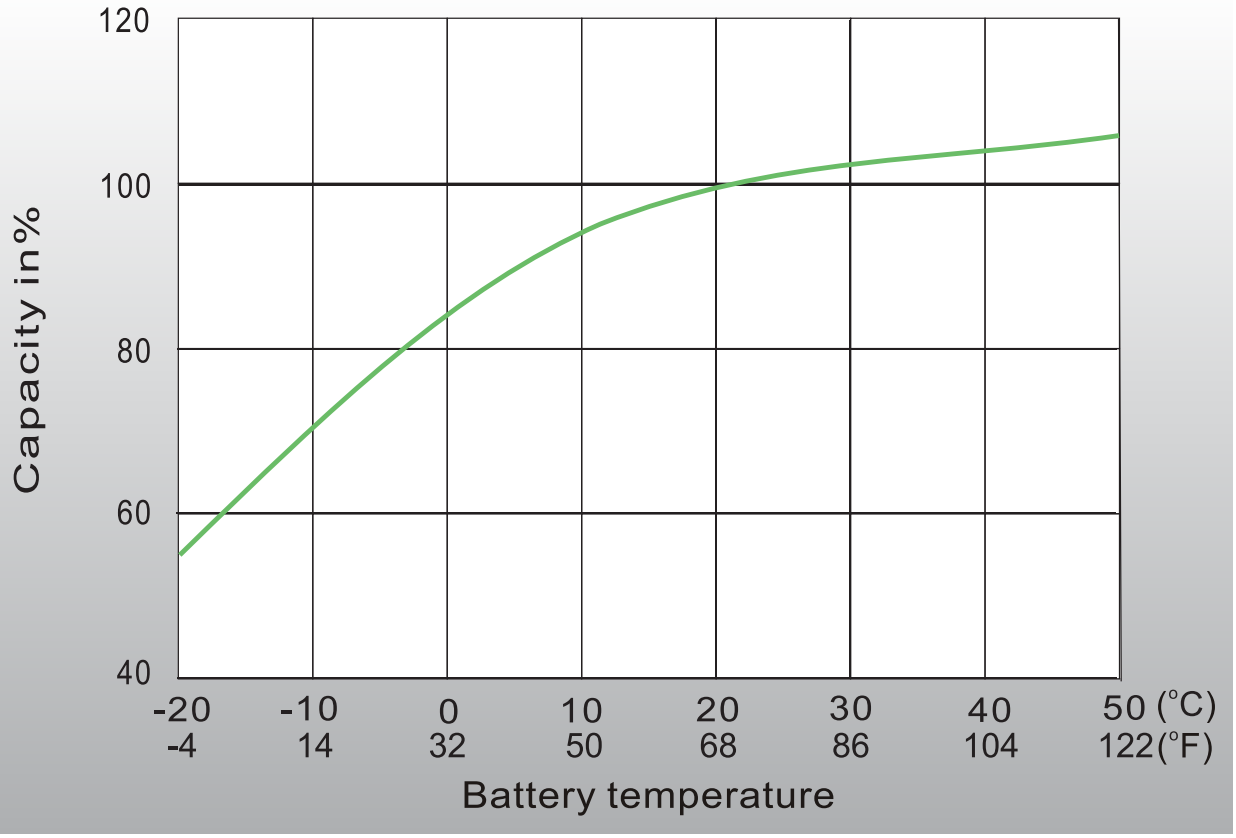
Discharge Characteristics



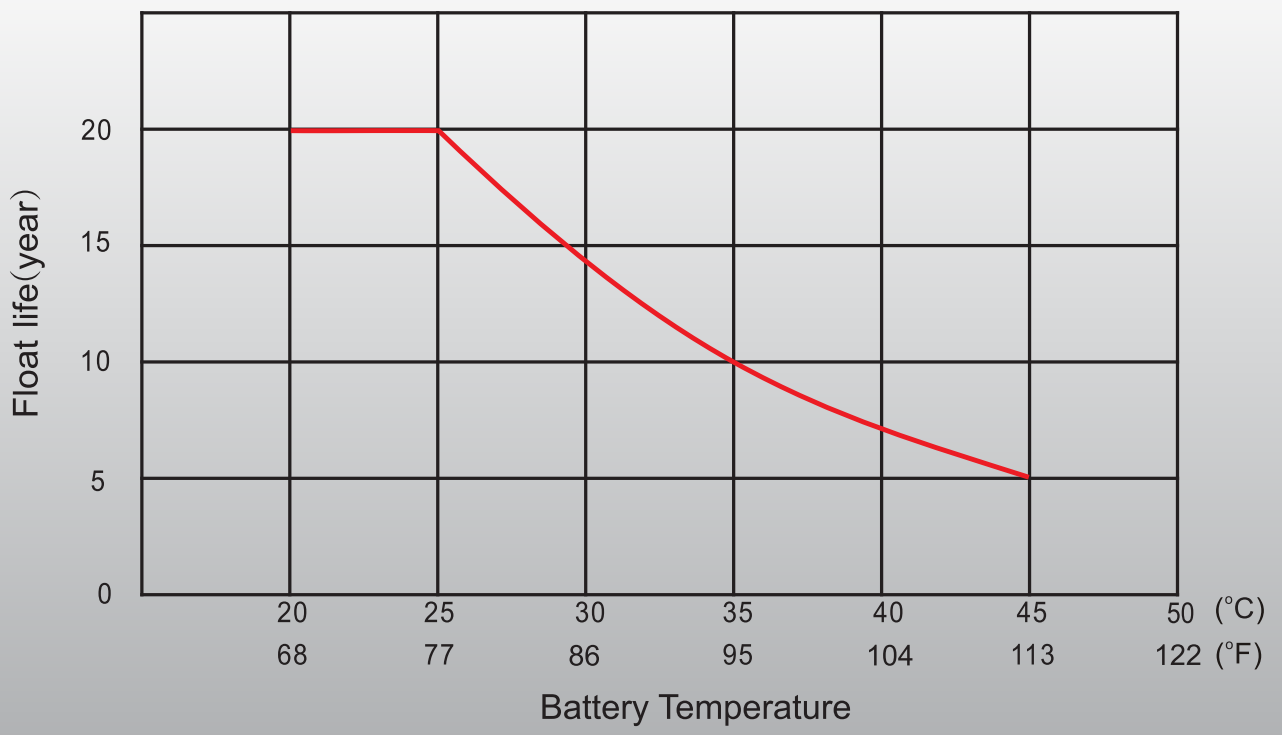
Charge Voltage vs Ambient Temperature Curve



Discharge Capacity vs Ambient Temp. Curve (110A)



Effect of Temp. on Long Term Float Life



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