

# EXPZS-420-2V

**2 Volt 420 Amp.**  
Tubular Flooded Battery

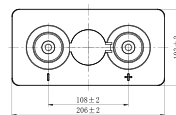
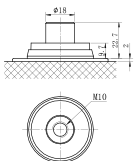


## Physical Specification

Part Number:	EXPZS-420-2V
Length:	145 ± 2mm (5.71 inches)
Width:	206 ± 2mm (8.11 inches)
Container Height:	471 ± 2mm (18.54 inches)
Total Height (with terminal):	526 ± 2mm (20.70 inches)
Approx Weight (Without Electrolyte):	24.5 kg (54.0 lbs)
Approx Weight (With Electrolyte):	32.7 kg (72.1 lbs)

## Dimensions

### ■ M10 Terminal



## Specifications

Voltage	Rated Voltage: 2V Floating Voltage: 2.23V~2.25	Boost Charge Voltage: 2.30V~2.40V
Terminal Option	M10	
Electrolyte Type	Flooded	
Container Material	Standard Option	SAN transparent container
Rated Capacity	(10hr,42.0A,1.80V/cell)	420.0 Ah
	(5hr,74.6A,1.75V/cell)	373.0 Ah
	(3hr,107.9A,1.75V/cell)	323.7 Ah
	(1hr,239.8A,1.60V/cell)	239.8 Ah
Max Discharge Current (5s)	0.1CA	
Max Discharge Current	3360A (5s)	
Internal Resistance	Approx. 0.58mΩ	
Discharge Characteristics		Discharge: -15°C~55°C (5°F~131°F) Charge: 0°C~45°C (32°F~113°F) Storage: -15°C~45°C (5°F~113°F)
	Operating Temp. Range	25 ± 3°C (77 ± 5°F)
	Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)
	Cycle Use	Initial Charging Current less than 0.1CA. Voltage 2.35V~2.40V at 20°C (68°F) Temp. Coefficient 3-mV/°C
	Self Discharge	Initial Charging Current less than 0.1CA. Voltage 2.25V~2.30V at 20°C (68°F) Temp. Coefficient 2-mV/°C
	Capacity affected by Temperature	40°C (104°F) 103% 25°C (77°F) 100% 0°C (32°F) 86%
Design Floating Life at 25°C	20 Years	
Self Discharge	ExPll Tubular Flooded OPzS Batteries may be stored for 6 months at 25°C (77°F) and then a refresh charge is required. For higher temperatures the time interval will be shorter. Self-discharge ≤ 3% per month.	

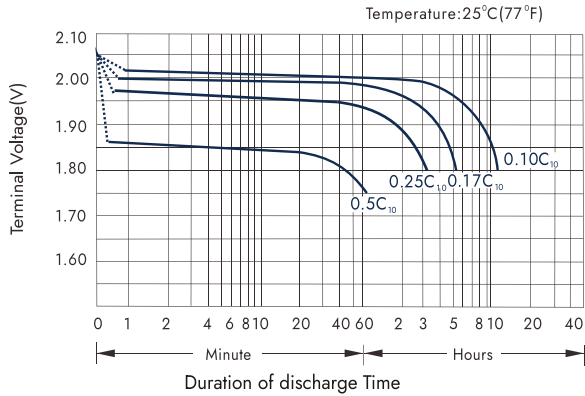
### Constant Current Discharge (Amperes) at 20°C (68°F)

F.V/Time	30 min	45min	1h	1.5h	2h	3h	4h		5h	6h	8h	10h	20h
1.60V/cell	318.4	276.6	239.8	189.0	156.2	116.8	93.9	79.4	68.7	54.4	44.9	24.4	
1.65V/cell	299.0	266.0	231.8	184.2	152.7	114.8	92.5	78.3	67.8	53.7	44.4	24.1	
1.70V/cell	283.9	250.9	223.0	178.4	149.1	111.4	90.4	76.6	66.5	52.8	43.7	23.8	
1.75V/cell	266.3	239.1	211.7	170.0	142.8	107.9	87.7	74.6	64.9	51.9	42.9	23.4	
1.80V/cell	236.9	215.6	194.9	159.3	134.2	102.5	83.9	71.5	62.5	50.5	42.0	23.0	
1.85V/cell	189.0	178.6	166.7	141.7	121.8	93.8	77.7	67.0	58.9	48.0	40.2	22.1	

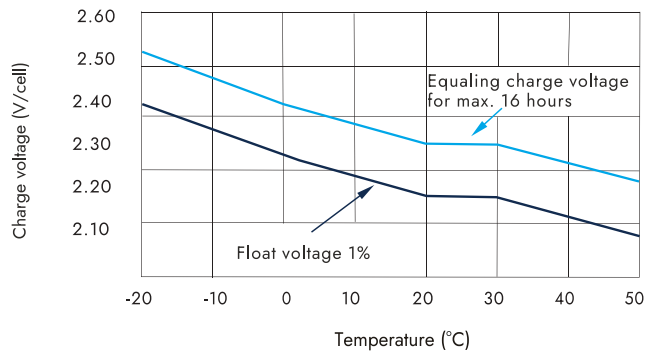
### Constant Power Discharge (Watts/cell) at 20°C (68°F)

F.V/Time	30 min	45min	1h	1.5h	2h	3h	4h		5h	6h	8h	10h	20h
1.60V/cell	543.4	484.1	425.8	339.8	284.1	213.8	173.4	147.7	128.7	102.2	84.8	46.2	
1.65V/cell	521.6	471.0	415.0	332.9	279.0	211.3	171.8	146.4	127.5	101.5	84.2	46.0	
1.70V/cell	502.0	448.9	402.3	324.4	273.7	206.1	168.4	143.8	125.5	100.1	83.1	45.5	
1.75V/cell	478.7	432.4	385.4	311.3	264.0	200.9	164.2	140.7	122.9	98.8	82.1	44.9	
1.80V/cell	431.6	395.8	359.4	295.2	250.3	192.2	158.1	135.5	119.1	96.6	80.8	44.3	
1.85V/cell	350.2	332.7	312.0	266.1	229.7	177.8	147.8	128.1	113.1	92.5	77.9	43.0	

### Discharge Characteristics



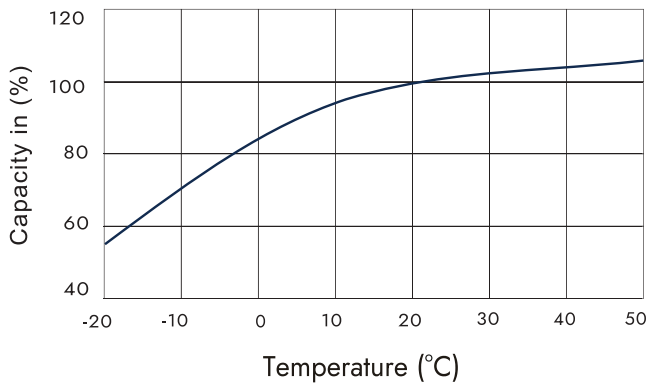
### Temperature effects in relation to battery capacity



### OPzS Tubular Flooded Batteries

OPzS batteries are a type of sealed lead-acid cells, commonly referred to as SLA or VRLA. OPzS cells are designed with tubular flooded technology for cost-effective energy solutions with over 3500 cycles at a 50% DOD. ExPll developed its range of OPzS batteries with a robust construction for applications demanding regular deep discharges. The batteries are characterized by long service life, outstanding capacity performance and low maintenance requirements, with reduced topping up needs. They are excellent for installations in high temperature environments or in areas with an unstable power source. Proven high reliability energy storage for critical applications including industrial projects in telecommunications, computing, power generation and distribution, railway, airport and seaport signalling, emergency lighting, automation and measuring systems.

### Discharge capacity Vs Ambient temperature (10A)



### Relation between service life & ambient temperature

