

**12V 1 OPzS 50**



Specification	
Float Charge	U = 2.23 V/cell ± 1%, between 10°C and 30°C $\Delta U/\Delta T = -0.004$ V/K below 10°C in the monthly average
Boost Charge	U = 2.35 to 2.40 V/cell, time limited
Dimension	Length 272 mm Width 205 mm Height 332 mm
Weight	Dry: 27.8 kg Wet: 41 kg
Self Discharge	Approx. 2% per month at 20°C
Positive Electrode	Tubular plate with low antimony alloy (< 2 %)
Negative Electrode	Flat with long life expander active material
Separation	Microporous separator
Electrolyte	Sulphuric acid of 1.24 kg/l at 20°C
Container	High impact, transparent SAN
Lid	ABS (SAN)* in grey color
Blocks with Blind Cells	4V, 6V, 8V, 10V
Plugs	Ceramic plugs according to DIN 40740
Pole Sealing	100 % gas-and electrolytetight, sliding-pole
Connector	Flexible insulated copper cable with cross-section of 35, 50, 70, 95 or 120 mm <sup>2</sup> (35, 50 or 70 mm <sup>2</sup> )*
Kind of Protection	IP 25 regarding DIN 40050, touch protected according VBG 4
Reference Temperature	20°C at C10 (1.80 V/cell) and 25°C at C100 (1.85 V/cell)
Initial Capacity	100%
Depth of Discharge	Normally up to 80% More than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

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

F.V/Time	10min	20min	30min	40min	50min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h
1.90V/cell	25.5	25.5	22.5	20.4	18.4	17.0	12.3	9.6	7.9	6.8	5.8	5.1	4.7	4.4	4.3
1.85V/cell	34.8	34.8	30.0	26.2	23.8	21.8	14.5	11.3	9.2	7.9	6.8	6.1	5.5	5.2	4.8
1.80V/cell	48.7	39.9	34.8	30.5	27.2	24.5	16.4	12.3	9.9	8.2	7.2	6.3	5.8	5.3	5.1
1.75V/cell	57.9	47.1	39.2	34.1	30.0	26.9	16.6	12.7	9.9	8.2	7.2	6.7	5.9	5.4	5.2
1.70V/cell	66.8	52.8	42.6	35.8	31.2	27.9	17.2	12.8	10.3	8.5	7.4	6.7	6.1	5.5	5.2
1.65V/cell	78.4	57.2	44.3	36.8	31.5	28.8	18.4	13.0	10.4	8.7	7.6	6.8	6.2	5.6	5.2

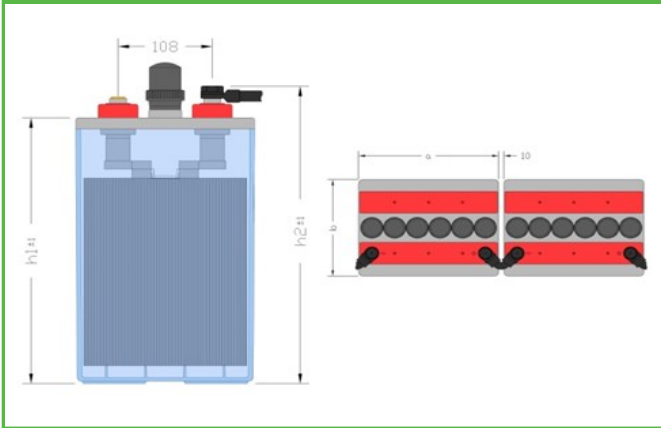
**Constant Power Discharge (Watts) at 20°C (68°F)**

F.V/Time	10min	20min	30min	40min	50min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h
1.90V/cell	48.4	48.4	42.9	39.0	35.2	32.7	23.6	18.4	15.2	13.1	11.2	9.8	9.1	8.5	8.2
1.85V/cell	63.1	63.1	55.2	48.5	44.2	40.6	27.2	21.4	17.5	15.0	13.0	11.7	10.6	10.1	9.4
1.80V/cell	87.6	70.8	62.5	55.3	49.6	44.9	30.4	23.0	18.7	15.5	13.7	12.1	11.2	10.3	9.4
1.75V/cell	103.1	82.2	69.1	60.8	53.8	48.7	30.8	23.7	18.7	15.6	13.7	12.8	11.4	10.6	9.6
1.70V/cell	115.7	90.4	74.0	63.1	55.7	50.3	32.0	24.0	19.4	16.1	14.1	12.9	11.9	11.0	9.9
1.65V/cell	131.6	97.2	77.2	64.8	55.9	51.5	34.2	24.4	19.8	17.3	14.6	13.3	11.9	11.3	9.9

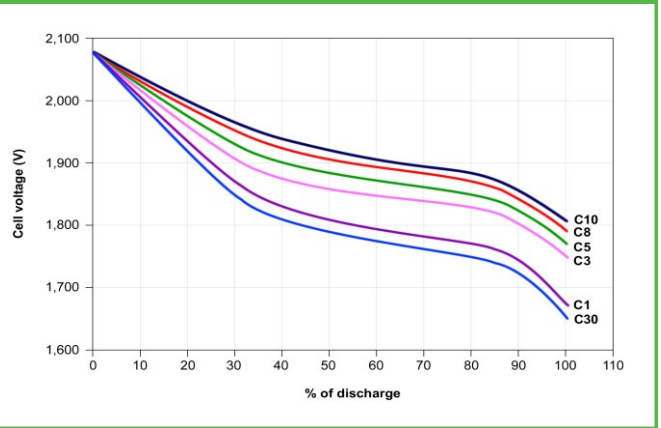


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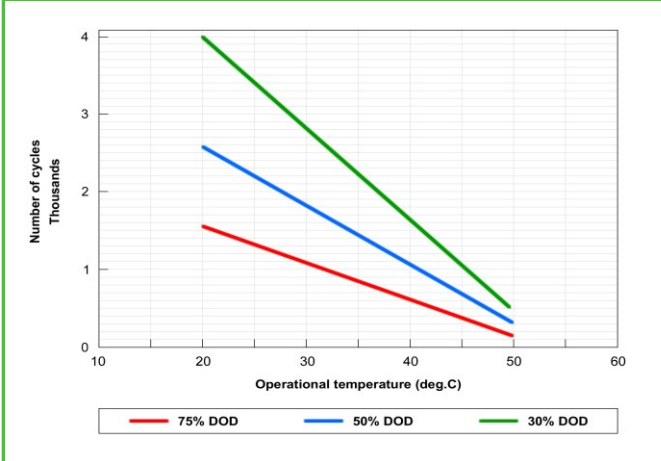
**Dimension**



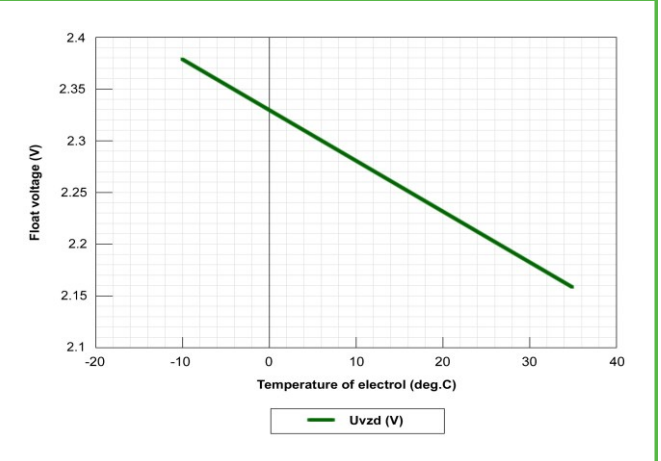
**Voltage vs. % of discharge at Cx**



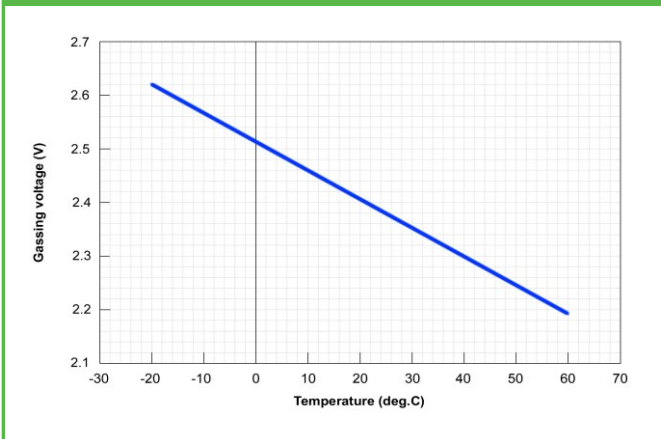
**Lifetime in cycles vs. temperature at DOD**



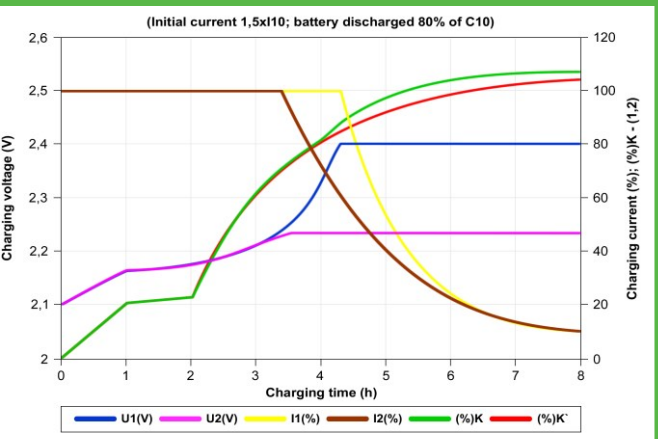
**Float voltage as f (T)**



**Gassing voltage as f (T)**



**Charging of OPzS with IU charger**



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