

# Battery Range Summary

The EnerSys<sup>®</sup> range of PowerSafe<sup>®</sup> OPzS batteries has been designed for use in all standby power applications that demand the highest levels of reliability and security.

PowerSafe OPzS cells benefit from an optimised plate design that results in increased capacity compared to the requirements of the internationally recognised DIN standard. In addition, the flooded tubular plate technology offers excellent cycling performance together with a proven long life under float voltage conditions, for a truly flexible solution.

The specification of the PowerSafe OPzS cells make it ideal for a wide range of applications such as telecommunications, power generation and distribution, railway, airport and seaport signalling, computing, emergency lighting, automation and measuring systems.



## Features & Benefits

- Capacity range: 216Ah – 3360Ah (C<sub>10</sub>/1.80Vpc/20°C)
- C<sub>10</sub> capacities exceed the DIN standard values
- Excellent cyclability
- 20 year design life (20°C)
- High operational reliability
- Low maintenance
- 3 year water topping-up interval
- DIN 40736-1 compliant

## Construction

- Positive electrodes – die-cast tubular plates with low antimony lead alloy for longer life
- Negative electrodes – pasted flat plates provide perfect balance with the positive plates to give maximum performance
- Separators – special microporous material
- Containers – moulded from durable, transparent styrene acrylonitrile (SAN) to allow electrolyte level and cell condition to be monitored visually
- Cell lids – made of opaque ABS sealed to container to ensure no electrolyte leakage
- Electrolyte – diluted sulphuric acid with a specific gravity of 1.240 ±0.010 (maximum level) at 20°C for a fully charged cell

- Terminals – lead alloy leakproof pole with brass insert designed to give minimum resistance and maximum current flow
- Vent plugs – safety plugs equipped with flame arrestors. Special vent plugs allowing topping-up and S.G. reading without the need to remove them, are available on request
- Connectors – fully insulated, solid copper inter-cell connectors allow voltage measurements

## Installation & Operation

- Float charge voltage: 2.23Vpc at 20°C
- Permissible operating temperature range: -10°C to +45°C

- Topping-up intervals of about 3 years in standby operation mode thanks to large electrolyte reserve
- Large selection of stands, including seismic stands, available upon request

## Standards

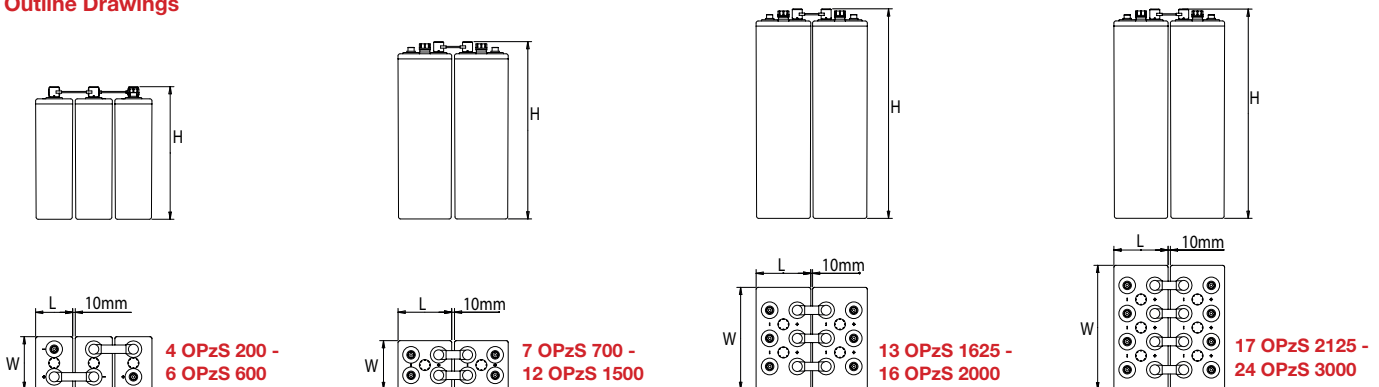
- Compliant with both the international standard IEC 60896-11 and the DIN standard 40736-1
- Batteries must be installed in accordance with safety standards EN 50272-2, IEC 62485-2 and national regulations
- The management systems governing the manufacture of PowerSafe® OPzS products are ISO 9001, ISO 14001 and OHSAS 18001 certified

## General Specifications

Cell Type	Nominal Voltage (V)	Number of Terminals	Nominal Capacity (Ah)		Nominal Dimensions (mm)			Moist Charged Cells		Filled & Charged Cells		Short Circuit Current (A)	Internal Resistance (mΩ)
			10hr rate to 1.80Vpc @20°C	8hr rate to 1.75Vpc @25°C	Length	Width	Height <sup>(1)</sup>	Typical Weight (kg)	Electrolyte volume <sup>(2)</sup> (Litres)	Typical Weight (kg)	Electrolyte volume (Litres)		
4 OPzS 200	2	2	216	217	103	206	403	13.9	2.8	18.0	3.9	2400	0.85
5 OPzS 250	2	2	270	266	124	206	403	16.6	3.5	21.6	4.9	3000	0.68
6 OPzS 300	2	2	324	319	145	206	403	19.2	4.1	25.3	5.8	3600	0.57
5 OPzS 350	2	2	390	388	124	206	520	21.3	4.8	29.0	6.7	3400	0.60
6 OPzS 420	2	2	468	466	145	206	520	24.8	5.7	34.0	8.0	4075	0.50
7 OPzS 490	2	2	546	543	166	206	520	30.8	6.6	39.1	9.3	4750	0.43
6 OPzS 600	2	2	660	648	145	206	695	35.7	7.9	46.9	11.1	5000	0.40
7 OPzS 700	2	4	817	798	210	191	695	46.4	10.6	60.3	14.8	5800	0.34
8 OPzS 800	2	4	880	856	210	191	695	50.7	10.4	64.0	14.5	6650	0.30
9 OPzS 900	2	4	1040	1013	210	233	695	55.6	13.2	74.0	18.4	7475	0.27
10 OPzS 1000	2	4	1100	1071	210	233	695	59.9	13.0	77.7	18.1	8300	0.24
11 OPzS 1100	2	4	1260	1227	210	275	695	67.7	16.0	86.5	20.8	9150	0.22
12 OPzS 1200	2	4	1320	1293	210	275	695	72.3	15.8	90.3	20.6	9950	0.20
11 OPzS 1375	2	4	1590	1631	210	275	845	83.4	21.2	110.1	27.6	8800	0.22
12 OPzS 1500	2	4	1680	1730	210	275	845	89.8	21.0	114.8	27.3	9600	0.21
13 OPzS 1625	2	6	1910	1969	214	399	820	102.1	30.5	143.3	39.6	10400	0.19
14 OPzS 1750	2	6	2040	2092	214	399	820	107.3	30.5	147.8	39.6	11200	0.18
15 OPzS 1875	2	6	2150	2208	214	399	820	113.1	29.9	152.5	38.9	12000	0.16
16 OPzS 2000	2	6	2240	2307	214	399	820	117.6	30.0	157.1	39.0	12800	0.15
17 OPzS 2125	2	8	2470	2546	212	487	820	133.3	37.3	181.2	48.5	13600	0.14
18 OPzS 2250	2	8	2600	2669	212	487	820	140.0	36.8	185.9	47.8	14400	0.14
19 OPzS 2375	2	8	2710	2785	212	487	820	145.6	36.5	190.5	47.5	15200	0.13
20 OPzS 2500	2	8	2800	2884	212	487	820	150.1	36.6	195.1	47.6	16000	0.12
22 OPzS 2750	2	8	3150	3238	212	576	820	171.4	44.5	221.0	57.8	17600	0.11
24 OPzS 3000	2	8	3360	3543	212	576	820	181.8	43.4	230.4	56.4	19200	0.10

Notes: (1) Height shown is overall height, including connectors and shrouds (2) Typical electrolyte volume for filling cells (1.280 SG electrolyte at 20°C)

## Outline Drawings



**EnerSys World Headquarters**  
2366 Bernville Road, Reading,  
PA 19605, USA  
Tel: +1-610-208-1991 /  
+1-800-538-3627

**EnerSys EMEA**  
EH Europe GmbH,  
Baarerstrasse 18,  
6300 Zug  
Switzerland

**EnerSys Asia**  
152 Beach Road,  
Gateway East Building #11-03,  
Singapore 189721  
Tel: +65 6508 1780

Contact: