



**2CP900 BATTERY
PRODUCT
SPECIFICATION**

Part Number 61360900

TECHNOLOGY

VRLA-AGM Valve Regulated Lead-Acid and Absorbed Glass Mat

ELECTRICAL DATA


Type	2CP900			
Nominal Voltage	2 volts (1 cell)			
Rated Capacity	905 Ah - C ₁₀ to 1.80 Vpc at 20 °C 914 Ah - C ₁₀₀ to 1.80 Vpc at 20 °C			
Current / Power				
0.5 hr back-up time	1.65 Vpc	20 °C	1062 A	1906 W
1.0 hr back-up time	1.67 Vpc	20 °C	638 A	1175 W
2.0 hr back-up time	1.80 Vpc	20 °C	345 A	648 W
4.0 hr back-up time	1.80 Vpc	20 °C	194 A	376 W
8.0 hr back-up time	1.80 Vpc	20 °C	110 A	211 W
10.0 hr back-up time	1.80 Vpc	20 °C	90.5 A	175 W
20.0 hr back-up time	1.80 Vpc	20 °C	49.2 A	96.1 W
Conversion to capacity at 25 °C (77 °F)	20° C Ah x 1.03 (t > 1 h)			
Internal resistance (± 10%) to IEC/EN 60896-21	0.13 mΩ			
Short circuit current (± 10%) to IEC/EN 60896-21	15.4 kA			
Self discharge at 20° C IEC/EN 60896-21	max. 3%/month			
Heat loss during float service at 20 °C	≈ 0.90 W			

MECHANICAL DATA

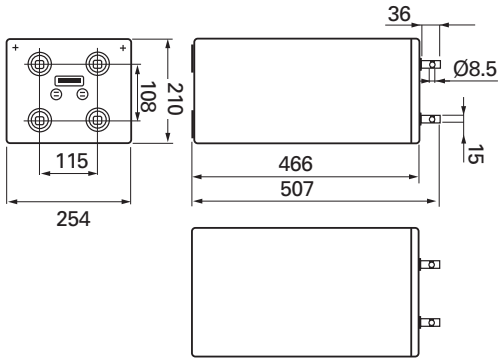
Weight ready for use	65.8 kg
Height of cell	507 mm
Height over terminal connector	512 mm
Width	210 mm
Depth	254 mm
Number of terminals	2 positive/2 negative
Terminals	ø 8.5 mm (through hole M8)
Suggested/maximum cable cross-section	4.185 mm ² *) up to 6.185 mm ² / up to 4.240 mm ² *)
Connection torque	25 Nm
Terminal insulation class according to IEC/EN 60529	IP20
Diameter of diagnostic hole for voltage probe	4.0 mm ø
Connector (copper, tin-coated) rigid and insulated	4.90 mm ²
Complete connector and terminal connection accessories	available

*) for UPS duties the connecting cables must be dimensioned specially

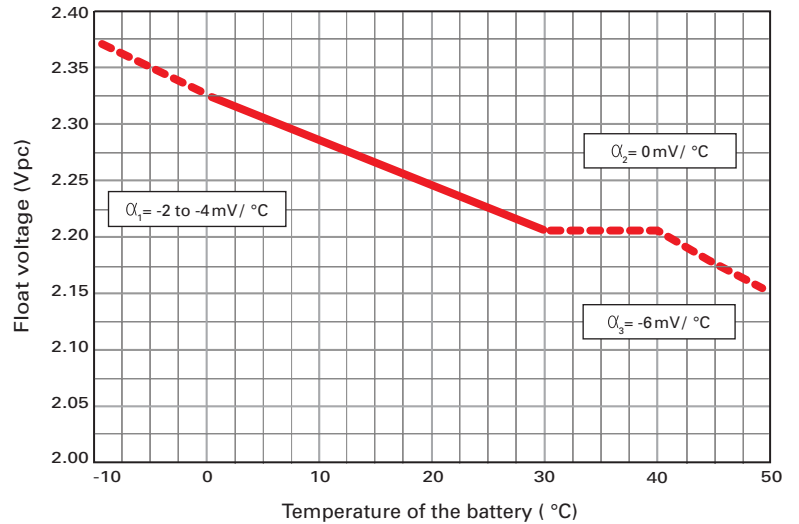
ENVIRONMENTAL DATA

Installation	Vertically / horizontally
Distance for cooling and ventilation (preset with the rigid connectors)	8 mm
Flame retardancy rating case/cover according to Underwriters Laboratories (UL) USA	ABS - PC – UL 94 V-0 with LOI > 32%, halogen-free
Flame barriers at vents	Installed
UL file number 	MH 26065
Service life expected at 20 °C	15 years
Eurobat classification	12+ Long Life
Shelves, cabinets and racks	available upon request

BATTERY DRAWINGS



FLOAT VOLTAGE COMPENSATION AS A FUNCTION OF TEMPERATURE



CAPACITY CORRECTION FACTORS AS A FUNCTION OF TEMPERATURE

Temperature	% of Rated Capacity
40 °C (104 °F)	104.8
35 °C (95 °F)	104.2
30 °C (86 °F)	103.6
25 °C (77 °F)	103.0
20 °C (68 °F)	100.0
15 °C (59 °F)	97.0
10 °C (50 °F)	94.0
5 °C (41 °F)	90.0
0 °C (32 °F)	84.7
-5 °C (23 °F)	77.7
-10 °C (14 °F)	69.4
-15 °C (5 °F)	60.0
-20 °C (-4 °F)	49.6
-25 °C (-13 °F)	38.4
-30 °C (-22 °F)	25.6
-35 °C (-31 °F)	14.1
-40 °C (-40 °F)	2.1

INSTALLATION & OPERATION CHARACTERISTICS

Battery installation and operation	Stand-by mode with constant voltage float operation according to EN 50272-2:2001
Float voltage setting according to DIN 41773	2.25 Vpc ± 1% at 20 °C - 25 °C (68 °F - 77 °F)
Float voltage with daily discharge cycles	2.29 Vpc - 2.30 Vpc (no correction factor needed)
CC-CV charge current according to DIN 41773	unlimited, otherwise $3 \cdot I_{10}$ max. if temp > 25 °C
Float voltage compensation in function of temperature	-2 to -4 mV / °C or with profile as displayed in graph above
Boost charge	Not needed, if desirable then 2.35 Vpc and I_{10} max. for 24 hr max. at temp < 30 °C
Air exchange	As a VRLA battery according to EN 50272-2:2001 $Q = 0.05 \cdot N_{\text{cells}} \cdot I_{\text{gas}} \cdot C_{\text{Ah C10}} \cdot 10^3 \text{ [m}^3\text{/h]}$ $I_{\text{gas}} = 1$ (at 2.25 Vpc) $I_{\text{gas}} = 8$ (at 2.40 Vpc) e.g. 48 V : 1.086 m ³ /hr = 38.35 cu.ft/hr (at 2.25 Vpc)
Preferred operating temperature range	Between 15 °C - 25 °C (59 °F - 77 °F)
Maximum long term operating temperature	+40 °C (104 °F) with ventilation assured (reduced service life)
Maximum short term operating temperature (for hours)	+50 °C (122 °F) with ventilation assured (reduced service life)
Minimum fully charged operating temperature	-40 °C (-40 °F)

2CP900 BATTERY PRODUCT SPECIFICATION

DISCHARGE DATA

Constant current performance (in amps) to the defined end-of-discharge voltage

Voltage (Vpc)	Temp.	Discharge time [min]																						
		1 - 2	3	5	7	10	15	20	25	30	40	50	60	90	120	180	240	300	360	480	600	720	1200	1440
1.90	20 °C	988	977	947	915	867	795	734	681	636	562	504	458	361	299	218	177	150	132	105	87.0	74.6	48.2	41.1
	25 °C	1018	1006	975	942	893	819	756	701	655	579	519	472	372	308	224	182	155	136	108	89.6	76.8	49.6	42.3
1.87	20 °C	1181	1165	1123	1078	1012	916	835	768	711	619	550	495	384	315	227	183	154	135	107	88.3	75.6	48.5	41.4
	25 °C	1216	1200	1157	1110	1042	943	860	791	732	638	567	510	396	324	234	188	159	139	110	91.0	77.9	50.0	42.6
1.85	20 °C	1331	1310	1258	1201	1121	1003	908	828	762	658	580	520	398	325	233	186	157	137	108	89.0	76.1	48.8	41.5
	25 °C	1371	1349	1296	1237	1155	1033	935	853	785	678	597	536	410	335	240	192	162	141	111	91.7	78.4	50.3	42.7
1.84	20 °C	1411	1388	1329	1267	1177	1048	944	859	788	677	595	532	405	329	235	188	158	138	109	89.4	76.4	48.9	41.6
	25 °C	1453	1430	1369	1305	1212	1079	972	885	812	697	613	548	417	339	243	194	163	142	112	92.1	78.7	50.4	42.8
1.83	20 °C	1494	1468	1403	1333	1234	1093	980	889	813	696	609	543	412	333	238	190	159	139	109	89.7	76.6	49.0	41.7
	25 °C	1539	1512	1445	1373	1271	1126	1009	916	837	717	627	559	424	343	245	196	164	143	112	92.4	78.9	50.5	43.0
1.82	20 °C	1578	1549	1476	1399	1291	1138	1016	918	837	714	623	554	418	337	240	191	160	139	110	90.0	76.8	49.1	41.7
	25 °C	1626	1596	1521	1441	1329	1172	1046	945	863	735	642	570	430	348	248	197	165	143	113	92.7	79.1	50.5	43.0
1.80	20 °C	1748	1712	1623	1531	1402	1223	1084	973	883	746	648	573	429	345	245	194	162	140	110	90.5	77.2	49.2	41.8
	25 °C	1800	1763	1672	1577	1444	1260	1117	1002	909	768	667	590	442	355	252	200	167	144	113	93.2	79.5	50.7	43.1
1.77	20 °C	1986	1940	1828	1711	1551	1336	1171	1042	940	787	678	597	442	353	254	200	166	142	111	91.0	77.6	49.4	42.0
	25 °C	2046	1998	1882	1762	1598	1376	1206	1074	968	810	698	615	455	363	262	206	171	146	114	93.8	79.9	50.9	43.2
1.75	20 °C	2125	2072	1944	1813	1635	1397	1218	1079	970	808	693	609	448	357	256	201	166	142	111	91.3	77.8	49.5	42.0
	25 °C	2189	2135	2003	1867	1684	1439	1254	1112	999	832	714	627	462	368	264	207	171	147	114	94.0	80.1	50.9	43.3
1.72	20 °C	2298	2236	2088	1937	1735	1470	1272	1122	1004	831	711	622	456	362	259	203	168	143	111	91.6	78.0	49.5	42.1
	25 °C	2367	2303	2151	1995	1787	1514	1310	1156	1034	856	732	641	469	372	266	209	173	147	115	94.3	80.3	51.0	43.4
1.70	20 °C	2395	2328	2168	2006	1790	1509	1302	1145	1022	844	720	629	459	364	260	203	168	143	112	91.8	78.1	49.6	42.1
	25 °C	2467	2398	2233	2066	1843	1554	1341	1179	1053	869	741	648	473	375	268	210	173	148	115	94.5	80.5	51.1	43.4
1.67	20 °C	2531	2457	2279	2100	1865	1562	1341	1175	1046	860	732	638	464	364	261	204	169	144	112	91.9	78.2	49.6	42.1
	25 °C	2607	2530	2347	2163	1921	1608	1381	1210	1078	886	754	657	478	378	269	211	174	148	115	94.7	80.6	51.1	43.4
1.65	20 °C	2624	2544	2354	2164	1915	1597	1367	1195	1062	871	739	644	467	369	262	205	169	144	112	92.1	78.3	49.7	42.2
	25 °C	2703	2621	2425	2229	1972	1644	1408	1231	1094	897	761	663	481	380	270	211	174	149	115	94.8	80.7	51.2	43.4
1.63	20 °C	2717	2631	2428	2226	1964	1630	1391	1214	1077	880	746	649	470	371	263	206	169	144	112	92.2	78.4	49.7	42.2
	25 °C	2798	2710	2501	2293	2022	1679	1433	1250	1109	907	769	669	484	382	271	212	174	149	116	94.9	80.8	51.2	43.5
1.60	20 °C	2811	2719	2503	2289	2012	1664	1416	1232	1091	890	753	654	473	372	264	206	170	145	112	92.3	78.5	49.7	42.2
	25 °C	2895	2801	2578	2358	2073	1714	1458	1269	1124	917	776	674	487	383	272	212	175	149	116	95.0	80.8	51.2	43.5

Constant power performance (in watt per cell) to the defined end-of-discharge voltage

Voltage (Vpc)	Temp.	Discharge time [min]																						
		1 - 2	3	5	7	10	15	20	25	30	40	50	60	90	120	180	240	300	360	480	600	720	1200	1440
1.90	20 °C	1897	1873	1815	1751	1658	1518	1400	1299	1212	1071	961	873	689	572	431	349	294	255	202	169	145	94.0	80.0
	25 °C	1954	1929	1869	1804	1708	1564	1442	1338	1248	1103	990	899	710	589	444	359	303	263	208	174	149	96.8	82.4
1.87	20 °C	2254	2220	2138	2050	1924	1739	1585	1456	1348	1176	1045	941	731	601	448	359	302	261	206	171	147	95.0	81.0
	25 °C	2322	2287	2202	2112	1982	1791	1633	1500	1388	1211	1076	969	753	619	461	370	311	269	212	176	151	97.9	83.4
1.85	20 °C	2500	2458	2359	2252	2100	1882	1703	1556	1433	1239	1094	982	755	617	456	365	306	264	208	172	148	95.2	81.2
	25 °C	2575	2532	2430	2320	2163	1938	1754	1603	1476	1276	1127	1011	778	636	470	376	315	272	214	177	152	98.1	83.6
1.84	20 °C	2625	2579	2470	2353	2188	1952	1760	1603	1473	1269	1118	1000	766	624	460	368	307	265	209	173	148	95.4	81.3
	25 °C	2704	2657	2544	2424	2254	2010	1813	1651	1517	1308	1151	1030	789	643	474	379	317	273	215	178	153	98.2	83.8
1.83	20 °C	2750	2699	2579	2453	2274	2019	1815	1649	1511	1298	1140	1018	776	631	464	370	309	266	209	173	149	95.5	81.4
	25 °C	2832	2780	2657	2526	2342	2080	1869	1698	1557	1337	1174	1048	799	650	478	381	318	274	216	179	153	98.4	83.9
1.82	20 °C	2871	2816	2686	2549	2356	2084	1867	1692	1547	1324	1160	1034	785	637	467	372	310	267	210	174	149	96.0	81.5
	25 °C	2957	2900	2767	2625	2427	2147	1923	1743	1593	1364	1195	1065	809	656	481	383	319	275	216	179	153	98.9	83.9
1.80	20 °C	3114	3049	2897	2738	2517	2209	1967	1773	1615	1374	1198	1064	802	648	473	376	313	269	211	175	150	96.1	81.5
	25 °C	3207	3140	2984	2820	2593	2275	2026	1826	1663	1415	1234	1096	826	667	487	387	322	277	217	180	154	99.0	84.0
1.77	20 °C	3459	3379	3194	3002	2738	2377	2099	1880	1703	1437	1246	1101	824	662	481	380	316	271	213	176	150	96.2	81.6
	25 °C	3563	3480	3290	3092	2820	2448	2162	1936	1754	1480	1283	1134	849	682	495	391	325	279	219	181	155	99.1	84.0
1.75	20 °C	3671	3581	3374	3160	2869	2476	2175	1941	1753	1472	1272	1122	835	670	485	383	318	273	213	176	151	96.3	81.6
	25 °C	3781	3688	3475	3255	2955	2550	2240	1999	1806	1516	1310	1156	860	690	500	394	328	281	220	182	156	99.2	84.1
1.72	20 °C	3954	3850	3611	3367	3039	2601	2271	2017	1815	1516	1304	1147	849	678	489	386	320	274	214	177	151	96.4	81.7
	25 °C	4073	3966	3719	3468	3130	2679	2339	2078	1869	1561	1343	1181	874	698	504	398	330	282	220	182	156	99.3	84.1
1.70	20 °C	4114	4002	3745	3483	3133	2670	2324	2058	1848	1539	1321	1160	856	683	492	387	321	275	214	177	151	96.6	81.8
	25 °C	4237	4122	3857	3587	3227	2750	2394	2120	1903	1585	1361	1195	882	703	507	399	331	283	221	182	156	99.5	84.2
1.67	20 °C	4310	4187	3906	3623	3245	2751	2385	2106	1887	1565	1341	1175	864	688	494	389	322	276	215	177	152	96.7	81.8
	25 °C	4439	4313	4023	3732	3342	2834	2457	2169	1944	1612	1381	1210	890	709	509	401	332	284	221				