



**Technical Specifications
of
Guchen CCS2 DC Charging
Gun / Plug
(Comply with IEC62196)**

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Change History

Date	Chap.	Content Before Change	Content After Change

Note: Changes to this specification will not be notified to customers as long as they do not reduce product performance or change product status.

Customers will not be notified when the following changes are involved:

- 1) Product models are added, and the original model products remain unchanged;
- 2) Changes to the explanatory text in the specifications will not affect product use, product assembly etc.
- 3) Changes when the promised technical parameters of the product are increased and the promised performance is improved.

1. Product Details



The CCS2 Plug with replaceable DC terminals and mounting surface frame. It is installed on the electric vehicle charging pile, charging mode 4, and is used to quickly charge electric vehicles with direct current (DC) through the CCS2 type vehicle socket. The product meets IEC62196.3-2022 and RoHS2.0 requirements.

Model Naming:

Model	CCS2-P	CCS2-P	-	250A	-	1000V	-	EU
Separator								
Rated current: 80A, 200A, 250A, 300A								
Separator								
Rated voltage: 1000V								
Separator								
EU: European standard								

Available models:

S/N	Model	Part No.	Description
1	CCS2-P-250A-1000V-EU	21G0-00169-A	CCS2 250A DC Charging Gun
2	CCS2-P-200A-1000V-EU	21G0-00169-B	CCS2 200A DC Charging Gun
3	CCS2-P-300A-1000V-EU	21G0-00169-C	CCS2 300A DC Charging Gun
4	CCS2-P-80A-1000V-EU	21G0-00169-D	CCS2 80A DC Charging Gun

2. CCS2 Charging Cable Technical Parameters

Charging cables comply with IEC62893 & EN50620 standards. Its structure shown in the table below:

Model	CCS2-P-200A-1000V-EU	CCS2-P-250A-1000V-EU	CCS2-P-300A-1000V-EU
Rated current	200A	250A	300A
Cable structure, power terminals	2×50mm ²	4×35mm ²	4×50mm ²
Cable structure, ground terminal	1×25mm ²	1×16mm ² +1×10mm ²	1×25mm ² +1×16mm ²
Cable structure, signal terminal	6×0.75mm ²	6×0.75mm ²	6×0.75mm ²
Cable outer sheath diameter	28.6±1mm	32.5±1mm	35.5±1mm
Model	CCS2-P-80A-1000V-EU		
Rated current	80A		
Cable structure, power terminals	2×16mm ²		
Cable structure, ground terminal	1×16mm ²		
Cable structure, signal terminal	3×2×0.75mm ²		
Cable outer sheath diameter	21±1mm		

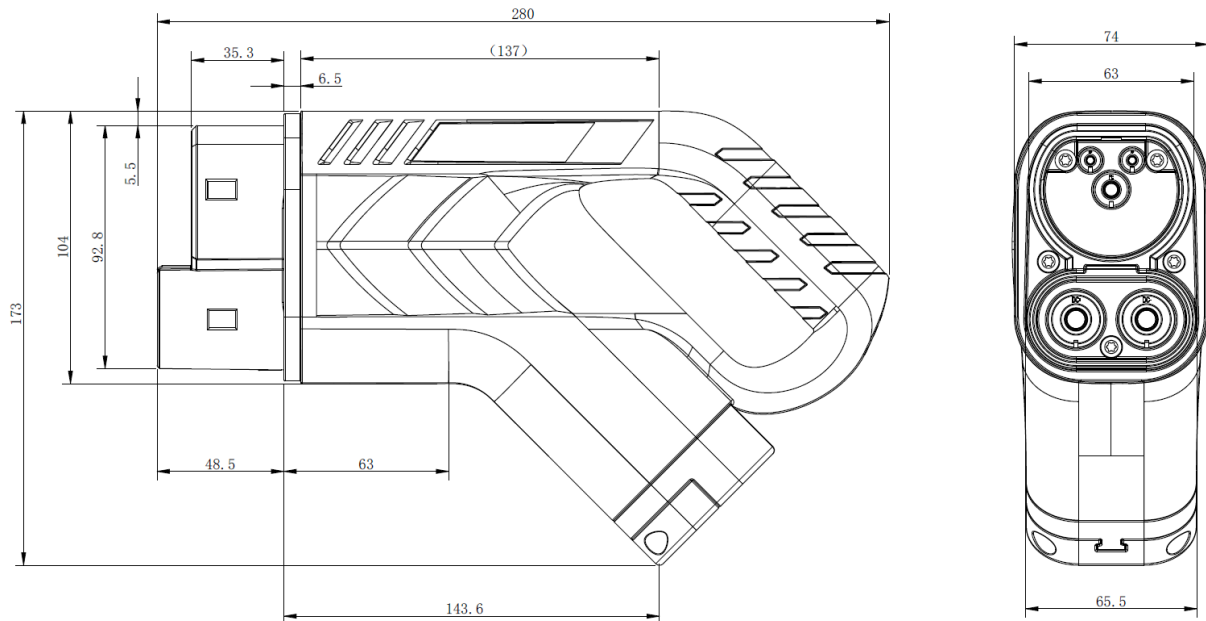
3. Product Performance

Mechanical Performance	
Mechanical life	≥ 10000 times
Mating/unmating force	< 100N
Electrical Performance	
Rated current	DC+/DC-: 80A, 200A, 250A, 300A; PP/CP: 2AMax
Rated voltage	DC+/DC-: 1000V DC; PP/CP 30VDC
Withstand voltage	DC+, DC-, PE: 3000V AC (at room temperature); PP, CP: 500V AC (at room temperature)
Insulation resistance	≥ 100M (DC+&DC-&PE, DC 1000V), (CP, PP, temperature sensing line, DC 500V)
Temperature rise	< 50K
Temperature sensor	2×PT1000
Environmental Performance	
Protective Level	IP44 (After the gun is inserted), IP24 (unmated)
Working temperature	-30℃ ~ +40℃
Salt spray	96H
Altitude	5000m (above sea level)
Main Material	
Housing	PC
Insulation	PA6 GF30
Sealing	Silicone Rubber
Contact parts	Copper alloy silver plated
Flame retardant	UL94 V-0

Note: The charging gun complies with the standard IEC62196.3-2022 and must be used with a DC charging socket that complies with the IEC62196 standard.

2. After charging, ensure that the charging gun is placed in a suitable charging hook, that is, an empty gun hook that can provide the lowest protection level of IP24 during the entire time period between charging according to the IEC61851-1 standard requirements.

4. Product Dimensions



5. Temperature Sensor

PT1000 temperature monitoring principle:

DC: 2 temperature sensors are installed at the DC+/DC- terminals respectively

Temperature sensor model: PT1000, compliant with IEC60751.

When the temperature approaches 90°C, it is recommended to reduce the charging current and stop charging when the temperature reaches 90°C.

IEC62196 stipulates that the operating temperature of charging products is -30°C~+40°C, and the temperature rise of the power terminal during charging shall not exceed 50K. To prevent the internal components and cables of charging products from aging at high temperatures, the charger should stop charging when the temperature reaches 90°C.

1)PT1000 temperature sensor parameters

S/N		Data
1	Rated current	≤0.3mA
2	Insulation resistance	≥100M (100V DC)
3	Withstand voltage (between DC terminal)	3000V AC (60s)
4	Flame retardant	UL94V-0
5	Temperature range	-50°C~+130°C
6	Temperature coefficient (TCR)	3850ppm/K
7	Shutdown temperature	90°C Equivalent to PT1000 resistance 1347.07

2) Correspondence table between temperature value and resistance value of PT1000 temperature sensor
(resistance unit: Ω)

T [°C]	R [Ω]	T [°C]	R [Ω]	T [°C]	R [Ω]	T [°C]	R [Ω]
-70	723.35	73	1282.23	216	1817.25	359	2328.65
-69	727.35	74	1286.05	217	1820.91	360	2332.14
-68	731.34	75	1289.87	218	1824.56	361	2335.64
-67	735.34	76	1293.70	219	1828.22	362	2339.13
-66	739.34	77	1297.52	220	1831.88	363	2342.62
-65	743.33	78	1301.33	221	1835.53	364	2346.10
-64	747.32	79	1305.15	222	1839.18	365	2349.59
-63	751.31	80	1308.97	223	1842.83	366	2353.08
-62	755.30	81	1312.78	224	1846.48	367	2356.56
-61	759.29	82	1316.60	225	1850.13	368	2360.05
-60	763.28	83	1320.41	226	1853.78	369	2363.53
-59	767.26	84	1324.22	227	1857.43	370	2367.01
-58	771.25	85	1328.03	228	1861.07	371	2370.49
-57	775.23	86	1331.84	229	1864.72	372	2373.97
-56	779.21	87	1335.65	230	1868.36	373	2377.45
-55	783.19	88	1339.46	231	1872.00	374	2380.93
-54	787.17	89	1343.26	232	1875.64	375	2384.40
-53	791.14	90	1347.07	233	1879.28	376	2387.88
-52	795.12	91	1350.87	234	1882.92	377	2391.35
-51	799.09	92	1354.68	235	1886.56	378	2394.82
-50	803.06	93	1358.48	236	1890.19	379	2398.29
-49	807.03	94	1362.28	237	1893.83	380	2401.76
-48	811.00	95	1366.08	238	1897.46	381	2405.23
-47	814.97	96	1369.87	239	1901.10	382	2408.70
-46	818.94	97	1373.67	240	1904.73	383	2412.17
-45	822.90	98	1377.47	241	1908.36	384	2415.63
-44	826.87	99	1381.26	242	1911.99	385	2419.10
-43	830.83	100	1385.06	243	1915.62	386	2422.56
-42	834.79	101	1388.85	244	1919.24	387	2426.02

-41	838.75	102	1392.64	245	1922.87	388	2429.48
-40	842.71	103	1396.43	246	1926.49	389	2432.94
-39	846.66	104	1400.22	247	1930.12	390	2436.40
-38	850.62	105	1404.00	248	1933.74	391	2439.86
-37	854.57	106	1407.79	249	1937.36	392	2443.31
-36	858.53	107	1411.58	250	1940.98	393	2446.77
-35	862.48	108	1415.36	251	1944.60	394	2450.22
-34	866.43	109	1419.14	252	1948.22	395	2453.67
-33	870.38	110	1422.93	253	1951.83	396	2457.13
-32	874.32	111	1426.71	254	1955.45	397	2460.58
-31	878.27	112	1430.49	255	1959.06	398	2464.03
-30	882.22	113	1434.26	256	1962.68	399	2467.47
-29	886.16	114	1438.04	257	1966.29	400	2470.92
-28	890.10	115	1441.82	258	1969.90	401	2474.37
-27	894.04	116	1445.59	259	1973.51	402	2477.81
-26	897.98	117	1449.37	260	1977.12	403	2481.25
-25	901.92	118	1453.14	261	1980.73	404	2484.70
-24	905.86	119	1456.91	262	1984.33	405	2488.14
-23	909.80	120	1460.68	263	1987.94	406	2491.58
-22	913.73	121	1464.45	264	1991.54	407	2495.02
-21	917.67	122	1468.22	265	1995.14	408	2498.45
-20	921.60	123	1471.98	266	1998.75	409	2501.89
-19	925.53	124	1475.75	267	2002.35	410	2505.33
-18	929.46	125	1479.51	268	2005.95	411	2508.76
-17	933.39	126	1483.28	269	2009.54	412	2512.19
-16	937.32	127	1487.04	270	2013.14	413	2515.62
-15	941.24	128	1490.80	271	2016.74	414	2519.06
-14	945.17	129	1494.56	272	2020.33	415	2522.48
-13	949.09	130	1498.32	273	2023.93	416	2525.91
-12	953.02	131	1502.08	274	2027.52	417	2529.34
-11	956.94	132	1505.83	275	2031.11	418	2532.77
-10	960.86	133	1509.59	276	2034.70	419	2536.19
-9	964.78	134	1513.34	277	2038.29	420	2539.62
-8	968.70	135	1517.10	278	2041.88	421	2543.04
-7	972.61	136	1520.85	279	2045.46	422	2546.46
-6	976.53	137	1524.60	280	2049.05	423	2549.88
-5	980.44	138	1528.35	281	2052.63	424	2553.30
-4	984.36	139	1532.10	282	2056.22	425	2556.72
-3	988.27	140	1535.84	283	2059.80	426	2560.13
-2	992.18	141	1539.59	284	2063.38	427	2563.55
-1	996.09	142	1543.33	285	2066.96	428	2566.96
0	1000.00	143	1547.08	286	2070.54	429	2570.38
1	1003.91	144	1550.82	287	2074.11	430	2573.79

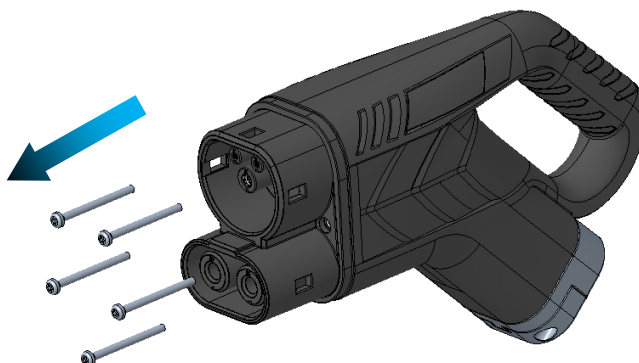
2	1007.81	145	1554.56	288	2077.69	431	2577.20
3	1011.72	146	1558.30	289	2081.27	432	2580.61
4	1015.62	147	1562.04	290	2084.84	433	2584.02
5	1019.53	148	1565.78	291	2088.41	434	2587.43
6	1023.43	149	1569.52	292	2091.98	435	2590.83
7	1027.33	150	1573.25	293	2095.55	436	2594.24
8	1031.23	151	1576.99	294	2099.12	437	2597.64
9	1035.13	152	1580.72	295	2102.69	438	2601.05
10	1039.03	153	1584.45	296	2106.26	439	2604.45
11	1042.92	154	1588.18	297	2109.82	440	2607.85
12	1046.82	155	1591.91	298	2113.39	441	2611.25
13	1050.71	156	1595.64	299	2116.95	442	2614.65
14	1054.60	157	1599.37	300	2120.52	443	2618.04
15	1058.49	158	1603.09	301	2124.08	444	2621.44
16	1062.38	159	1606.82	302	2127.64	445	2624.83
17	1066.27	160	1610.54	303	2131.20	446	2628.23
18	1070.16	161	1614.27	304	2134.75	447	2631.62
19	1074.05	162	1617.99	305	2138.31	448	2635.01
20	1077.94	163	1621.71	306	2141.87	449	2638.40
21	1081.82	164	1625.43	307	2145.42	450	2641.79
22	1085.70	165	1629.15	308	2148.97	451	2645.18
23	1089.59	166	1632.86	309	2152.52	452	2648.57
24	1093.47	167	1636.58	310	2156.08	453	2651.95
25	1097.35	168	1640.30	311	2159.62	454	2655.34
26	1101.23	169	1644.01	312	2163.17	455	2658.72
27	1105.10	170	1647.72	313	2166.72	456	2662.10
28	1108.98	171	1651.43	314	2170.27	457	2665.48
29	1112.86	172	1655.14	315	2173.81	458	2668.86
30	1116.73	173	1658.85	316	2177.36	459	2672.24
31	1120.60	174	1662.56	317	2180.90	460	2675.62
32	1124.47	175	1666.27	318	2184.44	461	2679.00
33	1128.35	176	1669.97	319	2187.98	462	2682.37
34	1132.21	177	1673.68	320	2191.52	463	2685.74
35	1136.08	178	1677.38	321	2195.06	464	2689.12
36	1139.95	179	1681.08	322	2198.60	465	2692.49
37	1143.82	180	1684.78	323	2202.13	466	2695.86
38	1147.68	181	1688.48	324	2205.67	467	2699.23
39	1151.55	182	1692.18	325	2209.20	468	2702.60
40	1155.41	183	1695.88	326	2212.73	469	2705.97
41	1159.27	184	1699.58	327	2216.26	470	2709.33
42	1163.13	185	1703.27	328	2219.79	471	2712.70
43	1166.99	186	1706.96	329	2223.32	472	2716.06
44	1170.85	187	1710.66	330	2226.85	473	2719.42

45	1174.70	188	1714.35	331	2230.38	474	2722.78
46	1178.56	189	1718.04	332	2233.90	475	2726.14
47	1182.41	190	1721.73	333	2237.43	476	2729.50
48	1186.27	191	1725.42	334	2240.95	477	2732.86
49	1190.12	192	1729.10	335	2244.47	478	2736.22
50	1193.97	193	1732.79	336	2247.99	479	2739.57
51	1197.82	194	1736.48	337	2251.51	480	2742.93
52	1201.67	195	1740.16	338	2255.03	481	2746.28
53	1205.52	196	1743.84	339	2258.55	482	2749.63
54	1209.36	197	1747.52	340	2262.06	483	2752.98
55	1213.21	198	1751.20	341	2265.58	484	2756.33
56	1217.05	199	1754.88	342	2269.09	485	2759.68
57	1220.90	200	1758.56	343	2272.60	486	2763.03
58	1224.74	201	1762.24	344	2276.12	487	2766.38
59	1228.58	202	1765.91	345	2279.63	488	2769.72
60	1232.42	203	1769.59	346	2283.14	489	2773.07
61	1236.26	204	1773.26	347	2286.64	490	2776.41
62	1240.09	205	1776.93	348	2290.15	491	2779.75
63	1243.93	206	1780.60	349	2293.66	492	2783.09
64	1247.77	207	1784.27	350	2297.16	493	2786.43
65	1251.60	208	1787.94	351	2300.66	494	2789.77
66	1255.43	209	1791.61	352	2304.17	495	2793.11
67	1259.26	210	1795.28	353	2307.67	496	2796.44
68	1263.09	211	1798.94	354	2311.17	497	2799.78
69	1266.92	212	1802.60	355	2314.67	498	2803.11
70	1270.75	213	1806.27	356	2318.16	499	2806.44
71	1274.58	214	1809.93	357	2321.66	500	2809.78
72	1278.40	215	1813.59	358	2325.16		

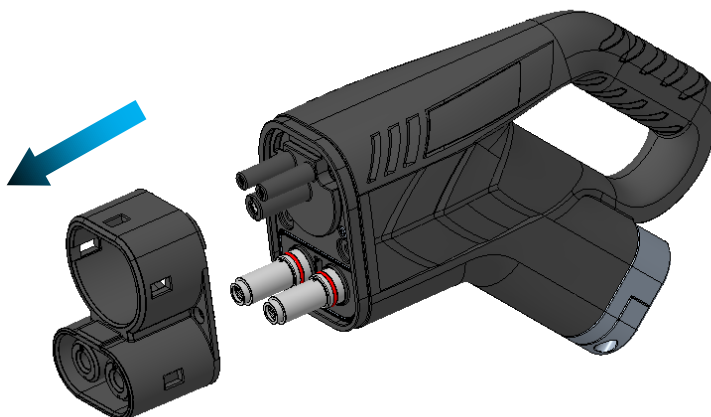
6. Replaceable Parts

Customers can replace the product assembly frame or DC terminal as needed. The replacement method is as follows:

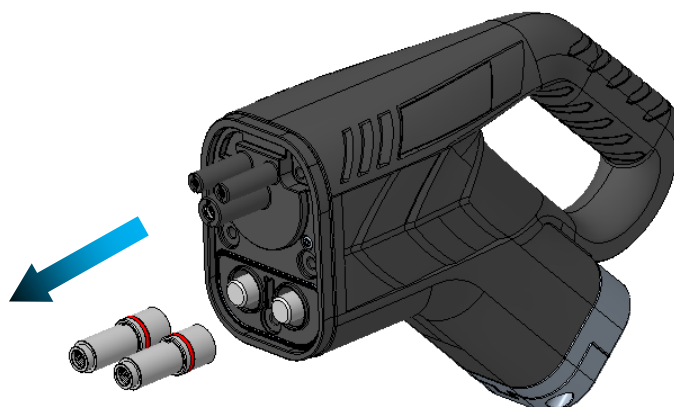
Setp 1: Use a screwdriver (T20) to remove the 5 Torx M4*50 screws at the gun head



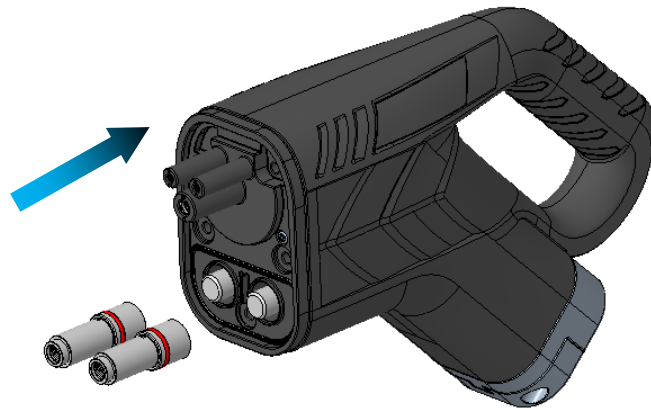
Setp 2: Remove the gun head frame



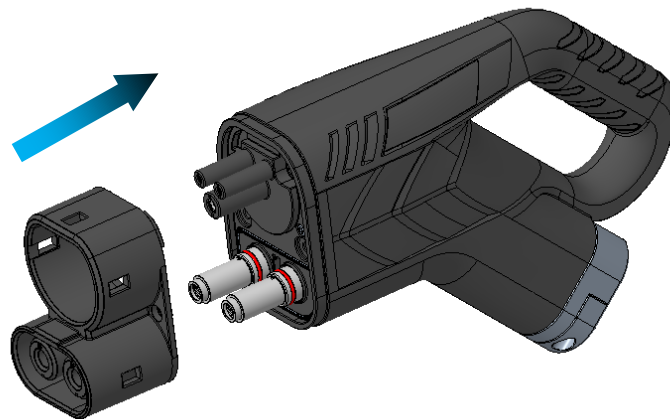
Setp 3: Remove 2 DC terminals



Setp 4: Replace with new DC terminal



Setp 5: Replace the new gun head frame



Setp 6: Tighten 5 Torx M4*50 screws, the recommended tightening torque is 1Nm, and fix the gun head frame

