安费诺精密连接器(深圳)有限公司
Amphenol PCD Shenzhen

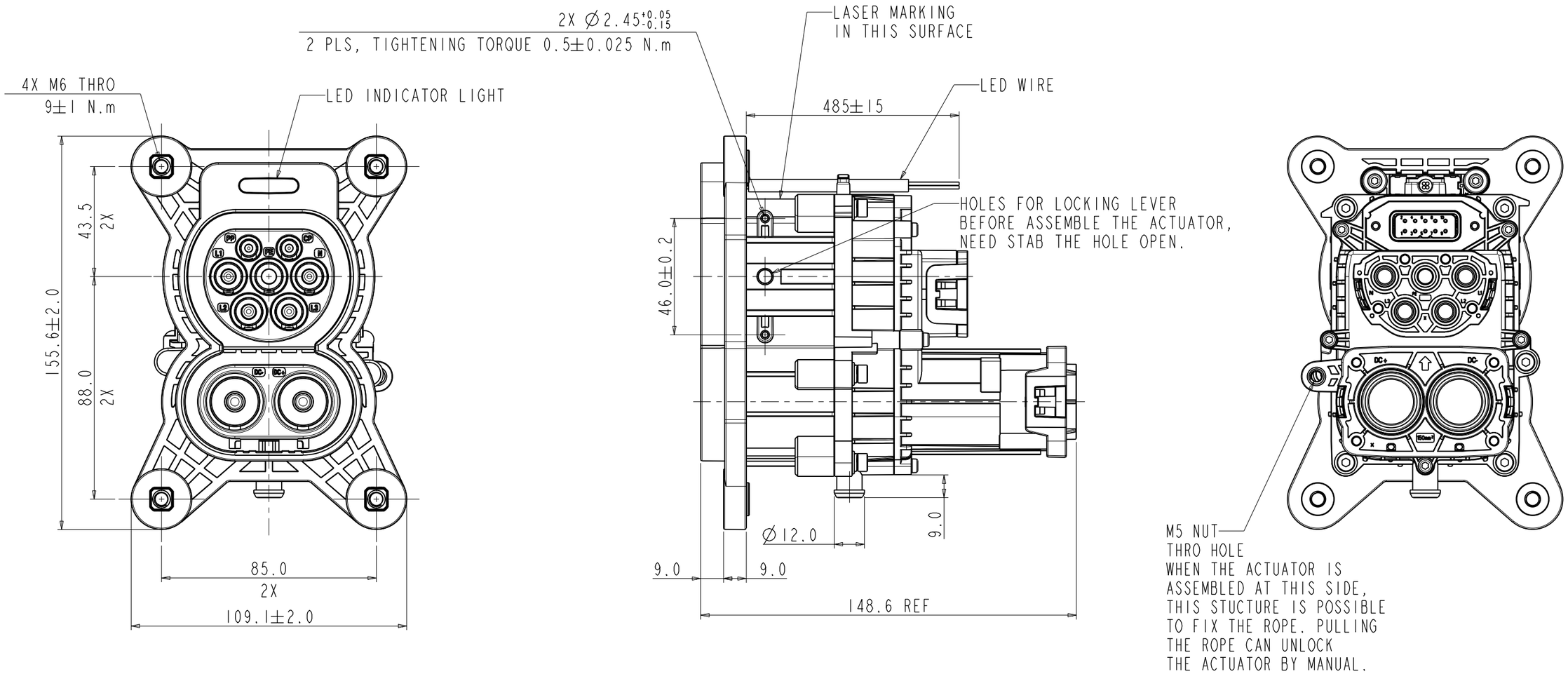
受 控 文 件

2023年12月12日

C-HVCOCF02XDN

Amphenol PCDSZ
ORIGINAL
PDF Format
R&D

REV	ECN	DESCRIPTION	DATE	MODIFIED
1		PRE-RELEASE	Jul-28-2022	
A	C7605N	UPDATE TEMPERATURE SENSOR'S PARAMETERS ACCORDIND TO ITS SPEC AND UPDATE INSTALLATION FIGURE	Nov-15-2023	
B	C7654N	ADD SPEC, SEE CONTINUED TABLE 6	Dec-01-2023	



LASER MARKING CONTENTS

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Amphenol PCD SZ

HVCOCF02XDN
T/N: XXXXXXYY

VOLTAGE / CURRENT
480 V / 32 A  A.C.
1000 V / 500 A  D.C.

MADE IN CHINA  2112
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HVCOCF02XDN: VEHICLE INLET P/N,
SEE TABLE 6

XXXXXX: WORK ORDER
YY: PRODUCTION BATCH NUMBER FOR
A WORK ORDER

THE PARAMETER VALUES OF VOLTAGE
AND CURRENT ARE SHOWN IN TABLE 6.

2112: DATE OF MANUFACTURE, YYWW

DIMENSIONS	TOLERANCES	PROJECTION		TITLE
ANSI Y14.5M UNITS: MM Pro/E FILE	.X ±0.5 .XX ±0.05 ANGLES ±2°		ENGR Jul-28-2022	CCS TYPE 2 VEHICLE INLET, STRAIGHT
ORIGINAL			CHKD APPD	SIZE A3 · DWG NO. C-HVCOCF02XDN · REV B SCALE: 3:10 · SHEET 1 OF 6

C-HVCOCF02XDN
C-HVCOCF02XDN

TABLE 1 SPECIFICATION AND REQUIREMENTS

NOTE	DESCRIPTION	SPECIFICATION OR REQUIREMENT	
1	HOUSING COLOR	BLACK	
2	CABLE SPEC	COMPLIANT WITH LV216, SEE TABLE 7	
3	INSULATION RESISTANCE(NORMAL CLIMATE)	MIN. 100 MΩ	✦
4	MAX. RATING CURRENT	SEE TABLE 6 AND TABLE 7	✦
5	MAX. RATING VOLTAGE	SIGNAL: 30 VDC AC: SINGLE PHASE 250 VAC, 3 PHASE 480 VAC DC: 1000 VDC	✦
6	DIELECTRIC WITHSTAND VOLTAGE	SIGNAL: 500 VAC / 60 S AC: 2000 VAC / 60 S DC: 3000 VAC / 60 S	✦
7	OPERATING AMBIENT TEMPERATURE	-30 °C TO +50 °C	
8	MAX. WORKING TEMPERATURE	100 °C	◎
9	TEMPERATURE SENSOR TYPE	NTC FOR AC CHARGING, PT1000 FOR DC CHARGING SPEC OF TEMPERATURE SENSORS ARE SHOWN IN TABLE 2 AND 4.	
10	MOUNTING TORQUE FOR INLET	9±1 N.m	◎
11	MOUNTING TORQUE FOR M5 NUT	2.0±0.1 N.m	◎
12	MOUNTING TORQUE FOR ST2.9X10(12)	0.50±0.025 N.m	◎
13	MOUNTING TORQUE FOR ST2.9X18	0.9±0.1 N.m	◎
14	DEGREE OF PROTECTION	PLUGGED IN: IP44 WITH LIDS: IP55 CONNECTOR ENCLOSURE: IP67	✦
15	ASSEMBLY METHOD FOR SCREENING BRAID OF CABLES	ENTER INTO THE CONNECTOR	
16	MATING CYCLES (UNLOADED)	10,000 CYCLES	◎
17	NEUTRAL SALT SPRAY TEST	240H, NOT OCCUR RED CORROSION.	
18	IEC STANDARD	REFER TO IEC 62196-1,2,3	
19	CHARGING MODE	MODE 2/3/4	
20	PACKING	ALL COMPONENTS ARE PACKED SEPARATELY	
21	ROHS COMPLIANCE	YES	✦
22	RECOMMENDED HOLE LAYOUT IN MOUNTING PANEL	SEE FIGURE 1	
23	CONNECTING METHOD FOR TERMINALS	CRIMP	
24	CABLE CONNECTING	SEE FIGURE 2	
25	LED INDICATOR LIGHT	WORKING VOLTAGE: 12V, THE WIRE DIAGRAM IS SHOWN IN FIGURE 3.	
26	NEED ORDER SIGINAL CONNECTOR WITH CABLE ASSEMBLY SEPARATELY.	PART NO.:SEE TABLE 6	

✦ CRITICAL CHARACTERISTICS 关键特性
◎ IMPORTANT CHARACTERISTICS 重要特性

FIGURE 1 RECOMMENDED HOLE LAYOUT IN MOUNTING PANEL

RECOMMENDED MIN. WALL THICKNESS: 3.0±0.1 mm

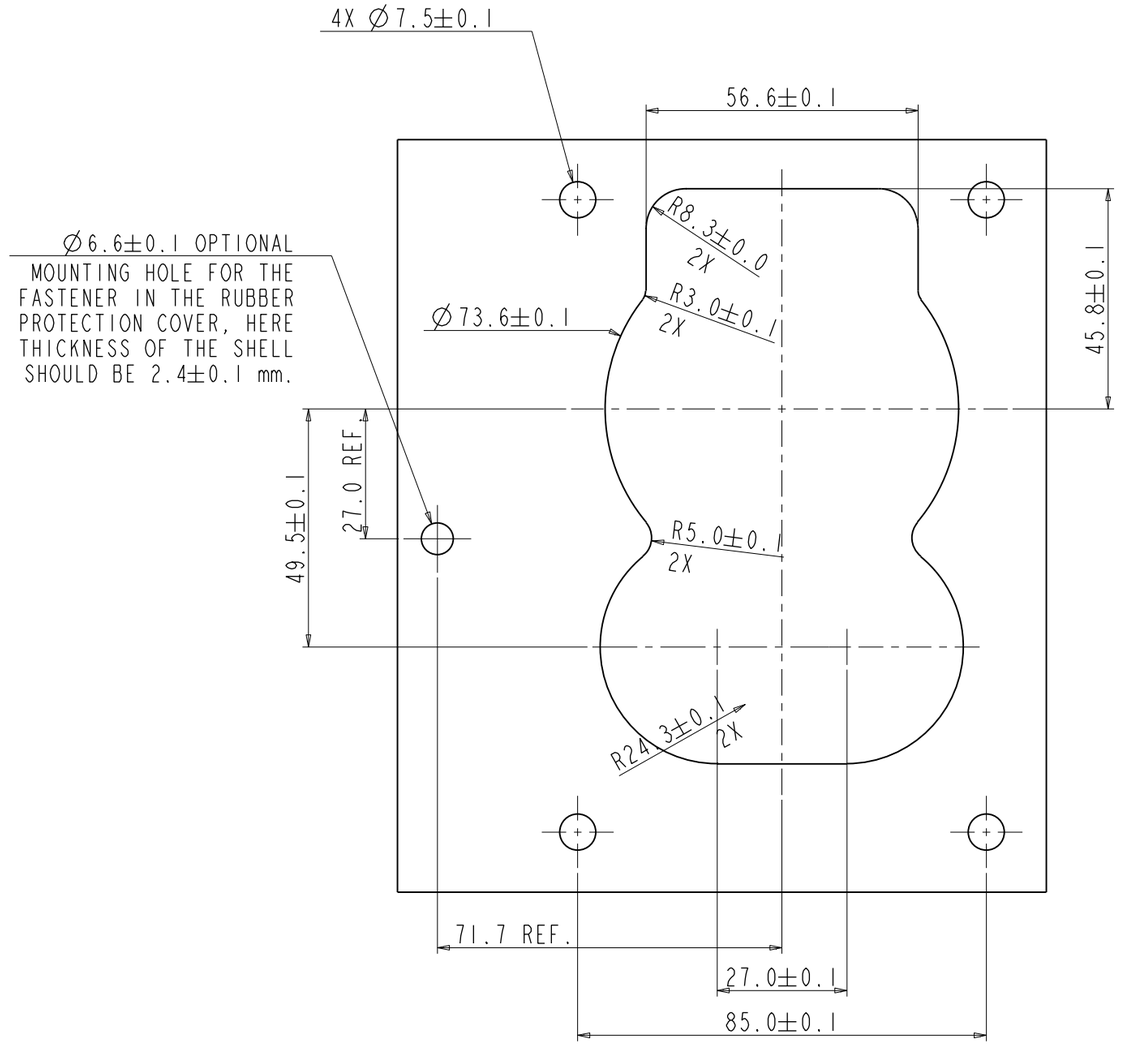
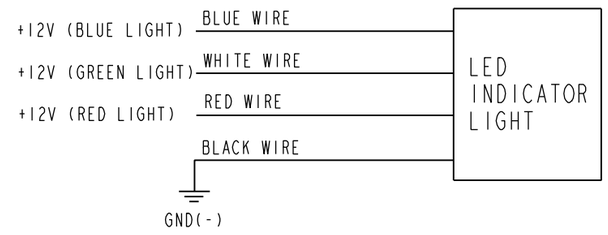


FIGURE 3 WIRE DIAGRAM FOR LED INDICATOR LIGHT



SIZE	DWG NO.	REV
A3	C-HVCOCF02XDN	B
	SCALE: 3:10	SHEET 2 OF 6

C-HVCOCF02XDN
C-HVCOCF02XDN

TABLE 2 NTC TEMPERATURE SENSOR (A)

PARAMETER	SPECIFICATION AND REQUIREMENT
RESISTANCE VALUE AT 25°C	10KΩ
TOLERANCE ON R_{25}-VALUE	±1%
MEASURING TEMPERATURE RANGE	-40 °C TO +150 °C
ALLOWABLE OPERATING TEMPERATURE RANGE	-40 °C TO +105 °C
$B_{25°C/85°C}$-VALUE	3960K
TOLERANCE ON $B_{25°C/85°C}$-VALUE	±1%
RESPONSE TIME(63.2%) 25°C TO 85°C STIRRED AIR (FOR INFO)(THERMAL TIME CONSTANT τ)	≈8 s
DISSIPATION FACTOR δ IN STILL AIR (FOR INFO)	3.0 mW/K
MAXIMUM POWER DISSIPATION AT 25°C	125 mW
MEASURED TEMPERATURE DIFFERENCE	WHEN CHAGRING AT RATING CURRENT AND AT HIGH TEMPERATURE STAGE FOR AC PORTION, THE TEMPERATURE MEASURED BY THE TEMPERATURE SENSOR IS LESS 5°C THAN THE ACTUAL TEMPERATURE.
R-T VALUE	REFER TO R-T INDEXING TABLE IN TABLE 3
$T(R_{NTC})$=90 °C PLEASE CONSIDER THE TEMPERATURE DEVIATION VALUE.	THE CHARGE CURRENT MUST BE REDUCED IN ORDER TO PREVENT FURTHER INCREASE OF TEMPERATURE AT THE CONTACTS.
$T(R_{NTC})$=100 °C PLEASE CONSIDER THE TEMPERATURE DEVIATION VALUE.	CHARGING PROCESS HAS TO BE SHUT DOWN!

TABLE 3 R-T INDEXING TABLE FOR NTC, UNIT KΩ

Temp.(°C)	0	+1	+2	+3	+4	+5	+6	+7	+8	+9
-40	347.116	324.819	304.079	284.781	266.817	250.089	234.504	219.980	206.438	193.808
-30	182.023	171.022	160.750	151.154	142.187	133.803	125.963	118.627	111.762	105.333
-20	99.312	93.671	88.382	83.424	78.772	74.407	70.309	66.462	62.847	59.450
-10	56.257	53.254	50.428	47.770	45.267	42.910	40.689	38.597	36.624	34.764
0	33.009	31.353	29.790	28.313	26.919	25.602	24.356	23.179	22.065	21.012
10	20.015	19.071	18.177	17.330	16.527	15.767	15.045	14.362	13.712	13.096
20	12.512	11.957	11.429	10.928	10.452	10.000	9.569	9.160	8.770	8.399
30	8.046	7.710	7.390	7.085	6.794	6.517	6.253	6.001	5.760	5.531
40	5.312	5.103	4.903	4.713	4.530	4.356	4.190	4.030	3.878	3.732
50	3.593	3.460	3.332	3.210	3.093	2.980	2.873	2.770	2.671	2.576
60	2.486	2.399	2.315	2.235	2.158	2.084	2.013	1.945	1.879	1.816
70	1.756	1.698	1.642	1.588	1.536	1.486	1.439	1.392	1.348	1.305
80	1.264	1.225	1.186	1.150	1.114	1.080	1.047	1.015	0.985	0.955
90	0.927	0.899	0.873	0.847	0.822	0.798	0.775	0.753	0.732	0.711
100	0.691	0.671	0.652	0.634	0.617	0.600	0.583	0.567	0.552	0.537
110	0.523	0.509	0.495	0.482	0.469	0.457	0.445	0.434	0.423	0.412
120	0.401	-	-	-	-	-	-	-	-	-

TABLE 4 PT1000 TEMPERATURE SENSOR (A)

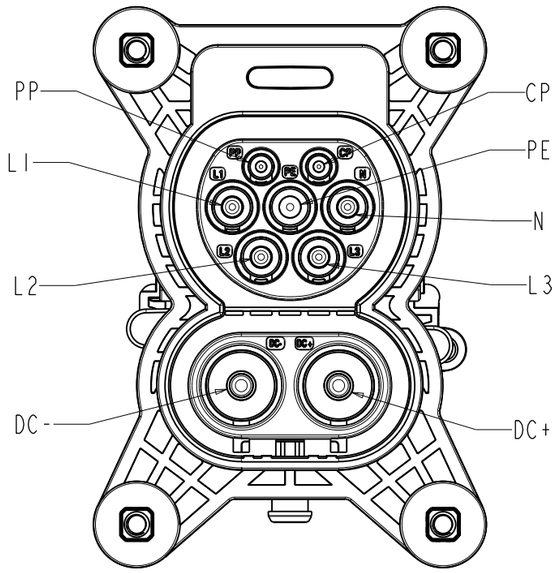
PARAMETER	SPECIFICATION AND REQUIREMENT
STANDARD	DIN EN 60751
TOLERANCE	CLASS B(R_0:±0.12%)
MEASURING TEMPERATURE RANGE	-50 °C TO +130 °C
ALLOWABLE OPERATING TEMPERATURE RANGE	-40 °C TO +105 °C
TEMPERATURE COEFFICIENT	TCR=3850 ppm/K
MEASURING CURRENT	0.1 TO 0.3 mA
SELF HEATING	0.8 K/mW at 0°C
REACTION TIME	<3 s TBD
MEASURED TEMPERATURE DIFFERENCE	WHEN CHAGRING AT RATING CURRENT AND AT HIGH TEMPERATURE STAGE FOR DC PORTION, THE TEMPERATURE MEASURED BY THE TEMPERATURE SENSOR IS LESS THAN THE ACTUAL TEMPERATURE: 7°C FOR LIQUID-COOLED CHARGING; 10°C FOR NON LIQUID-COOLED CHARGING.
R-T VALUME	REFER TO R-T INDEXING TABLE IN TABLE 5
$T(R_{PT1000})$=90 °C PLEASE CONSIDER THE TEMPERATURE DEVIATION VALUE.	THE CHARGE CURRENT MUST BE REDUCED IN ORDER TO PREVENT FURTHER INCREASE OF TEMPERATURE AT THE CONTACTS.
$T(R_{PT1000})$=100 °C PLEASE CONSIDER THE TEMPERATURE DEVIATION VALUE.	CHARGING PROCESS HAS TO BE SHUT DOWN!

TABLE 5 R-T INDEXING TABLE FOR PT1000, UNIT Ω

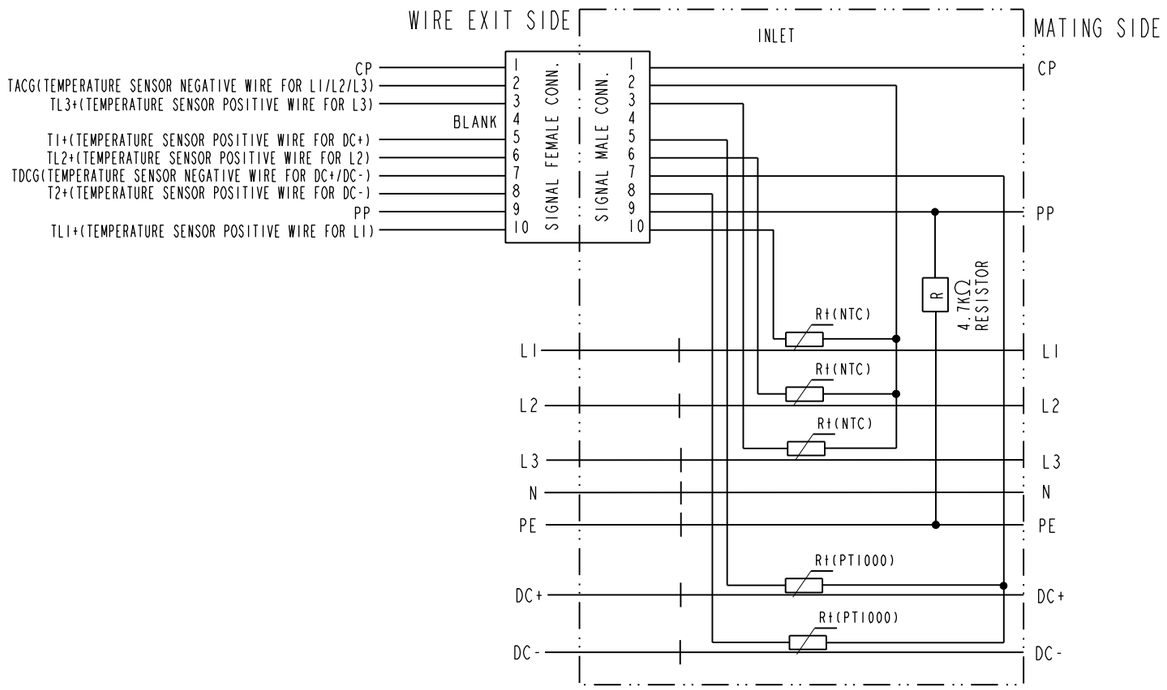
Temp.(°C)	0	+1	+2	+3	+4	+5	+6	+7	+8	+9
-50	803.08	807.05	811.02	814.98	818.95	822.91	826.88	830.84	834.80	838.76
-40	842.72	846.67	850.63	854.58	858.54	862.49	866.44	870.39	874.33	878.28
-30	882.22	886.17	890.11	894.05	897.99	901.93	905.87	909.80	913.74	917.67
-20	921.60	925.54	929.47	933.39	937.32	941.25	945.17	949.10	953.02	956.94
-10	960.86	964.78	968.70	972.62	976.53	980.45	984.36	988.27	992.18	996.09
0	1000.00	1003.91	1007.81	1011.72	1015.62	1019.53	1023.43	1027.33	1031.23	1035.13
10	1039.02	1042.92	1046.81	1050.71	1054.60	1058.49	1062.38	1066.27	1070.16	1074.04
20	1077.93	1081.81	1085.70	1089.58	1093.46	1097.34	1101.22	1105.10	1108.97	1112.85
30	1116.72	1120.59	1124.47	1128.34	1132.21	1136.07	1139.94	1143.81	1147.67	1151.53
40	1155.40	1159.26	1163.12	1166.98	1170.84	1174.69	1178.55	1182.40	1186.25	1190.11
50	1193.96	1197.81	1201.66	1205.50	1209.35	1213.19	1217.04	1220.88	1224.72	1228.56
60	1232.40	1236.24	1240.08	1243.91	1247.75	1251.58	1255.41	1259.25	1263.08	1266.90
70	1270.73	1274.56	1278.38	1282.21	1286.03	1289.85	1293.67	1297.49	1301.31	1305.13
80	1308.95	1312.76	1316.58	1320.39	1324.20	1328.01	1331.82	1335.63	1339.43	1343.24
90	1347.02	1350.85	1354.65	1358.45	1362.25	1366.05	1369.85	1373.65	1377.44	1381.23
100	1385.03	1388.82	1392.61	1396.40	1400.19	1403.98	1407.76	1411.55	1415.33	1419.11
110	1422.90	1426.68	1430.46	1434.23	1438.01	1441.79	1445.56	1449.33	1453.11	1456.88
120	1460.65	1464.42	1468.18	1471.95	1475.72	1479.48	1483.24	1487.01	1490.77	1494.53

C-HVCOCF02XDN
C-HVCOCF02XDN

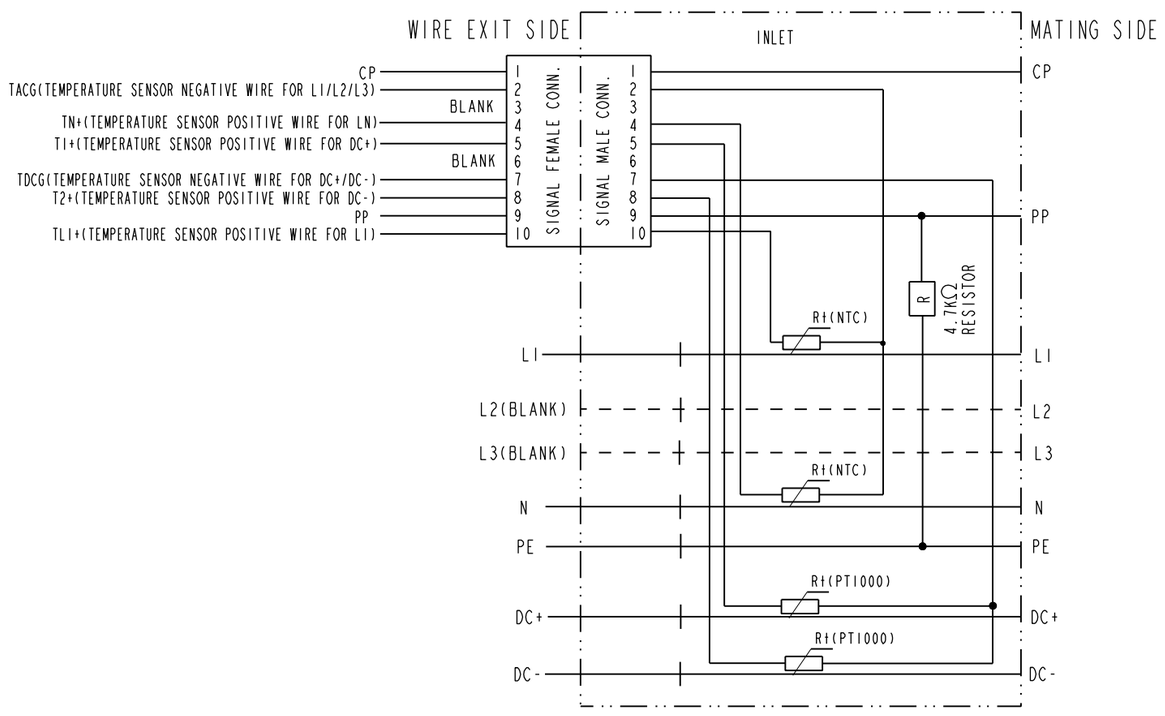
FIGURE 2 CABLE CONNECTING



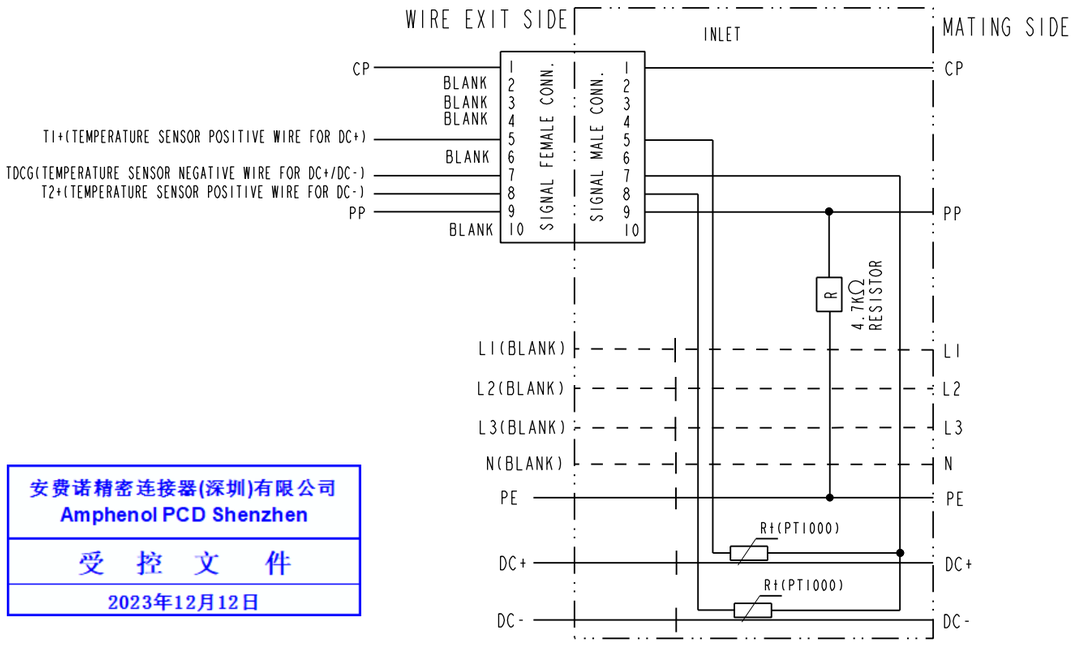
3-PHASE AC CHARGING AND DC CHARGING



1-PHASE AC CHARGING AND DC CHARGING



ONLY DC CHARGING



SIZE	DWG NO.	REV
A3	C-HVCOCF02XDN	B
	SCALE: 3:10	SHEET 4 OF 6

C-HVCOCF02XDN
C-HVCOCF02XDN

TABLE 6 PRODUCT LIST

X IN INLET P/N HVCOCF02XDN IS DESIGNATED BY THE MANUFACTURER.
FOR DC CHARGING, WHEN THE CHARGING CURRENT IS MORE THAN 300A, RECOMMEND TO USE THE CHARGING GUN WITH LIQUID-COOLED SYSTEM.

P/N	AC PHASE	AC CONDUCTOR SIZE mm^2	AC MAX. RATING VOLTAGE V	AC MAX.RATING CURRENT A	DC CONDUCTOR SIZE mm^2	DC MAX.RATING VOLTAGE V	DC MAX.RATING CURRENT A	PART NO. OF SUITABLE SIGNAL CONNECTOR
HVCOCF0210DN	3 PHASES	6	480	32	150	1000	500	P08B002343
HVCOCF0212DN	3 PHASES	16	480	63	150	1000	500	
HVCOCF0213DN	3 PHASES	6	480	32	120	1000	400	
HVCOCF0215DN	3 PHASES	16	480	63	120	1000	400	
HVCOCF0216DN	3 PHASES	6	480	32	95	1000	300	
HVCOCF0218DN	3 PHASES	16	480	63	95	1000	300	
HVCOCF0219DN	3 PHASES	6	480	32	70	1000	200	
HVCOCF0221DN	3 PHASES	16	480	63	70	1000	200	
HVCOCF0222DN	1 PHASE	6	250	32	150	1000	500	P08B002344
HVCOCF0224DN	1 PHASE	16	250	63	150	1000	500	
HVCOCF0225DN	1 PHASE	6	250	32	120	1000	400	
HVCOCF0227DN	1 PHASE	16	250	63	120	1000	400	
HVCOCF0228DN	1 PHASE	6	250	32	95	1000	300	
HVCOCF0230DN	1 PHASE	16	250	63	95	1000	300	
HVCOCF0231DN	1 PHASE	6	250	32	70	1000	200	
HVCOCF0233DN	1 PHASE	16	250	63	70	1000	200	
HVCOCF0234DN	NONE	NONE	NONE	NONE	150	1000	500	P08B002345
HVCOCF0235DN	NONE	NONE	NONE	NONE	120	1000	400	
HVCOCF0236DN	NONE	NONE	NONE	NONE	95	1000	300	
HVCOCF0237DN	NONE	NONE	NONE	NONE	70	1000	200	

B CONTINUED TABLE 6, THE INLET WILL BE ASSEMBLED WITH MULTICORE CABLE.

P/N	AC PHASE	AC CONDUCTOR SIZE mm^2	AC MAX. RATING VOLTAGE V	AC MAX.RATING CURRENT A	DC CONDUCTOR SIZE mm^2	DC MAX.RATING VOLTAGE V	DC MAX.RATING CURRENT A	PART NO. OF SUITABLE SIGNAL CONNECTOR
HVCOCF0210DNSI	3 PHASES	6	480	32	150	1000	500	P08B002343
HVCOCF0213DNSI	3 PHASES	6	480	32	120	1000	400	
HVCOCF0216DNSI	3 PHASES	6	480	32	95	1000	300	
HVCOCF0219DNSI	3 PHASES	6	480	32	70	1000	200	
HVCOCF0222DNSI	1 PHASE	6	250	32	150	1000	500	P08B002344
HVCOCF0225DNSI	1 PHASE	6	250	32	120	1000	400	
HVCOCF0228DNSI	1 PHASE	6	250	32	95	1000	300	
HVCOCF0231DNSI	1 PHASE	6	250	32	70	1000	200	

TABLE 7 CABLE SPEC

CABLE APPLIED	CONDUCTOR SIZE mm^2	O.D. OF CABLE mm	MAX. RATING CURRENT A
AC CABLE	6	6.25±0.25	32
	6(MULTICORE)	4.15±0.15	32
	16	9.9±0.3	63
DC CABLE	70	17.8±0.4	200
	95	20.5±0.4	300
	120	22.6±0.4	400
	150	24.9±0.5	500
PE CABLE	25	9.7±0.3	N/A
SIGNAL CABLE	0.5 TO 0.75	1.5 TO 1.9	2

C-HVCOCF02XDN

C-HVCOCF02XDN

SIZE	DWG NO.	REV
A3	C-HVCOCF02XDN	B
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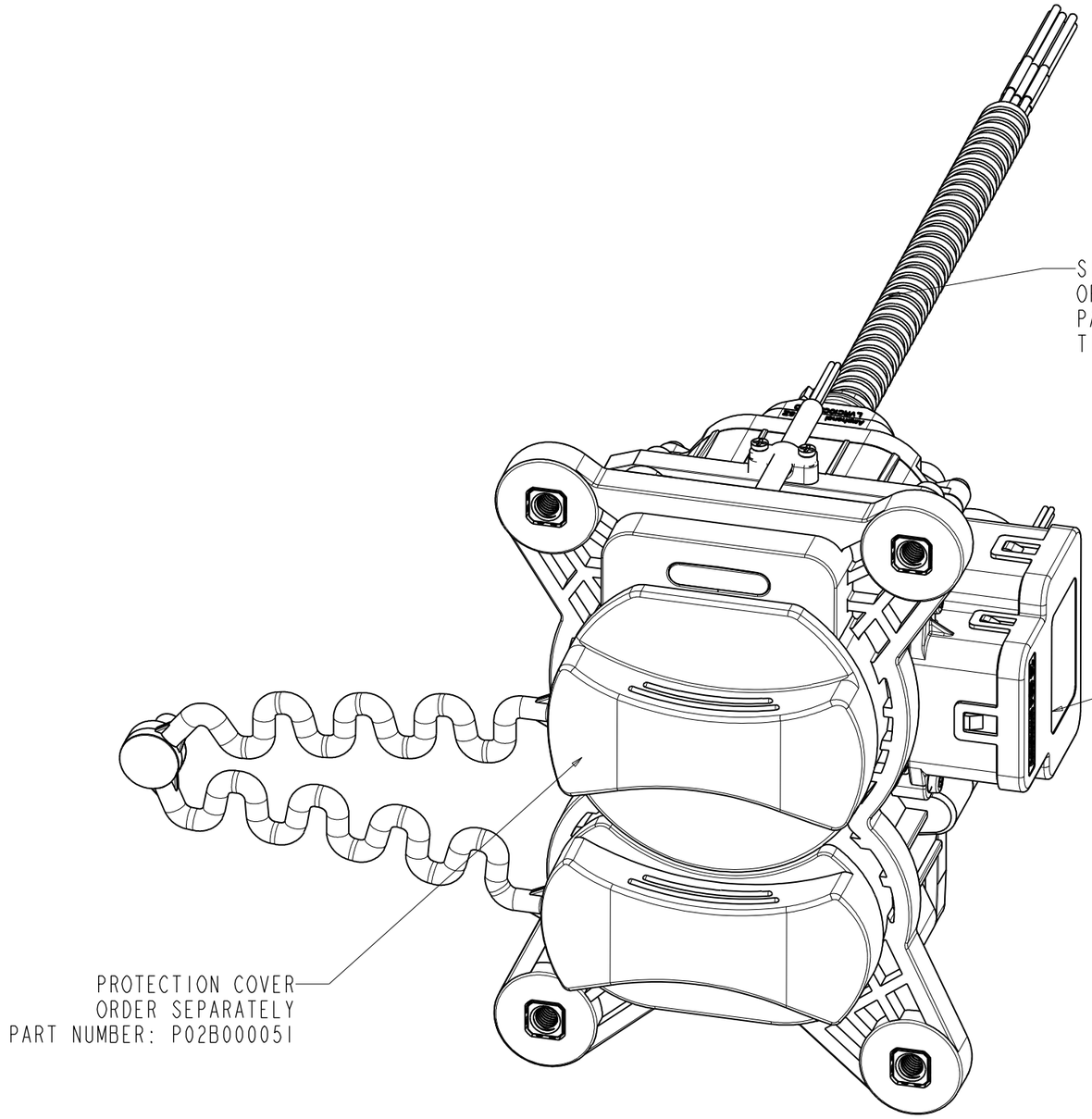
C-HVCOCF02XDN

△A ASSEMBLE SIGNAL CONNECTOR, ACTUATOR AND PROTECTION COVER ON INLET



SIGNAL CONNECTOR WITH CABLE ASSEMBLY
ORDER SEPARATELY
PART NUMBERS SHOWN IN TABLE 6
TIGHTENING TORQUE FORCE: 0.5±0.025 N.m

ACTUATOR
ORDER SEPARATELY
ADAPTATION SERIES NUMBER: NEVDCA12(24)VELOCK
ASSEMBLED THIS SIDE OR THE OPPOSITE SIDE
TIGHTENING TORQUE FORCE: 0.5±0.025 N.m

PROTECTION COVER
ORDER SEPARATELY
PART NUMBER: P02B000051

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Amphenol PCD Shenzhen

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A3	C-HVCOCF02XDN	B
	SCALE: 3:10	SHEET 6 OF 6