深圳市优力特技术有限公司

承 认 书 v1.2

Specification For Approval

客户名称 customer	
品　　名 Part Name	CHARGING CONTROLLER
型　　号 mode	SCMD-D5
物料编码 Code Of Matter	
品　　牌 brands	UNIT

供应商承认栏：			客户承认栏：		
检　　验 inspet	审　　核 check	批　　准 approve	接收 receive	审　　核 check	批　　准 approve

1 Electrical characteristics

1.1 Functional environment conditions

Product working environment conditions are as below

Environment parameters			Function	Shipping	Storage	Remarks
Item	Parameter	Unit				
Temp	Low	℃	-25	-30	-30	
	High	℃	60	85	85	
Humidity	Low	%	5	5	5	
	Relative	%	95	95	95	
	Condensation	--	none	none	none	
Altitude	Low	m	0	0	0	>1000m 按 GB/T 3859.2—93 中 5.11.2 规定降容使用
	High	m	2000	2000	2000	
Pressure	Low	kPa	80	80	80	
	High	kPa	110	110	110	
Protection	Printed circuit boards, connectors and other circuits in the charging and discharging device shall be treated with moisture prevention, mildew prevention and salt spray prevention, and the salt spray corrosion prevention ability shall meet the requirements of Table 9 in GB/T 4797.6-1995, so that the charging and discharging device can operate normally in outdoor humid and salt spray environment.					

1.2 Technical requirement

1.3 Input basic characteristics

1.3.1 Input form

	Min	Rated	Max	Remarks
Input voltage(DC)	10VDC	12 VDC	14 VDC	Not lower than 20W
Input current	--	1000mA	3000mA	

1.4 EMC and surge protection

Item	Requirement	Judege	Ref
Conducted interference CE	CLASS A	Not related	IEC 61000-6-4 YD/T 983-1998 clause 5.1

Radiation interference RE	CLASS A	Not related	IEC 61000-6-4 YD/T 983-1998 clause 5.2
SURGE	Differential mode: ±1KV Common mode: ±2KV	B	IEC 61000-4-5，EN 55024 ETSI EN 300 386 V1.3.2
Electrical fast transient pulse	±2KV	B	IEC61000-4-4，EN 55024
群EFT			ETSI EN 300 386 V1.3.2
Electrostatic discharge ESD	接触放电：±6KV空气放电：±8KV	B	The system cabinet shall be able to protect the product against the damage of static electricity, and its protection ability shall meet the requirements of "electrostatic discharge" in Table 9 of Article 7.3 of YD/T 983-1998, and shall be able to withstand the impact of electrostatic voltage not less than 8kV. IEC61000-4-2，EN 55024 ETSI EN 300 386 V1.3.2
Radiation sensitivity RS	80M~1GHz 10V/m,80% AM	A	IEC 61000-4-3，EN 55024 ETSI EN 300 386 V1.3.2
Conducted immunity CS	150KHz~80MHz 10V，80% AM	A	IEC 61000-4-6，EN 55024 ETSI EN 300 386 V1.3.2

1.5 Reliability dta

$MTBF \geqslant 5 \times 10^{4} h$

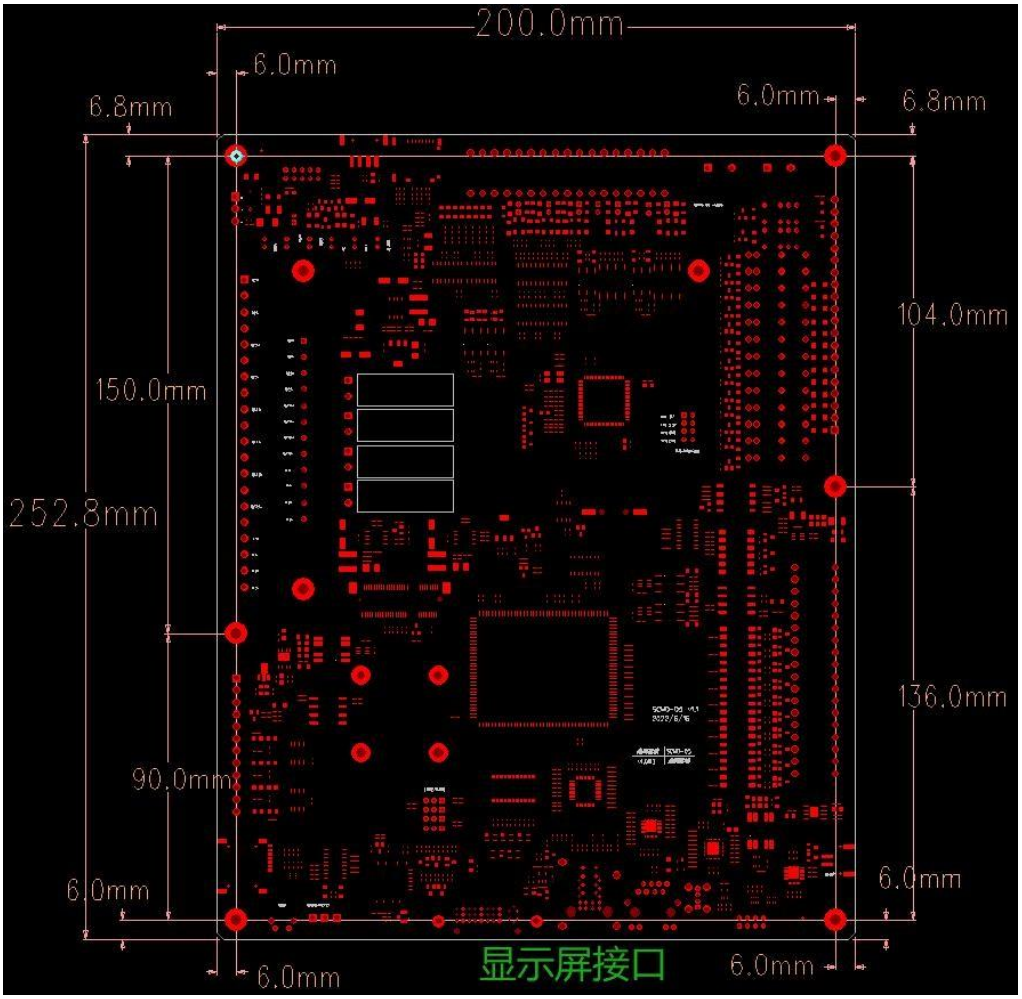
1.6 Other data

Item	Requirement	Remarks

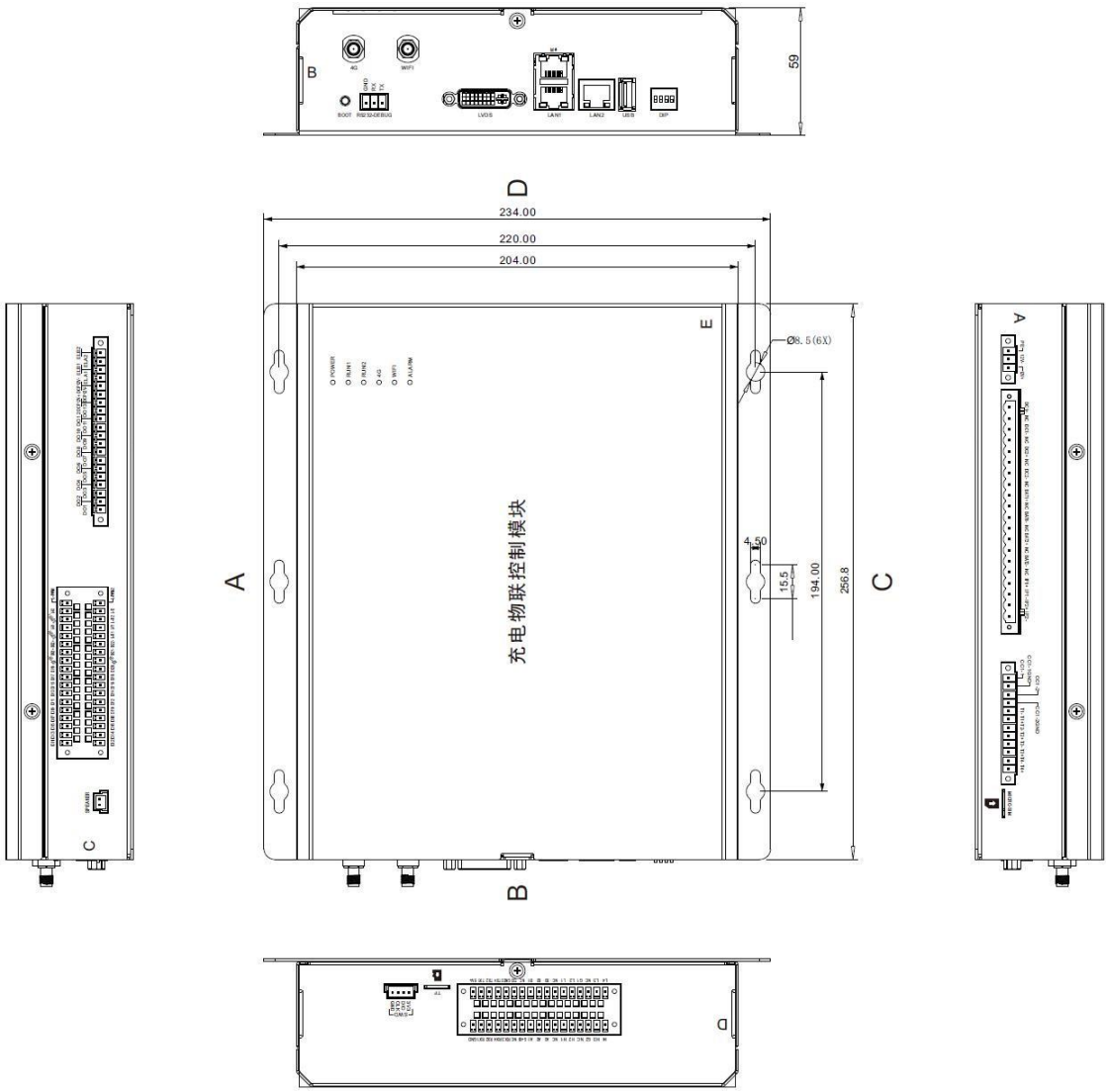
2 Structure dimensions

2.1 Standard version

Fixed hole diameter：3.5mm。



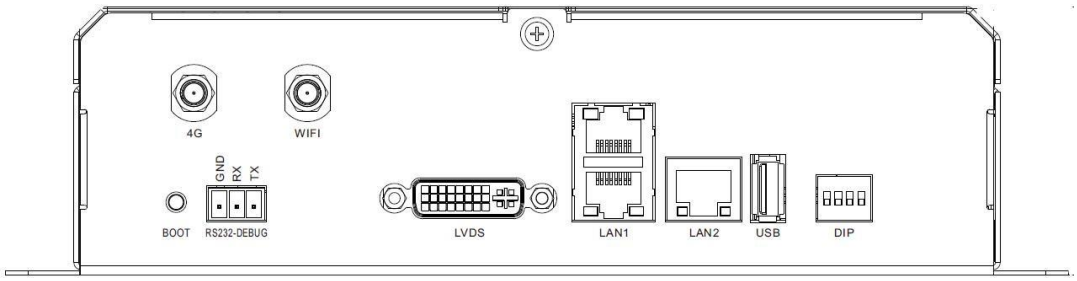
2.2 Pro version

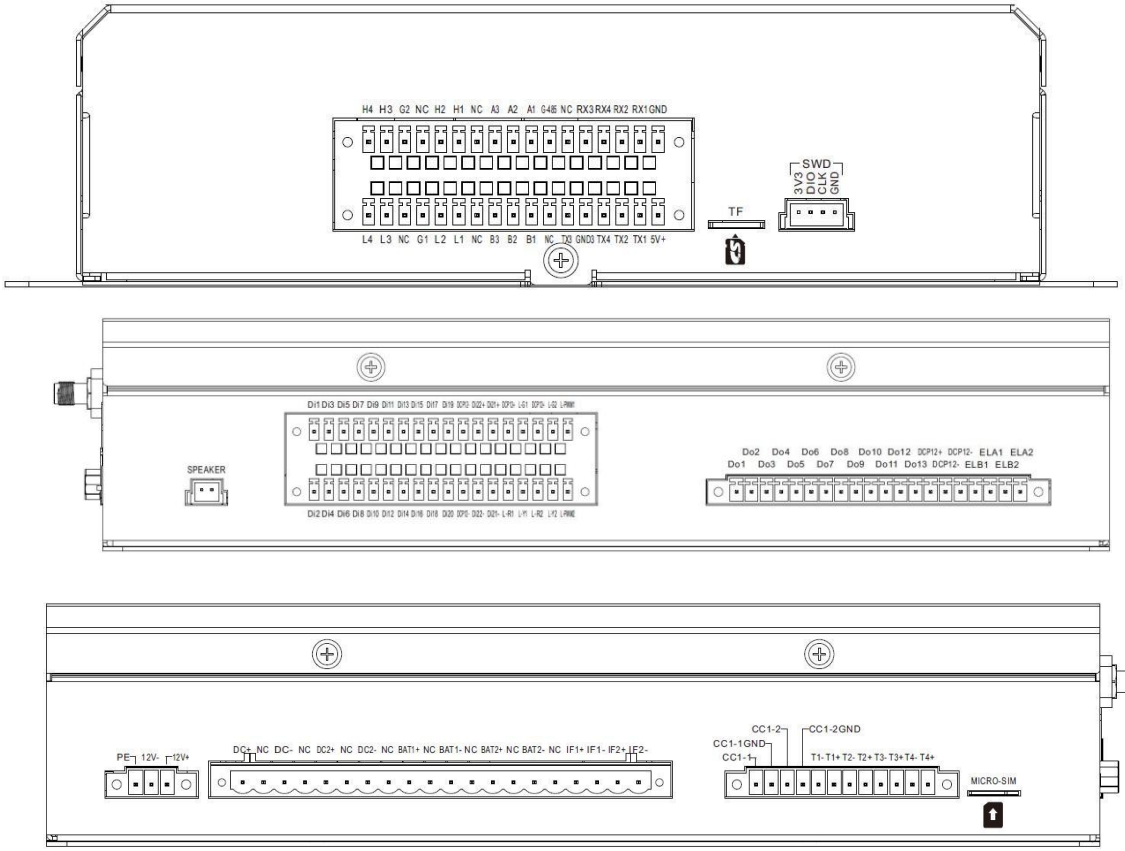


Hole tolerance range:±0.5mm

3 Socket description

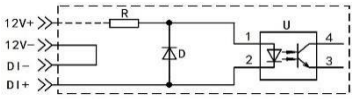
3.1 Socket layout





3.2 Socket description

No.	Type	Footpipe No.	Footpipe code	Function	Remark
NO.1	3.81mm-3P 1-layer phoenix terminal	1	PE	Working place	
		2	12V-	D5 power input	input 12V±3V
		3	12V+		
NO.2	5.08mm-20P 1-layer phoenix terminal	1	DC1+	A gun dc contactor (K1、K2) Inside voltage sampling DC insulation detection	Sampling voltage range DC 0V～1000V(±5V)
		2	NC		
		3	DC1-		
		4	NC	B gun dc contactor (K1、K2) Inside voltage sampling DC insulation detection	Sampling voltage range DC 0V～1000V(±5V)
		5	DC2+		
		6	NC		
		7	DC2-		
		8	NC	A gun DC contactor (K1、K2) outside voltage sampling	Sampling voltage range DC -200V～1000V(±5V)
		9	BAT1+		
		10	NC		
		11	BAT1-		
		12	NC	B gun DC contactor (K1、K2) outside voltage sampling	Sampling voltage sange DC -200V～1000V(±5V)
		13	BAT2+		
		14	NC		
		15	BAT2-		
		16	NC	A gun DC current sampling	Shunt accuracy: level 0.5 shunt secondary vltg: 75mV
		17	IF1+		

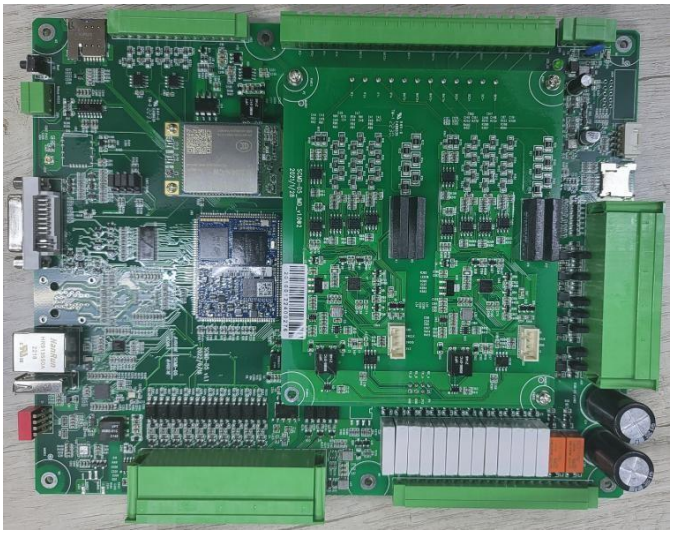
		18	IF1-		
		19	IF2+	B gun DC current sampling	
		20	IF2-		
NO.3	3.81mm-12P 1-layer phoenix terminal	1	CC1-1	A gun CC1 voltage sampling	Sampling voltage range DC 0～15V
		2	CC1-1GND	External working place PE	
		3	CC1-2	B gun CC1 voltage sampling	
		4	CC1-2GND	External working place PE	
		5	T1-	A gun positive pole temp sampling	PT1000 Thermistor(±3℃)
		6	T1+		
		7	T2-	A gun negative pole temp sampling	
		8	T2+		
		9	T3-	B gun positive pole temp sampling	
		10	T3+		
		11	T4-	B gun negative pole temp sampling	
		12	T4+		
NO.4	3.81mm-36P 2-layer phoenix terminal	1	DI1+	A gun dummy socket status	
		2	DI2+	A gun electric lock status	
		3	DI3+	A gun positive mother cable dc contactor status feedback	
		4	DI4+	A gun negative mother cable dc contactor status feedback	
		5	DI5+	A gun dc fuse status feedback	
		6	DI6+	B gun dummy socket status	
		7	DI7+	B gun electric lock status	
		8	DI8+	B gun positive mother cable dc contactor status feedback	
		9	DI9+	B gun negative mother cable dc contactor status feedback	
		10	DI10+	B gun dc fuse status feedback	
		11	DI11+	AB gun positive parelle contactor status feedbac	
		12	DI12+	AB gun negative parelle contactor status feedbac	
		13	DI13+	AC input contactor status	
		14	DI14+	AC input breaker status	
		15	DI15+	Cooling feedback	
		16	DI16+	Emergency stop feedback	
		17	DI17+	Door status feedback	
		18	DI18+	Surge status feedback	
		19	DI19+	Water invasion feedback	
		20	DI20+	Tilting,fume feedback	
		21	DCP12V-	DI public terminal, =12V-	
		22	DCP12V-	DI publiterminal,=12V-	
		23	DI21+	A gun low-voltage auxiliary power status	Auxiliary power relay K3、K4

		24	DI21-		Output voltage sampling
		25	DI22+	B gun low-voltage auxiliary power status	Auxiliary power relay K3、K4 Output voltage sampling
		26	DI22-		
		27	DCP12V+	12V+ output	Switch capacity: 300mA/12V When standby,green light on
		28	L-R1	A gun malfunction indicator	
		29	L-G1	A gun standby indicator	
		30	L-Y1	A gun charging indicator	
		31	DCP12V+	12V+	
		32	L-R2	B gun malfunction indicator	
		33	L-G2	B gun standby indicator	
		34	L-Y2	B gun charging indicator	
		35	L-PWM1	A gun lamp belt	Optocoupler isolation, 5V level single bus communication
		36	L-PWM2	B gun lamp belt	
NO.5	3.81mm-20P 1-layer phoenix terminal	1	DO1	A gun k1 dc contactor control	DC 12V Active normally open output
		2	DO2	A gun k2 dc contactor control	
		3	DO3	A gun K3 K4(12V) auxiliary power control	Resistor-type load: DC 30V/5A
		4	DO4	A gun K3 K4(24V) auxiliary power control	Indcutor-type load: DC 30V/5A
		5	DO5	A gun bleeder circuit	
		6	DO6	A gun k1 dc contactor control	
		7	DO7	A gun k2 dc contactor control	
		8	DO8	A gun K3 K4(12V) auxiliary power control	
		9	DO9	A gun K3 K4(24V) auxiliary power control	
		10	DO10	A gun bleeder circuit	
		11	DO11	AB gun parallel dc contactor circuit control	
		12	DO12	AC input contactor contro	
		13	DO13	Cooling control	
		14	DCP12V+	DO output control power input	Between DO1 and DO3 circuit power supply: 12V±2V
		15	DCP12V-	DO public terminal =12V-	
		16	DCP12V-		
		17	ELA1	A gun electric lock control	DC12,impulse-lock
		18	ELB1		
		19	ELA2	B gun electric lock control	DC12,impulse-lock
		20	ELB2		
NO.6	RJ45 1-skt		RJ45-1	Ethernet	RMII mode
NO.7	RJ45 2-sskt		RJ45-2	Double ethernet	
NO.8			MICRO-SIM	SIM card socket	
NO.9			SMA	4G antenna	
NO.10			AUDIO	Speaker	0.5W
NO.11			SMA	WIFI antenna	
NO.12	DVI 24+5		DVI	LVDS monitor	
NO.13	USB-Type A		TypeA	USB HOST	

NO.14	3.81mm-34P 2-layer phoenix terminal	1	H4	Reserved	Output with all insulation
		2	L4		
		3	H3	Power rate module communication	
		4	L3		
		5	G2		
		6	NC		
		7	NC		
		8	G1	B vehicle BMS communication	
		9	H2		
		10	L2		
		11	H1	A vehicle BMS communication	
		12	L1		
		13	NC		
		14	NC		
		15	A3	Reserved (CCU)	
		16	B3		
		17	B2	B gun electrivity meter communication (TCU)	
		18	A2		
		19	A1	A gun electrivity meter communication (TCU)	
		20	B1		
		21	G-485		
		22	NC		
		23	NC		
		24	TX3	Serial port screen	
		25	RX3		
		26	GND3		
		27	RX4	RFID card reader	Same GND
		28	TX4		
		29	RX2	B gun QR code scanner	
		30	TX2		
		31	RX1	A gun QR code scanner	
		32	TX1		
		33	GND		
		34	5V+		
NO.15	TF 卡座		TF	TF card	

4 Product picture

4.1 Standard version



4.2 Pro version

5 Version difference

No	Item	Standard	Pro
1	Enclosure	×	√
2	Ring netwok(LAN1)	×	Optional
3	Voice output	×	Optional
4	PWM Lampbelt control signal	×	Optional
5	CAN4(reserved)	×	√
6	WiFi&Bluetooth	Optional	Optional
7	4G	Optional	√