

1. 材料规格书



DTSU666 Smart Power Sensor Quick Guide

**Issue :019-02
Date :2025-01**



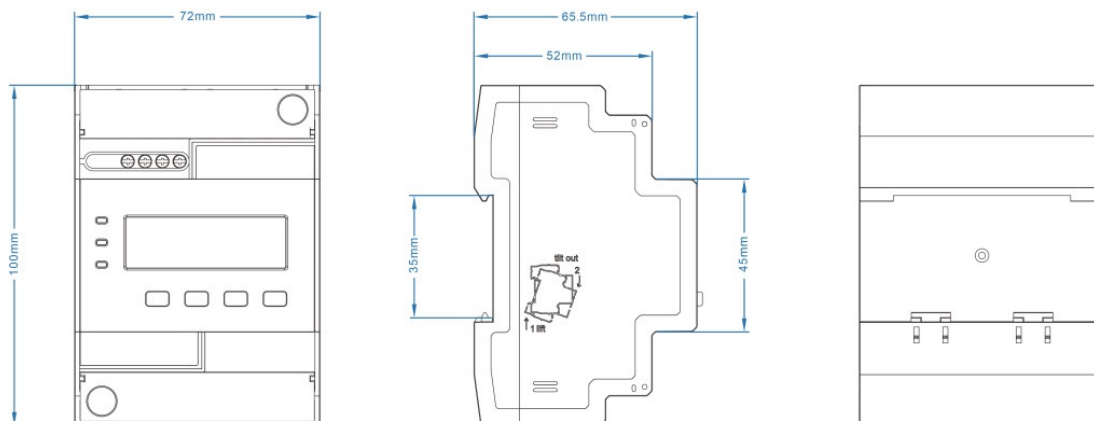
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1 Overview

1.1 Models

Type	Width(18 mm module in Din rail mounting)	Dimension (L*W*H)/mm	Net weight/g
DTSU666	4	100×72×65.5	Approx. 236

Note: the max. length is 175mm with upper and lower terminal long cover.



NOTE Unmarked tolerance is $\pm 1\text{mm}$;
The appearance, dimensions information please refer to the actual product received.

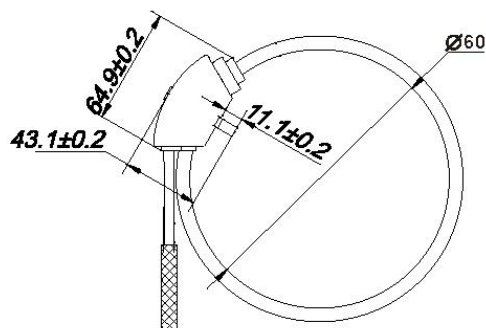
1.2 Performance and Specification

Category	DTSU666
Nominal voltage	$3 \times 57.7\text{V}/100\text{V} \dots 3 \times 240\text{V}/415\text{V}$
Nominal current	250A/333mV, 1000A/333mV, 3000A/333mV,*A/333mV (customizable)
Frequency	50/60Hz
Voltage range	$0.8U_n - 1.15U_n$
Accuracy class	Class 1
Power grid system	1P2W or 3P4W or 3P3W
Baud rate	1200bps/2400bps/4800bps/9600bps (default 9600bps) /19200bps/38400bps/115200bps (optional)
Temperature	$-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$ (nominal), $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (ultimate)
Way to install	DIN-Rail Mounting
Certification	CE, SAA, RoHS, REACH

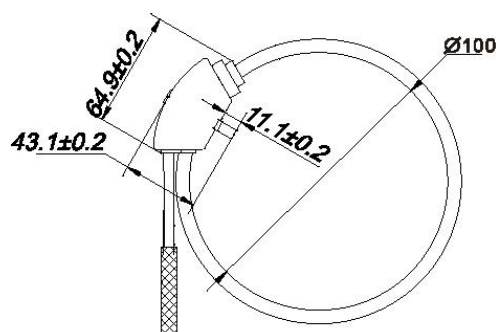
1.3 Current transformer(CT)

Type	Cable length/mm
250A/333mV	2000±20
1000A/333mV	
3000A/333mV	

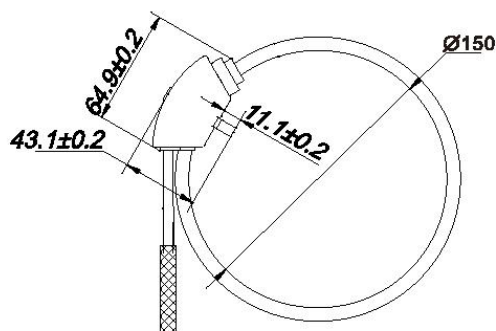
- 250A RC



- 1000A RC



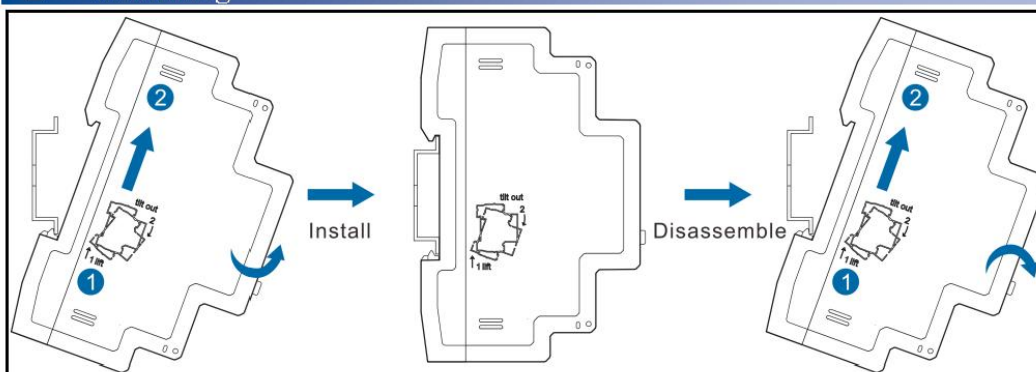
- 3000A RC



NOTE

The maximum tensile force of each CT cable is 15N·m. Press the buckle of the CT assemble connector and pull out. The dimensional tolerance is ±1mm ;The appearance, size and information are subject to actual objects.

2 Installing



3 Installing the Cable

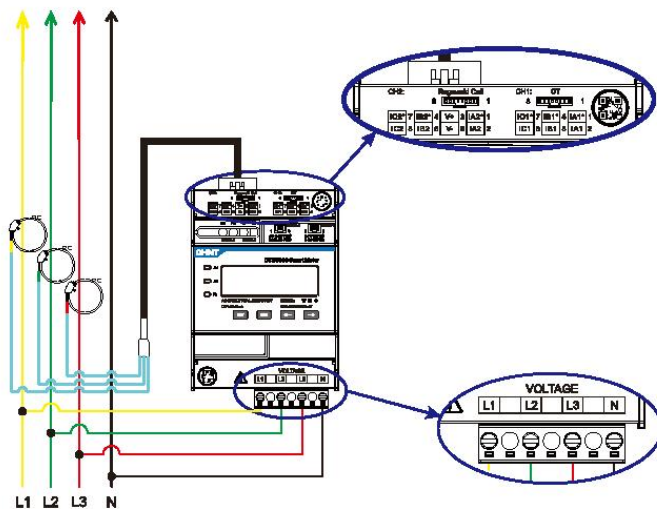
3.1 Prepare cables

Cable	Port	Type	Conductor Cross-sectional Area Range	Outer Diameter	Source
AC power cable	L1(Ua)	Multi-core outdoor copper cable	1.5mm ² ~2.5mm ²	3mm~5mm	Prepared by the customer
	L2(Ub)				
	L3(Uc)				
	N				
CT cable	CH1	/	/	/	Manufacturer
Rogowski Coil cable	CH2	/	/	/	Manufacturer
communication cable	RS485_1 RS485_2	Two core outdoor shielded twisted pair	0.25mm ² ~1mm ²	4mm~11mm	Prepared by the customer
	RS485_1(RJ45) RS485_2(RJ45)	Cat 6 Ethernet Cable	/	/	

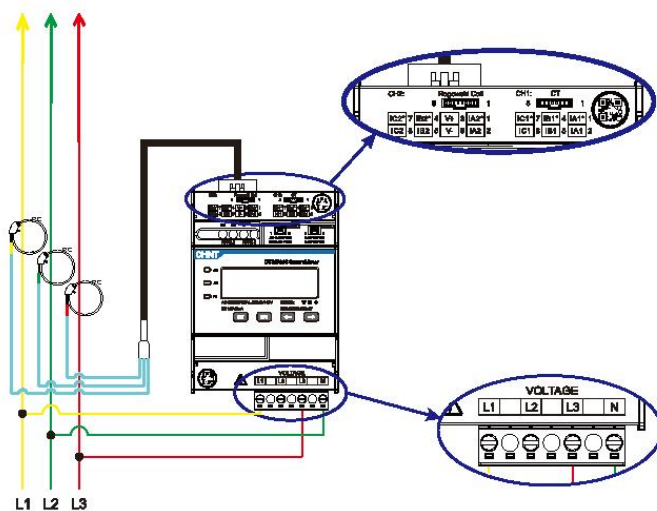
NOTE The maximum torque of AC power and comm. terminal screws is 0.5N.m, and the recommended skive wire length is 7mm.

3.2 Wiring diagram

- Three-phase four-wire, 'nEt' = n.34



- Three-phase three-wire, 'nEt' = n.33



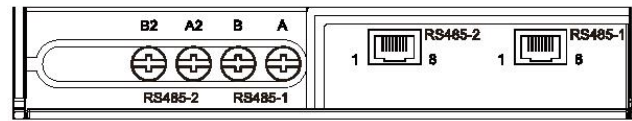
NOTE

- 'nEt' value need to be checked after connection complete. Refer to section 4 'Display and Parameter Settings' for details.

CAUTION

Before connecting cables, ensure that the Smart Meter is not damaged in any way, Please ensure that the grounding wire is securely installed; Before powering on, please ensure that the wiring is correct, otherwise electric shock, damage to the smart meter, or fire may occur.

3.3 Communication Connection



- **RS485-1**

There are 2 types of connection interface. Screw type and RJ45 type. The default A is PIN3 and B is PIN6 in RJ45. Please note that the customer's customized requirements shall be subject to the actual product.

- **RS485-2**

There are 2 types of connection interface. Screw type and RJ45 type. The default A is PIN3 and B is PIN6 in RJ45. Please note that the customer's customized requirements shall be subject to the actual product.

CAUTION RS485-1 and RS485-2 are completely independent in both physical layer and function.

4 User Interface

4.1 LED and LCD overview



NOTE The figure above is for reference only, please refer to the actual product received.

- **LED**

“L1” and “L2” indicates the first loop and the second loop energy pulse respectively; “Fn” is function indication, always on during phase sequence adjust process.

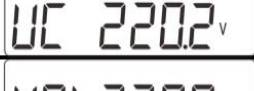
• LCD

No.	Symbol	Description
1	III	The first measuring loop: I The second measuring loop: II
2	Imp.	Import direction
3	Exp.	Export direction
4	8	RS485-1 or RS485-2
5		Flash during communication
6	kMmC VVAh varh	Unit (according to the display items)

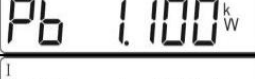
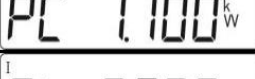
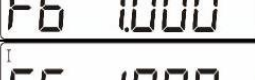
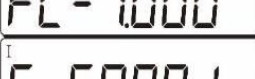
4.2 Display

Press the “←” and “→” keys to switch the display items. The display items is listed in following table.

The sequence and items is varied from product types, please refer to the actual product received.

No.	Display interface	Description
1		Imp. active energy of the first loop = 10000.00kWh
2		Exp. active energy of the second loop = 2345.67kWh
3		Phase A voltage = 220.0V (3P3W not support)
4		Phase B voltage = 220.1V (3P3W not support)
5		Phase C voltage = 220.2V (3P3W not support)
6		Uab = 220.0V

Continue form

No.	Display interface	Description
7		$U_{bc} = 220.0V$
8		$U_{ca} = 220.0V$
9		Phase A current of the first loop = 5.000 A
10		Phase B current of the first loop = 5.001 A
11		Phase C current of the first loop = 5.002 A
12		Total active power of the first loop = 3.291 kW
13		Phase A active power of the first loop = 1.100 kW
14		Phase B active power of the first loop = 1.100 kW
15		Phase C active power of the first loop = 1.100 kW
16		Power factor(PF) of the first loop =0.500 (direction is the same with active power)
17		Phase A PF of the first loop =1.000 (3P3W shows "----")
18		Phase B PF of the first loop =1.000 (3P3W shows "----")
19		Phase C PF of the first loop =1.000 (3P3W shows "----")
20		Frequency of the first loop =50.001Hz
21		RS485-1 is Modbus, and the communication address is 1
22		RS485-2 is Modbus, and the communication address is 2 (If there is only one communication serial port, it will not show)

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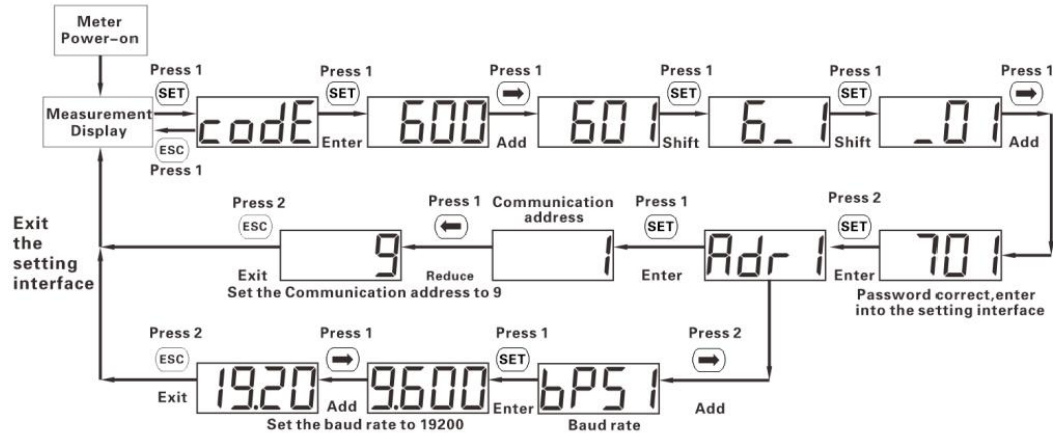
No.	Display interface	Description
23	¹ 9600	RS485-1 baud rate is 9600bps
24	² 9600	RS485-2 baud rate is 9600bps (If there is only one communication serial port, it will not show)
25	¹ 8n1	RS485-1 use 8 data bits, no check bit, and 1 stop bit
26	² 8n1	RS485-2 use 8 data bits, no check bit, and 1 stop bit (If there is only one communication serial port, it will not show)

4.3 Parameter

Parameter	Value range	Description
Adr1	1~247	Communication address, Adr1 is used in RS485-1 and Adr2 is used in RS485-2.
Adr2		
bPS1	1.200; 2.400; 4.800; 9.600; 19.20; 38.40; 115.2	Communication baud rate, bPS1 is used in RS485-1, bPS2 is used in RS485-2 1.200:1200bps; 2.400:2400bps; 4.800:4800bps; 9.600:9600bps; 19.20:19200bps; 38.40:38400bps; 115.2:115200bps
bPS2		
nEt	n.34; n.33;	Power grid system: n.34:represents 3P4W; n.33:represents 3P3W;

4.4 Parameter Setup

Button description: "SET" represents "confirm" or "cursor shift" (when entering digits), "ESC" represents "exit", "←" represents "reduce", and "→" represents "add". The password is 701 by default.



When modify digits, "SET" can be used as cursor shift button; "→" is "add" button; "ESC" represents exiting the setting interface or switch to the character interface from digit modification interface, restarting adding from zero after setting the digits to be the maximum value.

NOTE If the communication is abnormal, check and set parameters.

5 Diagnosis , analysis and elimination for common faults

Fault phenomenon	Reason analysis	Elimination
No display after the instrument being powered on	1.Incorrect wiring mode. 2.Abnormal voltage supplied for the instrument.	1.If the wiring mode is incorrect, please connect based on the correct wiring mode (see the wiring diagram). 2.If the supplied voltage is abnormal, please supply the voltage on the instrument specification.

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Fault phenomenon	Reason analysis	Elimination
Power metering inaccuracy	1. Wrong wiring, please check whether the corresponding phase sequence of voltage and current is correct. 2. Check whether the CT specification is correct. Note : Pa, Pb, and Pc are abnormal if the values are negative. (except for some special equipment).	1. For wrong wiring, please connect based on the correct wiring mode (see the wiring diagram). 2. If a negative value is displayed, change the cable connection mode of the current transformer to ensure that the high and low ends are connected properly.
Abnormal RS485 communication	1. The RS485 communication cable is disconnected, short circuit or reversely connected. 2. The address, baud rate, data bit and parity bit of the instrument is not in accordance with the inverter. 3. The RS485 communication cable is not equipped with a matching resistor at the end (usually when the distance exceeds 150 meters); 4. Check whether external devices are reliably grounded; Note: The communication protocol command between the instrument and the host does not match.	1. If any problems for the communication cable, please change the cable. 2. Set the address, baud rate, data bit and parity bit of the instrument to be the same as the inverter through buttons and so as the "parameter setting". Note: If the communication distance exceeds 150 meters and the communication parameters between the instrument and the host are the same, but communication still cannot be achieved, please reduce the communication baud rate or add a 120 Ω resistor at the beginning and end of the communication cable (the resistance value can be adjusted according to the on-site conditions).

6 Warranty and Service

The manufacturer implements three guarantees for product quality. Within 18 months from the date of delivery, if the user fully complies with the provisions of this manual and the factory seal is still intact, the instrument is found damaged during use, and the company is responsible for free repair or replacement.

7 Environmental protection

Dear customer:

Please help us do one thing, when this product at the end of its life, in order to protect our environment, please do a good job of recycling the product or its parts and materials. Please also dispose of materials that cannot be recycled. Thank you very much for your cooperation and support.

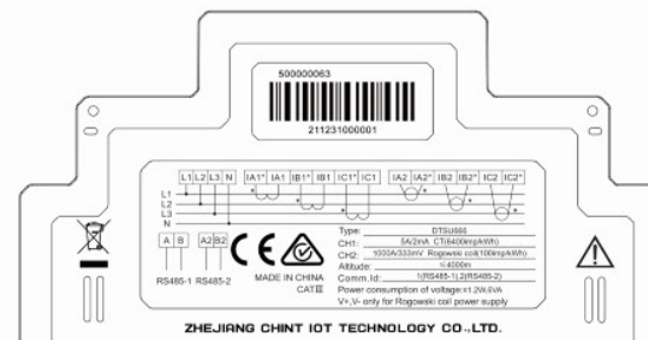
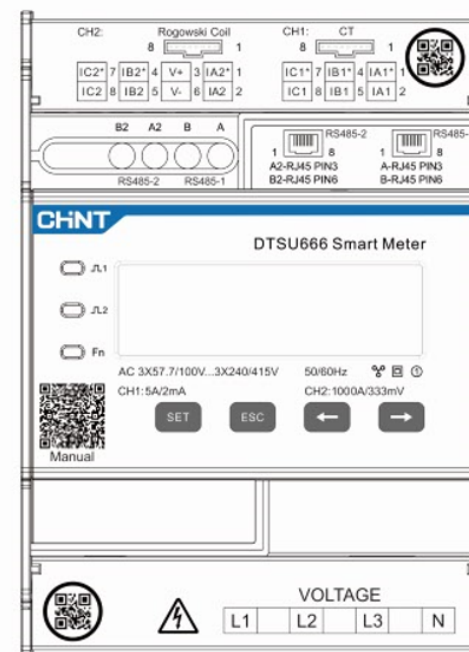
8 Statement

1. The products, services or features purchased by you are subject to the commercial contracts and terms signed with the Company, and all or part of the products, services or features described in this manual may not be included in the products purchased by you.
2. Except as otherwise agreed in the contract, the Company makes no representations or warranties, express or implied, about the contents of this specification.
3. The information in this brochure is subject to change without prior notice.
4. The Company shall not be liable for indirect losses arising from the provision, display or use of this material.

9 Manufacturer Information

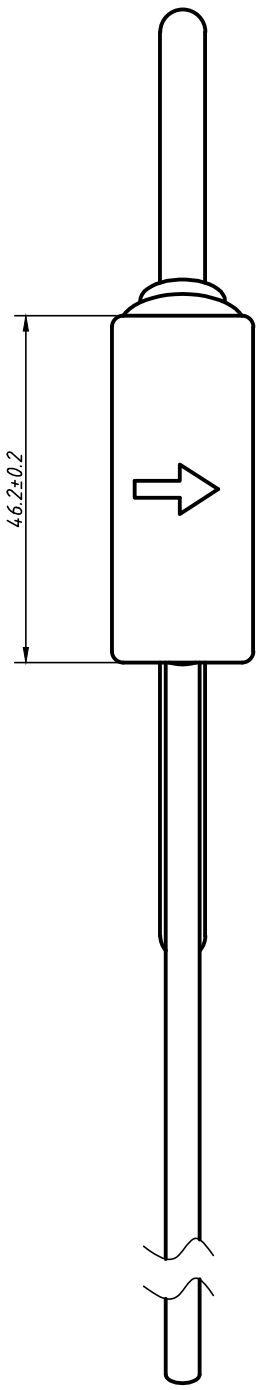
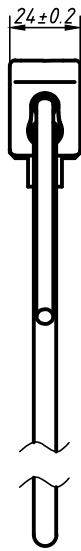
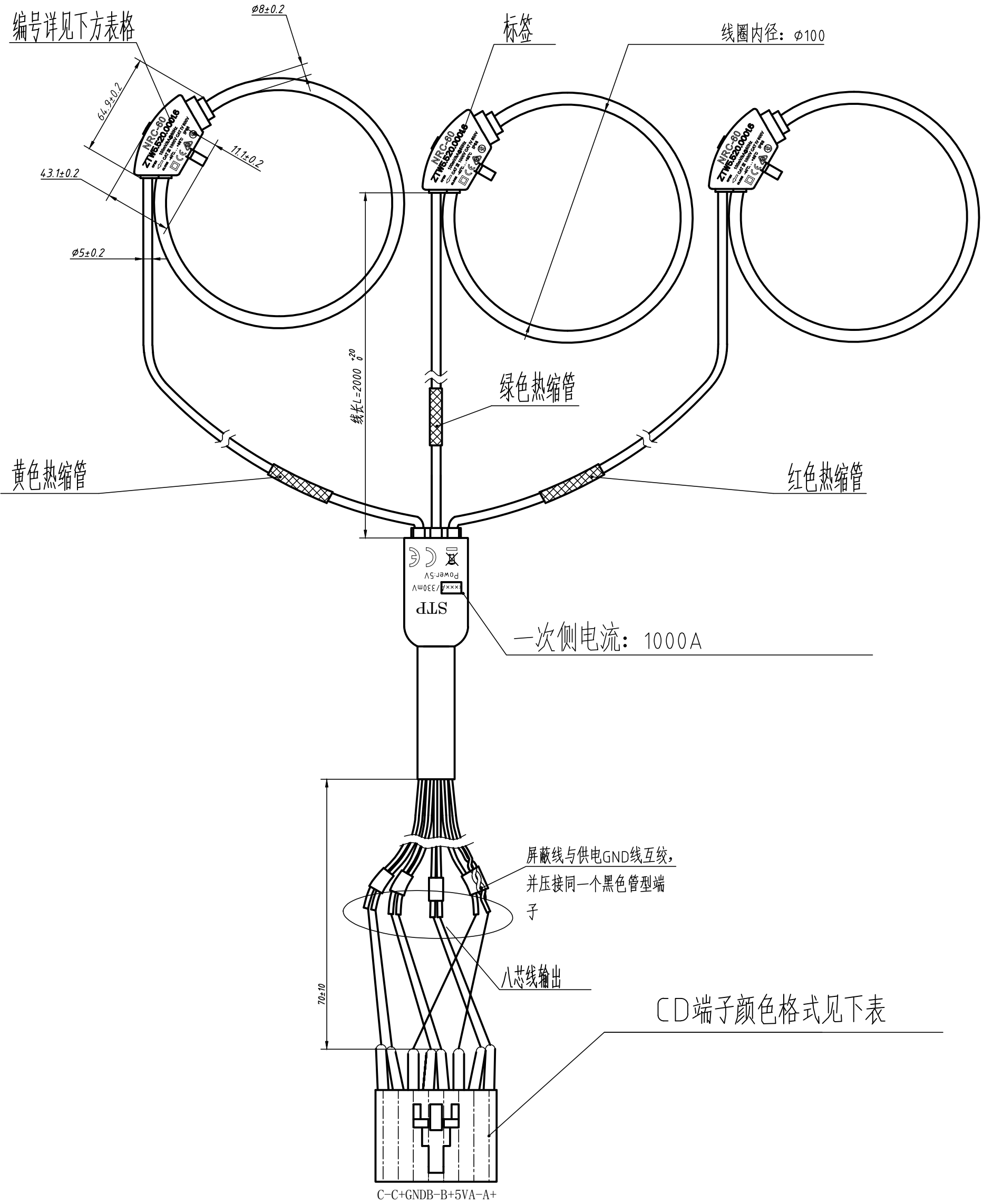
Manufacturer	Zhejiang Chint IoT Technology Co.,Ltd.
Address	Wenzhou Daqiao Industrial Park, Beibaixiang Town, Yueqing City, Wenzhou City, Zhejiang Province, China
Tel.	+86-577-62877777
Service Hotline	+86-400-8177777
Anti counterfeiting complaints	+86-577-62789987
Website	http://aiot.chint.com
E-mail	ztlw@chint.com

箱贴



修订版	修订描述	日期

编号详见下方表格



技术要求

1. 未注公差尺寸的极限偏差按GB/T1804-m;
2. 罗氏线圈型号: NRC-100;
3. 规格: 1000A/333mV;
4. 精度等级: 0.5级, 叠加极限的1%位置误差;
5. 耐压: 罗氏线圈部分3kV/min 50Hz/60Hz, 漏电流<1mA, 无报警击穿、飞弧现象;
6. 引线末端连接8芯, 2.54CD端子公座, 单根线插拔力大于15N;
7. 工作温度: -40℃~85℃;
8. 防尘防水: 罗氏线圈部分满足EN60529 IP68;
9. 环保要求: 整体满足RoHS、REACH 要求;

带积分器时, 八芯线分别表示:

棕色	输出	A+
黑色	输出	A-
白色	输出	B+
紫色	输出	B-
绿色	输出	C+
黄色	输出	C-
红色	供电	5V
蓝色	供电	GND

CD端子颜色格式见下表

借(通)用件登记
描 图
描 校
旧底图总号
底图总号
签 字
日 期

610201200004	ZTW5.520.0001.4	NRC-100-2M-STP	1000A/333mV		绿色, 8芯, 2.54CD公座
料 号	代 号	名 称	规 格	标 签	CD端子颜色格式

																		浙江正泰 物联技术有限公司
																		罗氏线圈组合
标记	处数	分 区	更改文件号	签 名	年月日													ZTW5.520.0001
设 计				标准化														
校 对																		
审 核																		
工 艺				批准														
共 1 页 第 1 页																		