322

ATE 系列无线测温传感器

ATE series Wireless Temperature Sensor

安装说明 V1.3

Installation Instruction V1.3

安科瑞电气股份有限公司

Acrel Co., Ltd.

1 安装指南

1 Installation Guide

1.1 产品概述

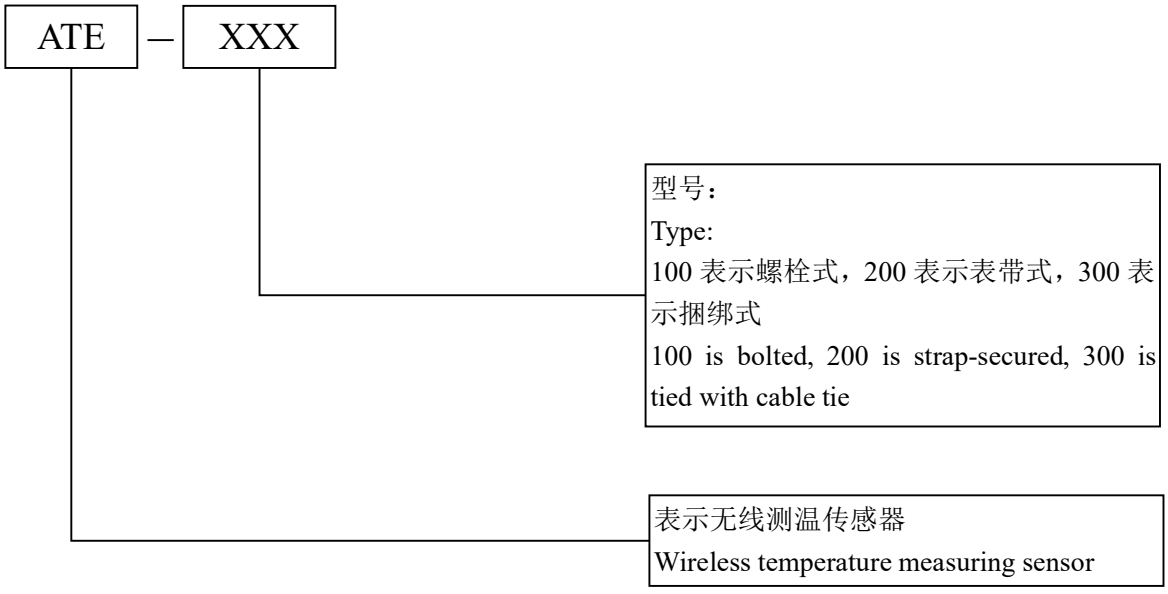
1.1 Product Introduction

ATE 系列无线测温传感器根据 《NB/T 42086-2016 无线测温装置技术要求》 开发，可用于3~35kV 户内开关柜，包括中置柜、手车柜、固定柜、环网柜等多种开关柜，也可用于 0.4kV 低压柜，包括固定柜，抽屉柜等。无线测温传感器可安装于柜内任何发热点上，利用无线数据传输技术，可实时把监测数据发送出去，通过接收装置将温度数据传输到显示装置或者远程监控系统。

ATE series wireless temperature measuring sensor has been developed in compliance with *Specification for Wireless Temperature Measuring equipment, NB/T 42086-2016*. It is suitable for 3-35kV indoor switchgears, including built-in switchgears, handcart switchgears, fixed switchgears and loop-net switchgears. It is also suitable for 0.4kV low-voltage switchgears such as fixed switchgears and drawer switchgears. The wireless temperature sensors can be installed at any heating point in switchgears, the device utilizes the wireless data transmission technology for real-time transmission of monitored temperature data. In addition, it can be transmitted to display device or remote intelligent monitoring system.

1.2 型号说明

1.2 Type Introduction



1.3 技术指标

1.3 Technical Features

项目 Items		指标 Features
环境要求 Environment	工作温度 Temperature	-40℃~125℃
	相对湿度 Humidity	≤95%
	大气压力 atmospheric pressure	86kPa~106kPa
ATE100/200 有源无线温度传感器 ATE100/200 Active wireless temperature sensor	无线频率 Wireless frequency	2.4GHz
	通讯距离 Communication distance	空旷 10m 10m in open area
	采样频率 Sampling frequency	25s
	发射频率 Transmitting frequency	4min
	工作电源 Power source	电池 Battery
	安装方式 Installation	螺栓固定/表带固定 Bolted/Strap-secured
	测温范围 Range of temperature	-40℃~+125℃
	精度 Precision	±2℃
	应用范围 Application	高低压柜内电气接头 Joints in high or low voltage switchgears
	电池寿命 Battery life	≥5 年 ≥5 years
	工作温度 Temperature	-40℃~+125℃
ATE300 无源无线温度传感器 ATE300 Passive wireless temperature sensor	无线频率 Wireless frequency	470MHz
	通讯距离 Communication distance	空旷 100m 100m in open area
	采样频率 Sampling frequency	15s
	发射频率 Transmission frequency	15s
	工作电源	CT 感应取电，启动电流≥5A

	Power source	CT-powered, starting current≥5A
	安装方式 Installation	扎带捆绑 tied with cable tie
	传感器探头 Sensor probe	分离式 Isolated
	测温范围 Range of temperature	0℃~+125℃
	精度 Precision	±2℃
	应用范围 Application	高低压柜内电气接头 Joints in high or low voltage switchgears
	工作温度 Temperature	-40℃~+125℃

1.4 产品安装

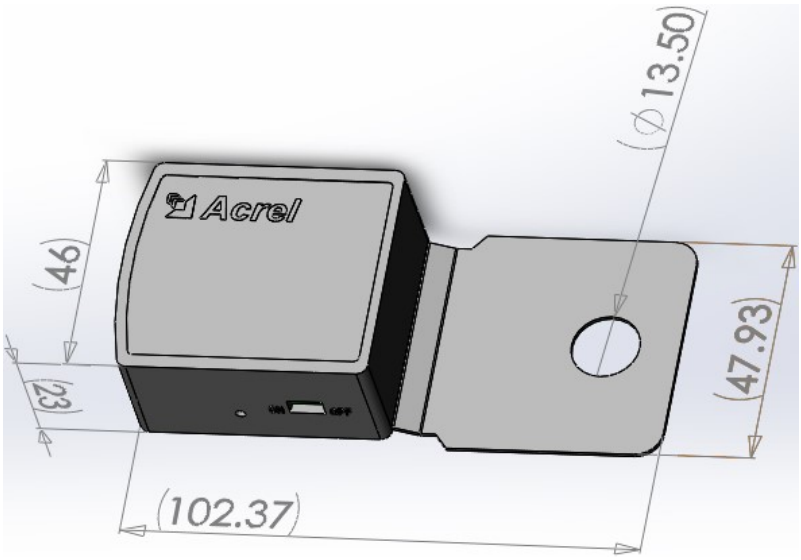
1.4 Product Installation

无线温度传感器共有 3 种，分别对应螺栓固定、表带固定、扎带捆绑三种安装方式。

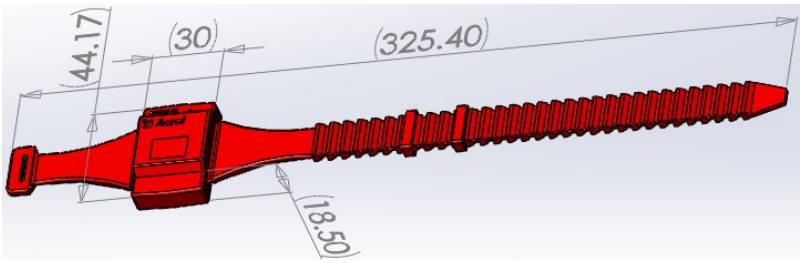
There are three types of wireless temperature sensors and three mounting methods correspondingly, i.e. bolted type, strap-secured type and tied type.

1.4.1 外形尺寸

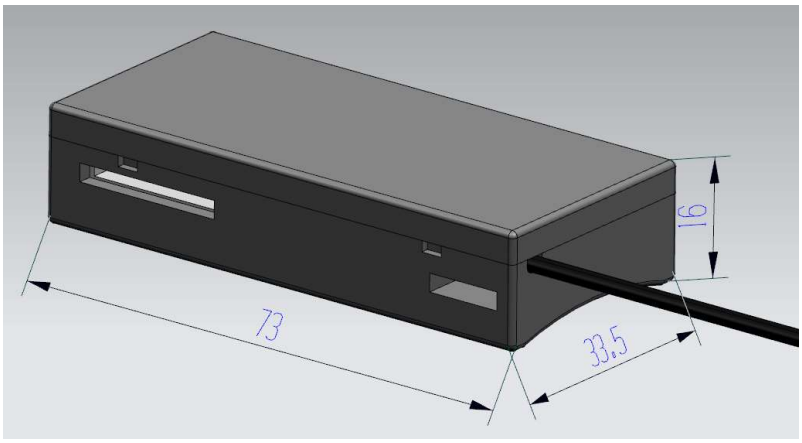
1.4.1 Shape Size



ATE100



ATE200



ATE300

1.4.2 标签说明

1.4.2 Label Instructions

ASD320

ARTM-Pn

ATE100

ATE200

ATE300

如图所示，ASD320 和 ARTM-Pn 显示装置标签条形码应为“***51809190240001***”，如果安装 ATE100 或者 ATE200，其条形码应与显示装置的条形码编号一致，安装位置依照标签文字安装，

“**CH197/TA1**”为安装第一个 A 相，“**CH197/TB1**”为安装第一个 B 相，以此类推。如果安装 ATE300，其组号应与显示装置标签条形码最后四位编号一致，即“**组号 1**”对应“***51809190240001***”，安装位置依照标签文字安装，“**编码：1A**”为安装第一个 A 相，“**编码：1B**”为安装第一个 B 相，以此类推。

See images above, the label on ASD320 or ARTM-Pn is “***51809190240001***”. If the sensor is ATE100 or ATE200, the label number is same as the number on the display device, the sequence of installation is base on the label, “**CH197/TA1**” is first one on the phase A, and “**CH197/TB1**” is first one on the phase B, and so on. If the sensor is ATE300, the number behind “**组号：**” should be same as number marked in “***51809190240001***”, the sequence of installation is base on the label, “**编码：1A**” is first one on the phase A, “**编码：1B**” is first one on the phase B，and so on.

注意：出厂时包装箱内无线温度传感器与显示装置已配对，不可以与其他显示装置或无线温度传感器混用，无线温度传感器按照标签安装。

Notice: wireless temperature sensors and display device in the package have been matched before delivery. Do not use them with other display device or other wireless temperature sensors together. Please installing them with label on the sensor.

1.4.3 安装方法

1.4.3 Installation Method

1.4.3.1 ATE100 安装方法

1.4.3.1 ATE100 Installation Method

ATE100 螺栓式无线测温传感器适用于电缆与母排搭接处，电缆与隔离刀闸搭接处使用。

The bolted type called ATE100 is suitable for use at joints between cable and bus bar and joints between cable and disconnector.

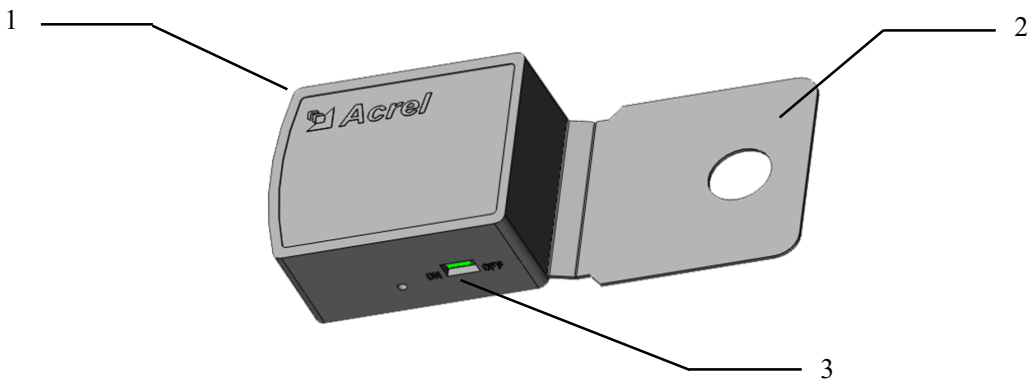
螺栓式无线温度传感器结构说明：

Bolted type temperature sensor structure introduction:

1 —— 无线温度传感器主体（Body of wireless temperature sensor）

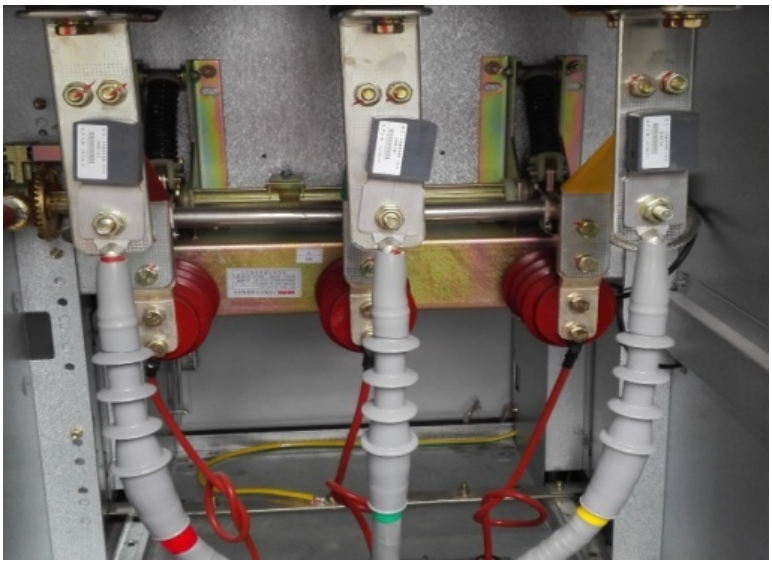
2 —— 合金底板，与测温探头接触（alloy baseplate, connected with temperature measuring probe）

3 —— 电池开关（battery switch）



拆下安装位置搭接处的螺丝，将传感器固定在安装位置，对准合金底板的开孔，然后旋紧螺丝固定，安装完成后打开电池开关。安装实例见下图：

Remove the screw from the joints, and fixing the sensor on the position with the hole on the alloy baseplate, then tighten the screw, open the battery switch after all of the operation. The installation examples see images below.



1.4.3.2 ATE200 安装方法

1.4.3.2 ATE200 Installation Method

ATE200 表带式无线测温传感器适用于断路器动触头、静触头、电缆接头、母排等处使用。

The strap-secured type called ATE200 is suitable for use at moving contacts and fixed contacts of breaker, cable joints and bus bar.

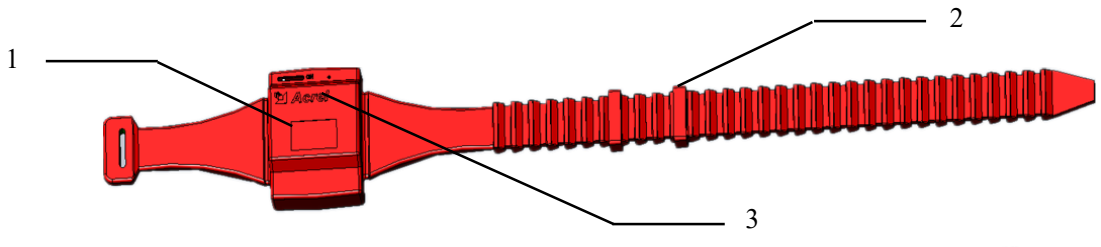
表带式无线温度传感器结构说明:

Strap-secured type temperature sensor structure introduction:

1 —— 无线温度传感器主体，测温探头在背面（Body of wireless temperature sensor, temperature measuring probe is on the other side）

2 —— 表带及锁扣（strap and hasp）

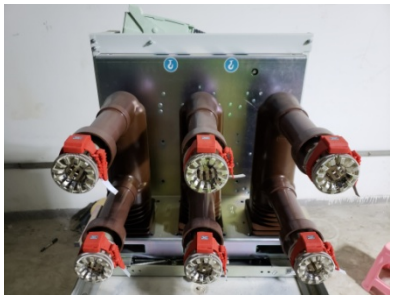
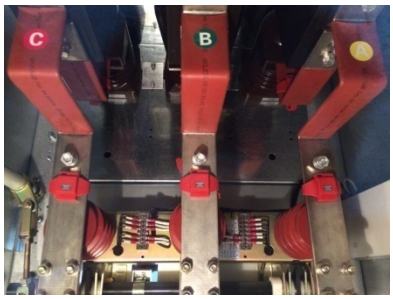
3 —— 电池开关（battery switch）



将传感器主体固定在安装位置，将表带绕过安装母排或者触头穿过表带头收紧，最后将表带尾用锁扣锁紧。表带过长可以剪掉多余部分，表带过短可以联系我司配发续接表带。安装实例见下图：

Fixing the body of sensor on the position, then strapping it on the bus bar or breaker contact and frapping it through the hole on the strap, fixing the strap by hasp. Clipping the strap if it is too long when finished, if it is too short, contacting us for strap parts before installation. The installation examples see

images below.

1.4.3.3 ATE300 安装方法

1.4.3.3 ATE300Installation Method

ATE300 捆绑式无线测温传感器适用于动触头，母排，电缆，母排、电缆搭接处等多种场合。

The tied type called ATE300 is suitable for using at moving contacts, bus bars, cables and joints between bus bar and cable.

捆绑式无源无线温度传感器结构说明：

Tied type passive temperature sensor structure introduction:

1 —— 温度传感器主体（Body of wireless temperature sensor）

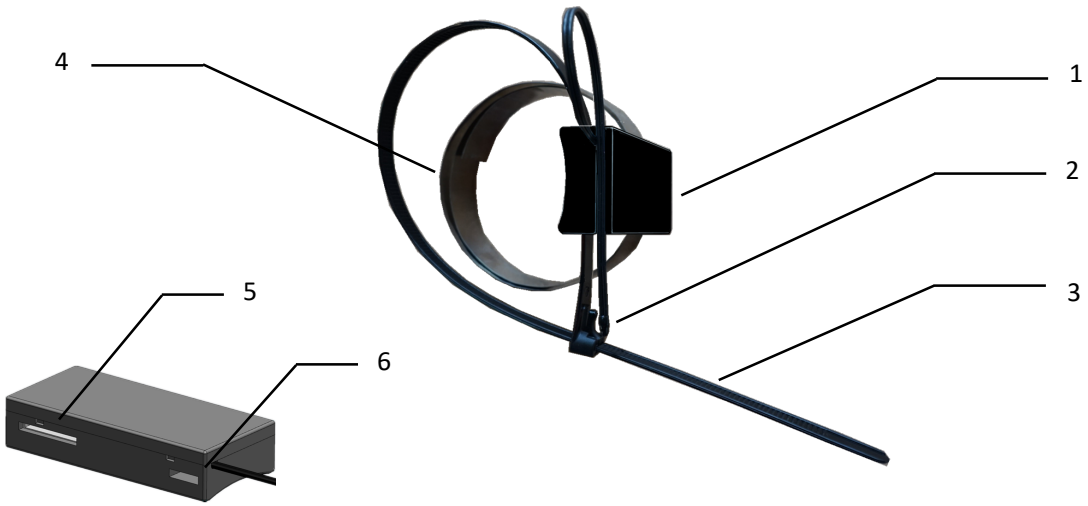
2 —— 温度探头，用扎带固定在测温处（probe, tied to temperature measuring point）

3 —— 扎带，用于固定传感器主体（tie, used to fix the sensor body）

4 —— 取电合金片，用于感应取电（alloy chip, for CT-powered）

5—— 合金片安装孔，用于安装合金片（alloy chip hole, used to fix the alloy chip）

6 —— 扎带安装孔，用于扎带固定（tie hole, used to fix the body）



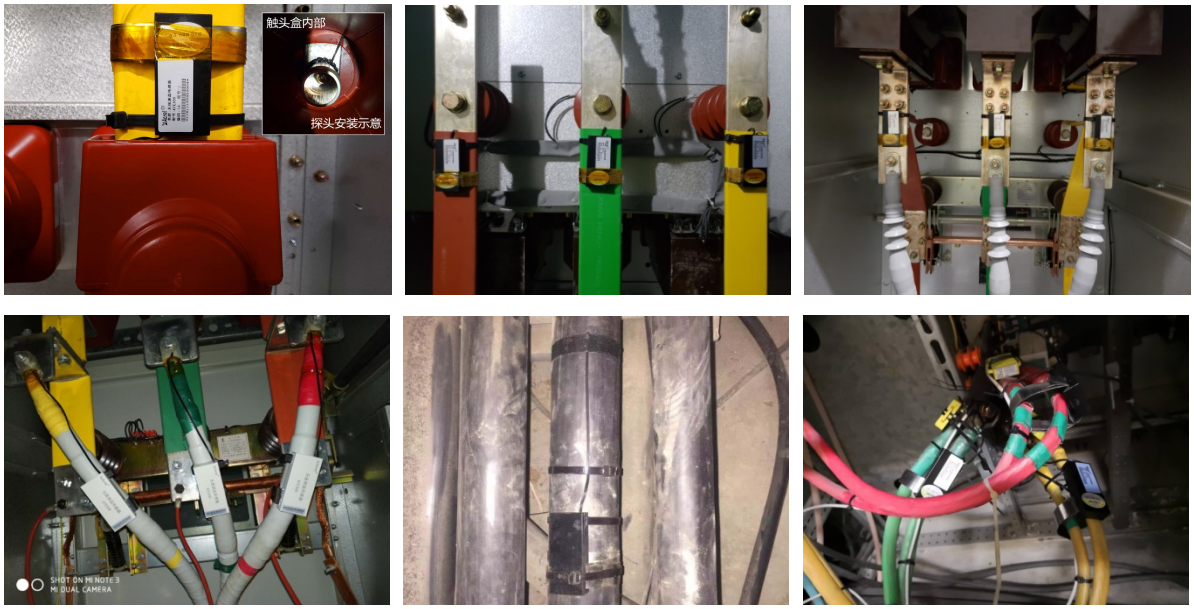
首先，将传感器固定在安装位置，用扎带穿过扎带安装孔，收紧扎带；然后将合金片一头穿过合金片安装孔，穿过的一头压折成 L 形后再依次绕过母排或者触头，每次饶过后再穿回合金片安装孔，缠绕过程可以适当弯曲合金片，尽量使得合金片紧贴安装表面，缠绕 2 到 3 圈，穿回合金片安装孔内，合金片过长无法穿进可以适当剪短，然后用茶色美纹纸将合金片固定紧贴；最后将测温探

头用茶色美纹纸固定在测温位置或者塞进绝缘。合金片安装示意过程如下：

First, fixing the body of sensor on installation position with tie through the tie hole and flapping it. Then twining the alloy chip on the bus bar or breaker contact, making the alloy chip like “L” before twining it and alloy chip should be in the hole every time, twining it to 2-3 circle, and ensure its end in the alloy chip hole, clipping it if it is too long when finished, fixing the alloy chip by brown masking tape. Finally, fixing the temperature measuring probe by brown masking tape or inserting it into insulation cover. Alloy chip installation process is see images below.

ATE300 无线测温传感器安装实例如下：

The wireless temperature measuring sensor called ATE300 installation examples, see images below.



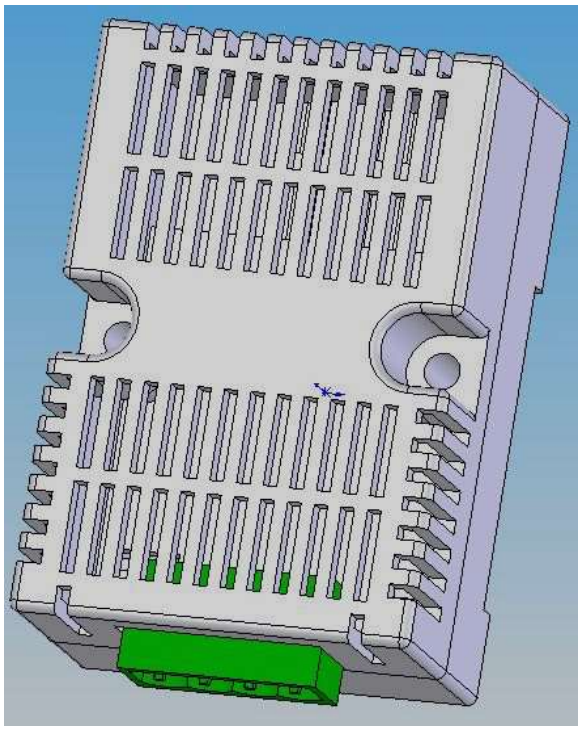
1.4.4 无线温度收发器

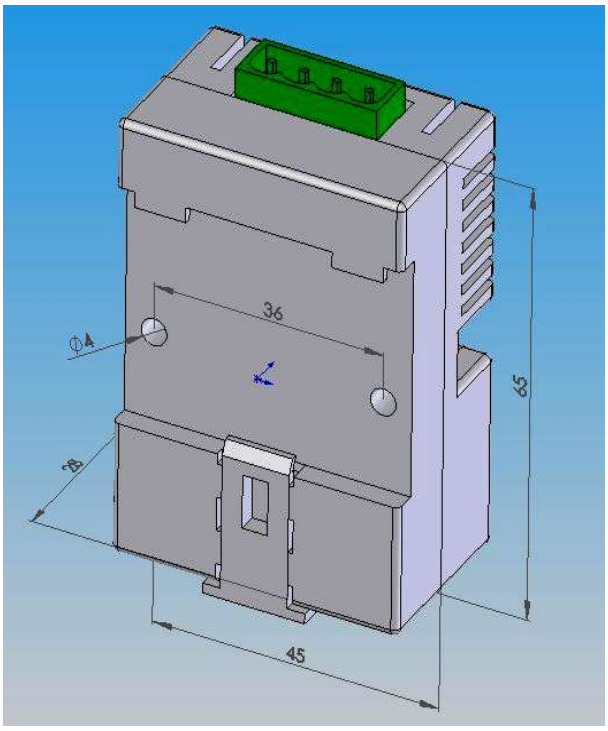
1.4.4 Wireless Temperature Coordinator

与 ATE 系列无线测温传感器配套使用的无线温度收发器，可以采用导轨（DIN35mm）安装方式，也可以使用螺栓固定方式。

The wireless temperature coordinator connected with ATE series wireless temperature sensor which

can be mounted on rail (DIN35mm) or bolted directly.





ATC 系列无线温度收发器的标签和显示装置一致。

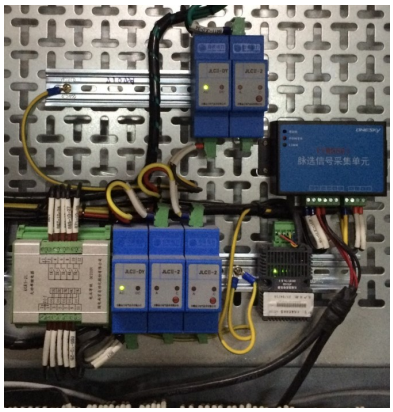
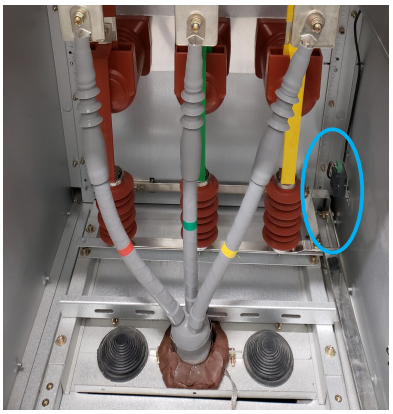
The label on ATC series wireless temperature coordinator is same as it on display device.

ATC100/300

ATC200/400

ATC 系列无线测温收发器可以安装在仪表室、手车室或者电缆室，安装实例见下图：

It can be installed in instrument chamber, circuit breaker chamber or cable chamber, the wireless temperature coordinator installation examples see images below.


脉冲信号采集单元