

Product model

TSC100503-32

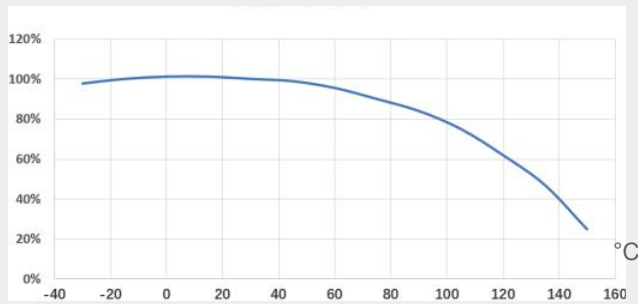
Product introduction

TSC100503-32 sensor designed and produced by Johar Technology is a passive wireless temperature sensor specially designed for nut temperature measurement applications. The sensor has small size, wide temperature measuring range, high precision, long reading distance and long service life. The sensor can be completely embedded into the standard nut above the plug M22, which meets the requirements of the power industry for withstand voltage, insulation and partial discharge protection, and is safe and reliable. In addition, it is also suitable for temperature measurement in other metal environments.

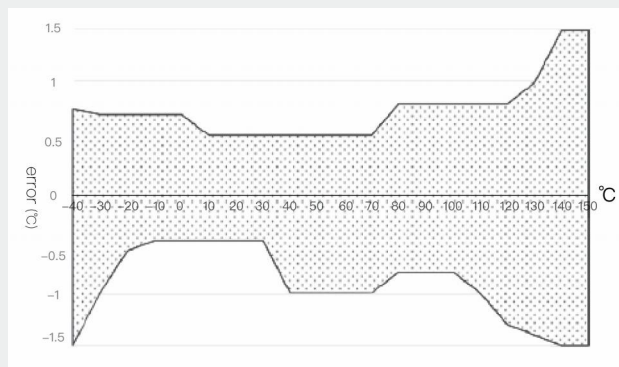


Temperature measurement scope

Communication distance/max communication distance



Normalization sensor read distance and temperature relationship curve



Temperature error curve in range

Key parameters

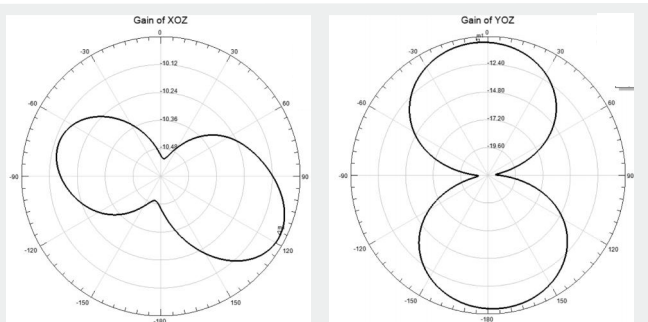
Core performance

Protocol	EPC Global C1G2 v1.2
Frequency	902MHz~928MHz
Communication distance (EIRP=4W)	1.0m
Chip series	LTU3 series
TID memory	128 bits
EPC memory	96 bits
User memory	160 bits (user editable part-128bits, sensor parameter-32bits)
Frequency offset	<2MHz
With endurance	100, 000 cycles

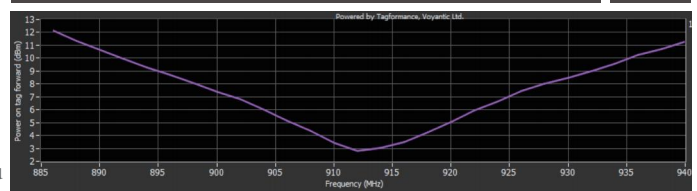
Use environment (Application background)

Working temperature	-40°C~+150°C
Endurance temperature	-40°C~+225°C
IP protection grade	IP67
Fall	1 m 200 times (plastic ground)
Application background	Ring main unit plug
Data retention	>25 years

Radiation Chart



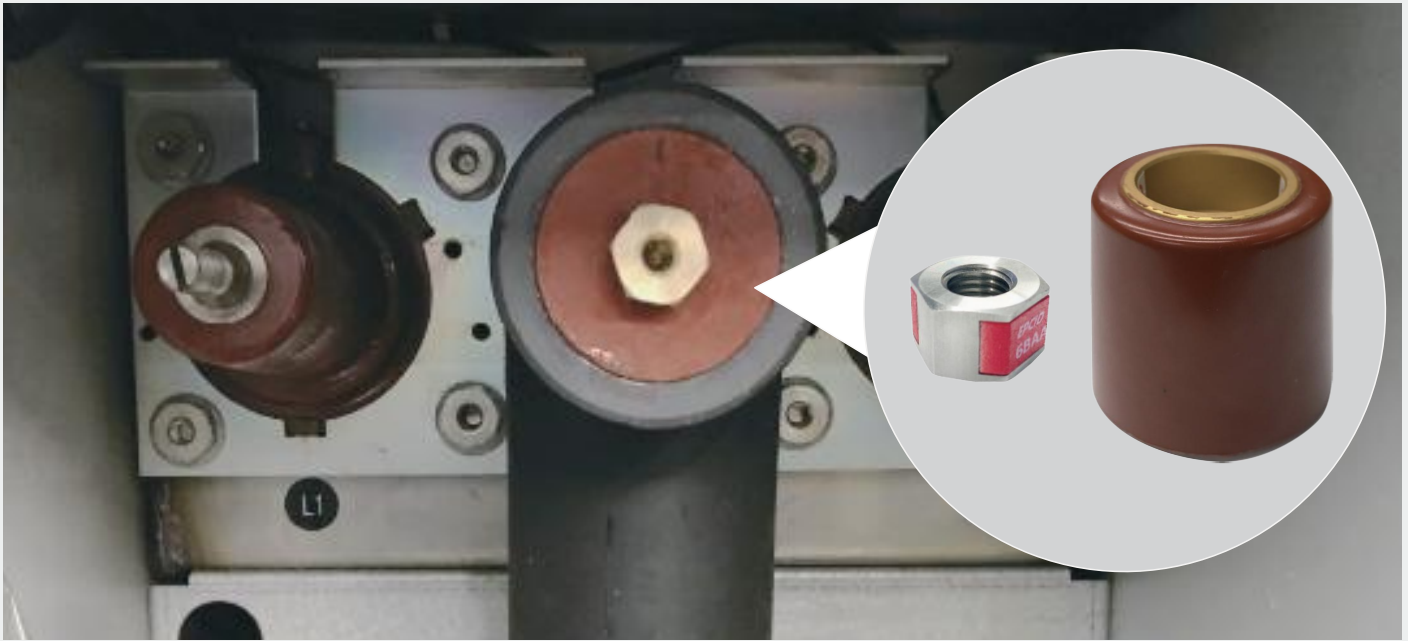
Sensitivity curve



Installation methods and examples



Installation method: Embedded in small metal Structural surface.



Key features



- Battery free, safe and reliable;
- Independent IDs,data never interface with each other;
- Small size, Implantable in cable plug;
- UHF RFID technology is used, which is not affected by the electrical parameters and power load of primary equipment;
- Long temperature measurement range: $-40^{\circ}\text{C}\sim+150^{\circ}\text{C}$;
- Ultra high temperature resistant design ensures no damage at $-40^{\circ}\text{C}\sim+225^{\circ}\text{C}$;
- Contact with the actual hot spot, achieve higher accuracy to $\pm 1^{\circ}\text{C}$;
- Combined with nut:

Insulation resistance $\geq 2000\text{M}\Omega$

Power frequency withstand voltage: 39kV/ 5min、
42kV/1min

Partial discharge level: $24\text{kV}\leq 10\text{pC}$

Lightning protection grade: 170kV/50ms

Radiation immunity level: $\geq 10\text{V/m}$

Application



- Power grid online temperature real-time monitoring, including high-voltage transformation and medium and low voltage distribution facilities key points Embedded temperature measurement ;
- Other temperature control process included production line single product track and quality management.

Appearance characters



Color	Silver
Size (mm)	10*5*3

