TST
TRAFFIC
SMARTCITY TECHNOLOGY

TST 880-043

LoRaWAN Current Transformer Terminal

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Product Description

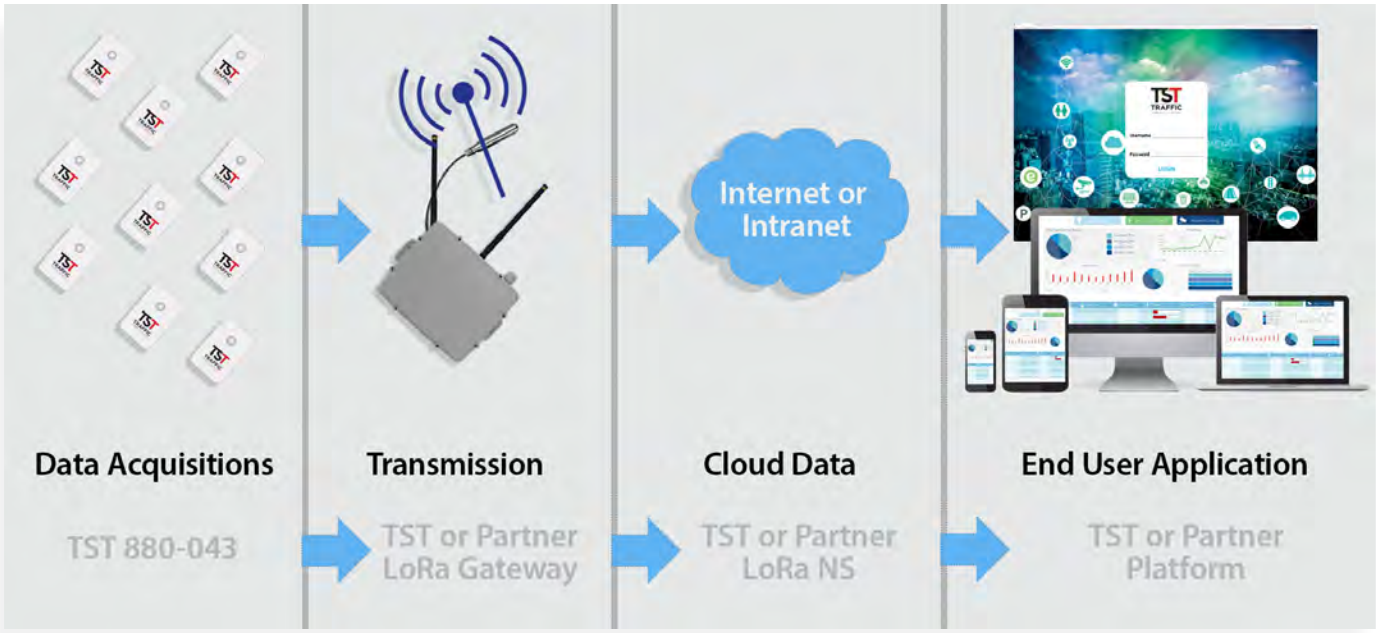
The current transformer is an instrument that converts the primary side large current into the secondary side small current according to the principle of electromagnetic induction. The current transformer consists of a closed core and a winding.

Product Highlights

- It is not necessary to turn off the power without affecting the operation of the equipment. Monitor the size of AC or DC power
- The sensor's full scale is selectable 50A, 100A, 200A, 300A, 400A, 500A, 600A.
- Cross-threshold report, plus periodic report every 2 hours (the threshold and the periodic report cycle are both user-configurable)
- Dense data sampling and averaging in order to further improve the accuracy to +/- 2%
- OTA (Over The Air) firmware upgrade, including to upgrade loader and application images
- Analog and digital interface for external sensor connectivity and pulse counting (MPI)
- Low power consumption, 5 – 10 years of battery operational life with 2 x AA Li-SOCI2 Battery
- Optional DC 5V power source
- Integrated internal antenna, or optional external SMA/IPEX antenna
- Up to 5km reach in NLoS (Non-Line-of-Sight) and up to 18km LoS (Line-of-Sight) environments
- IP67 enclosure rating

Application Architecture and Sample Applications

- Current monitoring
- Current carrying capacity analysis
- Equipment failure monitoring



Specifications

Sensor						
Parameter		**Value**				
Rated Input Current	**Rated Output Voltage**	**Nonlinearity**	**Isolation Withstand Voltage**	**Power**	**Response Time**	**Bandwidth**
100A	0~10V	≤1%	≥3KV/ 50Hz/1Min	≤1.5VA	250mS	≤1KHZ
200A		≤0.5%				
300A						
400A						
500A						
600A						
Data Report		Cross-threshold report, plus periodic report every 2 hours (the threshold and the periodic report cycle are both user-configurable)				

Wireless	
ISM Band	EU 863 – 870MHz US 902 – 928MHz China 779 – 787MHz EU 433MHz AS 923MHz CN 470 – 510MHz
Maximum Link Budget	168dB
Distance	Up to 5km NLOS; up to 18km LOS
Antenna	Integrated internal antenna or external 1/2 wavelength whip antenna (SMA)

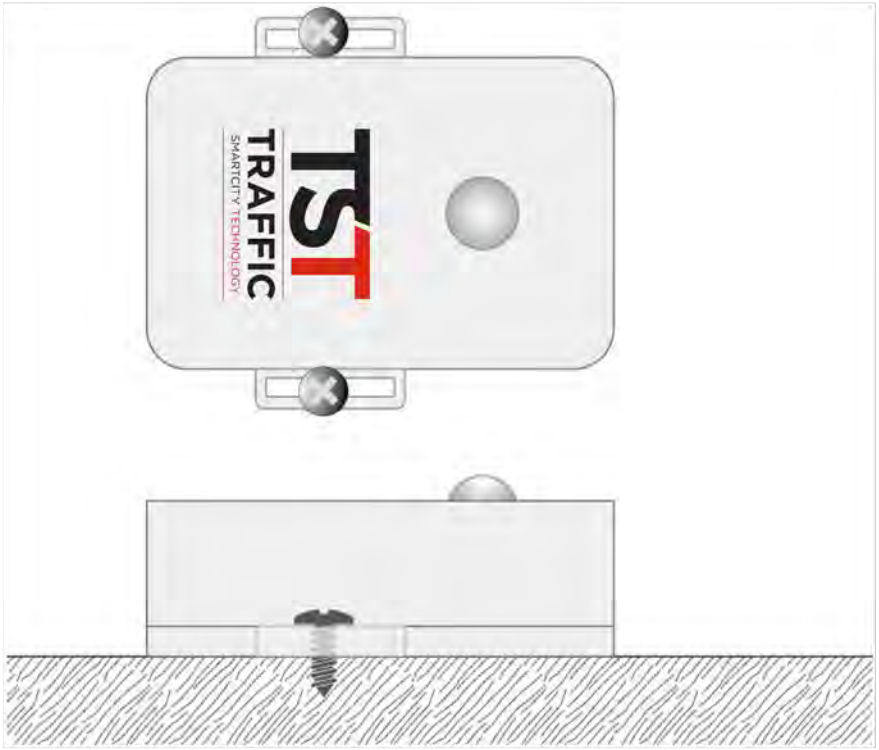
Mechanical	
Dimension	60mm x 100mm x 30mm (WxS8800) 96mm x 86.5mm x 25.8mm Ø25mm (Current Transformer sensor)
IP rating	IP65 or IP67 (WxS8800)
Operating Temperature	- 40°C to +85°C (WxS8800) - 20°C to +80°C (Current Transformer sensor)
Cable length	1 meter
Total Weight	120 g

Electrical	
Supply Voltage	3.0 – 3.8 V DC
Power Type	Replaceable 1 or 2 AA 3.6V Li-SOCI2 Battery; DC 4.5V – 12V

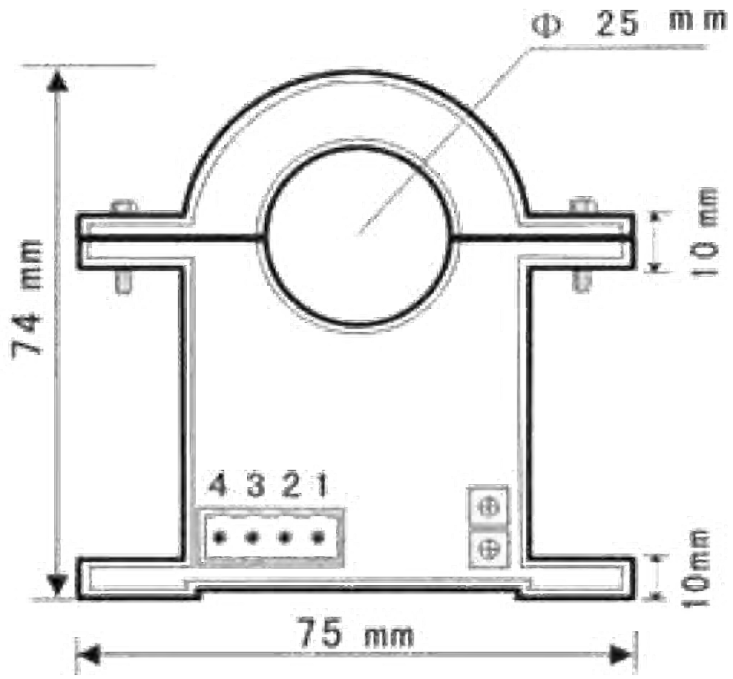
Optional	
Battery Life	5 – 10 years (assume one motion event one day)
Compliance/Certification	
LoRa Alliance	LoRaWAN 1.0.2
FC IC	FCC(America): 2AO7W-WXS8000,
	IC(Canada): 23701-WXS8000
CE RoHS	CE(European Union) B1810246
	ROHS(European Union): R2BJ180927F0664E

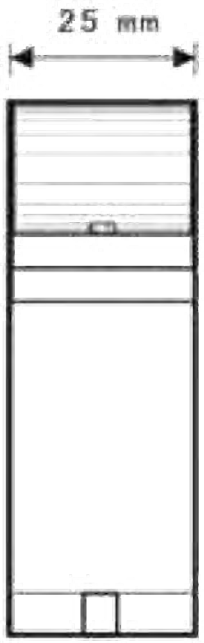
Installation Guide

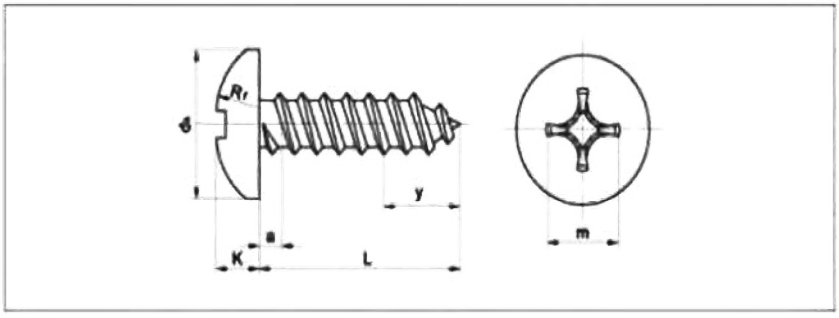
Below diagram shows the general installation guide for TST 880-043, it can be installed on any flat and solid surface, the lid is contacted with the surface and fixed via 2 self-tapping screws:



Installation Guide cont...







Below is the recommendation of the self-tapping screw and its sizes:

		ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3
dk	**min**	3.7	5.3	6.64	7.64	9.14	10.57	11.57
K	**min**	1.4	2.15	2.35	2.8	3.4	3.7	4.3
m		1.9	3	3.9	4.4	4.9	6.4	6.9
L		4.5 - 100mm						

KEY FEATURES

Quality raw materials

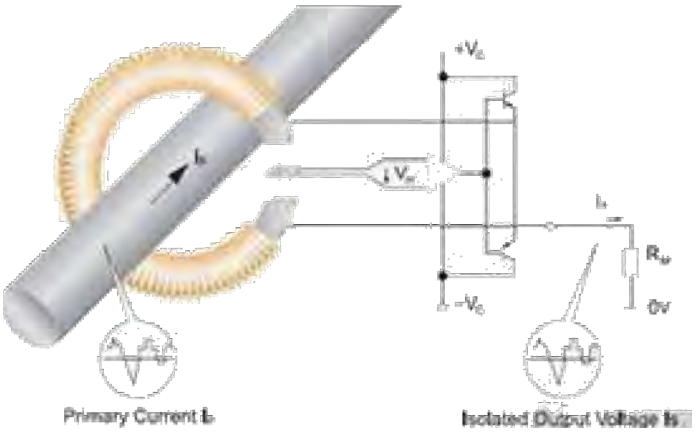
The product is cast with epoxy resin and has good insulation and sealing properties

Selected iron core

The product core is made of high-conductivity nickel magnetic steel. Good environmental adaptability. The magnetic permeability is high. Stable performance.

Easy to install:

Open structure, easy to install. It is not necessary to remove the busbar, and it can be operated with power without affecting normal power consumption.



The magnetic flux generated by the current is concentrated in the magnetic circuit by the high quality magnetic core. The Hall element is fixed in a small air gap for linear detection of the magnetic flux. The Hall voltage output from the Hall device accurately reflects the change in current.

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