

LoRaWAN

SENSOR NODE

MODEL: TS-LR-LSN300

Sensor Node & Gateway is Approved by

With Truesync IoT Solutions, you can



About truesync.io

Truesync IoT Systems is a IoT hardware and software company based in United Kingdom.

Our vision is to become a distinguished IoT solution provider in the IoT space which covers Smart City, Utilities, Energy, Industries & Manufacturing, and Farming sectors.

We conceptualize, design, develop, test, integrate, deliver, and support solutions for the client's needs and challenges.

By utilising our IoT Sensor Nodes, Gateways and Cloud solutions, we are helping in the front line of turning cities into Smart Cities, traditional grids into Smart Grids & Smart Energy entities with benchmarking references.

Reach us for your use cases and challenges via www.truesync.io.

IoT CONCEPTS & LoRaWAN®

The Internet of Things (IoT) is a network of physical devices that connect to and exchange data with other devices and services over the Internet or other network. There are currently over ten billion connected devices in the world, and more are added every year. Anything that can be embedded with the necessary sensors and software can be connected over the internet.

LPWAN technologies are suitable for IoT applications that rely on energy-efficient and thereby low-cost hardware for massive deployments on a wide range, potentially also within buildings.

The LoRaWAN® open specification is a low power, wide area networking (LPWAN) standard managed by the LoRa Alliance®, a non-profit technology alliance. Designed to wirelessly connect battery operated things to the internet in regional, national, or global networks, the LoRaWAN® standard meets key Internet of Things (IoT) requirements such as bidirectional communication, end-to-end security, mobility, and geolocation services.

LoRaWAN® leverages the unlicensed radio spectrum in the Industrial, Scientific, and Medical (ISM) band. The specification defines the device-to-infrastructure of LoRa® physical layer parameters and the LoRaWAN® standard and provides seamless interoperability between manufacturers. The LoRaWAN® standard is recognized by the International Telecommunication Union (ITU), the United Nations specialized agency for information and communication technologies (ICTs), as a standard for LPWANs. While Semtech provides LoRa chipsets, the LoRa Alliance drives the standardization and global harmonization of the LoRaWAN® standard for the vast ecosystem.

LoRaWAN® Sensor Node

TS-LR-LSN300 is a LoRaWAN® based Sensor Node which can be used for various LPWA IoT Use Cases such as detecting Level, depths, Air Quality, Water Levels, Waste Bin Level, Smart Metering, Smart Farming etc.

It is one of the most flexible Gateway in terms of Physical Interfaces , that can be adapted to almost any LPWA IoT Use cases using LoRaWAN Technology.

TYPICAL USE CASES
Waste Bin Monitoring
Water Tank Level Monitoring
River Level Monitoring
Smart Metering
Air Quality Monitoring
Temperature & Humidity

Features



Wireless
Technology



Ingress
Protection



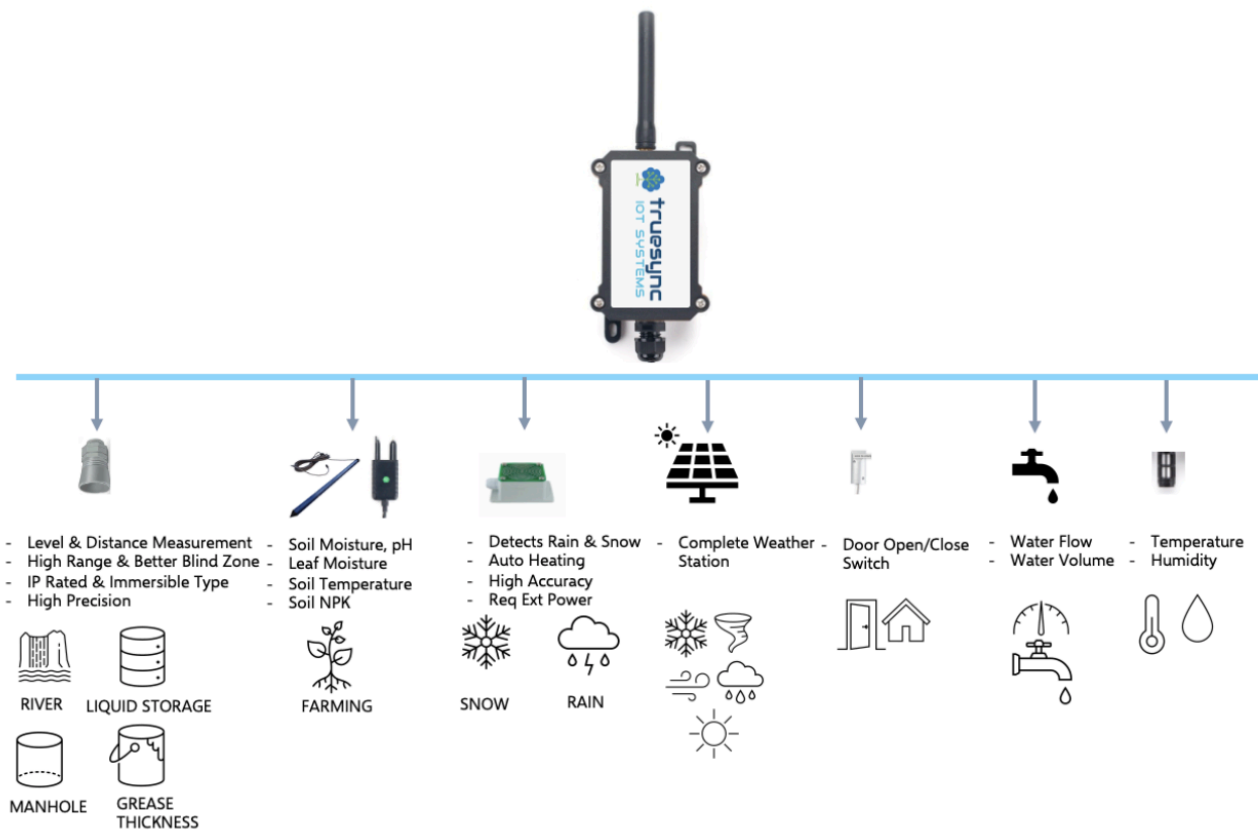
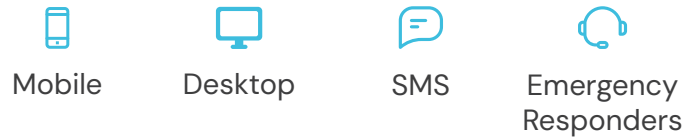
Long
Battery Life



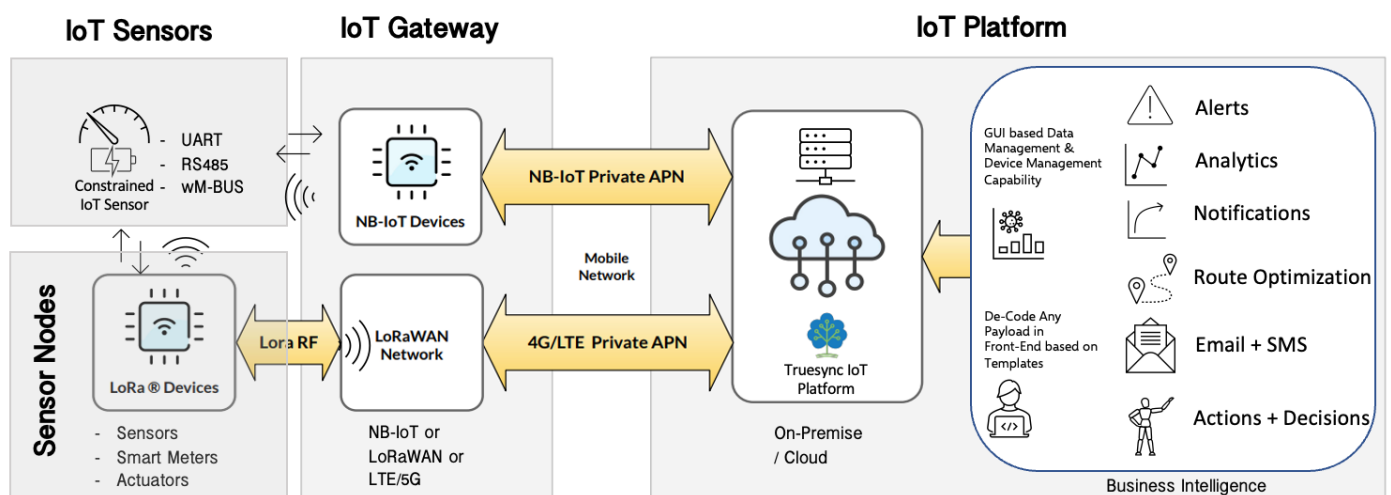
Extensive
Coverage

One Gateway and Many IoT Use Cases

Get information directly to



Architecture



Product Information

APPLICATIONS

Sensing application such as Fill Level, Air Quality, Smart Metering etc.
Many more IoT Use Case Integration possibilities.

GATEWAY KEY FEATURES

Dimension	130mmx50mmx45mm
Weight	150g
Battery	Non-rechargeable, Li/SOCI2 battery rated 8500 mAh
Operating Temperature	-40°C ~ 85°C
Network	LoRa®, LoRaWAN® technology
Frequency Bands	EU868, EU433, CN470, IN865, KR920, AS923, AU915, US915
Bandwidth	250 kHz
Bidirectional Data Transfer	Half-Duplex
Protocols supported	TCP/UDP/MQTT etc
Cloud Integration:	Compatible with any cloud platform (e.g., Truesync IoT Platform, Microsoft Azure, AWS, Thingsboard etc)
Microcontroller	STM32L072xxxx series
LoRa Transceiver	SX1276/78 modem
LoRaWAN Support	Compliant with 1.0.3 Specification
LoRa Link Budget	Maximum 168 dB
Interfaces	UART, I2C, Analogue & Digital
Casing	Rated IP68 for waterproof protection
Power Efficiency	Operated on ultra-low power consumption
Configuration	Parameters adjustable using AT Commands

SECURITY FEATURES

Authenticate the devices using end-to-end encryption

Secure join procedure for device authentication

Gateway security features to prevent unauthorized access

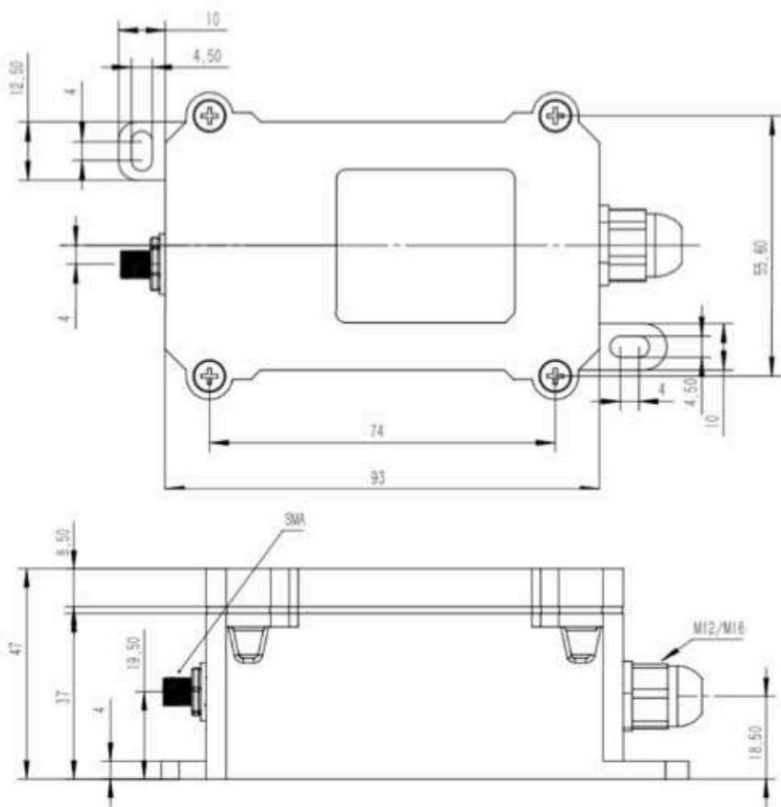
PACKING LIST

LoRaWAN Sensor Node	1
TTL Cable	1
Catalogue	1

ORDER INFORMATION

Device	Part No.
LoRaWAN Sensor Node	TS-LR-LSN300

Product Dimension



Caution: Do Not Recharge Battery

Battery used in this device is non-rechargeable type. Please do not recharge it. If out of power, please replace with new battery from Truesync.

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