RS1-L

LoRaWAN®

Single-Channel LoRaWAN® Low Power Transmission Interface for Industrial Applications

- Compatible with all LoRaWAN® frequencies
- Wide range of industrial applications
- Designed to meet outdoor applications
- Long-term durable performance in harsh environment
- Ultra-low power

TECHNICAL SPECIFICATION

Sensor

Interface Options (RS1-L covers a wide range of industrial sensors interfaces. Unique design of the interface gives ultimate flexibility of choosing the right sensor interfaces)	**Analogue:** mV / mV/V / 4-20mA / 0-5V / 0-10V **Digital:** I2C / RS232 / RS485 / Modbus / HART SDI12 / TTL UART **Temperature**: Pt100, 2 or 3 wire; Pt1000, 2 or 3 wire **Pulse:** Pulse (Reed Switch) / Digital on/off (or other customised options on request)
Electric Connection	1m cable, pin connection (or others on request)
Operation Temperature (°C)	-10 ~ +70

Power

Power Supply	Built-in Replaceable Lithium Battery, External Power (option)
Rated Voltage (V)	3.6
Battery Lifetime	100,000+ readings and 20,000+ transmission (More than 10 years for most applications)

Physical

Materials	ASA or POM
Weight (g)	350
Protection Rate	IP66 or IP68 and UV Protected enclosure

Communication

LoRaWAN® Version, Class	1.0.2revB, Class A (Class C on request)
LoRaWAN® Frequency Zone	AS923, EU868, US902-928, AU915-928 (other zones available on request)
LoRaWAN® Activation Type	OTA (default), ABP
Sampling Type	Periodic (default), Event triggered
Sampling Period	Configurable via downlink (default 4 hours)
Transmission Type	Per sample (default), Event triggered, Conditional
Parameter Configuration	Over-the-air via LoRaWAN® downlinks Locally via wireless connectivity
Firmware Update	Locally via Wireless Connectivity, Over The Air

www.10sorex.com
Sales@10sorex.com
+1 (424) 400-4964

RS1-L

NETWORK CONNECTION AND VISUALIZATION

Network Integration

- Integratable to all main networks (Actility, Alibaba, Cisco, Digita, Everynet, Helium, Kerlink, kpn, Loriot, machine-Q, Objenious, Orange, Orbiwise, Proximus, Senet, Sens, Swisscom, TATA, The Things Network(TTN), TTI and any other network)

Visualization And Data Management

- 10Sorex white label microservice platform, and Integratable to all main IIoT platforms directly or through the api (AWS, Azure, PTC ThingWorx, Bosch IoT, Cisco Jasper & Kinetic, Sierra Numerex, MathWorks, ThingSpeak, GE Digital Predix, LandisGyr, Siemens MindSphere, Cumulocity, myDevices, Ubidots, TagoIO, AllThingsTalk, HPE IoT and any other major IoT platform).

10Sorex Platform Main Features

- Encrypted ultra-low power communication protocol
- Advanced device inventory
- Integration APIs for enterprise systems
- Multi-tenant role-based access control
- Data export and import
- White-label platform for enterprise runs on private account
- Variable alarm setting for high and low thresholds and multi-channel alerting
- Sampling and transmission interval configuration
- Transmission condition configuration
- Other configurations and customization available on request

Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable & API first

www.10sorex.com

Sales@10sorex.com

+1 (424) 400-4964

RS1-L

MODEL GUIDE

Model	Option / Schematic
C Model	C model comes with cylindrical shape housing suitable for battery operated applications with IP68 / IP66 rate and clamp mounting. This model has 2 option of 4 wire cable connection and the 4pin connection.
E Model	E model comes with rectangular shape housing suitable for battery or external power operated applications with IP65 rate, and wall mounting. This model has 2 option of 4 wire cable connection and the 4pin connection.

INDUSTRIES

- Water & Environment
- Agriculture & Farming
- Oil & Gas
- Marine & Oceanography
- Mining & Construction
- Smart Building & HVAC
- Transport & Logistics
- Food & Beverage
- Hydraulics and Compressed Air Systems
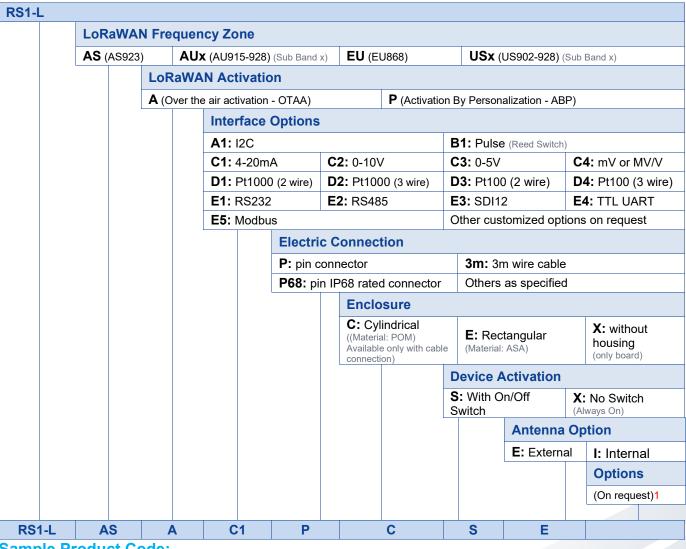
APPLICATIONS

- Pump Performance Monitoring
- Water Pipeline Pressure Monitoring
- Pressurized System Monitoring
- Chiller and Cooling System Monitoring
- Hydraulic and Pneumatic Systems Monitoring
- Liquid Storage Level Monitoring
- Spraying System Monitoring
- Air Compressor Monitoring

RS1-L

ORDERING CODE

RS1-L									

LoRaWAN Frequency Zone

AS (AS923)	**AUx** (AU915-928) (Sub Band x)	**EU** (EU868)	**USx** (US902-928) (Sub Band x)

LoRaWAN Activation

A (Over the air activation - OTAA)	**P** (Activation By Personalization - ABP)

Interface Options

A1: I2C		**B1:** Pulse (Reed Switch)	
C1: 4-20mA	**C2:** 0-10V	**C3:** 0-5V	**C4:** mV or MV/V
D1: Pt1000 (2 wire)	**D2:** Pt1000 (3 wire)	**D3:** Pt100 (2 wire)	**D4:** Pt100 (3 wire)
E1: RS232	**E2:** RS485	**E3:** SDI12	**E4:** TTL UART
E5: Modbus	Other customized options on request		

Electric Connection

P: pin connector	**3m:** 3m wire cable
P68: pin IP68 rated connector	Others as specified

Enclosure

C: Cylindrical ((Material: POM) Available only with cable connection)	**E:** Rectangular (Material: ASA)	**X:** without housing (only board)

Device Activation

S: With On/Off Switch	**X:** No Switch (Always On)

Antenna Option

E: External	**I:** Internal

Options

(On request)1

RS1-L	AS	A	C1	P	C	S	E	

Sample Product Code:

- **RS1-L-AS-A-C1-P-C-S-E**
  Single-channel LoRaWAN® sensor interface, frequency of AS923, Over The Air Activated, for 4-20mA output with cylindrical housing, pin connection, with on-off switch and equipped with external antenna.

1) Product Options:

- **EP**: sensor with external power supply connector for 12V supply (only for E type enclosure, adaptor is not included)
- **EPB**: connector for 12V supply with internal battery backup (only for E type enclosure)
- **HG**: high-gain external antenna
- **WF**: Active WiFi module on device for communication/ firmware update through Mobile phone NFC module (only for E type enclosure)
- **HCB**: high-capacity battery (only for E type enclosure)

www.10sorex.com
Sales@10sorex.com
+1 (424) 400-4964