

SP Uni

Universal wireless logger

Cold chain and more, for years

SP Uni — Universal wireless logger

Put it in a fridge, a cold room or a warehouse — SP Uni logs temperature and humidity, reports every change within minutes and keeps the data in its own memory until the cloud confirms delivery. One port adds a probe, a current clamp or an ultrasonic level sensor.

Key features

- Built-in temperature ±0.3 °C and humidity sensor
- Port for a probe, current clamp or level sensor
- Archive in memory, nothing lost when the link drops
- Finds its network itself: SP Net gateway or LoRaWAN
- Up to 5 years on one battery
- Set-up by phone over NFC and over the air

- Worldwide Helium Network compatibility
- Ready to work out of the box
- 3 years warranty period

How it works


EDGE SENSORS
LEVEL SENSOR
TEMP. SENSOR
POWER SENSOR
SunPeak Innovations
SP Uni
SP Uni
Up to 5 km
SP Net
Cloud
Real-time Monitoring
Analytics

Use Cases

Retail and HoReCa
Just put SP Uni on the bottom shelf of a fridge or a cold room — no wires and no probe needed. Every change of temperature reaches SmartCloud within minutes, an excursion raises an alarm, and the history is ready for an inspection.

Pharmacy and warehouses
Temperature and humidity of storage rooms and pharmacy fridges are logged in the device memory and delivered with confirmation: a lost connection leaves no gap in the record.

Tanks, septic tanks and bins
With the SP V-sens ultrasonic sensor SP Uni measures the distance to the liquid or bulk surface up to 7.5 m; SmartCloud converts it to level, volume and the date the tank needs service.

Equipment and power
With an SP P-sens current clamp SP Uni measures the load current of the equipment: running hours, overloads and a stopped compressor are seen in the cloud.

Put the logger in place, register it in SmartCloud — data starts at once; to use the port, connect the sensor and choose its type in SmartCloud, in the app or with a magnet.

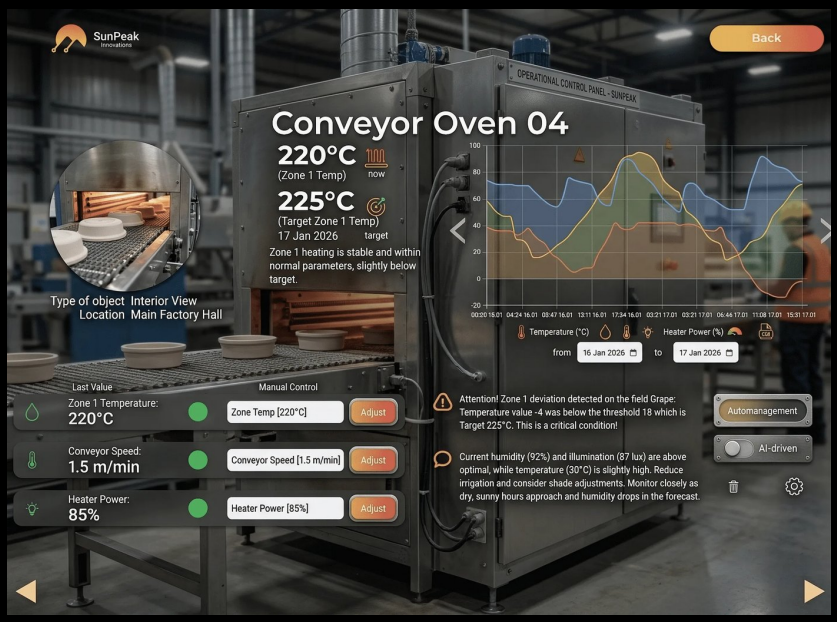
Technical specifications

The warranty period is 3 years from the production date.

Device main parameters

Parameter	Value
Temperature, built-in sensor	−20…+70 °C, ±0.3 °C, resolution 0.01 °C
Relative humidity, built-in sensor	0…99 %RH, ±3 %RH (20…80 %RH)
Temperature, external probe SP T-sens	−55…+125 °C, ±0.5 °C (−10…+85 °C)
Distance / level, ultrasonic SP V-sens	0.28…7.5 m, ±2 cm up to 2 m, ±1 % of reading above
AC current, clamp SP P-sens	0…30 A (other clamps 5…100 A), ±2 % of reading
Reporting	Change events within minutes (0.5 °C / 3 %RH, confirmed by a repeated probe), regular record every hour; alarm limits; all configurable
Data memory	Archive in flash with delivery confirmation
Radio standard	LoRaWAN 1.0.4 Class A (OTAA/ABP), EU868, or SP Net single-channel (two-way); automatic network selection
Communication range	up to 5 km (line-of-sight)
Configuration	NFC (SunPeak Devices app, Android/iOS); over the air via SP Net and LoRaWAN networks, signed
Power source	3.6 V 2400 mAh ER14505 Li-SOCl
Battery life	up to 5 years (depends on the reporting profile and the external sensor)
Dimensions	about 100 × 50 × 20 mm

SmartCloud Ecosystem



Cloud Ready

Plug & Play activation: register the device, put it in place — data appears in SmartCloud right away.

Modern Dispatching

Measured values are analysed in the cloud and turned into instant notifications. Charts per object on your phone, dispatcher screens for hundreds of sites and SP Screen boards on the wall.

Teamwork

Workspaces, object groups and employee roles allow full automation with activity tracking and notification history.

Business Process Integration

SmartCloud provides data access via REST API, WebSocket and webhooks for integration with ERP and WMS systems.

Control and indication

All timings, thresholds and the port sensor type are configured from SmartCloud (by phone over NFC or over the air via SP Net or LoRaWAN).

Magnet gestures

Control is by touching the marked spot with a magnet; a series of touches ends with a 2 s pause.

Magnet touches	Function	Indication
1×	Send fresh readings now and collect pending settings	mode colour during transmission
4×	Sleep (logger off; any touch wakes)	green blinking
6×	Test mode 3 min: a probe and a frame every 15 s	white beacon every 0.5 s; on each probe green = no change, blue = change, red = sensor error
8×	Reboot	red blinking
10×	Port sensor type: each touch — next type, fixed 10 s after the last touch	none — red, probe — blue, current — green, ultrasonic — yellow; flicker when fixed
12×	Network mode selection: AUTO (default) ABP OTAA SP Net	mode colour: AUTO yellow, ABP pink, OTAA blue, SP Net white

Integration and support

Integration with standard LoRaWAN systems

The device is compatible with any standard LoRaWAN network. DevEUI and AppKey are printed on the device label.

Payload description

Uplink on FPort 2, frame format v3 (FW 2.00 and later): header — device ID 360, firmware ID, frame ID (0 scheduled, 1 change, 2 magnet, 3 start, 5 test, 6 archive), battery, format 0x30/0x31; then records with their age. SCALAR (0x20) — temperature (i16, 0.01 °C), humidity (u16, 0.01 %RH) and flags; EXT (0x21) — port sensor: mode, value (i16; 0x8000 — no reading) and flags; STATE (0xA1), ENERGY (0xA2), GAP and TBREAK — service blocks. Records are kept in flash until the network confirms delivery. Decoding is built into SmartCloud; for a custom integration use the SmartCloud API.

Block	Content	Note
Header	Device ID 360, firmware ID, frame ID, battery, format	7 bytes
0x20 SCALAR	Temperature, humidity, flags	0.01 °C, 0.01 %RH
0x21 EXT	Port mode (probe / current / ultrasonic), value, flags	4 bytes
0xA1 / 0xA2	Firmware and configuration CRC; battery ledger	service
0xA4 / 0xA5	Gap in the archive; time break after power loss	service

Top-level integration

To bring the data into your own system, use the SunPeak Innovations ecosystem as a complete measurement and network package and take the data via REST API, WebHook or WebSocket. Connection instructions are in the SmartCloud platform.

Metrological characteristics

Channel	Range	MPE	Resolution	Status
Air temperature, built-in sensor — built-in digital sensor (AHT20)	-20…70 °C	±0.3 °C; typ. ±0.3 °C at 20…60 °C (sensor manufacturer, typical)	0.01 °C	Calibratable
Relative humidity, built-in sensor — built-in digital sensor (AHT20)	0…99 %RH	±3 %RH (20…80 %RH at 25 °C; sensor maximum error); the value is transmitted as an integer %RH; typ. ±2 %RH at 25 °C (sensor manufacturer, typical)	1 %RH	Calibratable
Temperature, external probe — SP T-sens probe (DS18B20 digital sensor, accessory)	-55…125 °C	±0.5 °C in −10…+85 °C; ±2 °C outside	0.06 °C	Calibratable
Distance / fill level, external sensor — SP V-sens ultrasonic sensor (DYP-A01, accessory)	28…750 cm	±2 cm up to 200 cm; ±1 % of reading above (sensor: ±(1 cm + 0.3 % of reading))	0.1 cm	Calibratable
AC current, external clamp — SP P-sens split-core clamp (SCT-013 series, voltage output, accessory)	0…30 A (SCT-013-030); 0…5/10/15/20/50/60/100 A for other variants	±2 % of reading or ±0.2 A, whichever is greater (10…120 % of the clamp rating, 50 Hz)	0.01 A	Calibratable

Recommended calibration interval: 24 months; the owner sets the final interval based on their own risk analysis. MPE — maximum permissible error. Calibration is performed against reference standards traceable to accredited laboratories; each measuring device is delivered with a calibration certificate in the ISO/IEC 17025 form.

Quality documents

Every SP Uni passes visual inspection, a functional test and a metrological test before it ships. For each serial number the product passport with the final inspection report, the calibration certificate and the technical specification are available at the verification page — scan the QR code on the device passport or enter the serial number.

Verify by serial number

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