

# ISURLOG NB

Smart self-powered IloT  
On-the-cloud data logger



**ISURLOG NB** (2<sup>nd</sup> generation) IloT data logger is based on the cutting

edge SP-IloT-SAP (Self Powered Industrial Internet of Things Sensor Access Point) technology, offering the next outstanding features:

- ✓ Operates using on board rechargeable batteries, guaranteeing 400 days of minimum autonomy (considering 1 analogue input and 1 counter log cloud uploading every 15 minutes).
- ✓ **Anytime available** Dashboard based remote user interface for:
  - User parameters configuration.
  - Alarms management.
  - Real time values and states monitoring.
  - On the cloud logged data download and management.
  - Remote diagnostics and reboot.
- ✓ 2 x 4-20 mA analogue inputs, active/ passive loop (adjustable power supply provided by the unit).
- ✓ 2 x potential free digital inputs for counters and flowmeters, alarm signals and operational status.

- ✓ 1 x solid state relay digital output, for on field actuators control.
- ✓ outdoors deployment ABS plastic case design features UV protection, IP67 / IK07 protection degree and -40 to +85 °C extended temperature range.
- ✓ on the cloud logged data hosting.
- ✓ HTTP/MQTT/UDP data streaming to third party devices.
- ✓ IIoT-NB connectivity.

**ISURLOG NB**<sup>1</sup> is based on **SP-IIoT-SAP** (*Self Powered Industrial Internet of Things Sensor Access Point*), thus offering:

- Rechargeable battery power supplied.
- Data monitoring and device management from/to any smart terminal.
- General purpose input/outputs allowing the connection of practically any sensor.
- On the cloud data hosting.
- IIoT-NB connectivity.

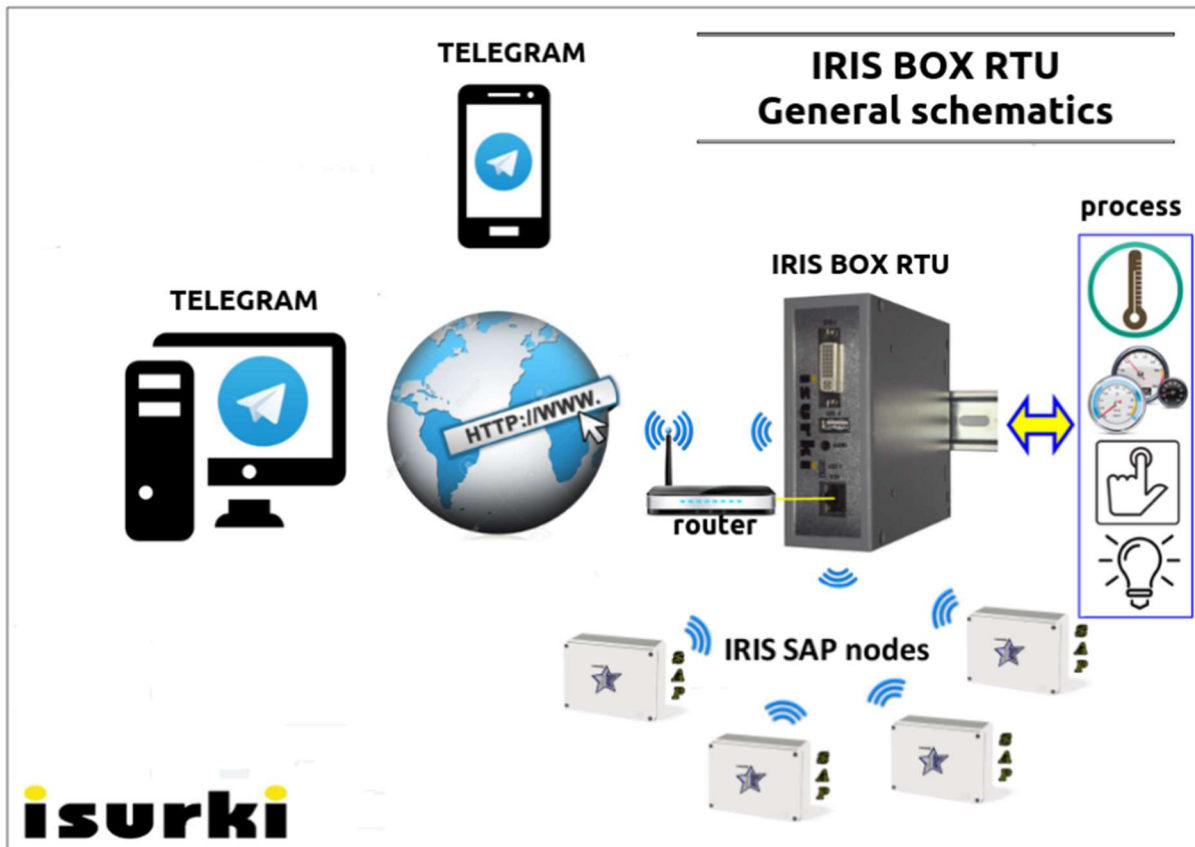


↑ **ISURLOG NB** on-field unit for drinkable water distribution network pressure monitoring



⇄ ↑ **ISURLOG NB** on-field unit for HVAC network temperatures monitoring at a health facility.

<sup>1</sup> As a result of a constant evolution, here in stated characteristics can be upgraded and changed without previous notice to customer. Please ask for the last datasheet version contacting directly with our company.

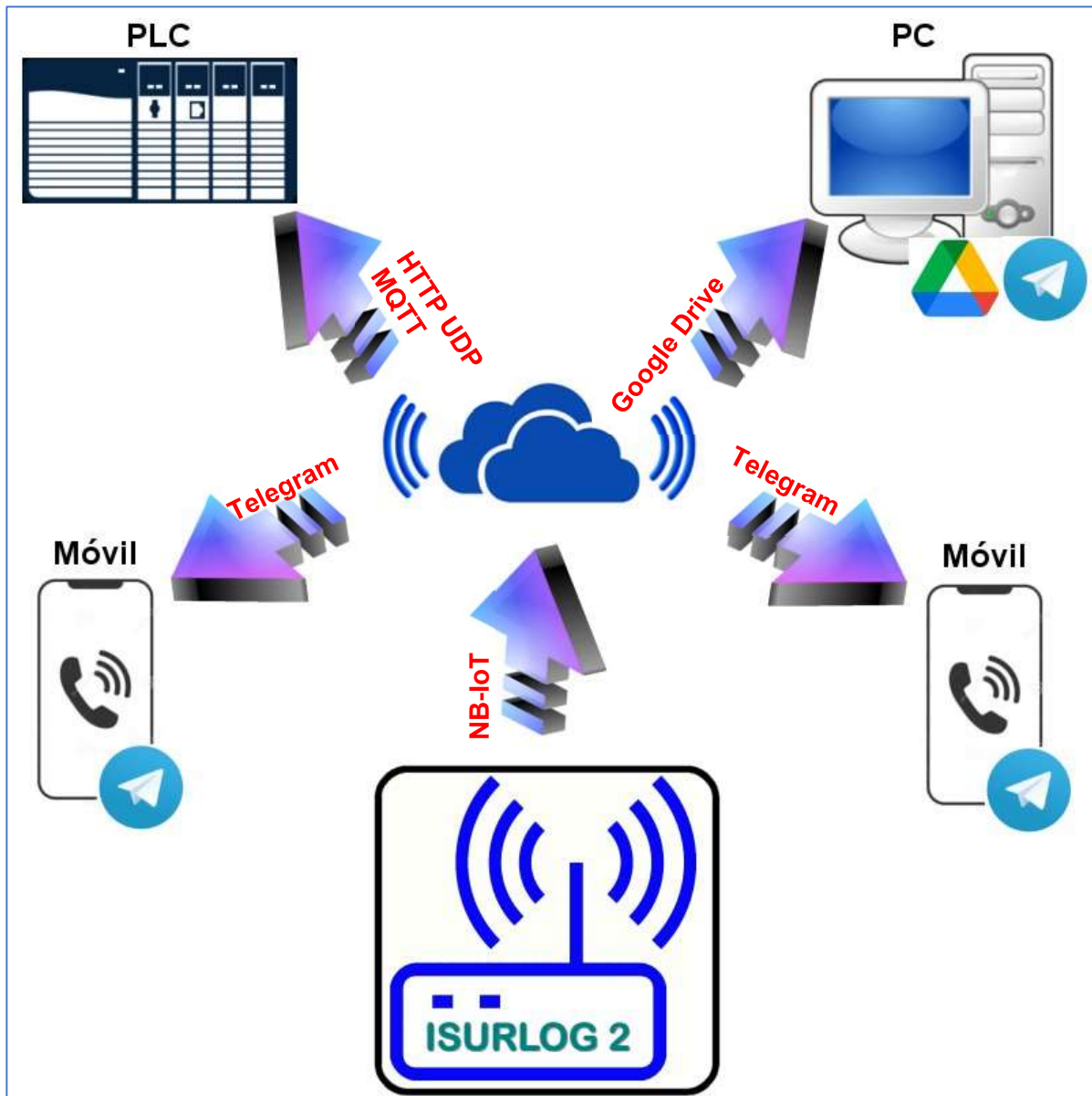


**ISURLOG NB** may be deployed as either stand-alone units (as shown above) or as a decentralized distributed periphery of the IRIS IIoT ecosystem (i.e., as a wireless sensor access point of the IRIS BOX RTU neural network controller and gateway, providing remote access to a wide geographical area).

**ISURLOG NB** uploads logged data files to the cloud on a user-configurable interval, ranging from 5 up to 1440 minutes.

Logged data files are Google Drive accessible in a .csv format, thus providing direct importation from any datasheet application.

**ISURLOG NB** includes easy user-configurable HTTP/MQTT/UDP links to third-party industrial automation devices, such as PLCs, PCs, controllers... automatically transmitting ASCII strings containing the last logged parameters' values (*date;time;parameter#1;...;parameter#n*). Therefore, **ISURLOG NB** virtually acts as a wireless decentralized I/O unit of any smart device including a UDP port.



### TECHNICAL SPECIFICATIONS

- Power supply:
  - 1 integrated LiPo battery pack (second pack available as option). Embedded USB battery charger.
  - > 1 year of autonomy (with 1 analogue input + 1 counter input, data uploading to the cloud every 15 minutes). 15 minutes data uploading interval, doble pack mounted).
  - > 2 years of autonomy (with 1 analogue input + 1 counter input, data uploading to the cloud every 12 hours).
  - The unit provides an auxiliary power supply for sensors, @ 6-24 Vdc (potentiometer adjustable).
- Connectivity:
  - LTE-NB IoT (GSM/GPRS network coverage required). 698–960 MHz band with 2'6 dBi gain. 1710–2200 MHz band with 4'4 dBi gain. Flexible antenna already embedded.
  - Data connectivity provided by ISURKI through its **IrisCloud NB** service in its different variants.



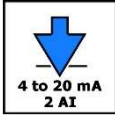






**isurki**  
Instrumentación-y-control




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- **Field devices integration:**
  - 2 x 4/20mA analogue inputs, active or passive sensors (6-24Vdc power supplied by the unit).
  - 2 digital inputs for counters (voltage free contact, pulse width  $\geq 50$  mS).
  - 1 digital output (solid state relays, 2 Amps).
- **Security:** AES encryption / SRP Secure Remote Password protocol.
- **Enclosure, with external dimensions** 120 (height) x 122 (width) x 86 (depth), in mm:
  - Indoors version: economical version, no waterproof.
  - Outdoors version: ABS plastic case, halogen free, UV protection, IP 66, 67 | IK 06 (-25 °C), IK 07 (+35 °C) protection degree. -50 to +60 °C extended temperature range, RAL 7035..



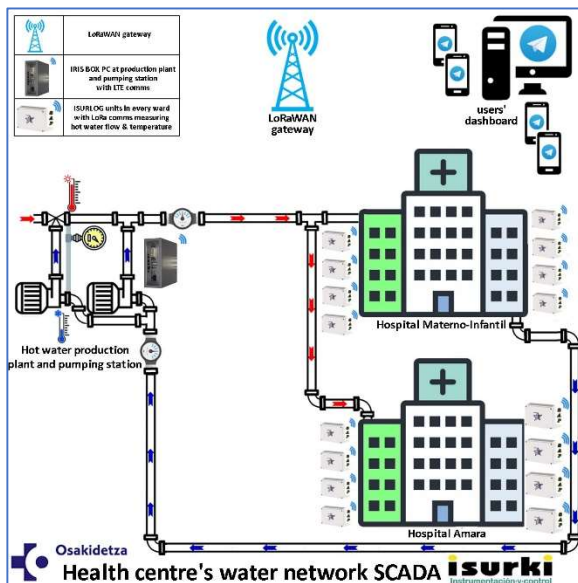
↑ Legionella prevention units in a HVAC network of a hospital, measuring supplying ring flow and temp.  
⇐ IP66, 300x265x165 mm cabinet execution for robust outdoors deployment and solar panel supply.

<b>ORDER CODING</b>		
Image	Description	Reference
	<p>IIoT Data logger IIoT, basic execution.</p> <ul style="list-style-type: none"> <li>• PCB format (without box).</li> <li>• 2 voltage free digital inputs (counters/on-off state).</li> <li>• WiFi &amp; Bluetooth connectivity.</li> <li>• RTC.</li> <li>• Without NB-LoT chip.</li> <li>• 1 x ion-lithium rechargeable battery pack included.</li> </ul>	<b>ISURLOG-NB</b>
	<p>Second ion-lithium rechargeable battery pack.</p> <ul style="list-style-type: none"> <li>• <b>x (0,1)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without 2<sup>nd</sup> battery pack.</li> <li>○ <b>x = 1</b>: with 2<sup>nd</sup> battery pack.</li> </ul> </li> </ul>	- BPx
	<p>Analog inputs and solid-state relay output.</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without extra I/O.</li> <li>○ <b>x = 1</b>: 1 x 4/20 mA active/passive AI + solid-state relay output.</li> <li>○ <b>x = 2</b>: 2 x 4/20 mA active/passive AI + solid-state relay output.</li> </ul> </li> </ul>	- AIx
	<p>0.96" OLED display, 128x64, blue color, black background, mounted on the frontal of the enclosure. 1PC1 option required.</p> <p>⚠ 1PC1 enclosure does not provide IP67 protection degree unless 2PC1 option is selected.</p> <p>⚠ External power supply required (opciones EPS2/2PC3).</p> <ul style="list-style-type: none"> <li>• <b>x (0,1)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without display.</li> <li>○ <b>x = 1</b>: with display.</li> </ul> </li> </ul>	- DISx
	<p>SPI bus for the connection of 1 x Pt100/Pt1000 temperature sensors.</p> <ul style="list-style-type: none"> <li>• <b>x (0,1)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without SPI bus.</li> <li>○ <b>x = 1</b>: with SPI bus + 1 x Pt100, 8x8x35mm probe, -50...200°C, 2.0 m cable.</li> </ul> </li> </ul>	- SPIx
	<p>Atmospheric and air quality BMA680 sensor:</p> <ul style="list-style-type: none"> <li>• <b>x (0,1)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without sensor.</li> <li>○ <b>x = 1</b>: air temperature, barometric pressure, relative humidity and Volatile Organic Compounds (VOC).</li> </ul> </li> </ul>	- BMAx
	<p>NB-LoT connectivity:</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2,3)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without (only on site data download).</li> <li>○ <b>x = 1</b>: NB-LoT + embedded antenna with no gain.</li> <li>○ <b>x = 2</b>: NB-LoT + 3 dBi angular antenna mounted in the box.</li> <li>○ <b>x = 3</b>: NB-LoT + 9 dBi external antenna, 3 m. cable.</li> </ul> </li> </ul>	- COMx
	<p>External additional power supply (optional):</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2,3)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: no additional external power supply.</li> <li>○ <b>x = 1</b>: embedded solar panel, 80x55 mm, (↔ see pic).</li> <li>○ <b>x = 2</b>: 230Vac to 5Vdc USB charger with 2 m cable.</li> <li>○ <b>x = 3</b>: energy harvesting (no batteries, powered by Peltier cell).</li> </ul> </li> </ul>	- EPSx
	<p>Basic enclosure:</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without enclosure.</li> <li>○ <b>x = 1</b>: complete unit mounted in an <u>indoor box</u>, 122 (width) x 120 (height) x 86 (depth), in mm, all accessories included. Material: PLA.</li> </ul> </li> </ul>	- 1PCx

	<ul style="list-style-type: none"> <li>○ <b>x = 2</b>: complete unit mounted in an <u>outdoor IP67 box</u>, 122 (width) x 120 (height) x 86 (depth), in mm, all accessories included. Material: ABS.</li> </ul>	
<p><b>x = 2</b></p> 	<p>Double waterproof plastic housing for outdoor installation, IP67, 300 (height) x 265 (width) x 165 (depth), in mm:</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2,3)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: without.</li> <li>○ <b>x = 1</b>: full unit, options included, all assembled in the plastic case. It contains the basic enclosure inside.</li> <li>○ <b>x = 2</b>: adds external solar panel supply to the 2PC1 option. ⇐</li> <li>○ <b>x = 3</b>: adds 230Vca input power supply to the 2PC1 option.</li> </ul> </li> </ul>	- 2PCx
	<p><b>x (0,1,2,3)</b> = Gauge pressure sensor, available ranges: 0-6 (<b>1</b>), 0-10 (<b>2</b>) and 0-16 (<b>3</b>) bar, 4/20 mA 2 wire output signal, 8-30Vdc power supply, AISI316L case, 0,6 m cable for connection with <b>ISURLOG NB</b> included, IP67, 1/4" M process connection.</p>	- PSx
	<p><b>IsurCloud</b>: cloud data connectivity</p> <ul style="list-style-type: none"> <li>• <b>x (0,1,2,3)</b> <ul style="list-style-type: none"> <li>○ <b>x = 0</b>: <b>IsurCloud Basic</b>: Cloud data upload latency <math>\geq 60'</math>, Google Drive accesible in both tabular and graphical format. Telegram and email alarms messaging. Last 365 days back up. Not available for mobile phones.</li> <li>○ <b>x = 1</b>: <b>IsurCloud Standar</b>: Same as <b>IsurCloud Basic</b> with to the cloud data upload latency of 15'.</li> <li>○ <b>x = 2</b>: <b>IsurCloud Pro</b>: Cloud data upload latency <math>\geq 60'</math>, Google Drive accesible in both tabular and graphical format. Telegram and email alarms messaging. Last 365 days back up. Android/iOS/PC app included.</li> <li>○ <b>x = 3</b>: versión <b>IsurCloud Pro+</b>: Same as <b>IsurCloud Basic</b> with to the cloud data upload latency of 15'.</li> </ul> </li> </ul>	- ICSx

## A BIT OF HISTORY

ISURKI was founded in 1992 with the aim of providing the most advanced electronic, computing & communications technologies to the industry and the resources and facilities management companies to improve the supervision and control of their processes and infrastructures.



Sanitary hot water control system based on **IRIS IIoT** ecosystem at the Hospital Universitario Donostia (Spain).

**ISURLOG-LR** is the result of applying all this expertise to the hardware and software design of this industrial device, focused on its use within the **IRIS IIoT** Industrial Internet of Things ecosystem. This background and mastery of the aforementioned technologies allow us to design tailor-made solutions adapted to the requirements of each application, offering an extremely competitive final product in terms of price and performance. Last but not least, an excellence-based technical assistance and hotline service during the pre-sales and after-sales stages, together with the support of our matrix suppliers, guarantee the best results for the **ISURLOG-LR** unit in your application.



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## TECHNICAL SUPPORT



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### DISCLAIMER

Information contained in this data sheet is up-to-date and correct as of the date of issue. The constant evolution of our products can lead to differences between the features of the currently available product and those stated in this document. Please, contact us to get the last updated information.

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