

Nextriv Sense Essential

EN 12830 temperature and humidity sensor

NX-SN-ESS

Nextriv Sense

A precision temperature and humidity sensor in a sealed IP67, food-grade (FDA-accepted) enclosure — for cold rooms, freezers and harsh environments. EN 12830 certified for temperature recording in refrigeration, with a $-30...60\text{ °C}$ measuring range and $\pm 0.2\text{ °C}$ accuracy. A local buffer of 3,000 readings with automatic retransmission keeps the data history gap-free during connectivity outages, and two replaceable lithium batteries provide at least 10 years of operation. The magnetic version holds onto metal surfaces without drilling.



$\pm 0.2\text{ °C}$

measurement accuracy

$-30...60\text{ °C}$

measuring range

IP67

ingress protection

$\geq 10\text{ yrs}$

battery life

Key features

- Enclosure made of FDA-accepted food-grade plastic — safe in contact with food and medicines
- EN 12830 certified for temperature recording in cold-chain applications
- $\pm 0.2\text{ °C}$ and $\pm 2\text{ % RH}$ accuracy — a high-precision digital MEMS sensing element catches subtle changes
- IP67 sealing thanks to a multi-level structure with a sealing ring — withstands washdowns and condensation
- Only 18 mm thick and 93.2 g — fits inside refrigerated display cases and tight chambers
- Standard version (wall/pole) or magnetic version (no drilling); anti-slip back pad with anti-theft design
- Buffer of 3,000 time-stamped readings with automatic retransmission — gap-free history after connectivity outages
- At least 10 years on two replaceable lithium batteries; configuration over NFC from a smartphone

Technical specification

Measurement — temperature	
Measuring range	$-30...60\text{ °C}$
Accuracy	typ. $\pm 0.2\text{ °C}$ ($0...60\text{ °C}$); $\pm 0.3\text{ °C}$ ($-30...0\text{ °C}$)
Resolution	0.1 °C
Sensing element	high-precision digital MEMS

Measurement — relative humidity

Measuring range	0...100 % RH
Accuracy	typ. ± 2 % RH (at 25 °C)
Resolution	0.5 % RH
Sensing element	high-precision digital MEMS

Radio connectivity

Technology	long-range, low-power radio (LPWAN)
Radio band	EU868 (EU); regional variants: US915, AU915, AS923, IN865, KR920, RU864
Tx power	up to 16 dBm (EU868)
Receiver sensitivity	down to -137 dBm
Sensor-gateway range	up to approx. 2 km in built-up areas / approx. 15 km in open terrain
Communication	two-way — readings to the platform, remote configuration via downlink

Device features

Local buffer	3,000 time-stamped readings; automatic retransmission after a connectivity outage
Data retrievability	on-demand readout of the recorded history
Threshold alarms	on-device thresholds + alert rules in the Nextriv platform
Configuration	mobile app over NFC
Power on / off	NFC or internal button

Power

Batteries	2× lithium Li-SOCl ₂ ER14505 (AA size), 2,700 mAh each (5,400 mAh total), replaceable
Battery life	at least 10 years — 10-min interval, 25 °C [1]

Enclosure and operating environment

Operating temperature	-30...60 °C
Ambient humidity	≤ 95 % RH
Ingress protection	IP67 — multi-level structure with a sealing ring
Housing	food-grade PC + ABS (FDA-accepted material), white
Dimensions	85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in)
Weight	93.2 g (standard version) / 102 g (magnetic version)
Mounting	standard version: wall or pole mounting; magnetic version: magnetic adsorption; anti-slip back pad with anti-theft design

Compliance and approvals

Approvals	CE, FCC, Telec, EN 12830
-----------	--------------------------

Environmental	RoHS
---------------	------

Ordering information

Product code (SKU)	NX-SN-ESS
--------------------	-----------

Variants	standard version (wall / pole mounting) or magnetic version (metal surfaces, no drilling) — specify the variant when ordering
----------	---

System requirement	a Nextriv Hub gateway (e.g. NX-GW-MINI, NX-GW-PRO)
--------------------	--

[1] Battery life determined under laboratory conditions — indicative value; the actual time depends on the reporting interval and radio conditions.

Specifications are subject to change without notice. The latest document versions are available in the download centre: nextriv.com/files. Questions: nextriv.com/contact.