

# LNR – Stand-alone logger and radar level sensor

The **LNR06V4-LE** is a water level sensor with built-in radar, particularly suitable for outdoor measurements (river monitoring, stormwater basins, etc.). Fully autonomous with long-life battery, data logger and built-in modem. The logger can be equipped with an interchangeable communication card allowing to switch from 4G to LoRa without changing the entire hardware. The unit is easy to install and use, programming is carried out safely by radio link, without any physical action on the sensor.

This model doesn't have any connector so no input/output functionality (alternative LNR06V4)



- **Wireless radio configuration (Wiji protocol)**
- **Long-life lithium battery**
- **Communication: local radio + optional communication card: 2G / 4G (LTE-M / NB-IoT) or LoRaWAN**
- **Memory: 500,000 measurements**
- **IP68 ingress protection (1 bar / 30 days)**
- **Built-in conversion tables (height, flow rate, volume)**

## Applications

- Flood and meltwater monitoring
- Monitoring and management of storage tanks
- Ongoing diagnosis of sanitation networks
- Self-monitoring of stormwater overflows
- Water sampler enslaving

| Characteristics                    | LNR06V4                                                                                                                                                                                                                               |                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Measuring distance</b>          | 0.15 m - 10 meters                                                                                                                                                                                                                    |                                                                                                             |
| <b>Resolution</b>                  | 2,000 points over the measuring range with a minimum of 1 mm (example: $\pm 4$ mm for a distance measurement of 6.0 m)                                                                                                                |                                                                                                             |
| <b>Measurement uncertainty</b>     | $\pm 0.2\%$ of distance measurement with a minimum of $\pm 2$ mm                                                                                                                                                                      |                                                                                                             |
| <b>Communication</b>               | <ul style="list-style-type: none"> <li>• HF radio (869.2 MHz)</li> <li>• 2G / 4G (LTE M / NB IoT)</li> <li>• LoRaWAN: Europe 863-870 MHz (SF12 for RX2) LoRaWAN Specification 1.0.2</li> </ul> Protocols: FTPS, HTTPS, COAP and MQTTS |                                                                                                             |
| <b>Radio Range</b>                 | 100 meters in open field (Wiji protocol)                                                                                                                                                                                              |                                                                                                             |
| <b>Storage capacity</b>            | 500,000 measurements                                                                                                                                                                                                                  |                                                                                                             |
| <b>Radio concentrator function</b> | Yes                                                                                                                                                                                                                                   |                                                                                                             |
| <b>Radio / mobile antenna</b>      | <ul style="list-style-type: none"> <li>• Internal or external radio</li> </ul>                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Internal or external mobile</li> </ul>                             |
| <b>Temperature range</b>           | $-20^{\circ}\text{C} \dots + 70^{\circ}\text{C}$                                                                                                                                                                                      |                                                                                                             |
| <b>Sensor material</b>             | PA12                                                                                                                                                                                                                                  |                                                                                                             |
| <b>Ingress protection</b>          | IP68: 1 bar for 1 month (only if using an Ijinus mounting kit; ref: H0T00053 or H0T00060)                                                                                                                                             |                                                                                                             |
| <b>Power supply</b>                | Lithium battery: 3.6 V - 34 Ah                                                                                                                                                                                                        |                                                                                                             |
| <b>Configuration</b>               | Wireless programming kit (PN: M0C00001) comprising AVELOUR software, cable and antenna                                                                                                                                                |                                                                                                             |
| <b>Technology</b>                  | <ul style="list-style-type: none"> <li>• 60 GHz radar imaging</li> <li>• eKo<sup>®</sup> algorithm</li> </ul>                                                                                                                         | <ul style="list-style-type: none"> <li>• LAMY<sup>®</sup> filtering</li> </ul>                              |
| <b>ATEX zone 2 certifications</b>  | II 3G<br>Ex ic ec IIB T4 Gc<br>Ambient temp: $-20^{\circ}\text{C} - 60^{\circ}\text{C}$                                                                                                                                               | <b>Certifications</b>  |



| 2G / 4G Modem features                                                                                                                                                                                                            |                        |                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Bands                                                                                                                                                                                                                   | LTE-FDD                | Cat M1 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B26 / B27 / B28 / B66 / B85<br>Cat NB2 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B28 / B66 / B71 / B85 |
|                                                                                                                                                                                                                                   | GSM/EDGE               | B5 / B19 / B3 / B2                                                                                                                                                                                          |
| RF Emission Power                                                                                                                                                                                                                 | GSM 900                | + 33 dBm                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                   | GSM 1800               | + 30 dBm                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                   | LTE B1 / B3 / B8 / B20 | + 23 dBm                                                                                                                                                                                                    |
| B1 (2100) / B2 (1900) / B3 (1800) / B4 (1700) / B5 (850) / B8 (900) / B9 (1800) / B12 (700) / B13 (700) / B18 (800) / B19 (800) / B20 (800) / B25 (1900) / B26 (850) / B27 (850) / B28 (700) / B66 (1700) / B71 (600) / B85 (700) |                        |                                                                                                                                                                                                             |

| Options configurator |                             |                                           |     |                  |
|----------------------|-----------------------------|-------------------------------------------|-----|------------------|
| LNR                  | Radar Level Logger          |                                           |     |                  |
| 06V4-LE              | Measuring range 0.15 - 10 m |                                           |     |                  |
|                      | Code                        | Frequency                                 |     |                  |
|                      | 8                           | 868 MHz Europe - China                    |     |                  |
|                      | 9                           | 915 MHz USA - Canada - Australia          |     |                  |
|                      | Code                        | Antenna                                   |     |                  |
|                      | 0                           | Internal radio                            |     |                  |
|                      | 1                           | External radio                            |     |                  |
|                      | 2                           | Internal radio / external mobile          |     |                  |
|                      | 3                           | External radio / external mobile          |     |                  |
|                      | Code                        | Communication options                     |     |                  |
|                      | Empty                       | Local radio communication                 |     |                  |
|                      | LTE                         | Radio communication + 2G / LTE-M / NB-IoT |     |                  |
|                      | LPI                         | Radio communication + LoRaWAN             |     |                  |
| LNR06V4-             | 8                           | 2                                         | LTE | = LNR06V4-82-LTE |

