LNR - Stand-alone logger and radar level sensor

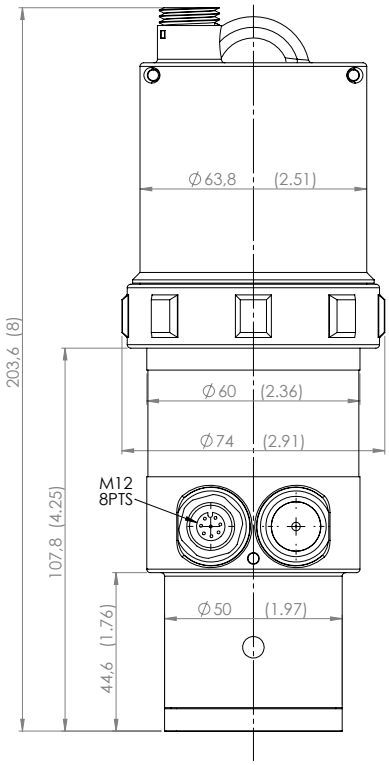
The **LNR06** is a water level sensor with an integrated radar, suitable for both indoor measurements (storm water outlets, pumping station overflows, etc.) and outdoor measurements (river monitoring, storm water basins, etc.). Fully self-contained with its long-life battery, data logger and integrated modem (optional). Simple to install and use, programming is carried out securely via a radio link without any physical intervention on the sensor. In addition, it features cellular communication options (2G, 4G (LTE-M or NB-IoT) or LoRaWAN, depending on the model. The data logger can be fitted with an interchangeable communication card, allowing, for example, a switch from 4G to LoRa without changing the entire unit.

- **Wireless radio configuration (Wiji protocol)**
- **Long-life lithium battery**
- **Communication: local radio + optional communication card: 2G / 4G (LTE-M / NB-IoT) or LoRaWAN**
- **Inputs: External power supply (7 V - 30 V), 2 Contacts / 100 Hz, Modbus**
- **Outputs: Power supply (internal battery or switch), Open Drain, Modbus**
- **Memory: 500,000 measurements**
- **IP68 ingress protection (1 bar / 30 days)**
- **Built-in conversion tables (height, flow rate, volume)**

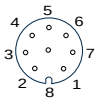
Applications	
• Flood and meltwater monitoring • Monitoring and management of storage tanks • Ongoing diagnosis of sanitation networks	• Self-monitoring of stormwater overflows • Water sampler enslaving

Characteristics	LNR06V4	
Measuring distance	0.15 m - 10 meters	
Resolution	2,000 points over the measuring range with a minimum of 1 mm (example: 4 mm for a distance measurement of 6.0 m)	
Measurement uncertainty	± 0.2% of distance measurement with a minimum of ± 2 mm	
Communication	• HF radio (868 or 915 MHz) • 2G / 4G (LTE M / NB IoT) Protocols: FTPS, HTTPS, COAP and MQTTS	• LoRaWAN: Europe 863-870 MHz (SF12 for RX2) LoRaWAN Specification 1.0.2
Radio Range	100 meters in open field (Wiji protocol)	
Storage capacity	500,000 measurements	
Radio concentrator function	Yes	
Radio / mobile antenna	• Internal or external radio	• Internal or external mobile
Temperature range	-20°C ... +70°C	
Sensor material	PA12	
Ingress protection	IP68: 1 bar for 1 month (only if using an Ijinus mounting kit; ref: H0T00053 or H0T00060)	
Power Supply	Internal : 3,6V - 34 Ah lithium Battery - External : 7 - 30 Vdc	
Configuration	Wireless programming kit (PN: M0C00001) comprising AVELOUR software, cable and antenna	
Technology	• 60 GHz radar imaging • eKo ® algorithm	• LAMY ® filtering
ATEX zone 2 certifications	II 3G Ex ic ec IIB T4 Gc Ambient temp: -20 °C...+ 60 °C	**Certifications** CE

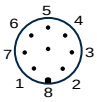
2G /4G Modem features		
Frequency Bands	**LTE-FDD**	Cat M1 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B26 / B27 / B28 / B66 / B85 Cat NB2 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B28 / B66 / B71 / B85
	GSM/EDGE	B5 / B19 / B3 / B2
RF Emission Power	**GSM 900** **GSM 1800** **LTE B1 / B3 / B8 / B20**	+ 33 dBm + 30 dBm + 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)		



Câblage



Femelle



Mâle

Cable color	White ○	Brown ●	Green ●	Yellow ●	Grey ●	Pink ●	Blue ●	Red ●
8-pin connector	1	2	3	4	5	6	7	8
Designation	Vin	GND	Vout	Mod-bus	Mod-bus	Input	Input	Output
Characteristic	External power supply or battery (7V - 30V)	Ground	Power supply 5V - 18V * (from internal battery) or Switch Vout = Vin	RS485 H	RS485 L	Digital 1 / Metering 1 100 Hz	Digital 2 / Metering 2 100 Hz	Contact Grounding
Type	Power supply input		Power supply output	High	Low	Digital	Digital	Open drain (1A/30V)

* 1.8 W maximum on the V_{out} if the connected sensor is powered by the internal battery (voltage adjustable via software).

Options configurator				
LNR06V4	Radar Level Logger - 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
			LP1	Radio communication + LoRaWAN

LNR06V4-	8	2	LTE	= **LNR06V4-82-LTE**