PLV3-N

NB-IoT **LTE-M**

NB IoT – Cat-M1 Operated IP68 Low Power Floating Level Transmitter for Water Resource Management

- Compatible with most standard communication Protocols (UDP, LwM2M, MQTT, NIDD, etc.)
- Wide range of industrial applications
- High accuracy and Ultra-low power
- Designed to meet outdoor applications
- Long-term durable performance in harsh environment
- Designed for Water Resource Level and Volume Measurement

TECHNICAL SPECIFICATION

Sensor

Range: (m H2O)	1, 2, 5, 10 (or other ranges up to 200)
Accuracy: (combined linearity, hysteresis, repeatability) (%Span)	±0.25 (typ.)
Resolution: (%Span)	±0.01
Pressure reference:	Sealed Gauge (with Built-in Atmospheric Pressure Sensor and floating housing)
Temperature Coefficient of Zero: (%FS/°C)	≤±0.03
Temperature Coefficient of Span: (%FS/°C)	≤±0.03
Long term stability (1 year): (%Span)	≤ 0.2
Overload Protection: (%FS)	150
Load Cycles (Zero to Full Scale): (Million)	10+
Storage / Operation Temperature: (°C)	-20 ~ +85
Compensated temperature: (°C)	0 ~ 60

Power

Power Supply:	Built-in Replaceable Lithium Battery, External Power (option)
Rated Voltage (V)	3.6
Battery Lifetime:	50,000+ Readings and 10,000+ Transmission (With UDP protocol/ More than 10 years for most applications)

Physical Specification

Materials:	O-rings: Viton, Sensor Head: SS304, Diaphragm: SS316, Oil: Silicon, Enclosure: POM and Compressed Plastic
Process Connection:	No Process Connection (or on request)
Weight: (g)	~2,500 (for 10m range)
Protection Rate:	IP68 and UV protected enclosure

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Communication

• SIM Card Type	4FF Nano-SIM, from any Network Provider
• Firmware Update:	Over The Air, Locally via wireless connectivity
• Sampling Period:	Configurable via downlink (default 4 hours)
• Power Consumption:	Power Saving: < 5uA, Transmission: < 220mA
• Communication Standards (option of back support by GPRS)	Cat-NB1 (NB-IoT) Cat-M1
• Communication Bands	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 and B39
• Data Rates:	Cat-M1: 375Kbps (DL)/375Kbps (UL) NB-IoT: 32Kbps (DL)/70Kbps (UL)
• TX Power:	23dBm
• Min Receiver Sensitivity:	Cat-M1: -107dBm NB-IoT: -113dBm
• Antenna:	Internal (Default)/ External (customised options available)
• Optional Features:	• Attach without PDN (Packet Data Network) • Support for IPV6 • SMS communication • Mobility support (Cat-M1 only)

NETWORK CONNECTION AND VISUALIZATION

Network Integration

Pre-configured or configurable to all main narrow band networks (3, A1, AT&T, China Mobile, DU, Etisalat, KPN, M1 Singapore, Optus, Orange, Proximus, Spark, Sprint, Swisscom, Telefonica, Telstra, T-Mobile, Verizon, Vodafone, 1NCE, Emnify and any other network)

Visualization and Data Management

10Sorex white label microservice platform and Integratable to all main IIoT platforms directly or through the API(AWS, Azure, PTC ThingWorx, Bosch IoT, Cisco Jasper & Kinetic, Sierra Numerex, MathWorks ThingSpeak, GE Digital Predix, LandisGyr, Siemens MindSphere, Cumulocity, myDevices, Ubidots, TagoIO, AllThingsTalk Maker, HPE IoT and any other major IoT platform).

10Sorex Platform Main Features

- Encrypted ultra-low power communication protocol
- Integration APIs for enterprise systems
- Data export and import
- Multi-channel, rule-based alerting
- Transmission condition configuration
- Advanced device inventory
- Multi-tenant role-based access control
- White-label platform for enterprises on private account
- Sampling and transmission interval configuration
- Other configurations and customization available on request

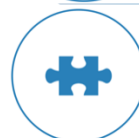Encrypted & ultra-low power

Integratable

Dynamic alerting

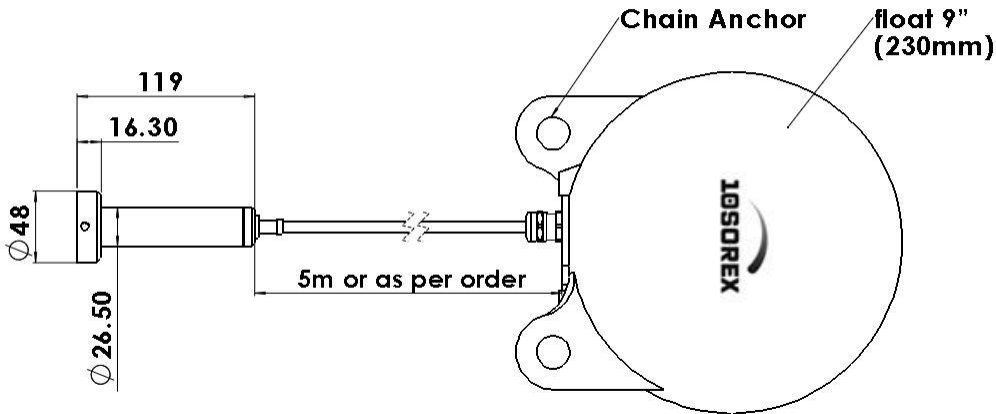Multi-tenant

Scalable

Composable& API first

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PLV3-N

MODEL GUIDE

Model	
	PLV3 dimensions

Chain Anchor float 9" (230mm)

119
16.30
Ø48
Ø26.50
5m or as per order

INDUSTRIES

Water & Wastewater

Agriculture & Farming

Environmental Monitoring

Marine& Oceanography

Mining & Construction

Water Delivery

APPLICATIONS

- Water Resources Level
- Dam Level
- Water Supply

- Lake Level
- Hydrology Research
- Bush Fire Management

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ORDERING CODE

PLV3-N									
	Communication Type								
	B: NB-IoT				**C:** Cat-M1				
		Measurement Range							
		1, 3, 10, 20, 50, 100, 200m H$_2$O (or any other non-standard range)							
			Sensor Head Material						
			S: SS304 or SS316L		**H:** Hastelloy		**Others**		
				Cable Material					
				U: Polyurethane			**Others**		
					Cable Length				
					S: same as measurement range or 1m extra		**Others**		
						Enclosure			
						S: Standard		**Others**	
							Device Activation		
							X: No switch (always on)		**Other** (by request)
								Antenna	
								I: Internal	**E:** External
									Options
									(On request)[1]
PLV3-N	**B**	**10m**	**S**	**U**	**S**	**S**	**X**	**I**	

Sample Product Code:

- **PLV3-N-B-10m-S-U-S-S-X-I**
  IP68 Level sensor with floating housing operated on NB-IoT, measurement range of 10m H$_2$O, with stainless steel sensor head and Polyurethane cable, standard cable length and enclosure, activated in the factory and equipped with internal antenna.