NETRIS®3 Quick user guide

Description

NETRIS®3 is a battery powered LPWAN (Low Power Wide Area Network) telemetry unit.
NETRIS®3 is designed to connect up to 2 sensors or one serial UART input.

Technical data

Sensor	Rochester JR or R3D, pressure sensor SENS.5 or any compatible sensor
Connections	4-pin M12 connector on a cable of 30 cm, SV-1 connector on a cable up to 295 cm or a sensor supplied with the unit
Data transmission	LPWAN SIGFOX or LoRa (EU 868 MHz)
Battery	3.0 VDC - 3.0 Ah (<2g lithium)
IP protection	IP68 version/type M12 | IP65 version/type SV-1 | IP20 Port programming
Operating temperature	-40°C to +60°C

Packaging and shipping

NETRIS®3 are packed in a box containing 30 units.

Conformity

NETRIS®3 complies with the following Directives of the European Parliament and Council:

2014/34/EU	Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)
2014/53/EU	Radio Equipment Directive (RED)
2014/30/EU	Directive on Electromagnetic Compatibility (EMC)
2011/65/EU	Directive on restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

Health, safety, security and environment

Protection rating of the input

NETRIS®3 has an IP68 protection rating for the housing of the unit, except for the programming contact, which has a protection rating of IP20. The M12 connector has a protection rating of IP68. The SV-1 connector has a protection rating of IP65.

Explosion protection

NETRIS®3 is designed and certified for use in hazardous areas as defined in the ATEX Directive or IECEx standards.

- This product is not intended for repairs.
- The internal battery cannot be replaced.
- To avoid electrostatic risks do not rub; use only soft damp cloths to clean the unit.

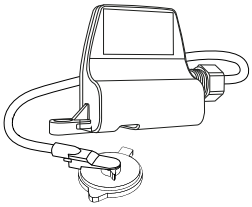
Recycling

NETRIS®3 contains a lithium battery and is marked with the symbol shown on the left. This means that it may only be disposed of by suitable recycling companies in accordance with applicable laws and regulations. When **NETRIS®3** has reached the end of its life, it must be taken to a collection point designated by the local authorities. Separate collection and recycling of these items at the time of disposal helps to conserve natural resources and ensures that recycling is carried out in a manner that protects human health and the environment.

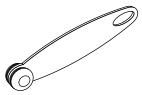
Installation

When installing a **NETRIS®3** with accessories other than those recommended by Sensile Technologies, take care not to damage or deform the housing in any way. (This will invalidate the warranty).

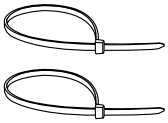
Required material (* supplied separately):



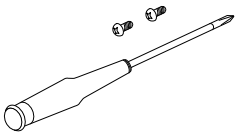
NETRIS®3 unit



* Activation magnet



* Cable binder



* Cross screwdriver and screws

Spatial orientation

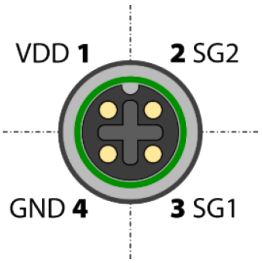
NETRIS®3 should preferably be mounted vertically with the cable facing downwards to maximise battery life and achieve high quality radio transmission. Otherwise, **NETRIS®3** can also be mounted horizontally (see illustration below).
NETRIS®3 may have difficulty transmitting if it is submerged in water (e.g. in a manhole after heavy rain). To increase the reliability of the system, install the unit as high as possible in the manhole.

Installation of SENS.5 pressure sensor

The SENS.5 pressure sensor is used to monitor containers with liquid products. Please refer to the SENS.5 manual for the correct installation of the pressure sensor.

Connections to the supplied socket on **NETRIS®3** (M12 A coding):

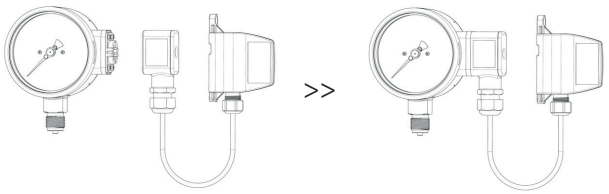
- Power supply of the sensor to pin 1 (VDD)
- Ground to pin 4 (GND)
- Signal for the first analogue input to pin 3 (SG1)
- Signal for the second analogue input to pin 2 (SG2)



M12 A coding

Installing a sensor with SV-1 or M12 (B coding) connector (UART)

Sensors with SV-1 or M12-B connector (UART) are used to monitor data such as pressure, temperature. For the correct installation of the sensor, please refer to the manual of the respective sensor. The sensor is connected directly via the SV-1 or M12-B connector of **NETRIS®3**.



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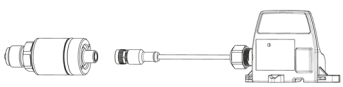

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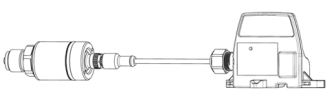
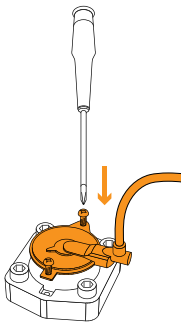


Installing the Rochester sensor

The Rochester sensor is used to measure the level probe, which is usually pre-installed in liquid petroleum gas (LPG) or propane tanks that are compatible with the Rochester sensor. Installation should be carried out as follows:

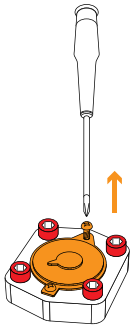
First read and note the level indicated on the scale provided and then proceed to the next steps:

1



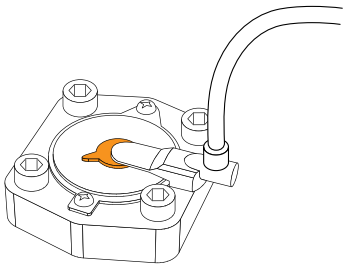
Remove the installed scale with the cross screwdriver.

2



Install the new R3D scale of the **NETRIS®3.**

3

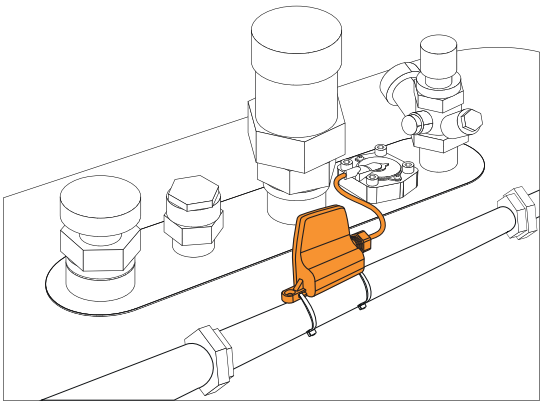


Check the level after installation. If the difference between the old and the new scale is more than 4%, check the installation again and/or clean the base.

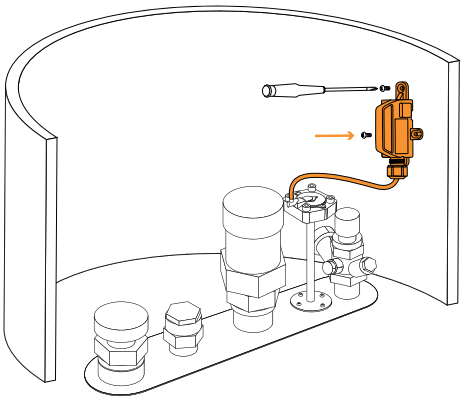
Be careful not to remove the 4 screws at the base of the scale, shown in red in figure 2. This could cause a gas leak.

Attaching the unit

Depending on the preferred option, attach the **NETRIS®3** to the tank as shown below:

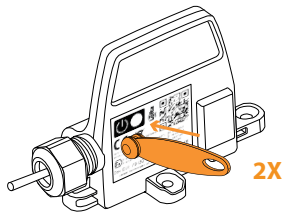


Attach the **NETRIS®3** to a pipe using two cable binders as shown.

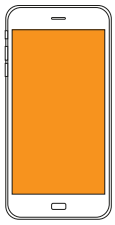


Screw the **NETRIS®3** to the wall of the manhole (2 screws Ø4 x 25mm) with the sensor cable pointing downwards.

Activation



Activate the **NETRIS®3** with the magnet by holding it over the power-on symbol on the back label, then remove the magnet (**red light**) and repeat this process a second time within 3 seconds (**green light**).



Wait 10 to 20 seconds and register the installation with the serial number* of the **NETRIS®3** and the installation ID in your possession.

If you have problems operating an online application, contact the HOTLINE service of your authorised retailer.

* The serial number of the **NETRIS®3** is included on the label or in the QR code on the sticker on the back of the unit.

Congratulations! You have successfully installed the NETRIS®3.
The data will be directly accessible on https://new.oillink.ch after release.

Confirmation of the activation

After the **NETRIS®3** has sent the first data following activation, information about the sensor reading and network quality can be requested from the web application platform in various ways. Contact Sensile Technologies SA to find out which solution best suits your needs.

Return

Return the **NETRIS®3** under warranty only after you have been issued an RMA (Return Material Authorisation) by the Sensile Technologies SA helpdesk. Email RMA@sensile.com for the RMA number and shipping instructions. The returned **NETRIS®3** must have the RMA number clearly marked on it.

Contact details

Headquarter **Sensile Technologies SA**
Rue de Lausanne 45
1110 Morges - Switzerland

Helpdesk +41 21 805 0312
helpdesk@sensile.com

Certification of hazardous areas

Classification of ATEX & IECEx products

II 1(1)G Ex ia [ia Ga] IIB T4 Ga
II 1(1)D Ex ia [ia Da] IIB T_{200} 135°C Da

- IECEx SEV 19.0009X
- SEV 19 ATEX 0113 X
- CML 22 UKEX 2738 X

Standards Applied:

- IEC 60079-0:2017 (Edition 7.0) / EN IEC 60079-0:2018
- IEC 60079-11:2011 (Edition 6.0) / EN 60779-11 : 2012

Electrical parameters for connection as an associated product

Output Parameters

- Maximum voltage **U_o** = 5.88 V
- Maximum current **I_o** = 200 mA
- Maximum power **P_o** = 295 mW

Input Parameters (Short Term <1s)

- Maximum voltage **Ui** = 8 V
- Maximum current **Ii** = 500 mA

Maximum allowed capacitance and inductance for gas group IIB:

C_o [µF]	10	15	19	23	31	39	52	83	140	340	1000
L_o [mH]	5	2	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002

Maximum allowed capacitance and inductance for gas group IIC:

C_o [µF]	1.3	1.9	2.6	3.7	4.6	5.8	8.1	11	16	30	43
L_o [mH]	1.6	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001

Specific conditions for safe use

Do not rub the device in hazardous locations due to electrostatic hazards. Use only damp cloths to clean.