



# PRODUCT OVERVIEW

## 2023

Standalone  
Monitoring

IoT  
Monitoring

Sensors &  
Detectors

System  
Solutions

IP Serial

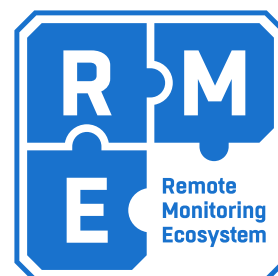


*The HW group company is a manufacturer of an RME (Remote Monitoring Eco-system). Our Thermometers are used for remote monitoring of DC (Data Centers), vaccine freezers, technology rooms etc. It's also used for energy consumption metering.*

- Our products have a lifetime 5-15 years. Reliable remote monitoring & alerting.
- Even after 5 years of no activity the alerting has to be reliable. If there is water leakage, for example, every second counts.
- Our customers are not buying just temperature probes.
- Our customers are buying assurance that everything is OK in their remote location.

## Remote Monitoring Ecosystem

*It's starting with one temperature sensor & ends with Voice-Call alert, PDF report, and graphs. We have a reliable Ecosystem for B2B customers with hundreds of devices and thousands of sensors in one project. The whole system is Industrial-grade, secure, and proven.*

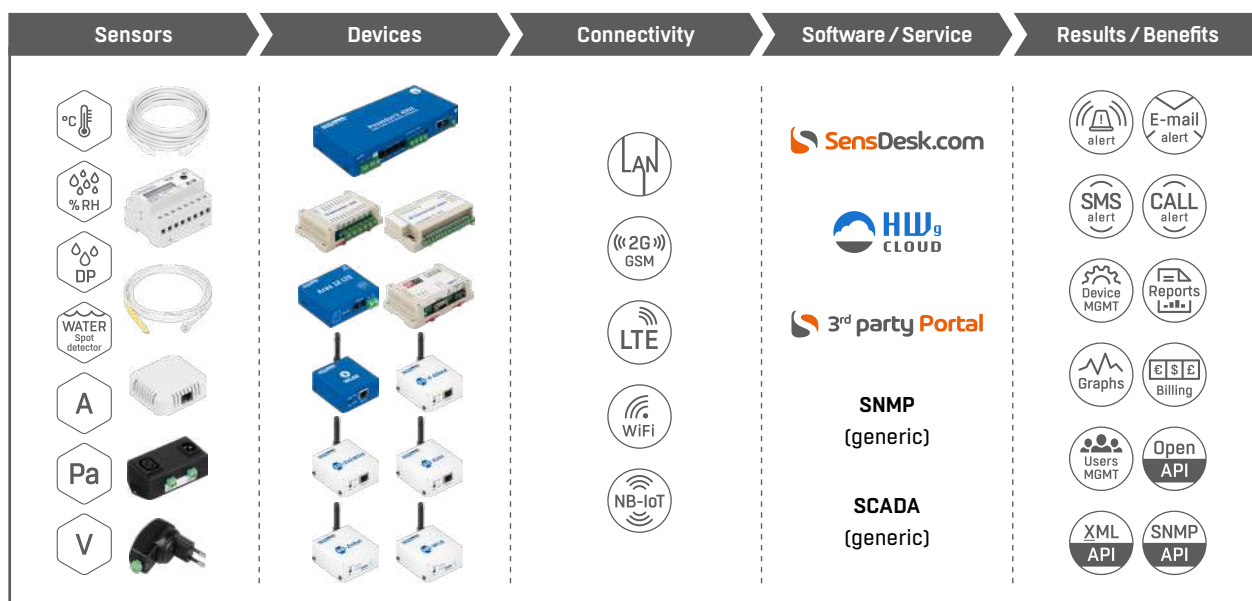


- 70+ different Sensors & Detectors (Temperature, Humidity, Voltage, Energy, ...).
- 30+ device types you can use as Standalone or with the portal.
- Various IP connectivity: LAN, WiFi, GSM, LTE, NB-IoT.
- SensDesk Technology portal (SaaS / on-premise).
- Our RMS (Remote Monitoring System) can be used with or without our portal.
- Most of our products have documented Open API to be easily integrated with 3<sup>rd</sup> party systems.

## References

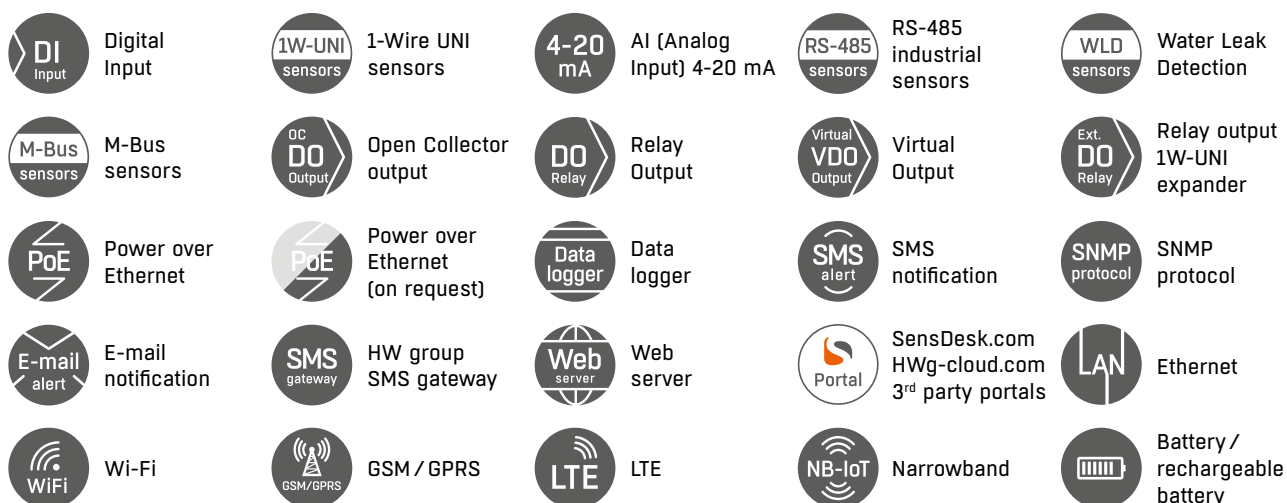


## Remote Monitoring Ecosystem

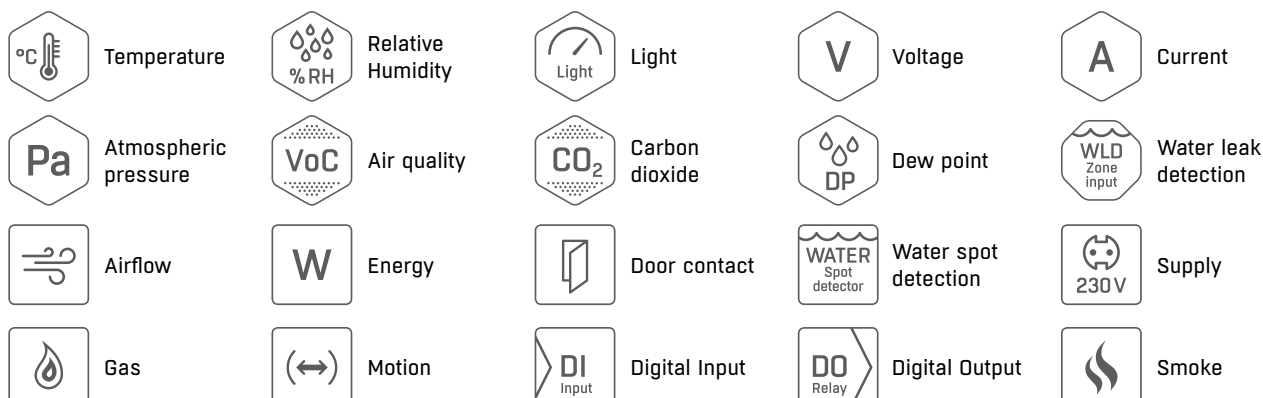


Our portfolio now consists of more than 300 different product items and we distribute them globally with a network of 50 distributors, our distribution network span Europe, the Middle East, Australia, Africa and South & North America.

## Device features

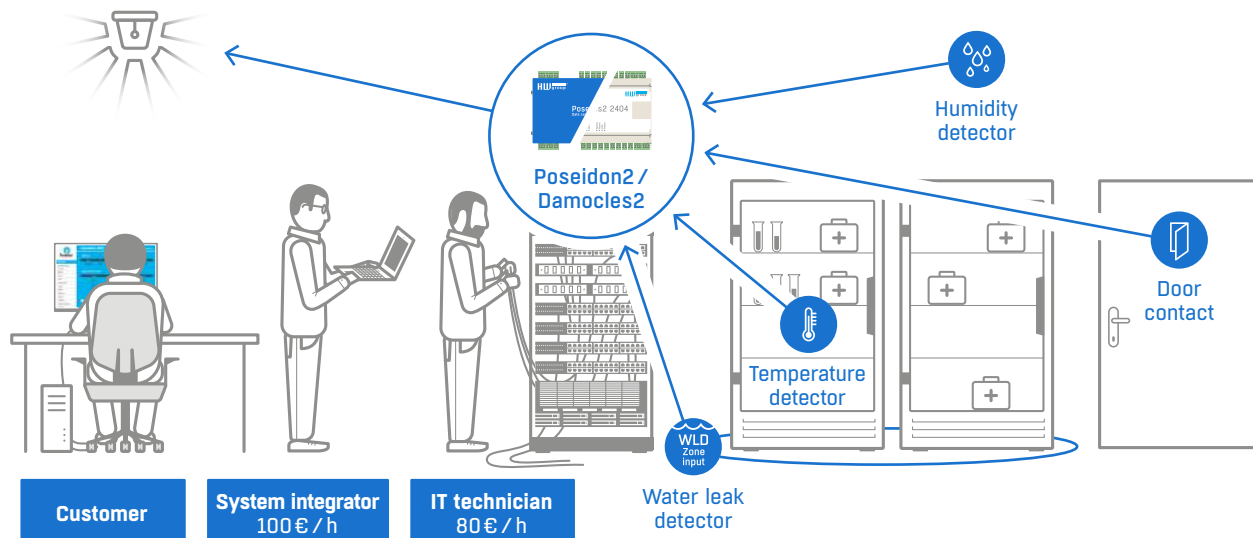




## Sensors & Detectors



# Standalone Monitoring

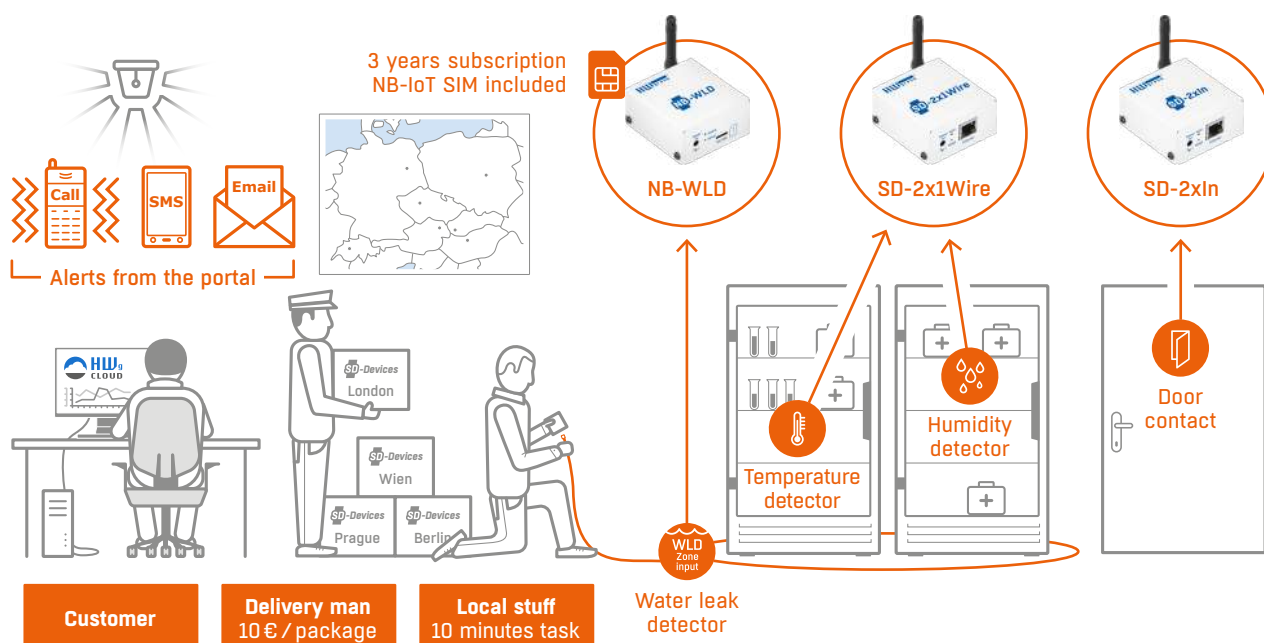
Standalone Monitoring products can be used independently (portal is not required). Devices can send emails and can be connected via SNMP to NMS (Network Monitoring System). Standalone products are multi-purpose, device configuration is more complex and connecting the product to the portal is only one of the functions. Using a central portal does not limit the sending of alarms from the devices and other standalone functions.



	Standalone Monitoring	IoT Monitoring
<b>Installation on the site</b>	 Expert	 Junior
<b>Device configuration</b>	Device's WEB interface	Portal only
<b>Portal connectivity</b> (any SensDesk Technology portal)	Optional	Mandatory
<b>Default configured portal</b>	No portal	HWg-cloud.com
<b>Open API (SNMP, XML)</b>	Each device (5 devices – 5 IP addresses)	User account on the portal (5 devices – 1 user account)
<b>Alerting</b>	Each device sending alerts by itself	Provided by portal
<b>+ Email alerts</b>	3 <sup>rd</sup> party SMTP server(s) required	Provided by portal
<b>+ SMS / Call alerts</b>	3 <sup>rd</sup> party SIM card (GW device) required	Provided by portal
<b>Central devices management</b>	None / NMS (SNMP) / Portal	Portal only

# IoT Monitoring

IoT Monitoring devices are very simple (single-purpose) products. Installation is easy, connect to the LAN, plug in the power supply (insert battery) and stick it to the wall. IoT Monitoring products have to be connected to the portal (HWg-cloud.com for free or any SensDesk Technology portal from Portal Providers).



## Portal offers you



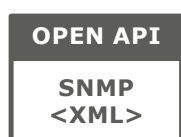
- ✓ Easy to use Dashboard with whole user account overview
- ✓ Devices or Sensors can be sorted by Locations / Device groups
- ✓ Default Dashboard is simple to use for 3 or even 300 devices



- ✓ Alert voice calls to defined phone number
- ✓ SMS with alert details
- ✓ Compatible with any telephone
- ✓ Included in every SensDesk.com subscription plan

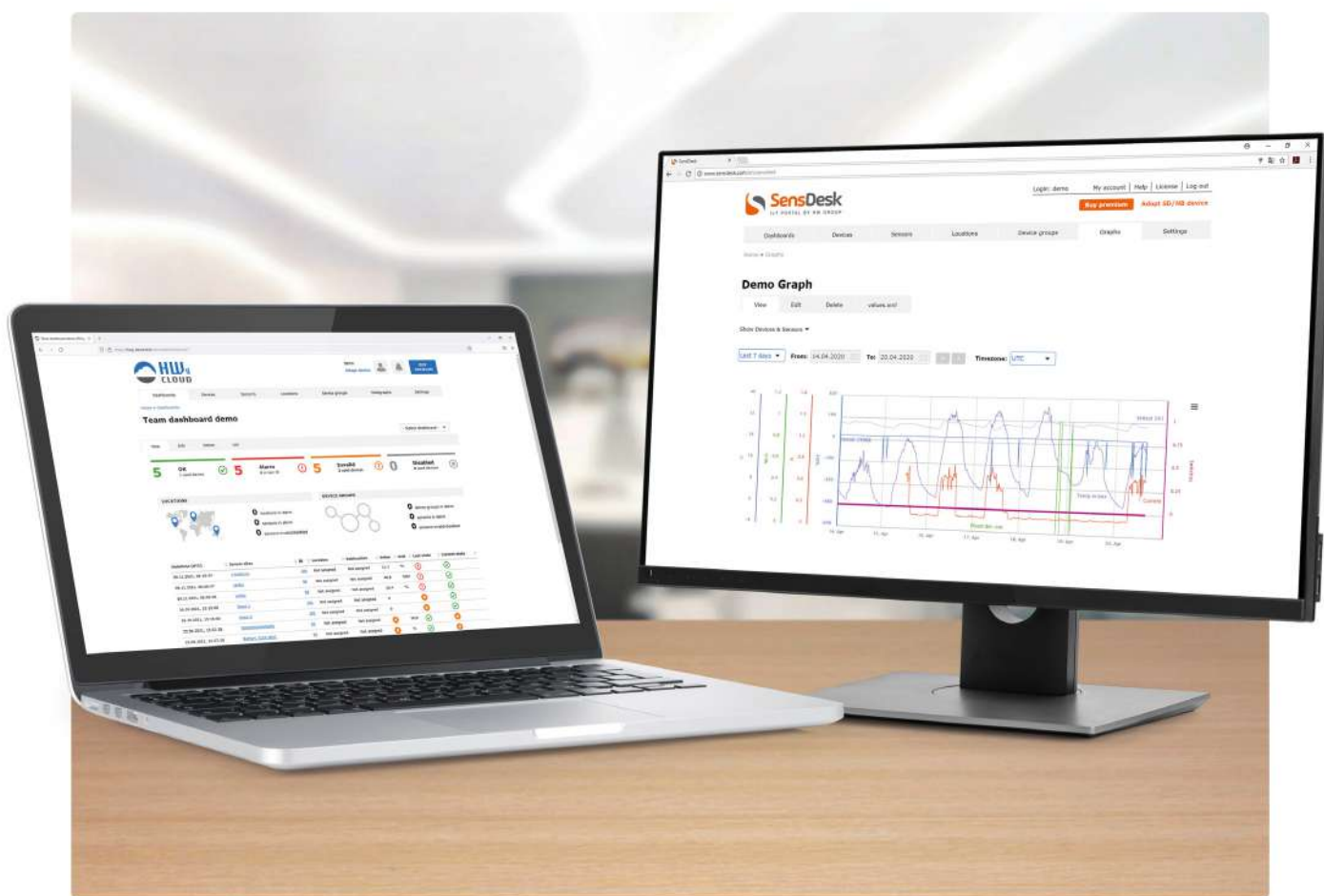


- ✓ Graphs are showing data history
- ✓ MultiGraphs contain several values in one graph
- ✓ Graphs can be included in PDF reports



- ✓ Open API with sensor data from all Sensors & Devices connected to each portal User account
- ✓ All sensor values available in SNMP v1 / v3
- ✓ All sensor values available in XML (over HTTP)
- ✓ Portal can be connected to any other monitoring system





# Portal: SensDesk Technology

*The SensDesk Technology is a portal solution from the HW group to manage remote sensors and devices (only for HW group products). SensDesk Technology portals allow customers conveniently monitor the environment in remote locations. Thanks to immediate alerting SensDesk Technology helps prevent costly damages from incidents that can occur in every facility.*

Portals based on SensDesk Technology offer a central overview of all the measured values. Thanks to its user-friendly dashboards you can immediately identify a critical sensor value. Thanks to the variability of the service, the SensDesk Technology is suitable for end-users with few sensors as well as for project installations with hundreds of devices.

There is a free portal with limited functions such as basic e-mail alerting and basic management properties. For customers who need a more professional solution, there are advanced portals that offer alerting via SMS and Voice Calls, advanced management options, PDF reports, multigraphs, history logs, or integration into 3<sup>rd</sup> party systems thanks to open API.

- The [HWg-cloud.com](https://www.hw-cloud.com) is a free service-oriented portal with limited functions.
- The [SensDesk.com](https://www.sensdesk.com) is an online paid service provided by HW group company. Services are available based on selected paid subscription plan.
- The [Portal Providers](#) are 3<sup>rd</sup> party companies running their own installations of SensDesk Technology based portals (using various commercial names).
- The portal can run online as SaaS service or offline in a closed system.
- Devices can be **migrated** between various portals based on SensDesk Technology.



### www.HWg-cloud.com

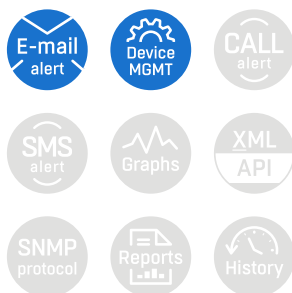
- **SaaS** (Software as a Service)
- **Default portal** for all HWg devices (actual firmware)
- Basic **free portal** for **20** HW group devices (all types)
- Simple Email alerts for 2 recipients
- 10 days history, no API, no SMS, basic graphs
- Devices can be migrated to any other portal
- Based on SensDesk Technology

### www.SensDesk.com

- SaaS (Software as a Service)
- **SensDesk** is technology
- SensDesk.com is public example of this technology (by HWg)
- It's **Paid option** for all HWg devices
- **3 subscription plans** (5D / 10D / 25D for 1 year)
- Differences are also in service mix (how many SMSS, PDF, ...) not device limit only
- Any **plan** can be ordered as a 1 year subscription plan

### Portal providers

- SaaS (Software as a Service)
- **Paid service** provided by HW group partners
- Various mix of free / paid services
- Based on SensDesk Technology
  - [SensDesk.at](http://SensDesk.at) / [.gr](http://.gr) / [.lv](http://.lv) / [.ro](http://.ro) / ...
  - [HWportal.cz](http://HWportal.cz)
  - Other (list on [HWg-cloud.com](http://HWg-cloud.com))



**30+ DEVICES**

**70+ SENSORS & DETECTORS**

## SensDesk.com (SaaS)

*SensDesk.com is one of the portals that are based on SensDesk Technology. It is a paid service provided by HW group company for remote monitoring of all HW group devices & sensors.*

The service offers a central overview of all the values, provides sending the alarms, reporting, outputs into the Open API, etc. There is a one-month trial account. After that, the user has to buy a subscription plan to keep using the service or has to migrate the devices to another portal.



### Subscription plans on SensDesk.com

	5D Alerts	10D Log	25D Alerts & Log
<b>Device limit</b>	5	10	25
<b>Users limit</b>	1	2	3
<b>SMS / Voice call Alerts</b>	40/month	75/month	100/month
<b>Email Alerts</b>	unlimited	unlimited	unlimited
<b>Log DB (days)</b>	30	365	730*
<b>HWg Monitor</b>	Yes	Yes	Yes
<b>PDF reports</b>	1	2	5
<b>Multigraphs</b>	1	2	5
<b>Dashboards</b>	1	2	5
<b>Open API (SNMP, XML)</b>	Yes	Yes	Yes

\*) Data are stored with history of 730 days, subscription plan (using the portal, receiving new data) is paid for 1 year only. Check the current portal prices on SensDesk.com, it's starting from 13 € / month (05/2023).

## 7 reasons to pay for the SensDesk.com

- 1) SensDesk.com can immediately alert you by **SMS or Voice call** to your mobile phone in the case of an Alarm situation. If response time is critical, **every second counts**.
- 2) SensDesk.com's service price is about **15%** of the hardware costs **per year**.
- 3) SensDesk.com can **report you in PDF** (CSV) periodically.
  - Reports for pharmaceutical / other production (HACCP).
  - Reports can be printed & clicked to the invoice for your customer.
- 4) **Dashboards** and **Multigraphs** can help you quickly visualize what's wrong.
- 5) Log data up to several years of **data history**. Compare historical data easily.
- 6) The **Open API**: Connect data from SensDesk.com to any other system. Your whole portal user account (all connected sensors) is accessible by Open API (SNMP, XML) from the portal.
- 7) You can have a display with all your values **in your pocket with you 24/7**. Check HWg Monitor mobile app. The app can be running on your phone, in the Android TV or on the Tablet installed on the wall.



## Portal on premise

The SensDesk Technology portal can be run under a license on the customer's hardware (on-premise). There are two variants of SensDesk Technology licenses, the SensDesk DC license, and the SensDesk PRO.



## SensDesk DC license

- Several companies (teams) are the customer.
- The provider operates the portal as a public service at a public address.
- The portal is located on the public Internet.

### Typical applications




- HW group partner operates its own portal that is in the local language and has a various mix of services and prices. The local portal is meant for customers and projects in the local area (SensDesk.at in Austria).
- A producer of machines (or other products) offers extended service of remote monitoring of the machines under warranty. The machines are operated at remote locations and communicate with the portal on the public internet.
- A provider of the IT infrastructure offers to monitor the installed servers. Sensors in server rooms communicate with the portal at a public address. Users are informed about potential problems.

## SensDesk PRO license

- A single company is the customer.
- A single technical team monitors and analyzes the data.
- The portal is located in a closed network, this is recommended in projects.

### Typical applications

- Premises of a production factory with an internal network, SensDesk Technology portal is operated as a monitoring system for the production process. All the sensors are located in the internal network.
- A network of drug stores that monitors the storage conditions of medicines at several branches is an example of usage.

- ✓ **Long-term** reliable alerting
- ✓ Alert escalation based on notice ranges
- ✓ Safe range analyzed on device level for each sensor



# Standalone Monitoring

*Devices with LAN/WiFi/GSM/LTE connectivity. Standalone monitoring products can be used without a portal service. The portal is just an option.*

A typical product is a temperature sensor connected to the device, alerting you via email or voice call when the temperature is too low or high. Wide sensor portfolio including temperature, relative humidity, power consumption, water leak detection with sensing cables, voltage and current, CO<sub>2</sub>, etc.

- Open APIs: SNMP, XML, Modbus/TCP, MQTT, etc.
- 3<sup>rd</sup> party software: SCADA, NMS. Portal options: SaaS or on-premise.
- Project design support.

Typical industry segments include IT, electronics, industrial, telecom, pharmaceuticals, food, shipping, transport, hotels/accommodation facilities. Our solutions are often deployed in data centers, BTS sites, factories, warehouses, or pharmacies.

## STE2 LITE



### Remote location temperature monitoring with email alerts.

STE2 LITE is a simple-to-use LAN & WiFi thermometer for remote locations measurement. Whenever a temperature exceeds the specified range an e-mail notification is sent. Alerts (Emails) can be sent directly from the device or from the Portal service (also SMS, ring-out, and device-disconnected alerts). Even without Portal service can STE2 LITE alerting via SMS gateway device. Even though there is only one RJ11 port, STE2 LITE can be monitoring up to 4 sensor values from external sensors. Including



sensors of Relative Humidity, CO<sub>2</sub>, VoC, AC/DC current or voltage and others. RJ11 sensors can be daisy-chained or one physical sensor can measure several values (Temperature + Relative Humidity = 2 values).

STE2 LITE device package contains an international 5V power adaptor and an external 1m temperature sensor.

Protocols	SNMP v1, HTTPs, HWg-PUSH, XML, NetGSM
Portal	SensDesk Technology <b>(optional)</b>

## STE2 R2



*The STE2 R2 package includes an external temperature sensor on a 3m cable and a power adaptor (US, UK, EU). In addition to an external 5V adapter, the STE2 R2 can be powered over Ethernet (PoE).*

Additional sensors can be connected to a second RJ11 sensor port, allowing for measurements of relative humidity (%RH), cryo temperatures, CO<sub>2</sub>, VoC, AC/DC current or voltage, and others. There are 2x DI (Digital Input) green terminal blocks for reading the state of ext. detectors (e.g. door contacts).



An alert is sent whenever the temperature is too high/low (door is opened). Alerts, such as emails, can be sent directly from the device using SMTP or from the Portal service. Portal also supports SMS, ring-out, and device-invalid alerts.

Even without the Portal service, the device can send alerts via an external SMS gateway device on the LAN.

Protocols	HTTPs, SNMPv1, HWg-PUSH, XML, NetGSM
Portal	SensDesk Technology <b>(optional)</b>

STE2 PLUS



2

DI  
Input

2

15

1W-UNI  
sensors

RS-485  
sensors

4-20  
mA

WLD  
sensors

M-Bus  
sensors

DO  
Output

Ext. DO

Data  
logger

SMS  
gateway

PoE

Web  
server

E-mail  
alert

Open  
API

SNMP  
trap

SMS  
alert

Portal

IPv6

LAN

WiFi

2G  
GSM

LTE

NB-IoT

Professional SNMP thermometer, remote environment monitoring for 15 sensor values.

The STE2 PLUS package includes an external temperature sensor on a 3m cable and a power adaptor (US, UK, EU). Other external sensors can be connected (max. 15 sensor values). One physical sensor can measure multiple values [°C + %RH + VoC = 3 sensor values].  
2× DI (Digital Input) green terminal blocks for reading the state of external detectors (e.g. door contacts) or relay outputs. An alert is sent (via email, SNMP traps, SMS or voice call)

whenever the temperature is too high/low (e.g. opened door). For reliable long-term alerting, we recommend using the Portal (SensDesk Technology). However, even without the Portal service, the device can still send alerts via an external SMS gateway device on the LAN.

Protocols	IPv6, SNMP Trap, SNMPv1, SNMPv3, HTTPs, HWg-PUSH, XML, NetGSM
Portal	SensDesk Technology (optional)

STE2 R2

5 sensor values

60 m

Temp/Humidity

Port1 Alarm SENS

Port2 Alarm DI

Temp/Humidity

Port1 Alarm SENS

Port2 Alarm DI

Ethernet

Power 5V

WiFi

Reset

DI1

DI2

Web server

PoE

Open API

IPv6

SNMP v3

SNMP trap

STE2 PLUS

15 sensor values

Temp/Humidity

Port1 Alarm SENS

Port2 Alarm DI

Temp/Humidity

Port1 Alarm SENS

Port2 Alarm DI

Ethernet

Power 5V

WiFi

Reset

DI1

DI2

Web server

PoE

Open API

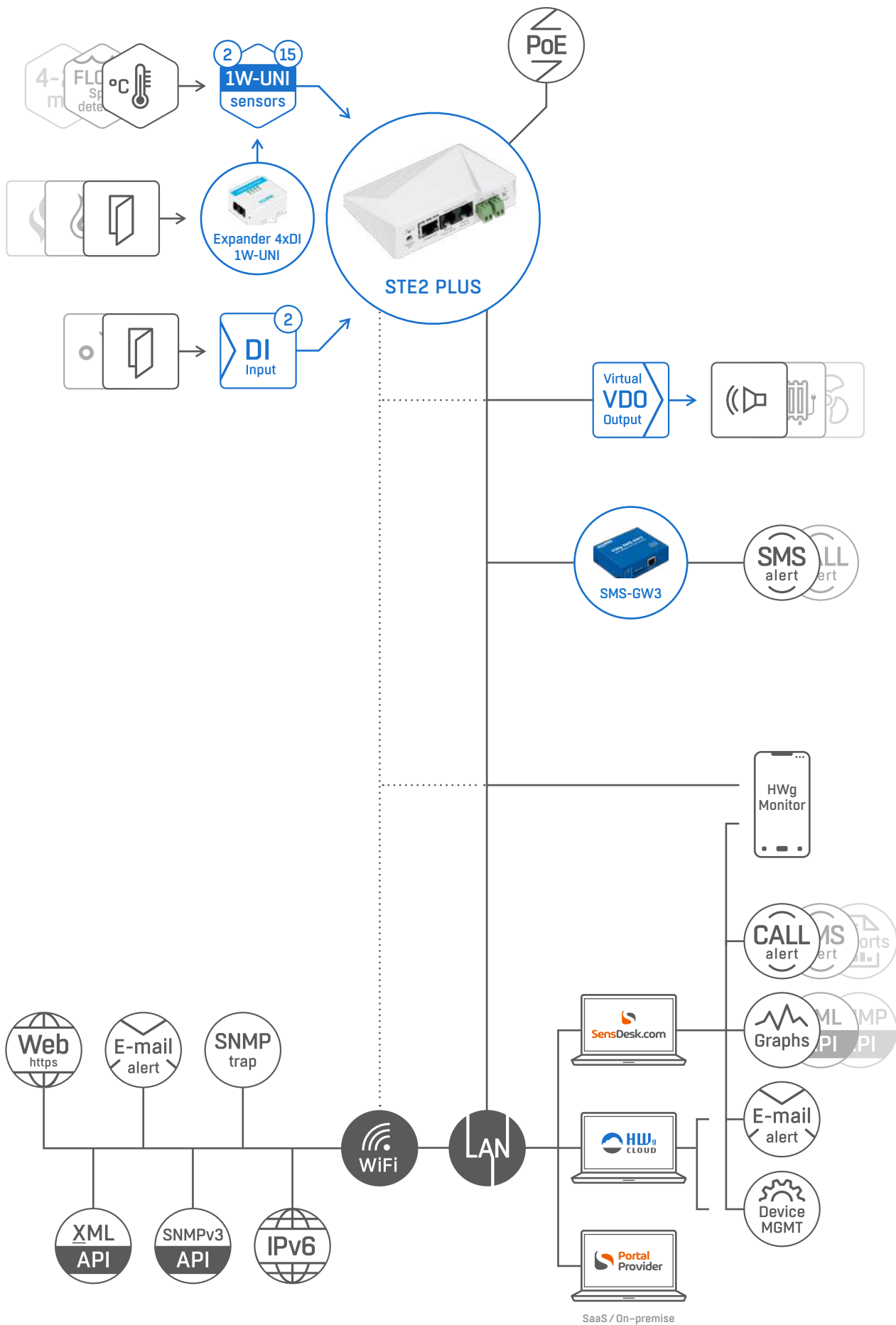
IPv6

SNMP v3

SNMP trap

✓ Alarm reminder

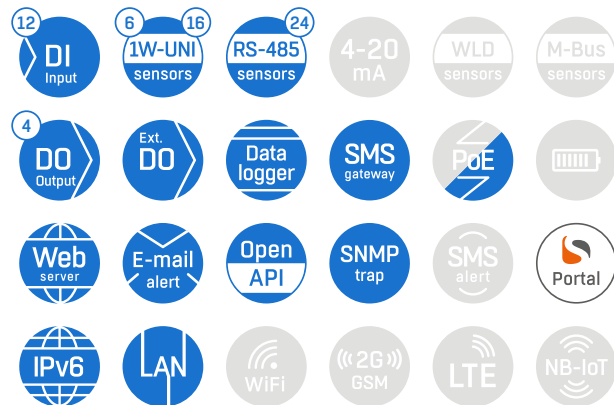
✓ Periodic status







## Poseidon2 4002



*Secure solution for remote environment monitoring and control of outputs.*

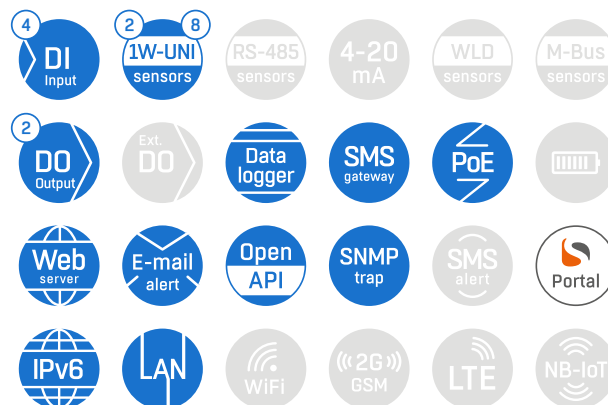
Poseidon2 4002 supports up to 16 sensor values connected over 6 ports 1-Wire/1-Wire UNI, up to 24 sensors connected over RS-485 and up to 12 detectors connected to digital inputs. Poseidon2 4002 can control 4 digital NO/NC relay outputs, as well as up to 8 virtual digital outputs (VDO) at remote Poseidon2 or Damocles2 units (M2M). This unit can be used as a stand-alone device with e-mail alerts,

or as a part of a complex monitoring system with SMS alerts sent via a central HWg-SMS-GW3 / SMS-GW3 LTE gateway.

Protocols	HTTP, HTTPs, IPv6, MQTT, SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology ( <b>optional</b> )



## Poseidon2 3468



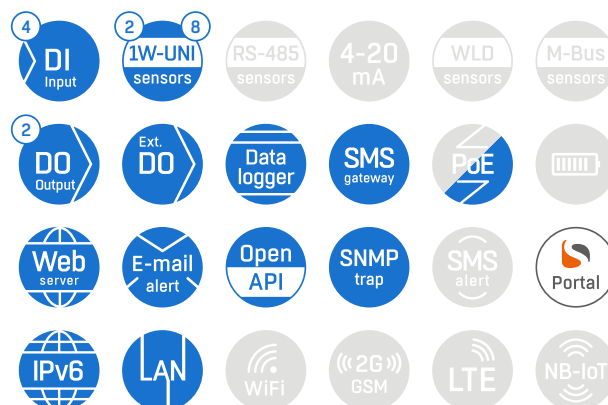
*Remote monitoring and control for industrial applications with 230 V / 16 A relay outputs.*

Poseidon2 3468 supports up to 8 sensors connected over 1-Wire / 1-Wire UNI and up to 4 detectors connected to digital inputs. Poseidon2 3468 can control 2 digital 230 V / 16 A relay outputs, as well as up to 8 virtual digital outputs (VDO) at remote Poseidon2 or Damocles2 units (M2M). In addition to the standard 9–30 V power input, this unit can be powered from –48 V to enable easy use in Telco solutions.

The device can be monitored remotely over the internet using any SensDesk Technology based portal.

Protocols	HTTP, HTTPS, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology ( <b>optional</b> )

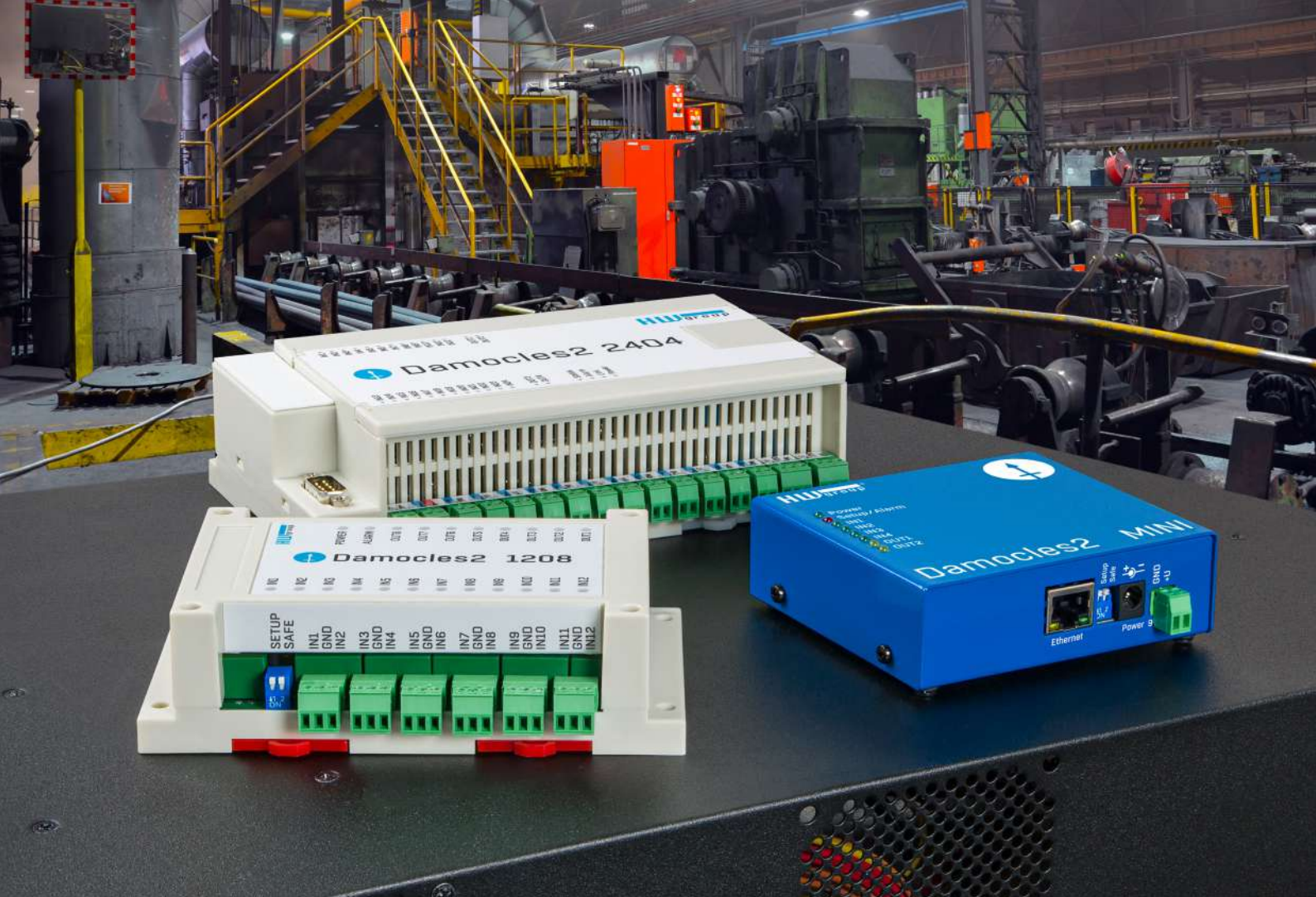
## Poseidon2 3268



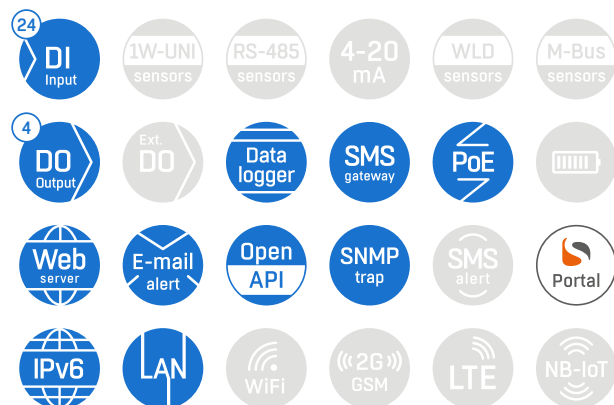
*Remote monitoring of sensors and detectors and control of relay outputs.*

Poseidon2 3268 supports up to 8 sensors connected over 1-Wire / 1-Wire UNI and up to 4 detectors connected to digital inputs. Poseidon2 3268 can control 2 digital NO/NC relay outputs, as well as up to 8 virtual digital outputs (VDO) at remote Poseidon2 or Damocles2 units (M2M).

Protocols	HTTP, HTTPS, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology ( <b>optional</b> )



## Damocles2 2404



*Secure industrial I/O device with PoE and Telco -48 V power options.*

Damocles2 2404 supports up to 24 detectors connected to DI (Digital Inputs). Digital Inputs feature S0 pulse counters with power failure memory. Pulse counters are useful for water, gas or electricity meters.

Damocles2 2404 can control 4 DO (Digital Outputs) – NO/NC relays + 8 VDO (Virtual Digital Outputs) at remote Poseidon2 or Damocles2 units (M2M).

Damocles2 2404 can be powered from 9–30V DC or -48 V DC or PoE.

Protocols	HTTP, HTTPS, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology ( <b>optional</b> )

## Damocles2 1208



### Industrial I/O with enhanced IP security and OC outputs.

Damocles2 1208 supports up to 12 detectors connected to digital inputs. In order to connect meters (such as water, gas or electricity meters), all digital inputs feature S0 pulse counters with memory. Damocles2 1208 can control 8 open collector digital outputs, as well as up to 8 virtual digital outputs (VDO) at remote Poseidon2 or Damocles2 units (M2M).

Damocles2 1208 is an Ethernet I/O device with enhanced IP security and an excellent cost per I/O pin. The device can be



monitored remotely over the internet using any SensDesk Technology based portal.

Protocols	HTTP, HTTPS, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology <b>(optional)</b>

## Damocles2 MINI



### Smart I/O controlled over Ethernet.

Damocles2 MINI supports up to 4 detectors connected to DI (Digital Inputs). Digital Inputs feature S0 pulse counters with power failure memory. Pulse counters are useful for water, gas or electricity meters.

Damocles2 MINI can control 4 DO (Digital Outputs) – NO/NC relays + 8 VDO (Virtual Digital Outputs) at remote Poseidon2 or Damocles2 units (M2M).

Damocles2 MINI is a compact and cost-effective Ethernet I/O



device with enhanced IP security. The device can be monitored remotely over the internet using the portal.

Protocols	HTTP, HTTPS, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology <b>(optional)</b>

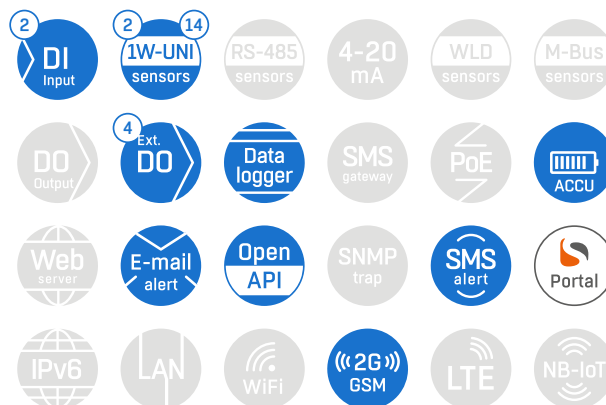


## HWg-Ares 12



*Industrial measuring and monitoring device for 14 sensor values with GSM (2G) communication and back-up power.*

HWg-Ares 12 supports up to 14 sensor values connected over 2× RJ11 ports and 2× DI (Digital Input) for detectors. Both DI ports support S0 pulse counters for connecting meters such as water, gas, or electricity meters. HWg-Ares 12 can be extended with a relay output expansion module connected over the RJ11 ports, which can be used as a thermostat. The device has an internal rechargeable battery that powers



it, along with external sensors, for several hours. It is ideal for locations without LAN access.

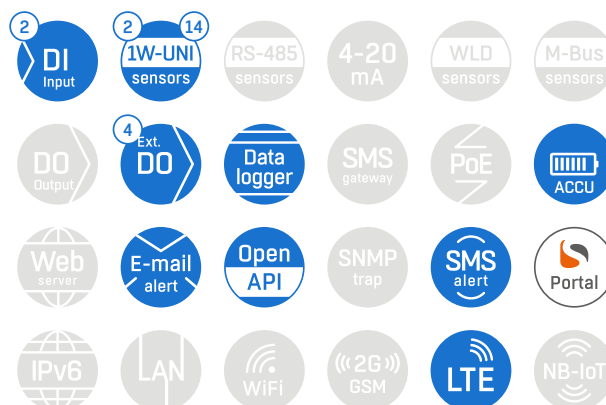
Protocols	HWg-PUSH, NetGSM, SMTP
Portal	SensDesk Technology <b>(optional)</b>

## Ares 12 LTE



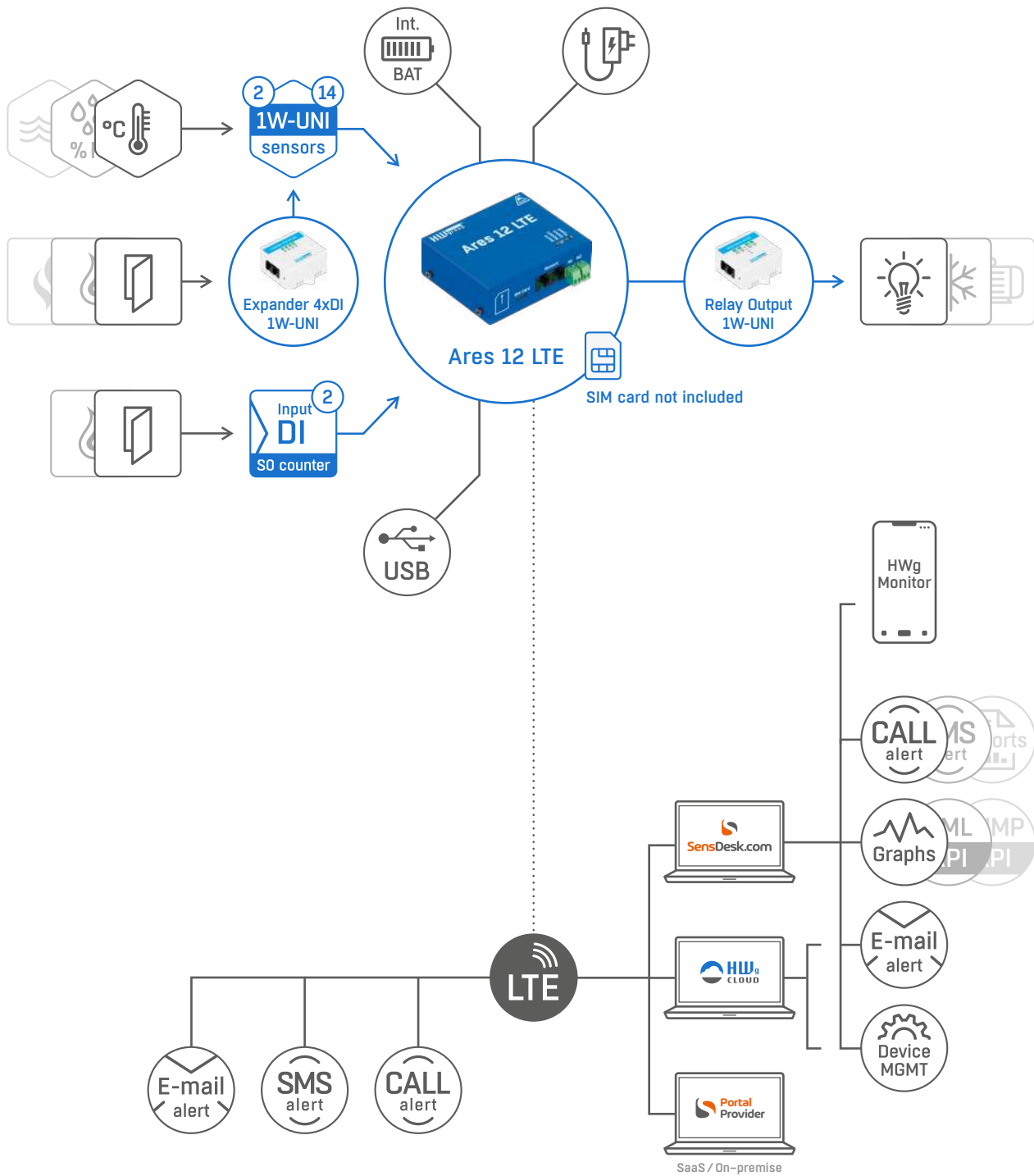
*Industrial measuring and monitoring device for 14 sensor values with LTE communication and back-up power.*

Ares 12 LTE supports up to 14 sensor values connected over 2× RJ11 ports and 2× DI (Digital Input) for detectors. Both DI ports support S0 pulse counters for connecting meters such as water, gas, or electricity meters. Ares 12 LTE can be extended with a relay output expansion module connected over the RJ11 ports, which can be used as a thermostat. The device has an internal rechargeable battery that powers



it, along with external sensors, for several hours. It is ideal for locations without LAN access.

Protocols	HWg-PUSH, NetGSM, SMTP
Portal	SensDesk Technology <b>(optional)</b>





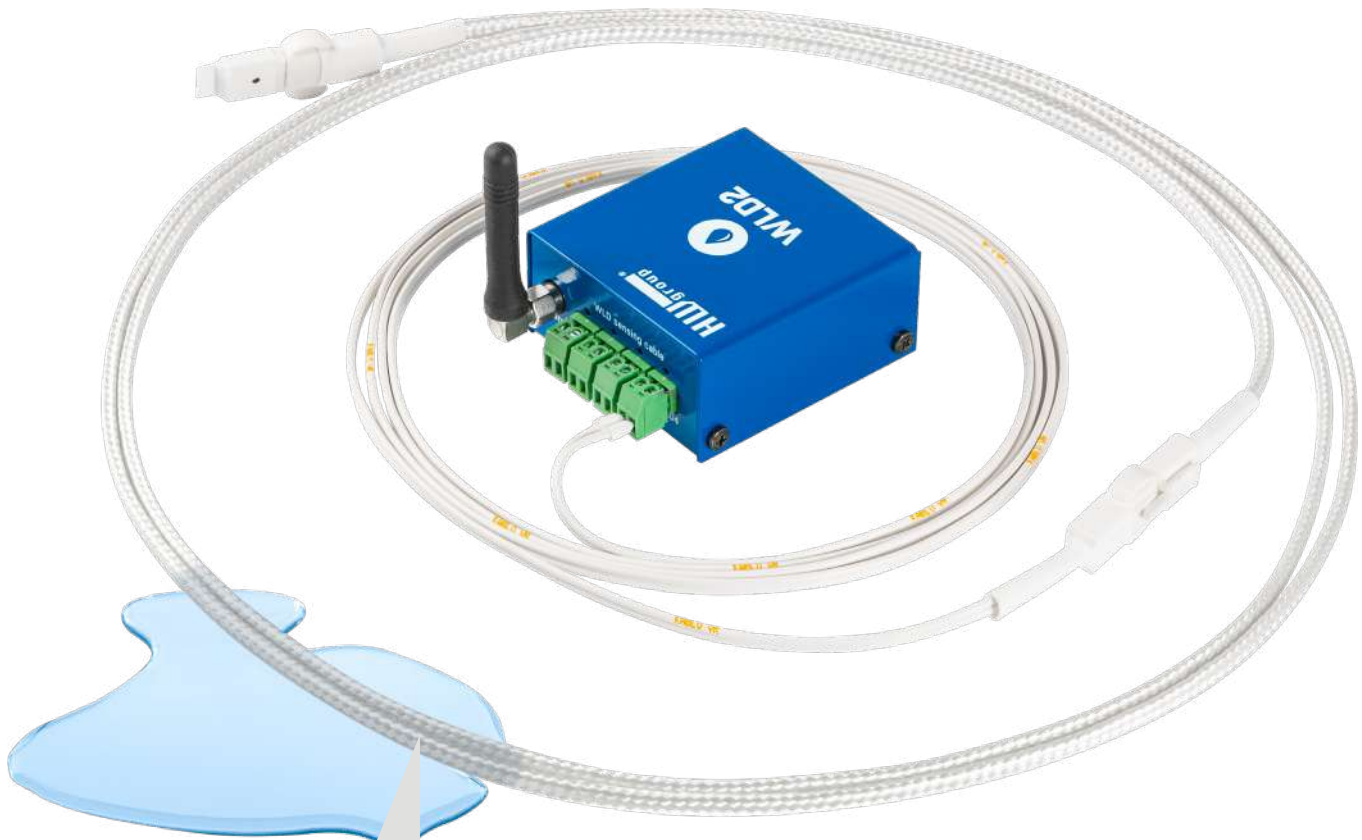
# Water Leak Detection system

HW group offers several products that provide ideal solutions for flood and water leak detection. WLD system devices use a sensing cable that detects water presence along the entire cable length. See the table below and discover the most suitable device for your situation:



	WLD2	SD-WLD	NB-WLD	Sensor WLD Relay 1W-UNI
<b>WLD (Sensing cable) Zones</b>	4 zones	1 zone	1 zone	1 zone
<b>Max. length of WLD sensing cable</b>	185 m	185 m	60 m	185 m
<b>Connectivity: NB-IoT</b>	-	-	✓	-
<b>Connectivity: LAN (RJ45)</b>	✓	✓	-	-
<b>Connectivity: WiFi</b>	✓	✓	-	-
<b>Interface: 1-Wire UNI (RJ11)</b>	-	-	-	✓
<b>Interface: Relay output (NO/NC)</b>	-	-	-	✓
<b>SensDesk Portal Connectivity</b>	✓	✓ (mandatory)	✓ (mandatory)	Via external device
<b>Web interface, SMTP</b>	✓	Via portal	Via portal	-





## WLD sensing cable is long-term robust solution



### Bend

WLD sensing cable Type A is not limited by any bending radius. Sensing cable can be knotted and still works properly.



### Grip

Liquid detection functionality is not limited by point pressure within a reasonable range.



### Twist

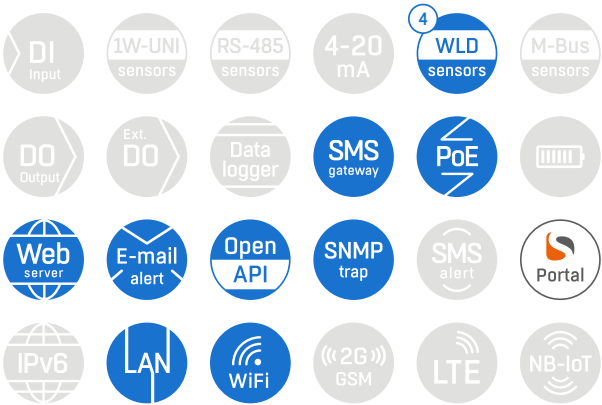
WLD sensing cable Type A can be twisted as any other electrical cable.

WLD2



4 zones Water Leak Detector with Ethernet / WIFI

The WLD2 can detect water in 4 independent zones. By providing early detection and warning, WLD2 can prevent water damage and avoid the associated costs. It's WiFi or Ethernet connected device powered from external power adaptor or PoE. The WLD sensing cable detects as little as a few drops of liquid and can be also used to detect condensation. Whenever a liquid is detected, the device sends an e-mail or an SNMP Trap. It can also send SMS alert via



central SMS gateway (HWg-SMS-GW3 / SMS-GW3 LTE) or SensDesk Technology based portal.

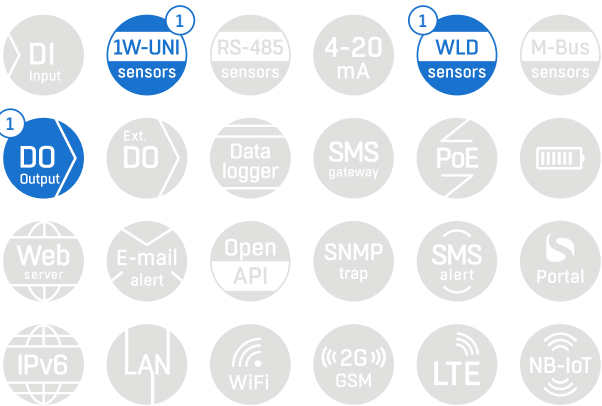
Protocols	HTTP, HTTPS, SNMPv1, SNMP traps, XML, NetGSM
Portal	SensDesk Technology (optional)

Sensor WLD Relay 1W-UNI



External sensor for connecting WLD water leak sensing cable type A. One WLD sensing zone can be connected to 1W-UNI sensor (RJ11) or to any DI input via this "WLD Relay" device.

Sensor WLD Relay 1W-UNI can be used as a stand-alone WLD sensor (power + relay output) or as a 1W-UNI sensor connected to any STE2 family, Poseidon2, Ares or other HWg device. One zone of external WLD sensing cable type A detects as little as a few drops of a liquid along the entire length of WLD sensing

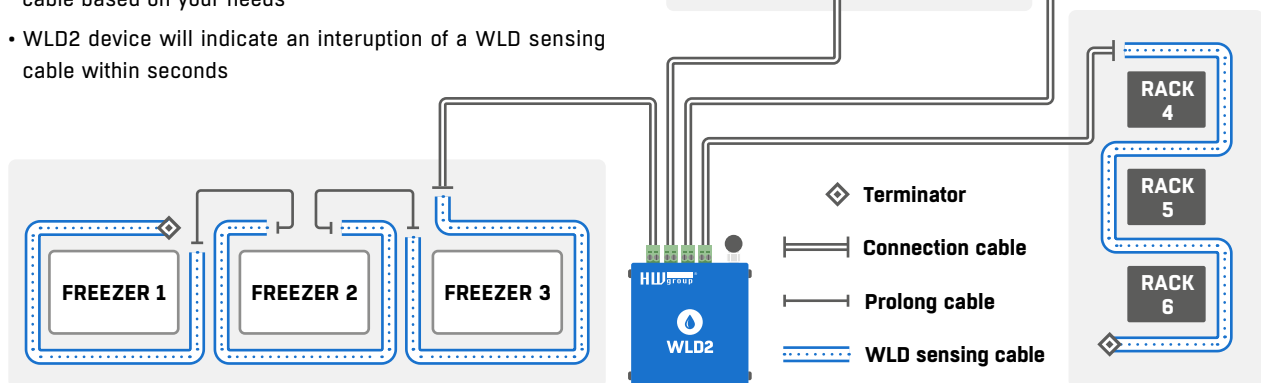


cable. Liquid detection is indicated on the 1W-UNI sensor or by switching of the relay NO/NC output (external power 12V is required). By providing an early detection and warning, Sensor WLD Relay 1W-UNI can prevent damages and avoid the associated costs even at places without Ethernet connectivity.

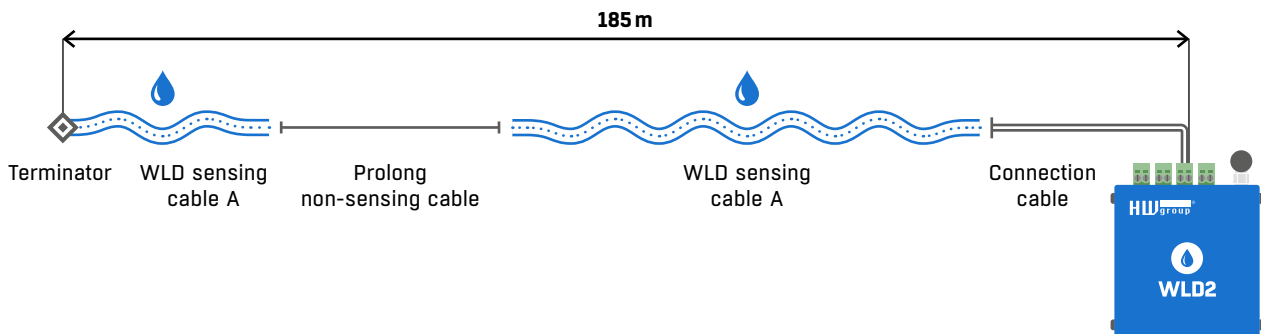
## WLD sensing cable is long-term robust solution

*WLD2 device supports 4 independent WLD detection zones. You will get notifications of the first drops of water from each zone.*

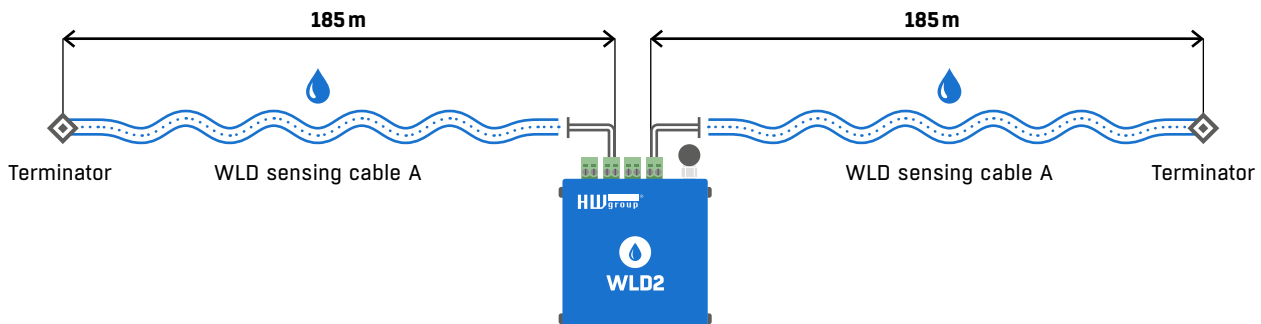
- WLD sensing (liquid detection) cable can be bent and twisted without causing false alarms
- WLD2 is galvanically isolated from the power supply. There are no false alarms, even with very long detection zones.
- WLD sensing cable can be used on metal floors
- We offer WLD sensing cables: 2m / 10m / 50m
- The WLD sensing cable can be extended with non-sensing cable based on your needs
- WLD2 device will indicate an interruption of a WLD sensing cable within seconds

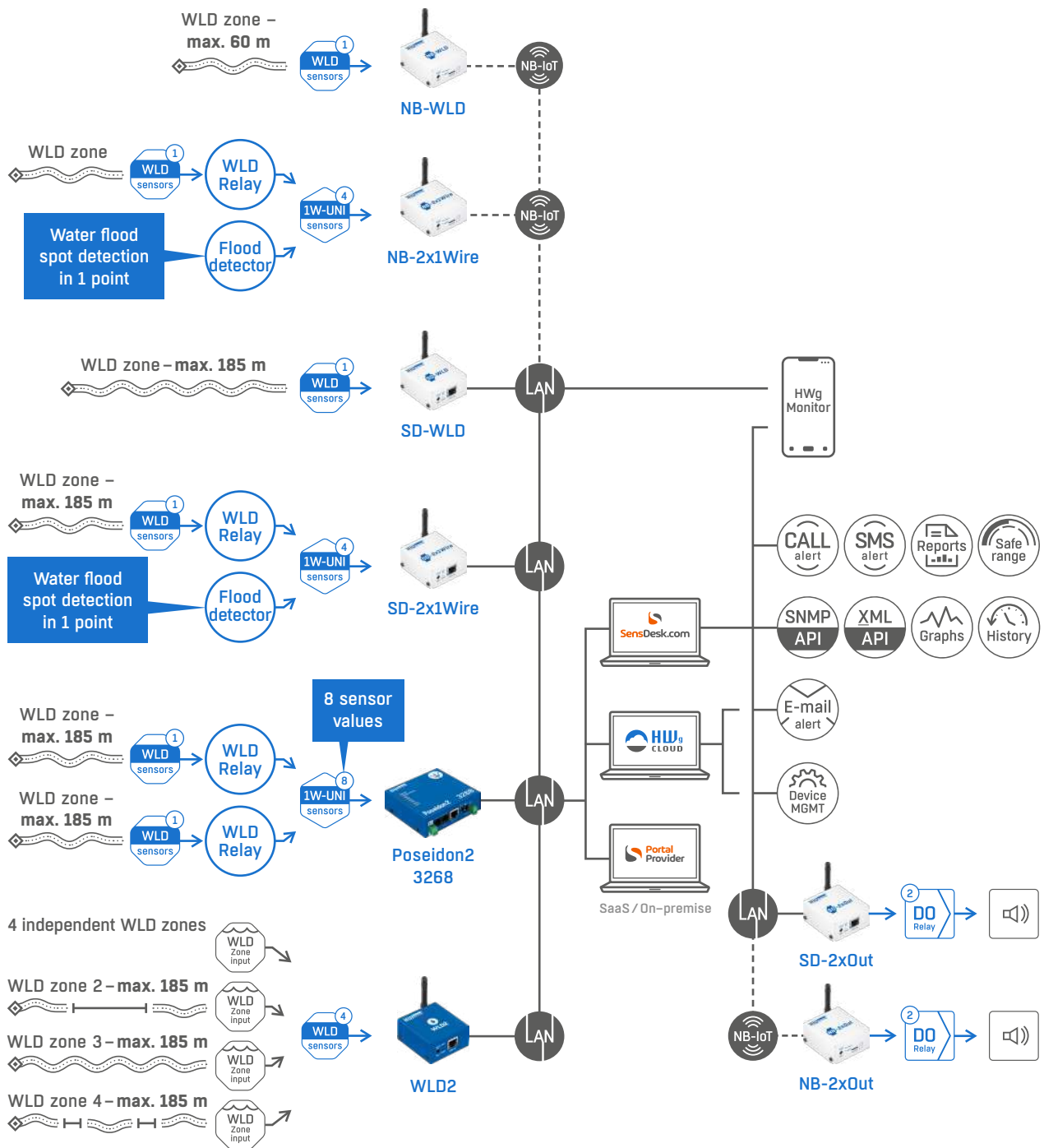


### 1 Water Leak Detection zone

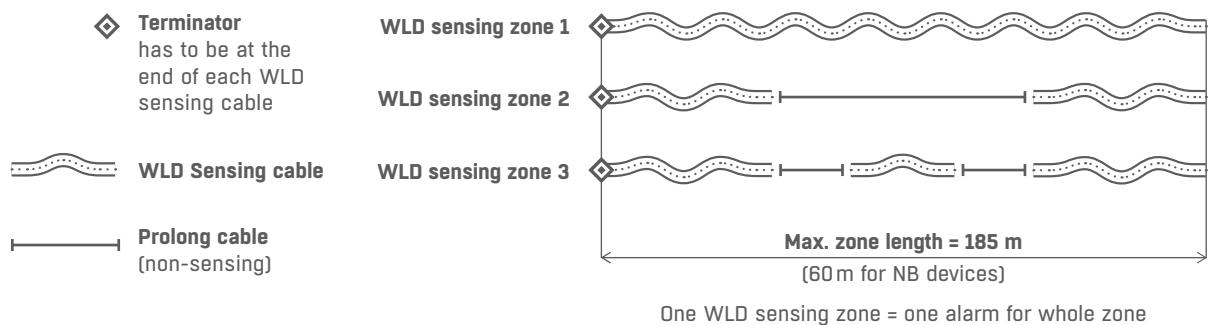


### 2 independent Water Leak Detection zones





## Water Leak Detection (WLD) along the entire cable length



## WLD components



**WLD sensing cable A 2m**  
2m of Water Leak Detection cable type A.



**WLD sensing cable A 10m**  
10m of Water Leak Detection cable type A.



**WLD sensing cable A 50m**  
50m of Water Leak Detection cable type A.



**NB-WLD**  
1x Water Leak Detection zone (sensing cable) to the portal. Internal battery, NB-IoT cellular network connectivity, portal required.



**SD-WLD**  
1x Water Leak Detection zone (sensing cable) to the portal. LAN and WiFi connectivity, IoT Monitoring unit (Portal required).



**WLD2**  
WLD2 is a WiFi/Ethernet water leak detector with support for WWW, SNMP and PoE. To detect leaking liquids, it uses 4 sensing cables



**Sensor WLD Relay 1W-UNI**  
A universal WLD (Water Leak Detection) sensor, with one WLD sensing cable input and 2 kind of outputs (1W-UNI sensor and relay output).



**WLD A connection cable 2m**  
2m connection cable for connecting the WLD sensing cable with WLD zone input on any active device. WLD terminator included.



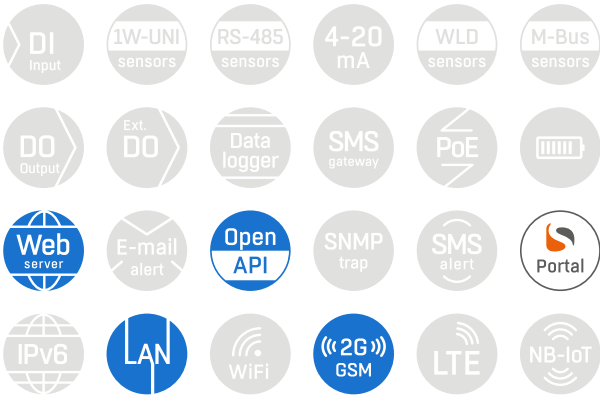
**WLD A prolong cable 5m**  
Prolong non-sensitive cable 5m for WLD type A.

HWg-SMS-GW3



*GSM (2G) gateway for sending text messages (SMS) over the Ethernet.*

HWg-SMS-GW3 is a central text message (SMS) gateway that HWg devices and applications in the same network can use to dial numbers or send SMS alerts. Target phone numbers are specified in the sending device setup, defined by SNMP or from 3<sup>rd</sup> party SW. The central SMS-GW for all installed HW monitoring devices significantly saves costs of external GSM modems, and the



entire installation only needs one SIM card.

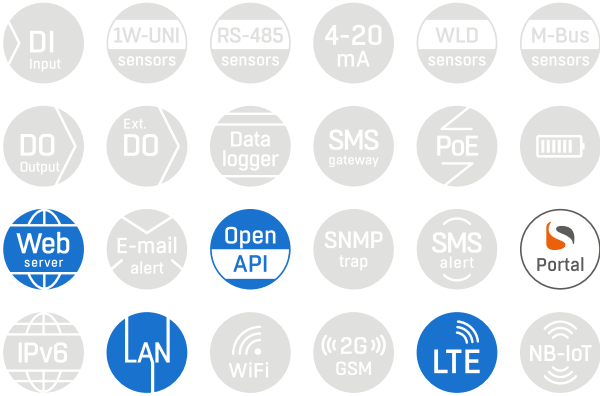
Protocols	HTTP, SNMPv1, XML, NetGSM
Portal	SensDesk Technology (can be used for alerting)

SMS-GW3 LTE



*SMS-GW3 LTE is a LAN gateway for sending alarm SMS from HW group devices connected to the same LAN.*

SMS-GW3 LTE is a central gateway that HWg devices and applications in the same network can use to dial numbers or send SMS alerts. Target phone numbers are specified in the sending device setup, defined by SNMP or from 3<sup>rd</sup> party SW. The central SMS-GW for all installed HW monitoring devices significantly saves costs of external GSM modems, and the entire installation only needs one SIM card.



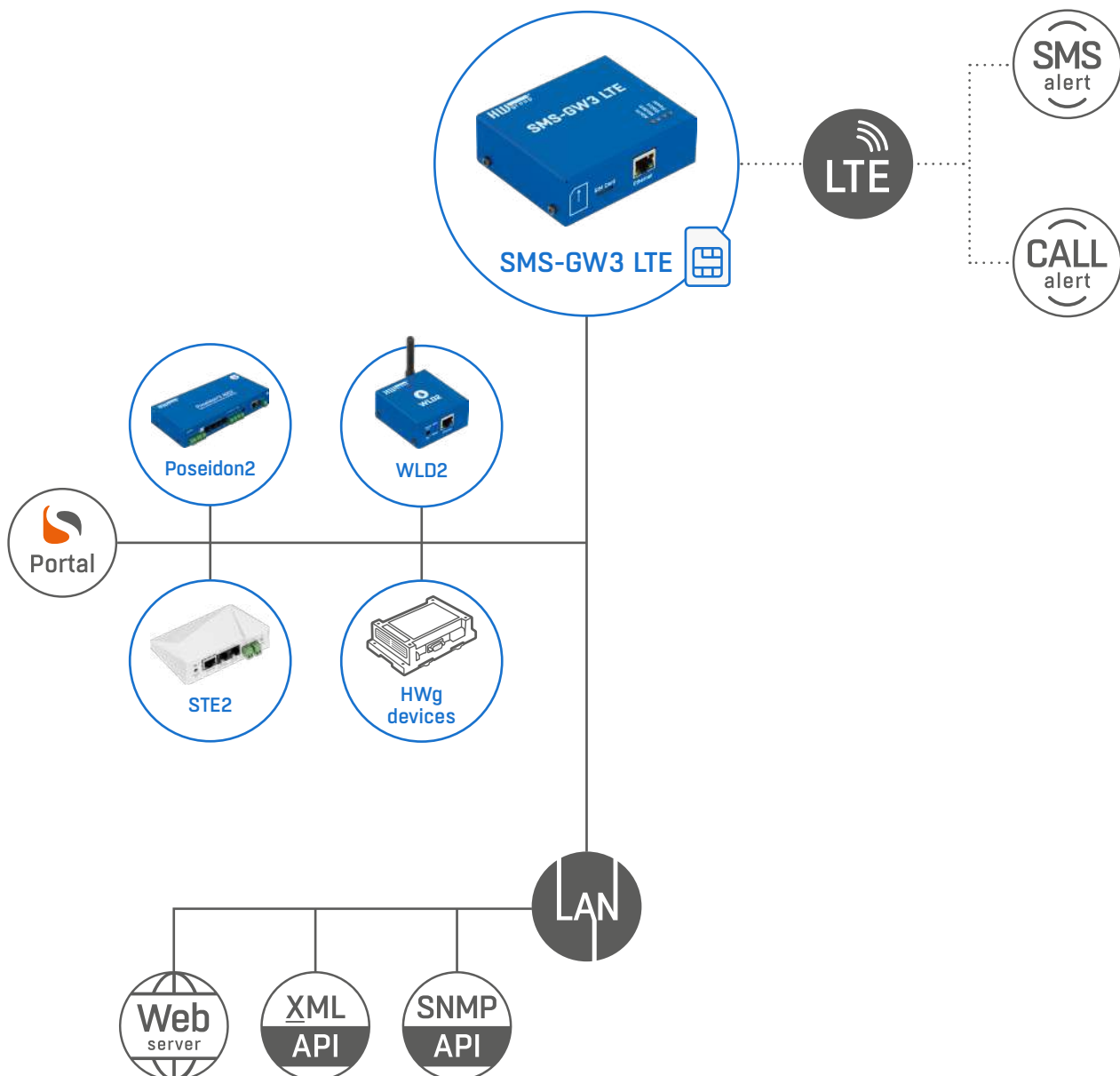
Protocols	HTTP, SNMPv1, XML, NetGSM
Portal	SensDesk Technology (can be used for alerting)



## GSM/LTE gateway

*GSM / LTE gateway is a central device with SIM card connected to the network. All HWg devices (Portal) in the same LAN network can use this central gateway to send SMS alerts or dial voice call alerts. Communication interface is also sufficiently documented for use with third-party systems.*

*GSM / LTE gateway can be used for sending text messages also from on-premise installed Portal (SensDesk Technology), or from SaaS Portal (if GW installed on public IP).*



- ✓ One GSM / LTE gateway for all devices on local network.
- ✓ No additional software needed in order to send text messages from the devices.
- ✓ Each device can send its alarm messages to different phone numbers.  
SMS recipient's phone number is configured in the sending device.
- ✓ Supports a "SMS + Ring" function



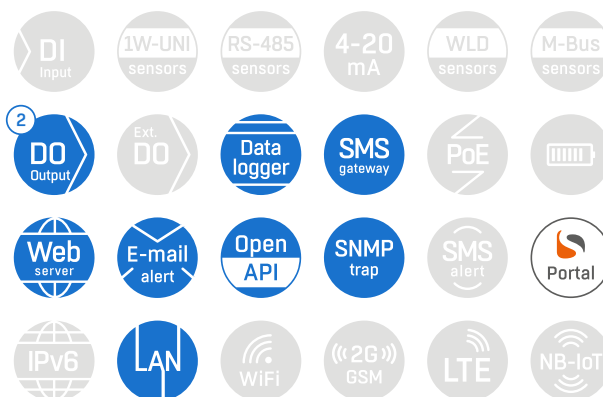
## IP WatchDog2 Industrial



*Industrial watchdog that checks devices for heartbeat over the Ethernet and RS-232.*

IP WatchDog2 Industrial monitors the correct functioning of devices over LAN (PING / WEB) or serial line (RS-232). When an outage is detected, it reacts by power-cycling or restarting the device using its two output relays. Everything takes place automatically without human intervention. Up to 10 devices can be monitored.

An e-mail or SNMP Trap can be also sent in response to an



outage. With a SMS gateway, it can even send you text message alerts.

Protocols	HTTP, SNMPv1, SNMP trap, HWg-PUSH, XML, NetGSM, SMTP
Portal	SensDesk Technology ( <b>optional</b> )

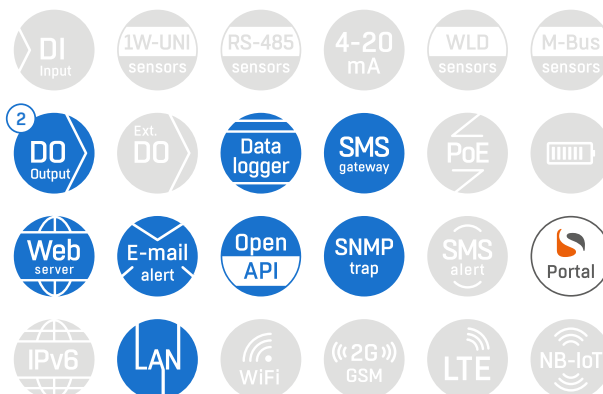
## IP WatchDog2 Lite



*A watchdog that checks devices for heartbeat (PING, WEB) over the Ethernet.*

IP WatchDog2 Lite monitors the correct functioning of devices over LAN (PING / WEB). When an outage is detected, it reacts by power-cycling or restarting the device using its two output relays. Everything takes place automatically without human intervention.

Up to 10 devices can be monitored. An email or SNMP Trap can be also sent in response to an outage. With a SMS gateway, it



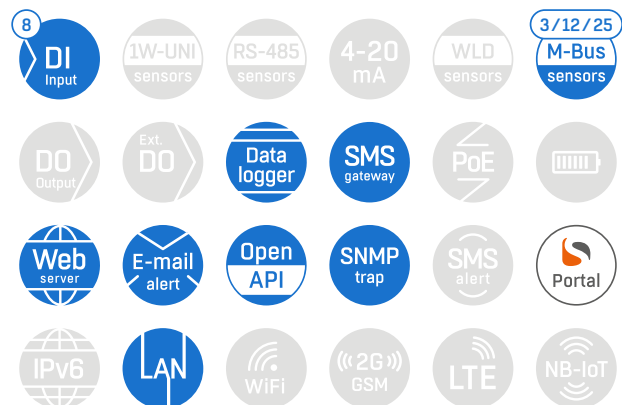
can even send text message alerts thanks to that, when there is a problem, you will always be alerted on time.

Protocols	HTTP, SNMPv1, SNMP trap, HWg-PUSH, XML, NetGSM, SMTP
Portal	SensDesk Technology ( <b>optional</b> )





## HWg-PWR 3/12/25



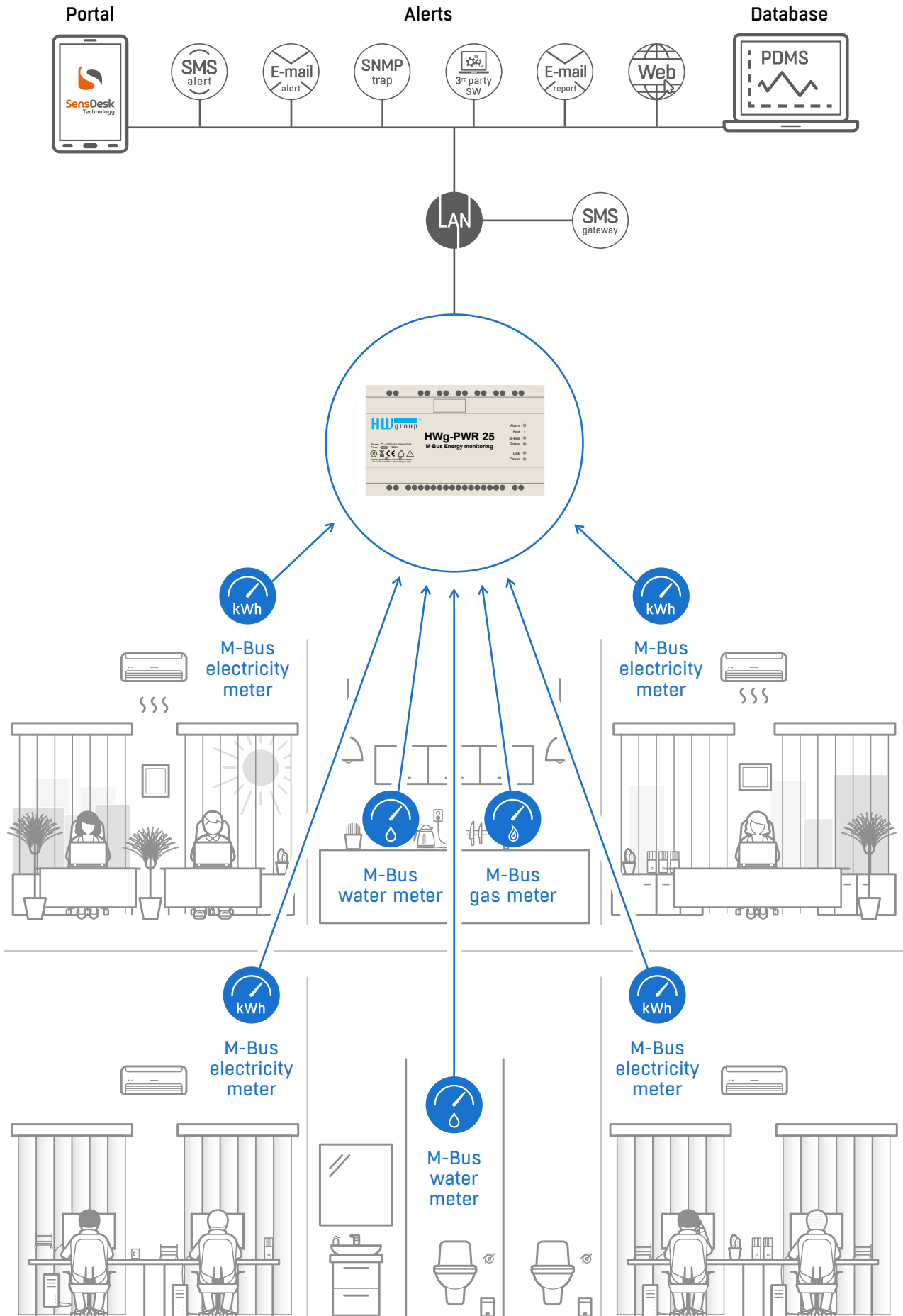
*Smart Ethernet device for remote energy consumption monitoring and collecting data from external M-Bus meters.*

HWg-PWR is available in three versions for connecting 3, 12 or 25 external meters with the M-Bus (EN13757) interface. It enables remote monitoring of consumption and other data from a wide range of M-bus meters (such as electricity, gas and water meters).

M-bus meters from different manufacturers can be combined.

When a value is outside of the specified range, HWg-PWR can send an e-mail alert or a SNMP Trap. With a SMS gateway, it can even send text message alerts.

Protocols	HTTP, SNMPv1, SNMP trap, HWg-PUSH, Modbus/TCP, XML, NetGSM, SMTP
Portal	SensDesk Technology ( <b>optional</b> )



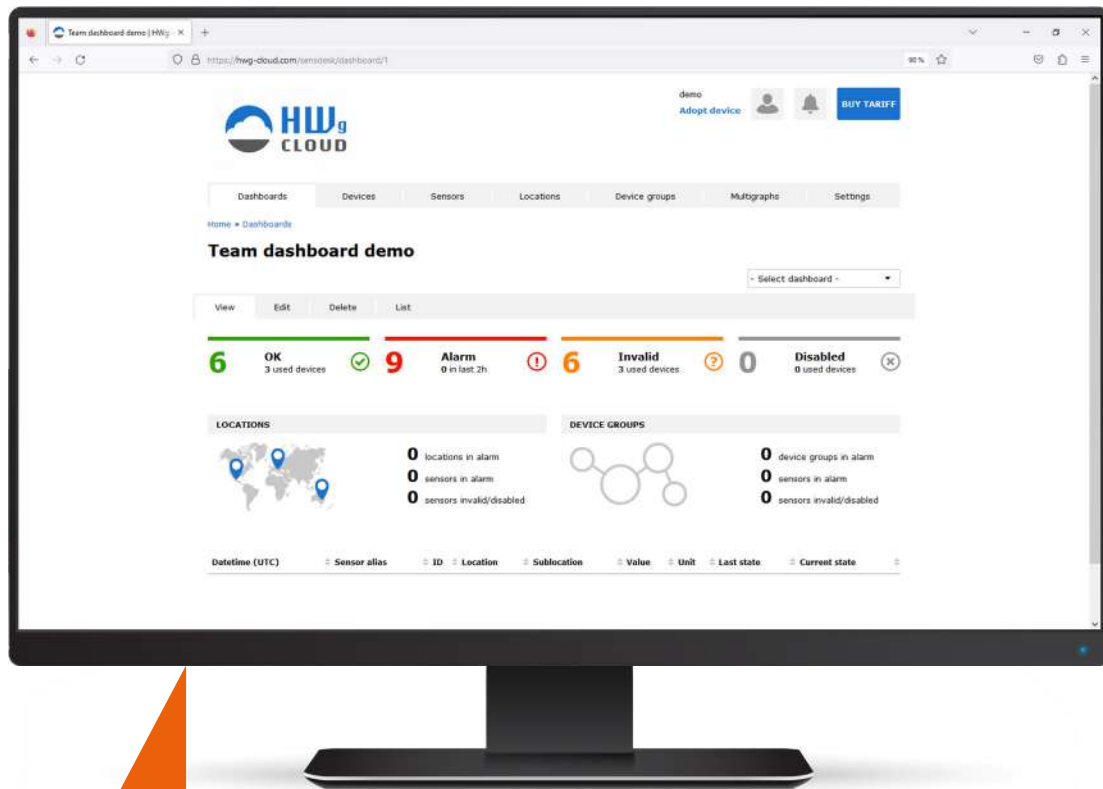


# IoT Monitoring

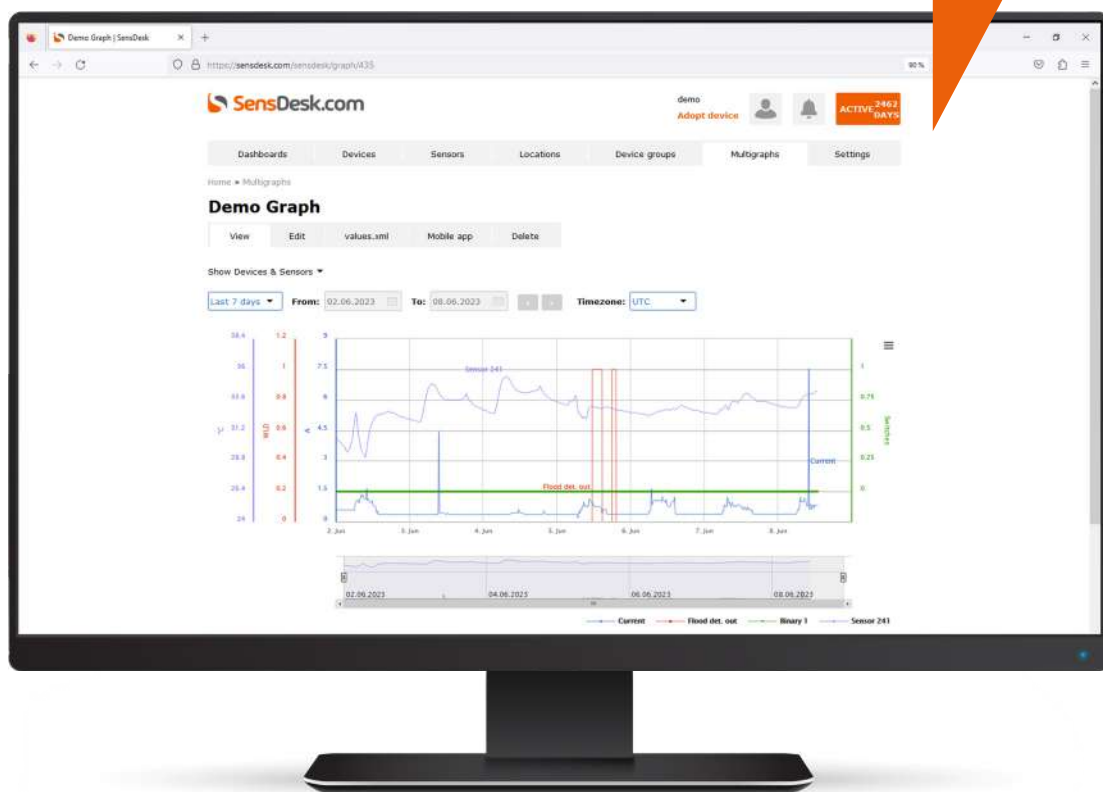
*IoT Monitoring devices are designed for easy installation and use, but they rely on a specific Portal. Any portal based on SensDesk Technology can be used for this purpose. You have the option to either install an on-premise server or use an online Software-as-a-Service (SaaS) platform provided by Portal provider (HWg partners), SensDesk.com (paid) or HWg-cloud.com (free of charge). Through the portal, you gain the ability to monitor and control your entire system. Remote FW upgrades, central Alerts management, PDF reports etc.*

To simplify device installation, each device comes pre-configured with the HWg-cloud.com portal. Once installed, devices can be effortlessly migrated to any SensDesk Technology-based portal through the portal interface.





Portal is mandatory part of solution with IoT Monitoring devices (SaaS / On-premise).

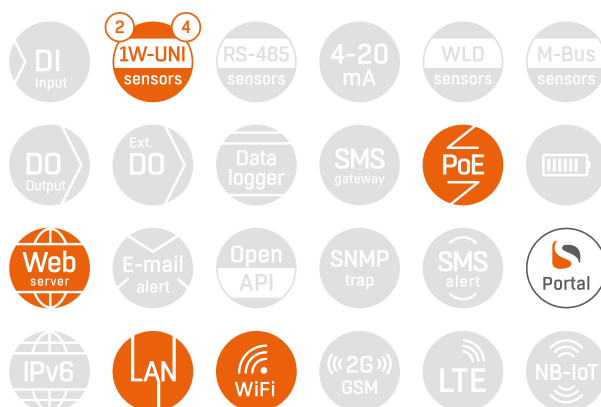


# SD Devices

The SD-xxx devices are specialized devices that come with LAN/WiFi portal connectivity. Each SD device connecting several sensors, DI (Digital Inputs) or DO (relay outputs). It can monitor various external sensors such as temperature, relative humidity, voltage, WLD detection cable. These devices collect data from these sensors and transmit it to the Portal (SensDesk Technology) for further analysis and control.

SD-xxx devices are incredibly easy to install. Monitoring at remote locations can be set up with just a few clicks, providing you with data within minutes. These devices require a SensDesk Technology portal, which is available as On-Premise or SaaS version. Free of charge Portal (HWg-cloud.com) is pre-configured. Devices can be migrated / adopted to any SensDesk Technology based portal.

## SD-2x1Wire



### External sensors to the portal.

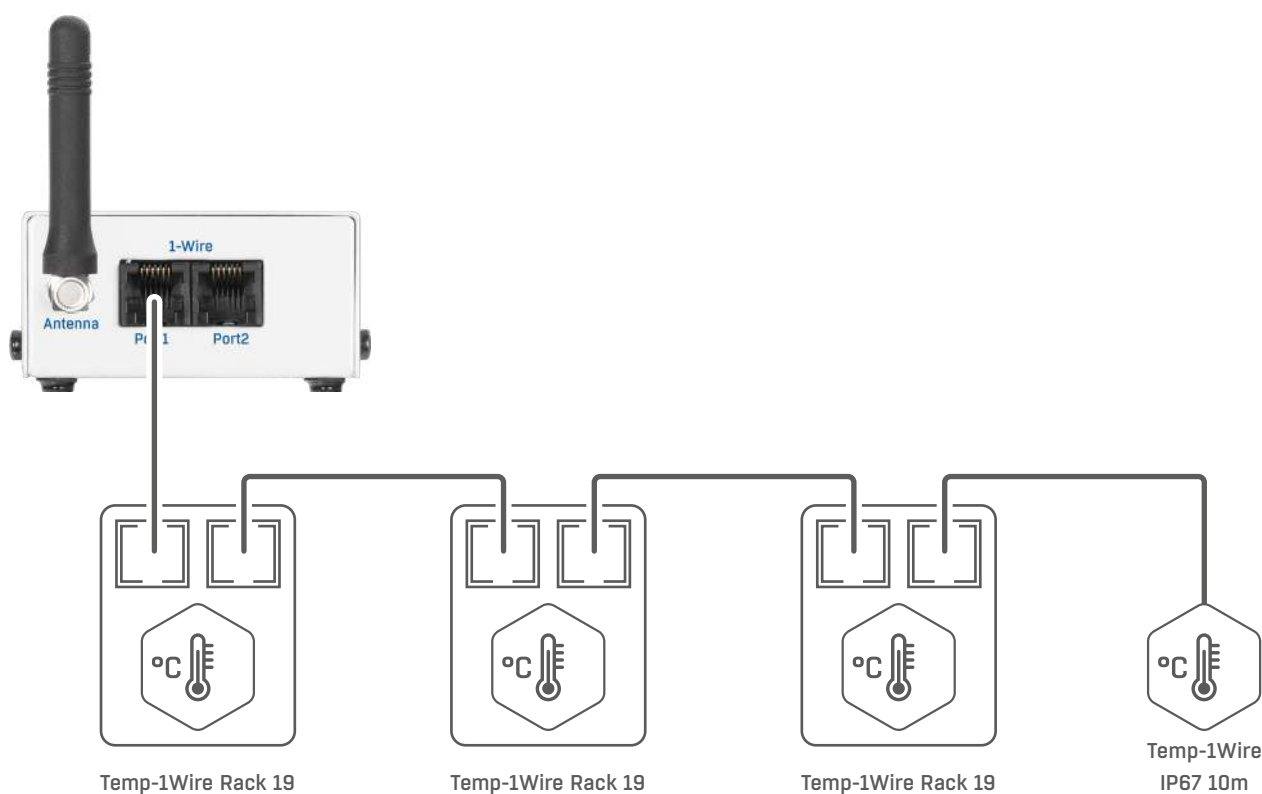
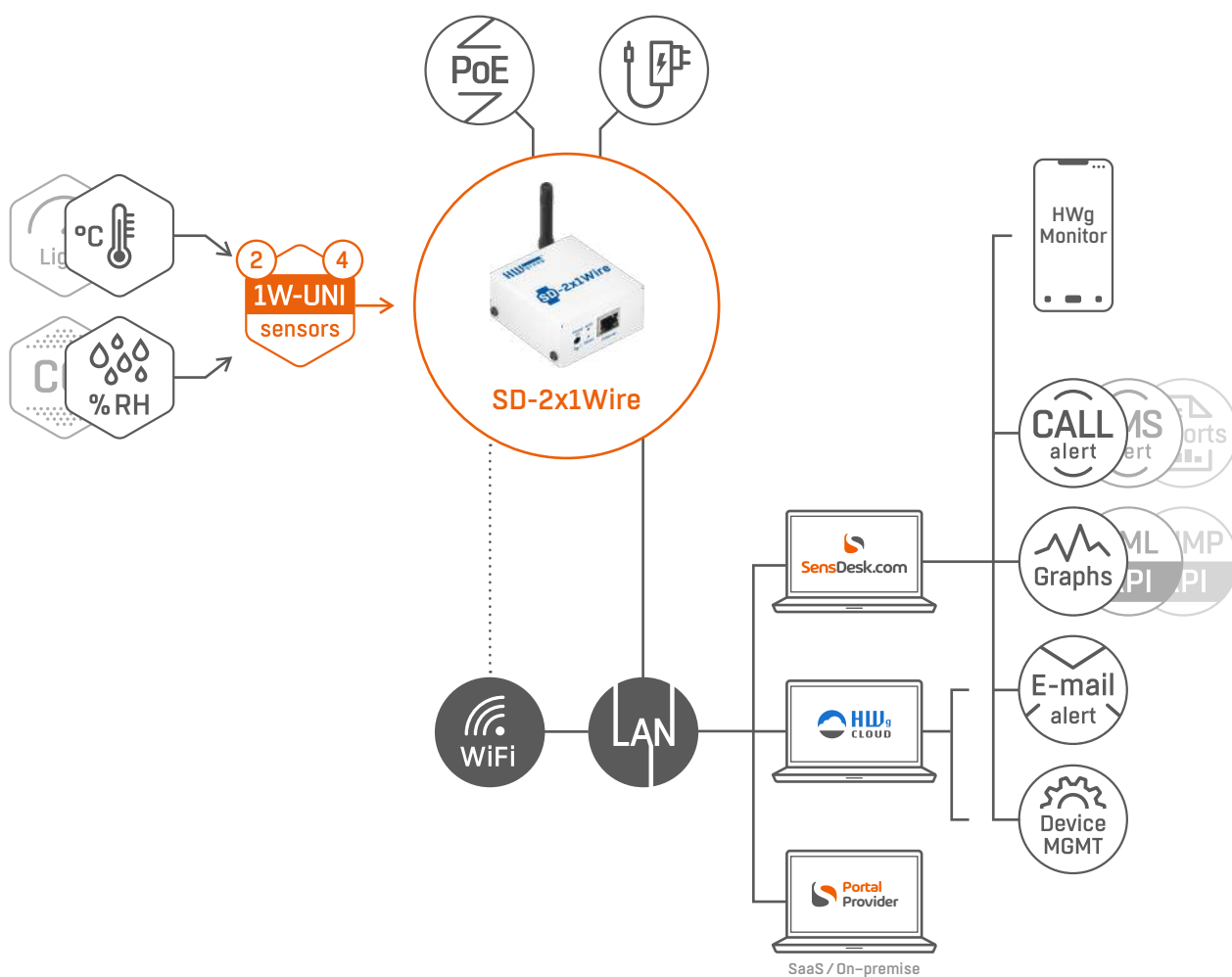
SD-2x1Wire is basic IoT Monitoring device with 2 ports for RJ11 sensors, Ethernet / WiFi connectivity. Two RJ11 ports allow connecting up to 4 sensor values in total. Device can be powered from External power adaptor or PoE (Power over Ethernet). Preconfigured free Portal (HWg-cloud.com) can send email alerts and offers basic remote device management.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNMP, HWg-Push
Portal	SensDesk Technology ( <b>mandatory</b> )

## The very first time installation

- 1) Login to your user account on the [www.HWg-cloud.com](http://www.HWg-cloud.com) (it's free portal from manufacturer).
- 2) Go to your "My Team" page (top-right menu). Scroll down to the Device Adoption. Fill in the **device hash** (xxxx-xxxx number on the label of the physical device).
- 3) Device will appear after some time in the "Devices".
- 4) You can migrate the device to any other portal based on SensDesk Technology (click to **Migrate device** in Device details).





## SD-2xIn



*Simple Device with WiFi and Ethernet connectivity for monitoring 2×DI (Digital Input) – door opening detectors / SO consumption pulses.*

SD-2xIn is Simple Device for monitoring of door / window contacts, PIR motion detectors or smoke or gas detectors with a dry contact output.

You can connect 2 external detectors with relay outputs or any energy / consumption meter with SO pulse output.

The SD device has to be connected to any SensDesk Technology

based portal (SaaS). Manufacturer provides a limited free portal (HWg-cloud.com) as the default pre-configured option.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNMP, HWg-Push
Portal	SensDesk Technology ( <b>mandatory</b> )

## SD-2xOut



*Simple Device with WiFi and Ethernet connectivity to control 2×DO (Digital Output) from the portal.*

SD-2xOut is Simple Device with 2 DO (Relay outputs). Each output can be controlled manually from the portal or based on alarms from other devices.

The SD device has to be connected to any SensDesk Technology based portal (SaaS). Manufacturer provides a limited free portal (HWg-cloud.com) as the default pre-configured option.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNMP, HWg-Push
Portal	SensDesk Technology ( <b>mandatory</b> )

## SD-WLD



*SD-WLD detects the presence of any liquid (water) along the entire length of 1 zone WLD sensing (detection) cable.*

Thanks to early detection and alerting from the portal, SD-WLD can prevent substantial damages caused by unexpected adverse environment conditions.

The device has to be connected to any SensDesk Technology based portal (SaaS). Manufacturer provides a limited free portal (HWg-cloud.com) as the default pre-configured option. Even the free & limited portal service (HWg-cloud.com) can



send email alerts and offers basic remote management of the device.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology ( <b>mandatory</b> )

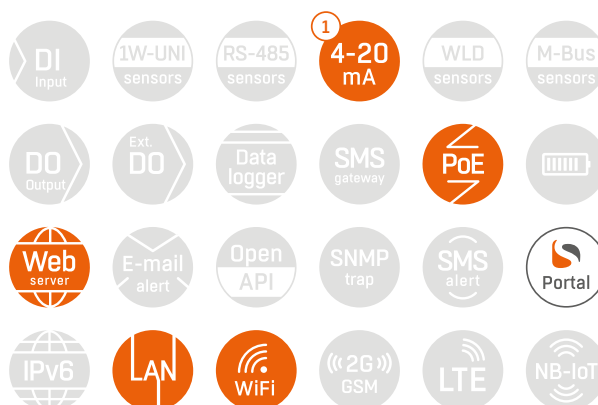
## SD-4-20mA



*Simple Device with AI (Analog Input) for remote monitoring of external industrial sensor (4-20mA).*

SD-4-20mA is IoT Monitoring device with Ethernet and WiFi connectivity. Any industrial sensor with 4-20 or 0-20 mA analog output can be connected to this device. Default AI port configuration (4-20 mA) provides also power for external AI sensor. The device has to be connected to any SensDesk Technology based portal (SaaS).

HWg Monitor mobile app can be used to display metered values



anytime from anywhere. Portal can alert you by email or Voice call when sensor value is out of defined safe range.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology ( <b>mandatory</b> )





## NB-IoT cellular network

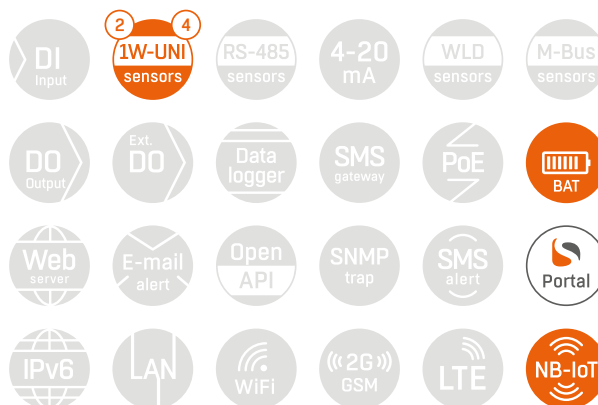
# NB Devices

*NB-xxx devices are single purpose devices offering connectivity to the NB-IoT (NarrowBand) cellular network. These devices are designed to monitor various external sensors such as temperature, humidity, voltage, WLD detection cable, and DI (Digital Input). The collected data from these sensors is then transmitted to a central portal for further analysis and control.*

Monitoring on remote locations can be installed in just a few clicks and you can get your data in minutes. The NB-IoT (NarrowBand) cellular network connected devices can be powered from internal battery for 2 years. 3 years subscription SIM card is included in the standard product version.

Using the NB-xxx devices require SensDesk Technology based portal where you can monitor and control your entire system. Free of charge Portal (HWg-cloud.com) is pre-configured. Devices can be migrated / adopted to any SensDesk Technology based portal.

## NB-2x1Wire



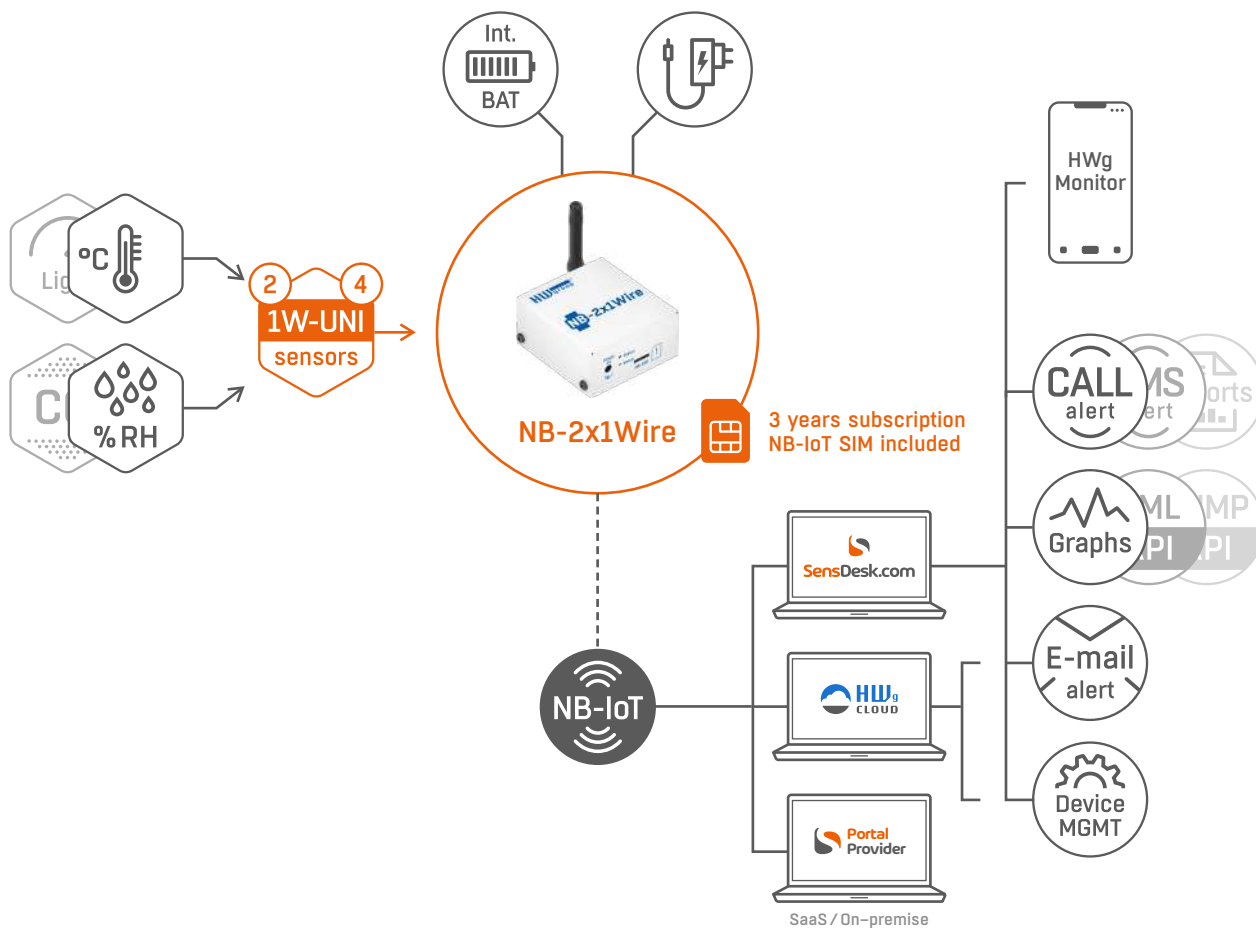
*A simple device for monitoring of Temperature, Humidity and more in remote places. Narrowband IoT connectivity.*

NB-2x1Wire is a device for connecting temperature, humidity or other 1-wire sensors. The device allows connecting sensors in 2 ports with the 1-Wire or 1-Wire UNI bus that can measure up to 4 sensor values. It is powered by an internal battery or external power supply.

The NB device has to be connected to any SensDesk Technology

based portal (SaaS). Manufacturer provides a limited free portal (HWg-cloud.com) as the default pre-configured option.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable



NB-2xIn



*An easy to use device with Narrowband IoT connectivity for monitoring of detectors with digital inputs in remote places.*

NB-2xIn is a device for connecting door contacts, smoke, gas and motion detectors with a dry contact input. It allows connecting of 2 independent detectors. It is powered by an internal battery or external power supply. The NB device has to be connected to any SensDesk Technology based portal (SaaS). Manufacturer provides a limited free portal



(HWg-cloud.com) as the default pre-configured option.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

NB-2xOut



*Narrowband IoT device with relay outputs, that can control remote technology manually or based on conditions.*

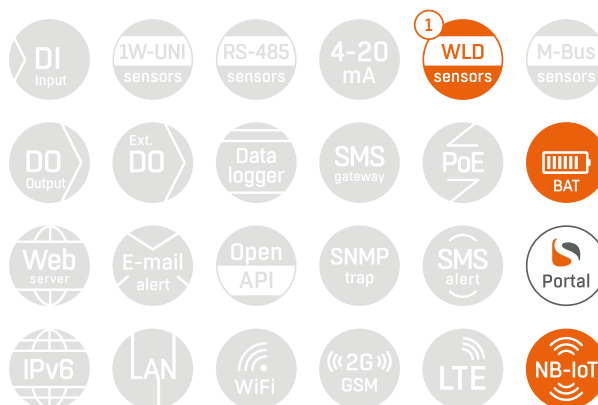
The NB-2xOut device features 2 DO (Relay outputs) that can be easily controlled using the portal. Each output (latching relay) can be controlled manually from the portal or based on alarms from other devices. It is powered by an internal battery or external power supply. The device has to be connected to any SensDesk Technology based portal (SaaS).



Manufacturer provides a limited free portal (HWg-cloud.com) as the default pre-configured option.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

## NB-WLD

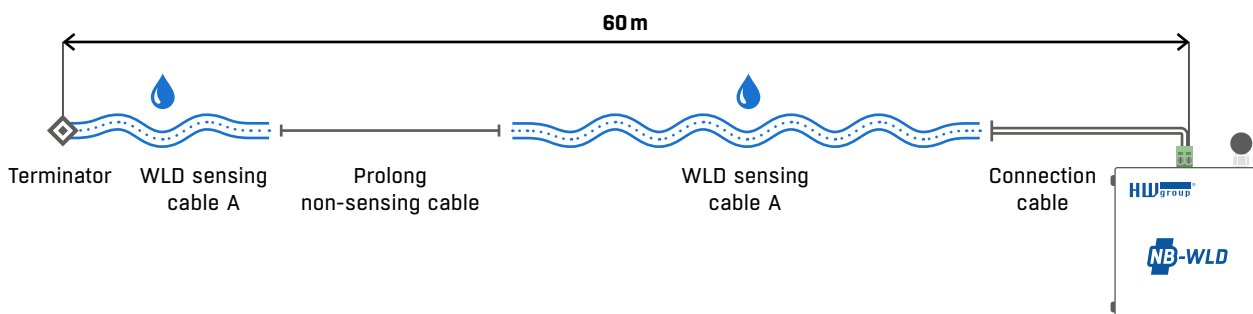


*NB-WLD is a water leak detector with Narrowband IoT connectivity. It uses a very sensitive detection cable.*

NB-WLD is a simple device that detects water leaks using a sensing cable. Thanks to early detection and alerting, NB-WLD can prevent substantial damages. It is powered by an internal battery or external power supply.

The device can be monitored and configured remotely using the SensDesk Technology based portal.

Portal	SensDesk Technology ( <b>mandatory</b> )
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable



## Battery inside

*Disposable (non-rechargeable) battery is inside of all NB-xxx devices. The battery supplies power to the external sensors / WLD detection cable.*

Battery power can alert you to outage of external power (power adaptor). The device continuously indicates the status of the internal battery.

When running on battery power, the device may measure / communicate less frequently. The device can operate on the battery for 1-3 years depending on the configuration of external sensors, ambient temperature and communication parameters with the portal.





# Sensors and Detectors

*HW group offers more than 70 precise Sensors and Detectors for every application. The Sensors measure a continuous analog value, use only original accessories from the HW group (except Pt100 ports or 4-20mA industrial sensor Analog Inputs). Any Detector with relay output can be connected to DI (Digital Inputs) ports.*





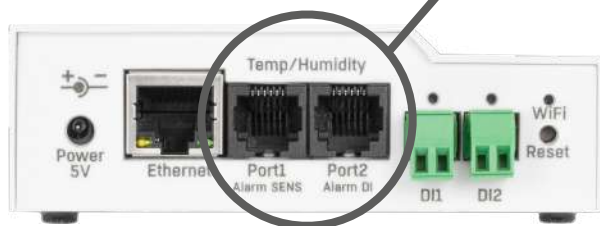
## Sensor values

2  
5  
1W-UNI  
sensors

**5 sensor values** can be measured by STE2 r2 although the device has only **2 ports** (RJ11). The number of 1W-UNI sensors always indicates how many sensor values the device can measure.

5 sensor values

2 ports



**1 sensor value**  
in 1 physical sensor  
Temp-1Wire (Temperature).



**2 sensor values**  
in 1 physical sensor  
HTemp-1Wire (Relative  
Humidity, Temperature).



**3 sensor values**  
in 1 physical Sensor CO2  
1W-UNI (CO<sub>2</sub>, Temperature  
and Relative Humidity).

## RJ11 (1W-UNI) Sensors

### Compatibility:

Ares, NB-2x1Wire, Poseidon2, SD-2x1Wire, STE2

1W-UNI  
sensors



### Temp-1Wire-Flat 3m

Temperature range: -30 to 60 °C,  
IP67 rating



### Temp-1Wire 3m calibrated

Temperature range: -10 °C to 80 °C,  
accuracy: 0.3 °C



### Temp-1Wire IP67

Temperature range: -10 to 80 °C,  
IP67 rating, available in 1m, 3m, 10m



### Temp-1Wire Pt100

Temperature range: -50 to 200 °C,  
IP67 rating



### Temp-1Wire Pt100 Frost

Temperature range: -200 to 160 °C,  
IP67 rating



### Temp-1W-UNI Pt100 Frost

Temperature range: -190 to 150 °C,  
Converter 2xPt100 1W-UNI

## RJ11 (1W-UNI) Sensors

### Compatibility:

Ares, NB-2x1Wire, Poseidon2, SD-2x1Wire, STE2

1W-UNI  
sensors



### HTemp-1Wire-Box2

Temperature range: -10 to 80 °C,  
humidity range: 0-100 % RH



### HTemp-1Wire 3 m

Temperature range: -30 to 80 °C,  
humidity range: 0-100 % RH



### Temp HomeBox

Temperature range: -30 to +70 °C



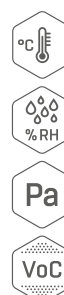
### HTemp HomeBox

Temperature range: -30 to +70 °C  
Humidity range: 0 to 100 % RH



### Sensor CO2 1W-UNI

Temperature range: 0 to +50 °C  
Humidity range: 0 to 95 % RH  
CO<sub>2</sub> range: 300 to 40 000 ppm



### Sensor THPVoc 1W-UNI

Temperature range: -30 to +70 °C  
Humidity range: 0 to 100 % RH  
Atmospheric range: 30 000 to 110 000 Pa  
Air quality range: 0 to 60 000 ppb



### Temp-1W-UNI Pt100 Cable

Temperature range: -50 to 200 °C,  
Converter 2xPt100 1W-UNI



### Temp-1Wire Rack19

Temperature range: -10 °C to 80 °C.  
2 RJ12 connectors



### HTemp-1Wire Rack19

Temperature range: -10 to 80 °C,  
humidity range: 0-100 % RH



### HTemp-1Wire Outdoor 3 m

Temperature range: -30 to 85 °C,  
humidity range: 0-100 % RH



### Humid-1Wire

Humidity range: 0-100 % RH, accuracy:  
5 % RH, available in 1 m, 3 m, 10 m



### 30A DC Current Probe 1W-UNI

Current range: 0-30 A DC



**100A DC Current Probe 1W-UNI**  
Current range: 0-100 A DC



**30A Current Probe 1W-UNI 2**  
Current range: 0-30 A DC



**Sensor 4-20mA 1W-UNI**  
8-point calibration table



**Sensor 0-20mA 1W-UNI**  
8-point calibration table



**Sensor WLD Relay 1W-UNI**  
Up to 185 meters of water  
detection cable



**Flood detector 1W-UNI 3m**  
Water flood detection in 1 spot,  
can be fully submerged



**Light 1Wire-UNI**  
Illuminance: 0-100 %



**Sensor 230 V AC 1W-UNI**  
Voltage range: 100-250 V AC



**Sensor 60V 1W-UNI v2**  
Voltage range: 0-60 V DC



**UPS 12 V and 5 V**  
Status info (1-Wire UNI / relay),  
capacity: 1,3Ah

## Detectors connect to DI

### Compatibility:

Ares, Damocles2, NB-2xIn, Poseidon2, SD-2xIn, STE2

DI  
Input



**Door Contact MK4**  
3 m connection wiring



**AirFlow Detector 5101**  
Wind speed: 1 to 10 m/s,  
IP67 rating



**Sensor WLD Relay 1W-UNI**  
Up to 185 meters of water  
detection cable



**Power Detector**  
110 / 230 V voltage,  
relay output (max. 50 V / 130 mA)



**PowerEgg2**  
110/230 V single phase, max. load 8 A



**Gas Leak Detector**  
2 optional reactions



**Vibration Detector SS14**  
IP23 rating



**Motion PIR Detector**  
Recommended installation height: 2.5 m,  
detection range: 120 ° / 12 m



**Optical Smoke Detector FDR26**  
Covered space: 40 m², max. height 7 m



**UPS 12 V**  
Status info (relay), capacity: 1,3 Ah

## RS-485 Sensors

**Compatibility:**  
Poseidon2 4002

RS-485  
sensors

**HTemp-485 T3411**

Temperature range: -30 to 80 °C,  
Humidity range: 0-100 % RH,  
Dew Point range: -60 to 80 DP °C

**HTemp-485 T3419**

Temperature range: -30 to 105 °C,  
Humidity range: 0-100 % RH,  
Dew Point range: -60 to 80 DP °C

**HTemp-485 Box2**

Temperature range: -10 to 70 °C,  
Humidity range: 0-100 % RH

**Temp-485-Pt100 Box2**

Temperature range: -30 to 70 °C,  
IP65 rating

**Temp-485-Pt100 Cable3**

Probe temperature range:  
-50 to 200 °C

**Temp-485-Pt100 Frost2**

Probe temperature range:  
-190 to 150 °C

**Temp-485 Box2**

Temperature range: -10 to 70 °C,  
IP23 rating

**Spider**

4× DI contacts or 4× 1-Wire to  
RS-485 bus

**Poseidon S-Hub**

8× sensors over RJ45



## M-Bus

**Compatibility:**  
HWg-PWR 3/12/25

M-Bus  
sensors



**M-Count 2C**  
2× pulse input (S0)/M-Bus output



**Meter 3f ED 310.DB HWG**  
3× 230 V/400 V, 63 A



**Meter 1f PR01-Mb 45A M-Bus**  
Single-phase electricity meter 45A with M-Bus



**Meter 1f PR02-Mb 100A M-Bus**  
Single-phase electricity meter 45A with M-Bus



**Meter 3f PR0380-Mb x/5A M-Bus**  
Three-phase electricity meter indirect measurement, MID approved. Pulses & M-Bus data output - 3×230V/400V, 100A.



**Meter 3f PR0380-Mb 100A M-Bus**  
Three-phase 380V M-Bus energy meter for direct measuring (max load 100A). Pulses & M-Bus data output - 3×230V/400V, 100A.

## RJ11 (1W-UNI) Converters

**Compatibility:**  
Ares, NB-2x1Wire, Poseidon2, SD-2x1Wire, STE2



**Expander 4xDI 1W-UNI**  
4× digital inputs on 3 m cable



**Converter 2xPt100 1W-UNI**  
External temperature probe from -200 to +850 °C, 8-point calibration table



**Relay Output 1W-UNI**  
4× relay output, supported only by HWg-Ares12 and Ares 12 LTE

## Accessories



**Probe Pt100 TR125 2 m**  
Temperature range: -190 to 150 °C, IP67 rating



**Probe Pt100 TG8 2 m**  
Temperature range: -50 to 200 °C, IP67 rating

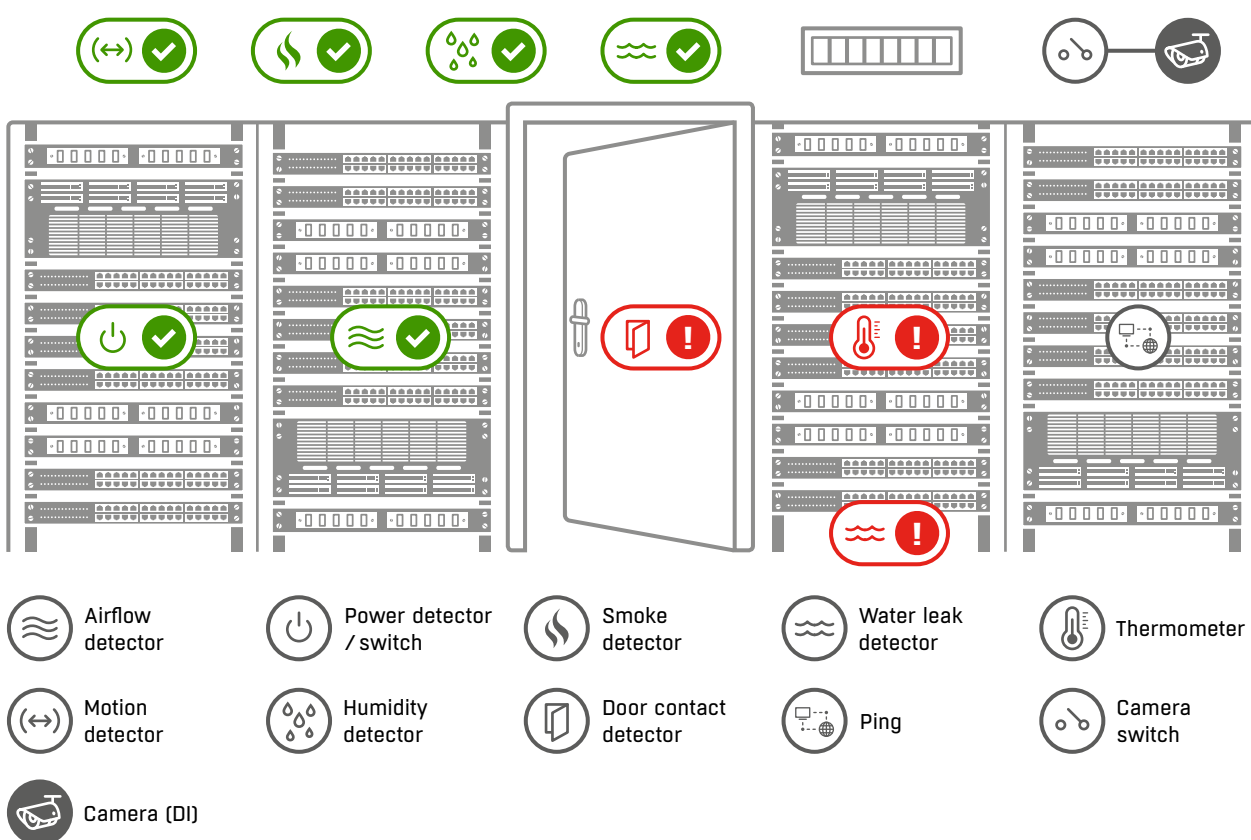


# System Solutions

*The SensDesk Technology portals are a universal and robust solution for many applications. Create an account on any of the portals and start benefiting from the SensDesk Technology. For details about individual SensDesk Technology portals see pages 6–9.*

The SensDesk Technology portal handles all the monitoring you need. It allows you to remotely upgrade your devices, identify problems, perform mass operations and manage your entire IoT network. SensDesk Technology will give you the best tools to analyze your measured values so you can rely on your data. You will always be alerted on time in case of a problem. You can also get periodical reports to make sure that you are compliant with regulations.

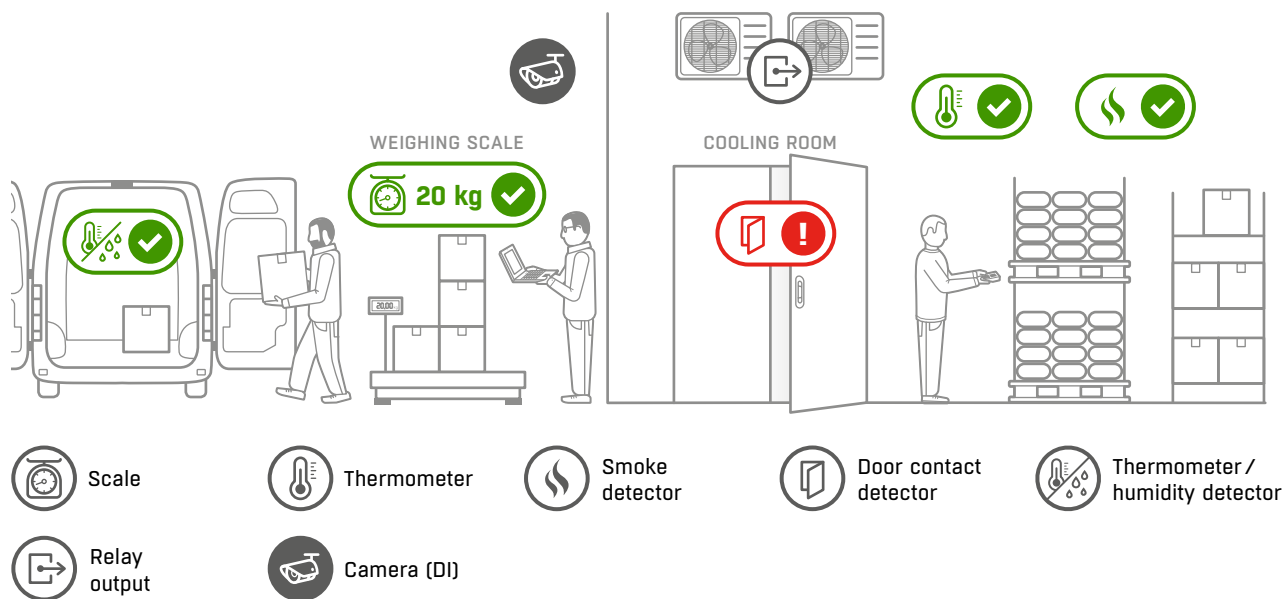
## Data centers & server rooms



Data centers and server rooms are one of the most critical and vulnerable parts of every company. A simple overheating issue can degrade application performance for the end-users. Not to mention critical damage by heat, water leaks, or fire. We offer a simple and easy to install solution using HW group devices and the SensDesk Technology portal. SensDesk Technology offers you different user and administration levels and tools for mass operations making it robust and convenient even for large installations. Thanks to SensDesk Technology reports, graphs, and alarms you always know where the problem is. Technicians can receive alarms in realtime, drill down to the exact issue and start troubleshooting before the end-user experiences any impact.

- ✓ Complex remote monitoring
- ✓ Detailed analysis of data, reports
- ✓ Several layers of alarming and users
- ✓ Temperature and humidity monitoring
- ✓ Water leaks and fire detection
- ✓ Motion detection
- ✓ Output data to other systems

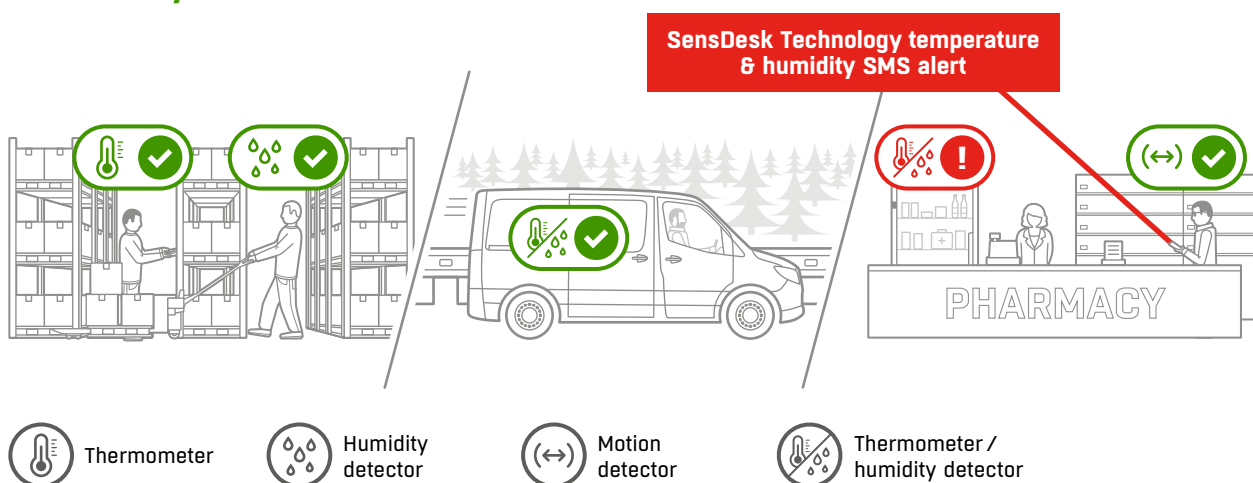
## Warehouses and storage rooms



Warehouse operators need an efficient way to monitor temperature and humidity in their storage facilities and vehicles. Thanks to the SensDesk Technology monitoring portal and HW group IoT devices, your storage facilities will be safe and compliant to regulations. You can also make sure your cargo is within the weight limit with scale with 4-20 mA industrial input. In case of overheating, you can remotely control the air conditioner.

- ✓ Temperature and humidity monitoring
- ✓ Water leaks and fire detection
- ✓ Intrusion detection
- ✓ Remote air condition control
- ✓ Easy deployment
- ✓ 4-20 mA industrial sensor input

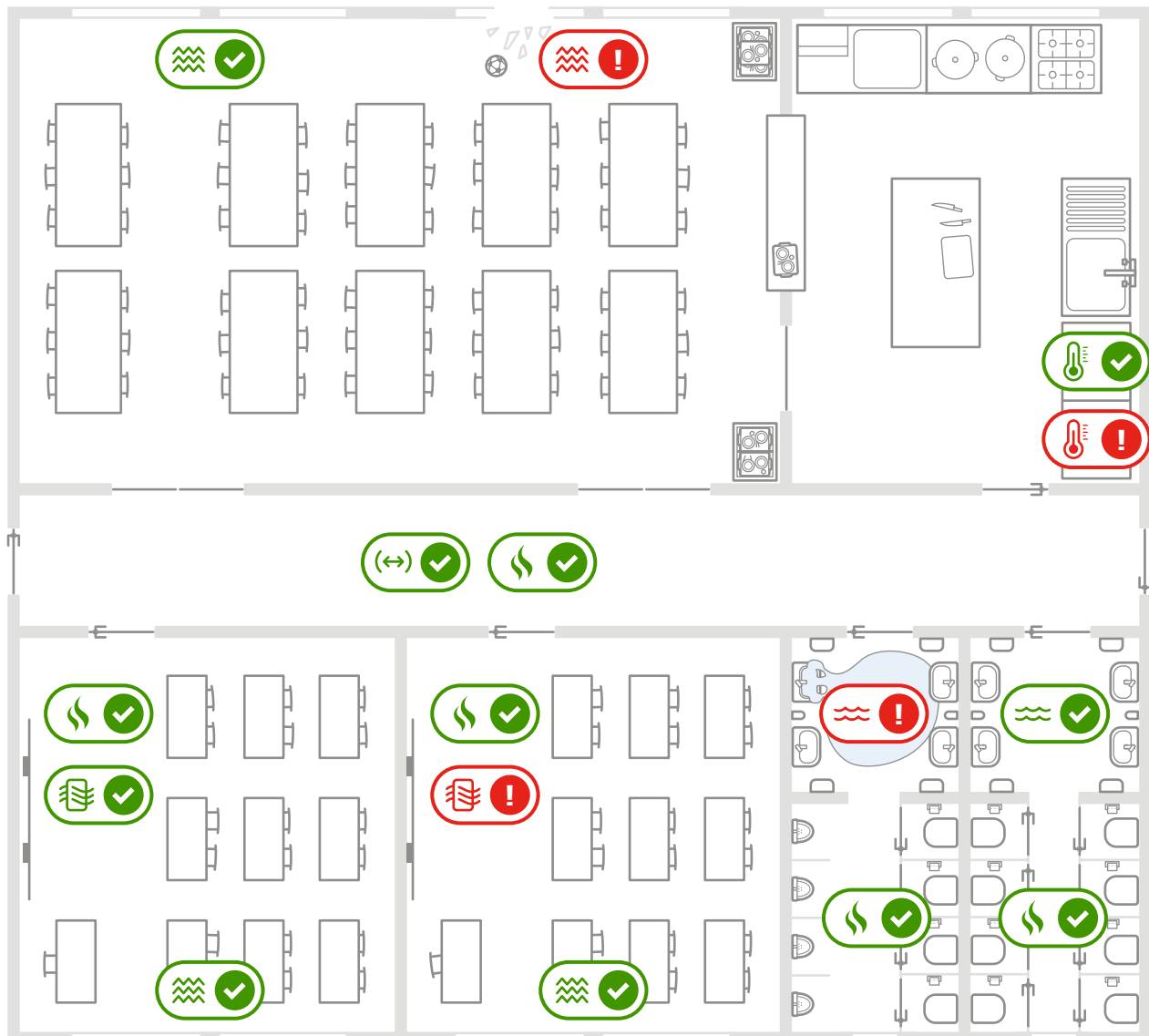
## Pharmacy and medical



Pharmacies and medical companies are required to comply with many standards and regulations. With SensDesk Technology you can simply set the safe values of temperature, humidity and other conditions. Then you can receive alarms whenever there is a problem and the values get out of the safe range. You can also create reports to confirm that you are complying with regulations.

- ✓ Temperature and humidity monitoring
- ✓ Precise flat sensors for fridges
- ✓ Wide temperature range down to -200°C
- ✓ Easy installation and setup
- ✓ Scalable for multiple fridges and sites

## Schools and public buildings



 Vibration detector

 Air quality detector

 Smoke detector

 Water leak detector

 Motion detector

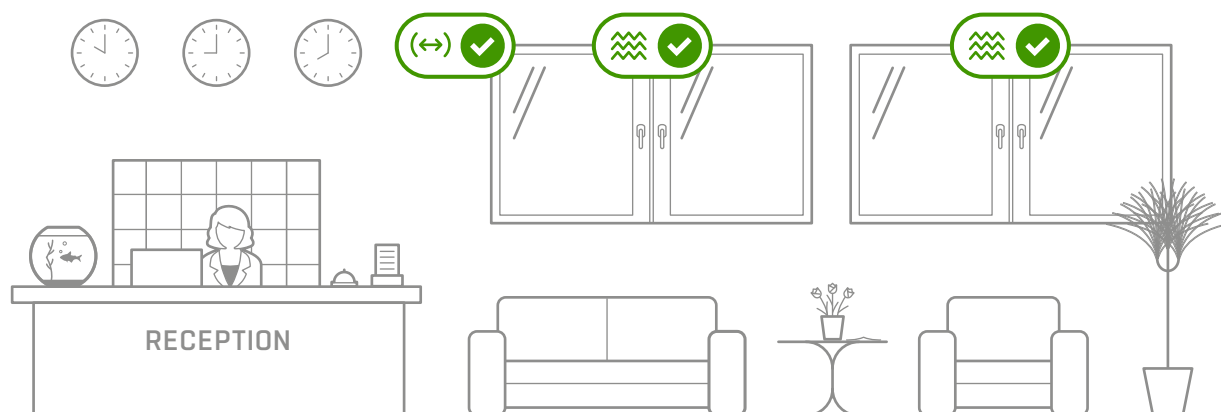
 Thermometer

Schools and public institutions need scalable and reliable monitoring. SensDesk Technology helps you manage your IoT sensors data even in large installations. You can remotely control the temperature and air quality in the rooms, data is collected and analysed. The system can react to alarm values immediately. Fire and water leaks are serious hazards that can be carefully monitored by our IoT monitoring devices combined with SensDesk Technology portal.

- ✓ Complex IoT monitoring
- ✓ Hundreds of measuring points
- ✓ Detailed analysis of data, reports
- ✓ Several layers of alarming
- ✓ Access control solution available



## Hotels and house rentals



Vibration detector



Door contact detector



Smoke detector



Water leak detector



Motion detector

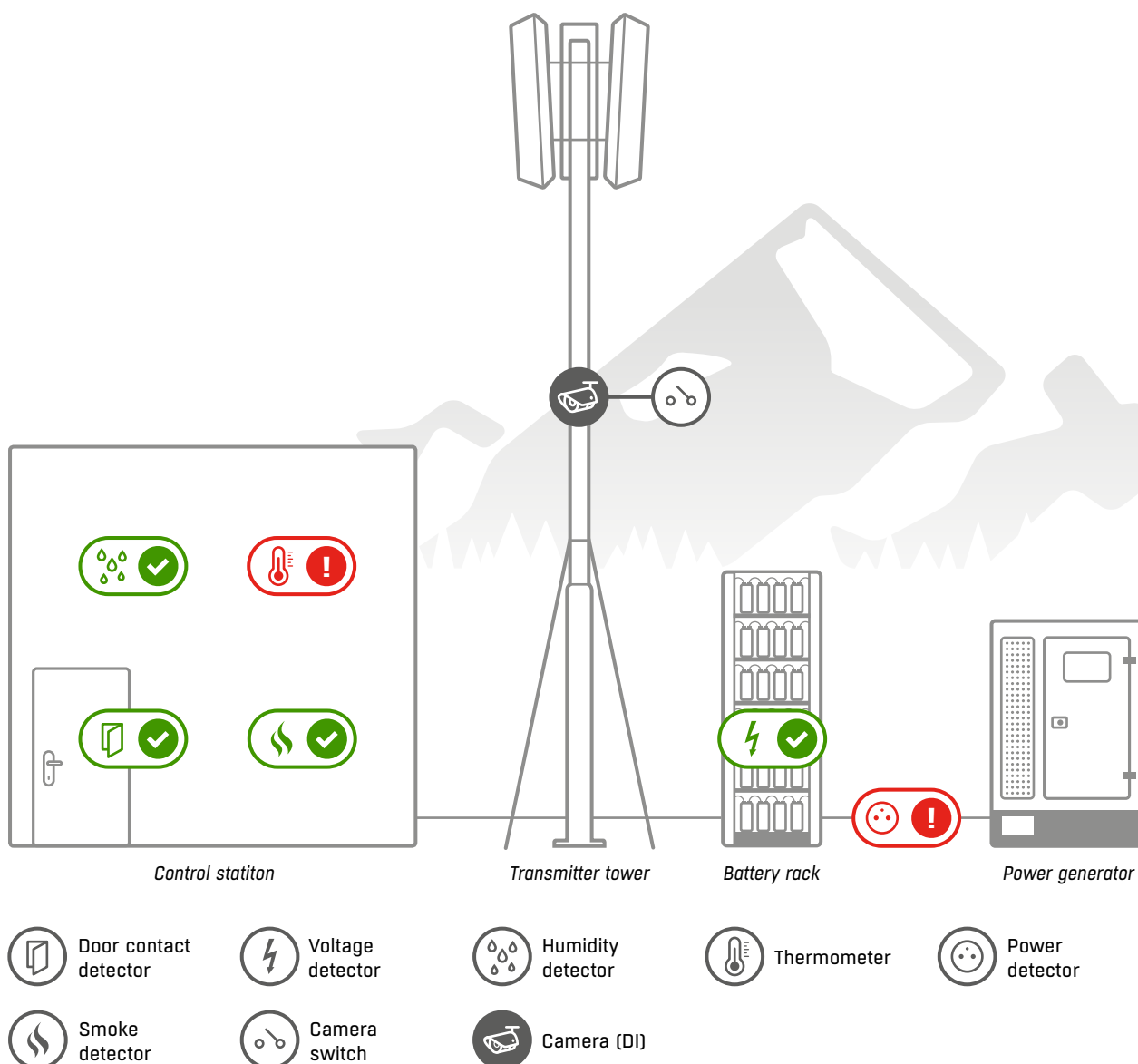


Thermometer

Water leaks or fires in hotels or house rentals can cause very costly damages. The SensDesk Technology portals help you watch over all these risk factors. In case of an event it will immediately send out an alarm or react by shutting down water. The SensDesk Technology portal and HW group IoT devices have been successfully deployed in a number of solutions for many hotels and house rentals.

- ✓ Complex IoT monitoring
- ✓ Hundreds of measuring points
- ✓ Detailed analysis of data, reports
- ✓ Several layers of alarming
- ✓ Access control solution available

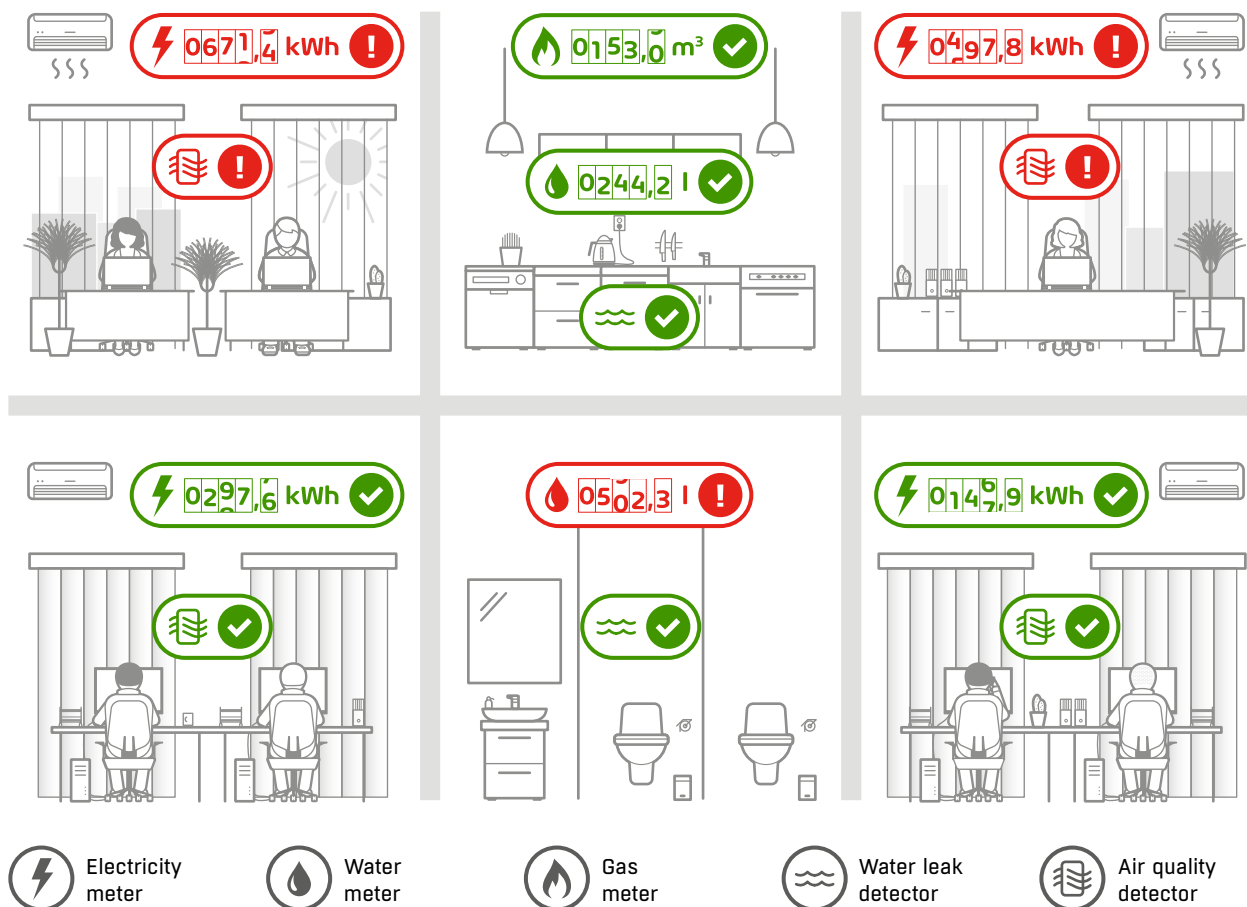
## BTS stations and technology



Technology in remote locations needs reliable monitoring of cooling, heating, and site conditions. SensDesk Technology portals and HW group IoT sensors can detect A/C failures, water leaks, movement, intrusion and more. SensDesk Technology offers you different user and administration levels and tools for mass operations so it's robust and convenient even for large installations. You may also need to monitor your proprietary technology using digital inputs and outputs.

- ✓ Complex remote monitoring
- ✓ Hundreds of measuring points
- ✓ Detailed analysis of data, reports
- ✓ Several layers of alarming and users
- ✓ Output data to other systems

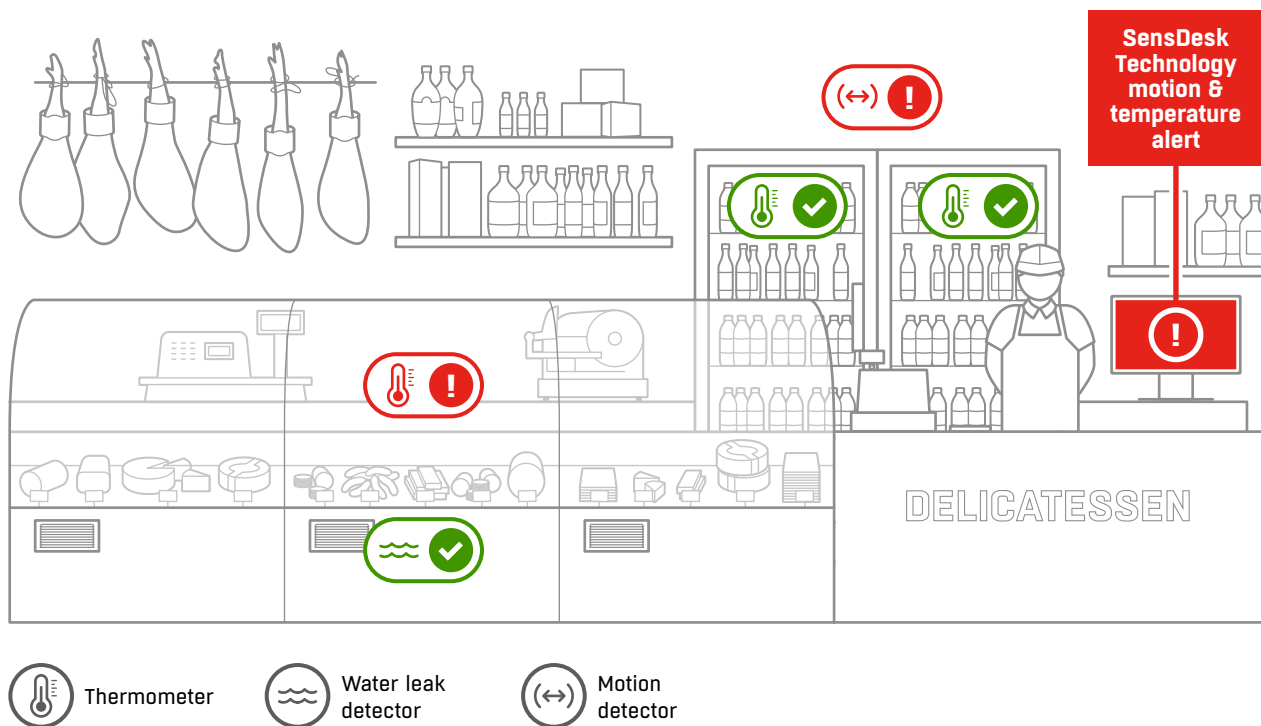
## Smart cities & municipalities



In smart cities and municipal facilities the monitoring of power consumption is important. These values are also affected by outdoor climatic conditions and weather. A common problem in these places is determining the optimal setting for air conditioner and CO<sub>2</sub> concentration. Water leaks must also be monitored. The Sensdesk Technology portal together with HW group IoT units let you develop the best solutions for your smart building's needs and have all the important values under control. Thanks to SensDesk Technology reports, graphs, and alarms you always know which values changed and you can respond quickly to the developing situation. SensDesk Technology portals help the overall optimization of the building's operation and can provide you with huge cost savings.

- ✓ Complex IoT monitoring
- ✓ Hundreds of measuring points
- ✓ Detailed analysis of data, reports

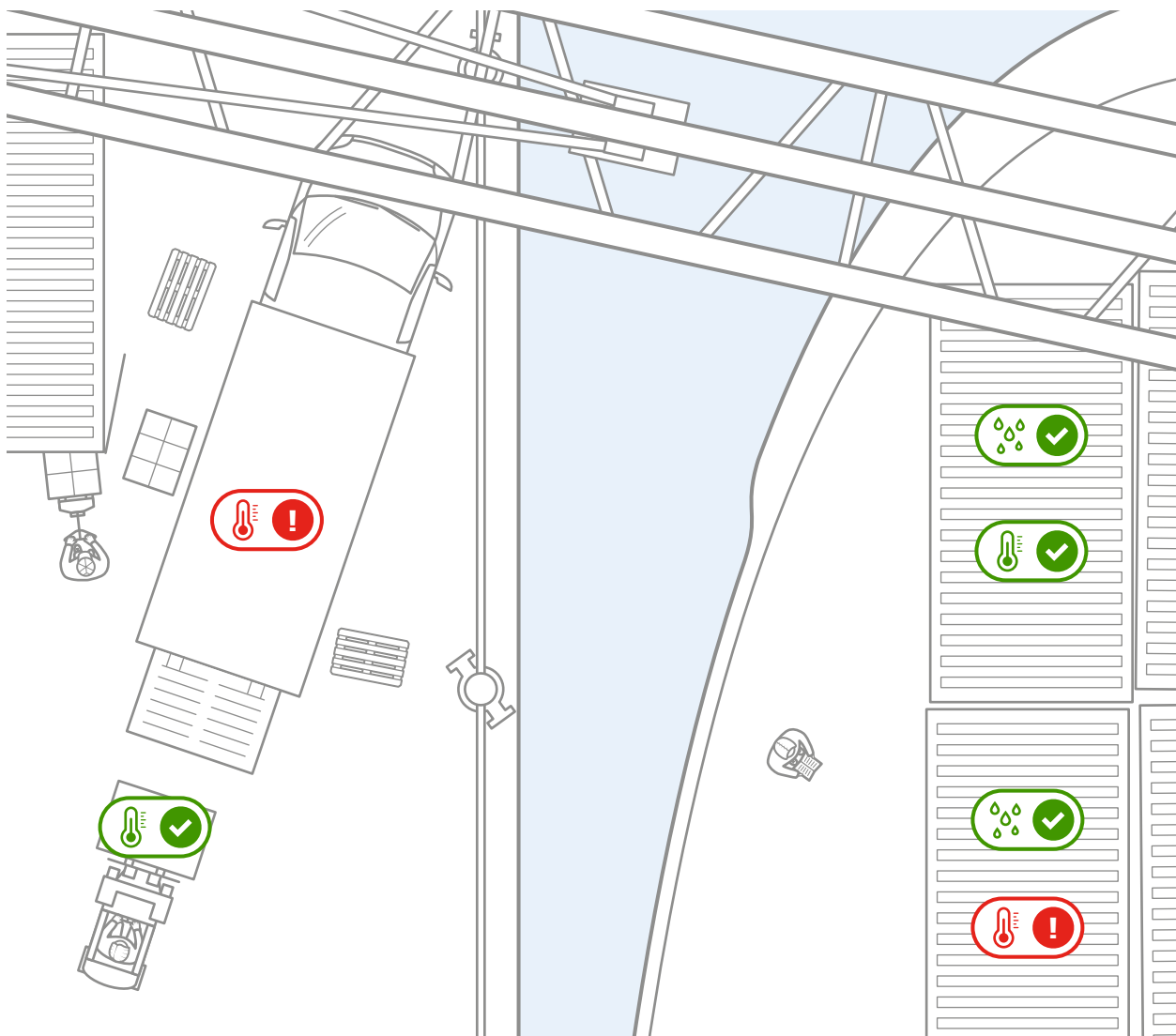
## Stores and retail



Storing food requires precise temperature monitoring, fast alarms and detailed reporting. Our SD devices with the SensDesk Technology portal can help you with that. SD-2x1Wire will monitor your refrigerator temperature. The SD-WLD will detect water leaks under the refrigerator. Thanks to the SD-2xIn you will receive alarms when unauthorized motion is detected in your store. All your data can be summarized in automated reports and emailed to you regularly.

- ✓ Temperature and humidity monitoring
- ✓ Water leaks and fire detection
- ✓ Motion detection
- ✓ Automatic reports
- ✓ Easy installation

## Logistics & transportation



Humidity detector



Thermometer

When transporting and storing sensitive goods it is very important to have all the right values under control and make sure the limits are not exceeded. Such places as shipping container yard need special supervision because there is a huge amount of goods which must be transported. If the current temperature in trucks or containers is not correct, there is a risk of significant damage. For critical shipment monitoring, we recommend the implementation of the SensDesk Technology portal with HW group products. With alarms, graphs and timely reports, you can respond to unexpected influences promptly in order to have all shipments under control. Once a value approaches the set safe limit, you will automatically be alerted by email or SMS so that you can take countermeasures.

- ✓ Temperature and humidity monitoring
- ✓ Immediate alarming on several levels
- ✓ Automatic reports



# IP Serial

IP Serial devices convert a full (9-pin) RS-232/485 serial port to Ethernet and vice versa. The serial port of the device can be connected to a PC over a LAN and accessed in Windows as a Virtual Serial Port (VSP). Digital Inputs and Outputs of the device can be controlled over the Web or using Modbus/TCP or NVT/Telnet. Two IP Serial devices can connect to each other (Box-2-Box mode) in order to tunnel serial communication and I/O, or up to 8 devices can be connected to transfer I/O signals.

- Typical applications include:
- Connecting RS-232 devices to a LAN – barcode /RFID scanners, serial printers, displays
  - Remote control of power supplies, gates, horns and other equipment over RS-232 and RS-485
  - Connecting buttons / switches to a SW application

## PortStore5



PortStore5 is a RS-232 and RS-485 serial port to Ethernet converter with internal memory.

The RS-232 port of PortStore5 can be simultaneously used for data capture (CDR/SMDR, PBX call accounting) and for remote access (virtual serial port). With the freeware PS Eye application, data from the PortStore5 can be saved as txt files for further processing.

Serial port RS-232	1× full serial port (9 pin: Rx/D, Tx/D, GND, CTS, RTS, DSR, DTR, RI, CD)
Serial port RS-485	Max. 115.200 Bd

## I/O Controller 2



I/O Controller2 converts a serial port, digital inputs and digital outputs to Ethernet.

Two units can connect to each other over a LAN (Box-2-Box mode); 8 digital inputs and 8 digital (open collector) outputs can be controlled over the Web or using Modbus/TCP. With the freeware HWVSP3 application, up to 100 remote serial ports can be connected to a single PC.

Serial port RS-232	1× full serial port (9 pin: Rx/D, Tx/D, GND, CTS, RTS, DSR, DTR, RI, CD)
Serial port RS-485	Max. 115.200 Bd

## IP Relay HWg-ER02b



*IP Relay HWg-ER02b connects a full RS-232/485 serial port as well as two digital (binary) inputs and two digital outputs to the Ethernet.*

The digital inputs and outputs can be controlled over the Web or via Modbus/TCP. IP Relay is fully certified to control 110/230V and fits on a DIN rail.

	Web interface	Digital Inputs	Digital Outputs	Modbus / TCP	Logger	NVT	Telnet
PortStore5	✓	-	-	✓	✓	✓	✓
I/O Controller 2	✓	✓	✓	✓	-	✓	✓
IP Relay HWg-ER02b	✓	✓	✓	✓	-	✓	✓

## HW VSP3 Virtual serial port



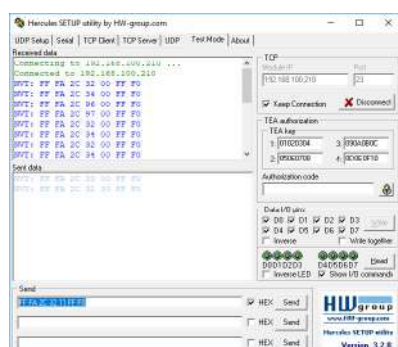
### HW VSP3 – Single

Software driver that adds a virtual serial port (e.g. COM5) to the operating system and redirects the data from this port via a TCP/IP network to another hardware interface, which is specified by its IP address and port. HW VSP3 supports NT services, Windows 8, Windows 10 and Windows Server 2016.

### HW VSP3 – Multi

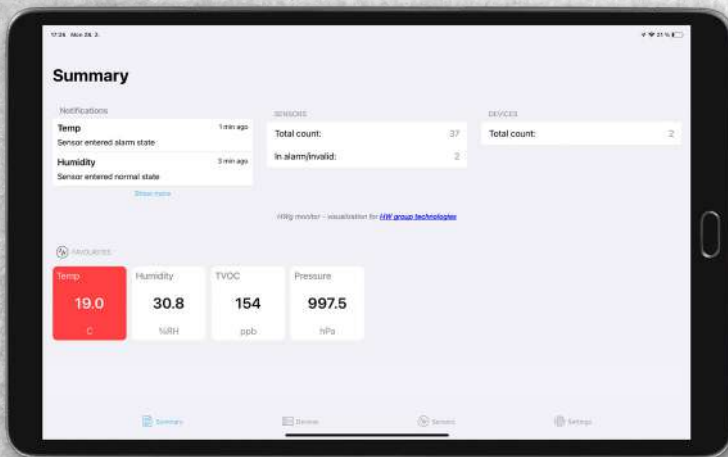
Supports up to 254 remote serial ports. Works with HW group products only.

## Hercules



*Debugging and testing tool for products with a serial port (PortBox, I/O Controller, IP Relay, PortStore).*

Includes: UDP setup, Serial (RS-232 terminal), TCP client (telnet), TCP Server, UDP (UDP terminal) and Test (test mode with I/O functions support).



Sensors overview on the wall

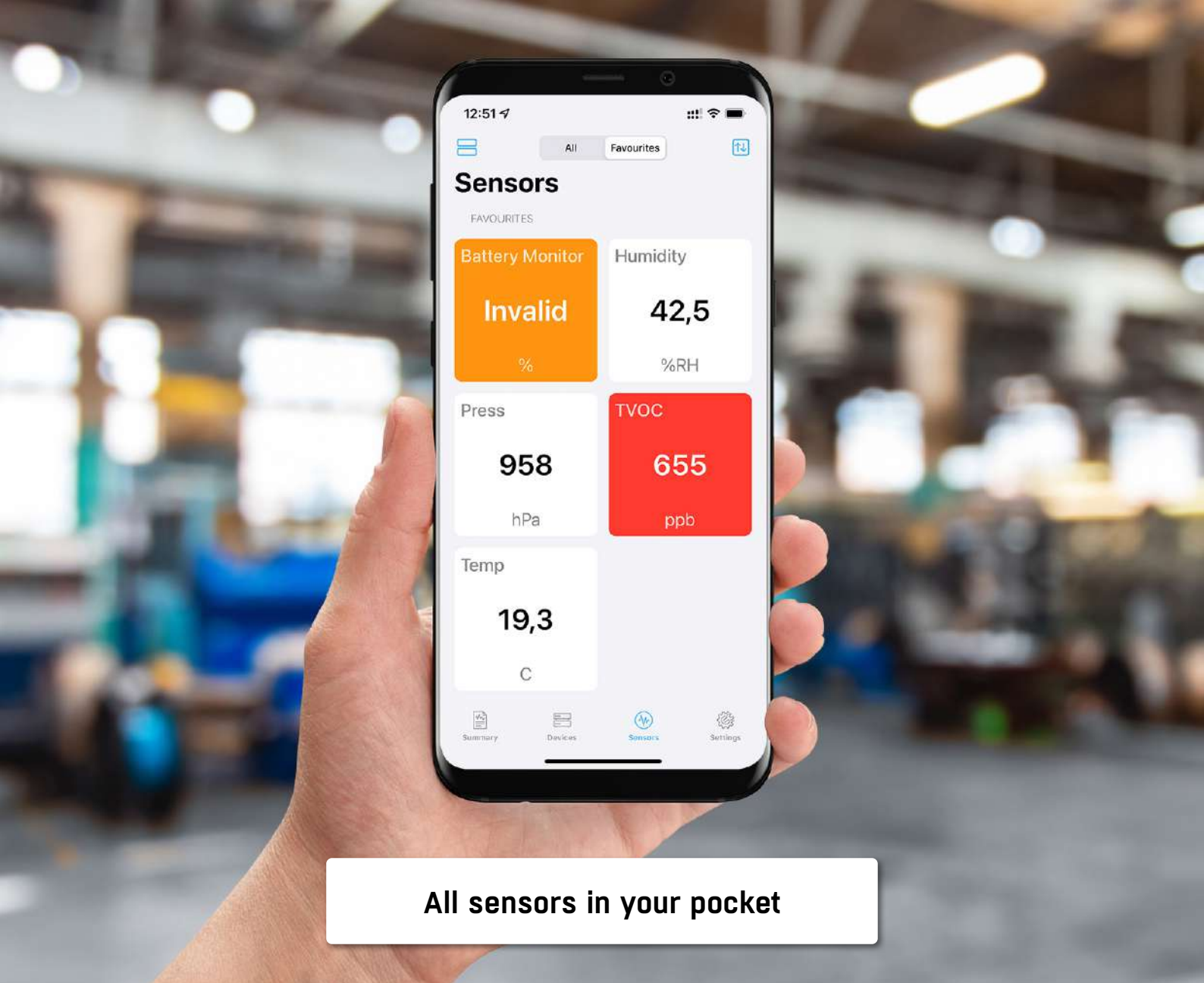


# HWg Monitor



- ✓ All monitored sensors / locations in your pocket
- ✓ Select your own Favorite sensors for fast orientation
- ✓ HWg Monitor: Zoom the screen as you wish
- ✓ HWg Monitor: On the WiFi connectivity you can see all local devices / sensors
- ✓ HWg Monitor: Several user accounts / locations can be shown in one application



	HWg Monitor
Platform	iOS, Android
Local LAN devices	✓ (All HWg devices)
<b>Android TV</b> compatible	✓
Portal: <b>HWg-cloud.com</b>	✗
Portal: <b>SensDesk.com</b>	✓
Portal: Other portals	✓
Can show data from several user accounts	✓
Device	Mobile phone / Tablet



**All sensors in your pocket**

## SMS & Calls available even without Mobile App


*Alerting to your mobile phone can be realized from any paid SensDesk Technology portal even without mobile App(s).*



✓ **Fast alerting by Voice call + SMS**

✓ **Available in every subscription plan**

✓ **Long-term reliable**





# Technology



## 1W-UNI

RJ11 port for several sensors. 60 m total length per each active port. Power included, each sensor has its own unique ID.



## XML

Used to exchange structured data with applications and as a format of configuration files. Available files are XML setup and XML values.



## HTTPS

HTTPS is a secure (encrypted) version of the HTTP communication protocol that is used to display WWW pages.



## SMTP

SMTP (Simple Mail Transfer Protocol) is used to transfer electronic mail (e-mail) messages.



## GPRS

A service for connecting mobile devices to the Internet via the GSM (2G) mobile network.



## SNTP

Protocol for synchronizing a device's internal clock with a time server over the Internet. Allows all devices in a network to use the same and accurate time.

## M-Bus

M-Bus is designed for data transfer in the area of measurements, HVAC control, as well as gas, water and electricity metering.

## SNMP

Simple protocol for exchanging basic system information. Most well-known 3<sup>rd</sup> party SNMP SW: Nagios, PRTG, Cacti, CapTemp, Zabbix, SolarWinds.

## IPv6

Successor of IPv4. The protocol extends the address field from 32 to 128 bits. Integrated security and mobility functions.

## TLS

TLS protocol provides secure communication over the Internet (for WWW, e-mail and other types of data transfer).

## LTE

4G mobile phones technology for connecting devices to the Internet via the GSM (LTE) mobile network.

## netGSM

The netGSM function allows to share one GSM modem connected to one of the devices with other devices in the same network.

## RS-485

A bus for industrial environments. Sensors can be up to 1000 m away. ASCII-based communication.

## Modbus/TCP

Extension of Modbus RTU protocol. Supported in 3<sup>rd</sup> party SCADA SW e.g. Wonderware-In Touch, Citect, Siemens-WinCC.

## MQTT

MQTT is a simple way of transferring small volumes of data over a standard TCP/IP network.

## NB-IoT

NB-IoT (NarrowBand Internet of Things) is a low-power radio technology standard for cellular devices and services. SIM card (for NB-IoT only) is required.

## HWg-Push

HTTP based protocol for active communication from a device (IP sensor) to a central server (portal). This protocol is used for all SensDesk Technology based portals.



	Ethernet/web interface	PoE (Power over Ethernet)	Wi-Fi	GSM / LTE	NB-IoT	RJ11 sensors (1-Wire / 1-Wire UNI) values	RS-485	M-Bus	WLD sensing cable (2D)	DI (Digital Input)	AI (Analog input 4-20 mA)	DO (Digital Output)	VDO (Virtual Digital Output)	Telco power -48 V	Data Logger in the device	PushLog 256kB (offline log for SensDesk)	HWg-cloud.com (free service)	SensDesk.com (paid service)	HTTP	HTTPS	E-mail alerts/reports notification	SMS + Call (Ring) notification	SNMP v1	SNMP v3	SNMP trap	XML API	Modbus / TCP	MQTT (IoT)	IPv6		
Ares 12 GMS / LTE				✓		14				2					✓	✓	✓	✓			5	5				✓					
Damocles2 1208	✓	✓								12	8	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
Damocles2 2404	✓	✓								24	4	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
Damocles2 MINI	✓	✓								4	2	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
HWg-PWR25	✓						25		8					✓			✓	✓	✓	✓	3	1*	✓		1	✓	✓				
IP WatchDog2 Lite	✓	✓									2	8		✓			✓	✓	✓	✓	2	1*	✓		1	✓					
IP WD2 Industrial	✓	✓									2	8		✓			✓	✓	✓	✓	2	1*	✓		1	✓					
Poseidon2 3266	✓	✓				8				4			✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
Poseidon2 3268	✓	✓				8				4	2	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
Poseidon2 3468	✓	✓				8				4	2	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
Poseidon2 4002	✓	✓				16	24			12	4	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓		
SMS-GW3 GSM / LTE	✓			✓													✓	✓	✓	✓			✓			✓					
STE2 LITE	✓		✓			4									✓		✓	✓	✓	✓	5	5*	✓			✓					
STE2 R2	✓	✓	✓			5				2					✓		✓	✓	✓	✓	5	5*	✓			✓					
STE2 PLUS	✓	✓	✓			15				2		8			✓		✓	✓	✓	✓	5	5*	✓	✓	✓	✓	✓		✓		
WLD2	✓	✓	✓						4			4			✓		✓	✓	✓	✓	4	4*	✓		4	✓					
NB-2x1Wire					✓	4									✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
NB-2xIn					✓					2					✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
NB-2xOut					✓							2			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
NB-WLD					✓				1						✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SD-2x1Wire	✓	✓	✓			4									✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SD-2xIn	✓	✓	✓							2					✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SD-2xOut	✓	✓	✓									2			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SD-4-20mA	✓	✓	✓								1				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SD-WLD	✓	✓	✓						1						✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				



✓ - available

✓ - available on request

✓ - available through SensDesk.com and 3<sup>rd</sup> party portals

\* - to send Alert SMS & Calls you will need HWg-SMS-GW3 (LTE) device on LAN or connect the device to the SensDesk.com service via Internet.



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[www.linkedin.com/company/cartronic-group](http://www.linkedin.com/company/cartronic-group)



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