PRODUCT OVERVIEW
2023

Standalone Monitoring	IoT Monitoring	Sensors & Detectors	System Solutions	IP Serial

www.HW-group.com

HW group®

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.
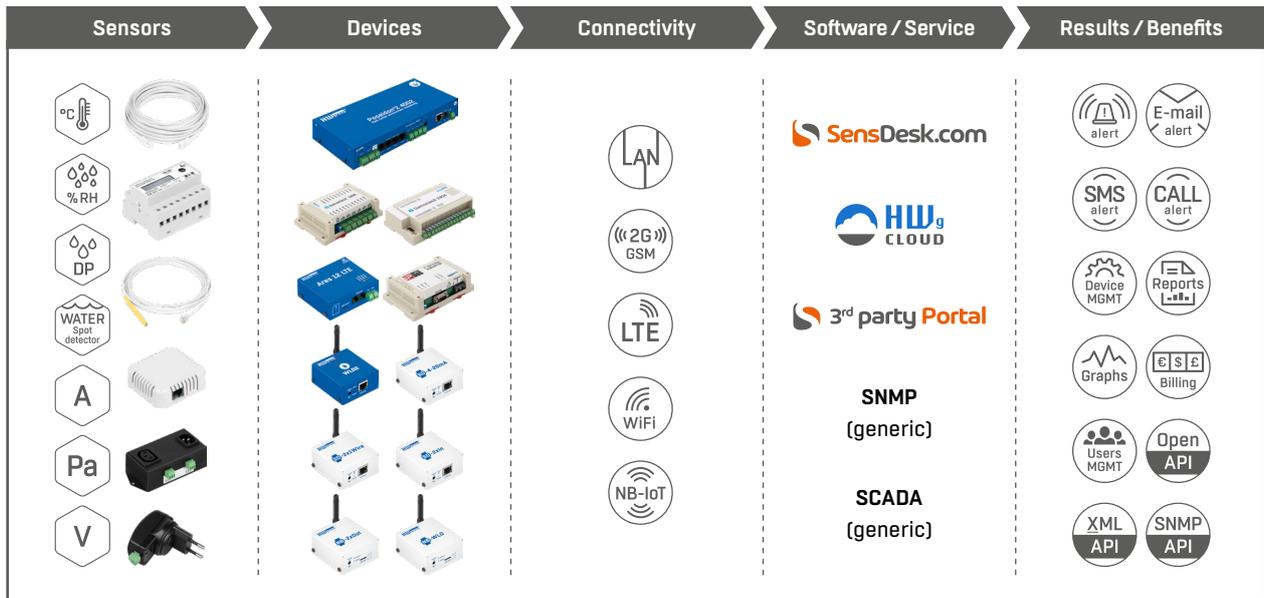
R M E
Remote
Monitoring
Ecosystem

• 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 3rd party systems.

References

Mercedes-Benz · MITSUBISHI MOTORS · ŠKODA · VOLVO · Allianz

RIJKS MUSEUM · SIEMENS · PHILIPS · MTV NETWORKS · STANLEY Security · HSBC

ABN·AMRO Bank · VERTIV · verizon · HUAWEI · VIE Vienna International Airport · QUIKSILVER

ZENTIVA · SANOFI · GTS Novera · Pfizer · BRITISH AMERICAN TOBACCO · Rai · Prague Airport

Remote Monitoring Ecosystem

Sensors	Devices	Connectivity	Software / Service	Results / Benefits
°C		LAN	SensDesk.com	alert / E-mail alert
%RH		2G GSM	HWg CLOUD	SMS alert / CALL alert
DP		LTE	3rd party Portal	Device MGMT / Reports
WATER Spot detector		WiFi	SNMP (generic)	Graphs / Billing
A		NB-IoT	SCADA (generic)	Users MGMT / Open API
Pa				XML API / SNMP API
V				

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, and South & North America.

Device features

DI Input Digital Input	**1W-UNI sensors** 1-Wire UNI sensors	**4-20 mA** AI (Analog Input) 4-20 mA	**RS-485 sensors** RS-485 industrial sensors	**WLD sensors** Water Leak Detection
M-Bus sensors M-Bus sensors	**OC DO Output** Open Collector output	**DO Relay** Relay Output	**Virtual VDO Output** Virtual Output	**Ext. DO Relay** Relay output 1W-UNI expander
PoE Power over Ethernet	**PoE** Power over Ethernet on request	**Data logger** Data logger	**SMS alert** SMS notification	**SNMP protocol** SNMP protocol
E-mail alert E-mail notification	**SMS gateway** HW group SMS gateway	**Web server** Web server	**Portal** SensDesk.com HWg-cloud.com 3rd party portals	**LAN** Ethernet
WiFi Wi-Fi	**GSM/GPRS** GSM / GPRS	**LTE** LTE	**NB-IoT** Narrowband	Battery / Accumulator

Sensors & Detectors

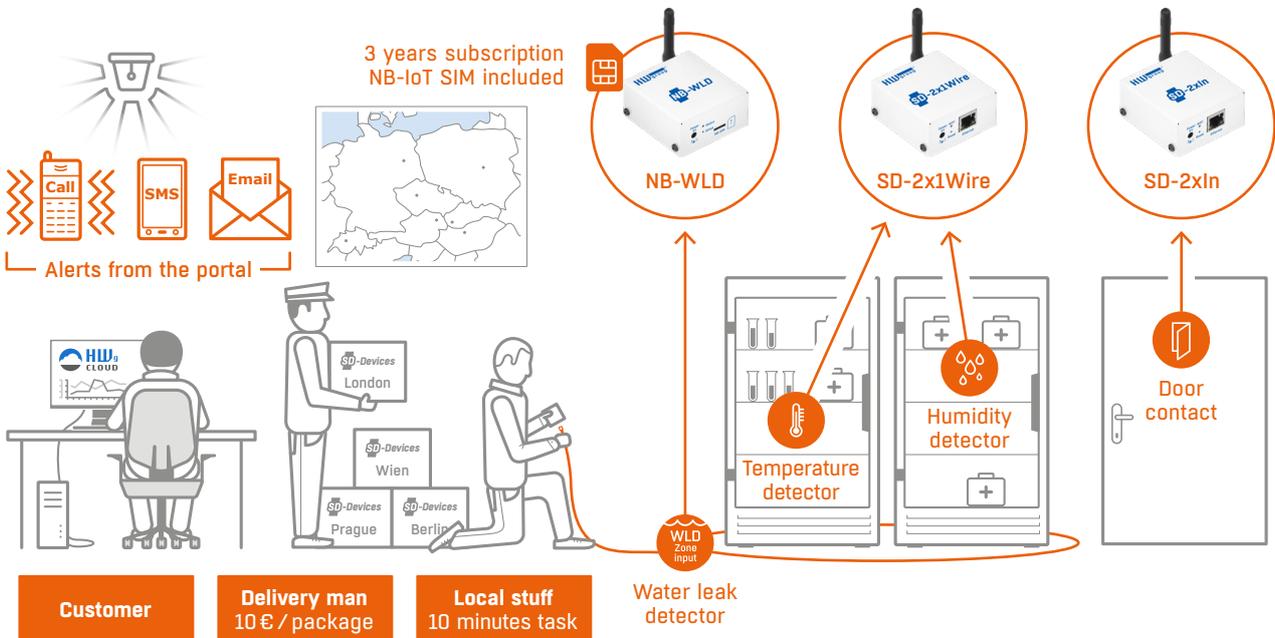|				
°C Temperature	%RH Relative Humidity	Light	V Voltage	A Current
Pa Atmospheric pressure	VoC Air quality	CO_2 Carbon dioxide	DP Dew point	WLD Zone input Water leak detection
Airflow	W Energy	Door contact	WATER Spot detector Water spot detection	230V Supply
Gas	Motion	DI Input Digital Input	DO Relay Digital Output	Smoke

Standalone Monitoring

Standalone Monitoring products can be used independently (portal is not required). Devices are sending emails, 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.

Humidity detector

Poseidon2 / Damocles2

Door contact

Temperature detector

WLD Zone input

Water leak detector

Customer	System integrator 100 € / h	IT technician 80 € / h
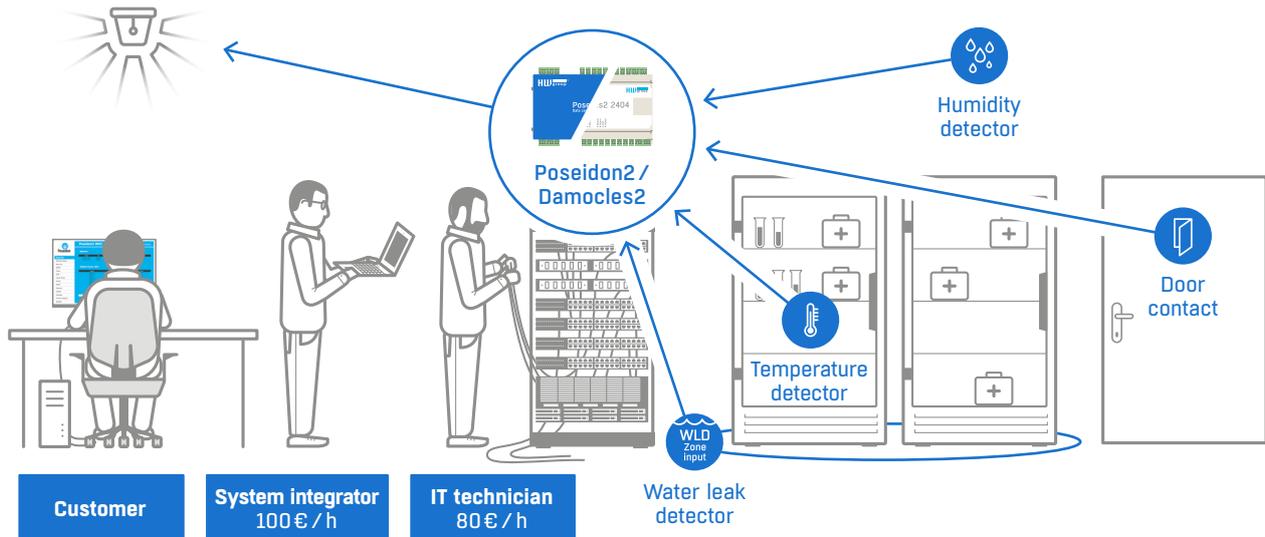
	Standalone Monitoring	IoT Monitoring
Installation on the site	Expert	Junior
Device configuration	Device's WEB interface	**Portal only**
Portal connectivity (any SensDesk Technology portal)	Optional	**Mandatory**
Default configured portal	**No portal**	HWg-cloud.com
Open API (SNMP, XML)	**Each device** (5 devices – 5 IP addresses)	**User account** on the portal (5 devices – 1 user account)
Alerting	**Each device** sending alerts by itself	Provided by portal
+ Email alerts	3rd party SMTP server(s) required	Provided by portal
+ SMS / Call alerts	3rd party SIM card (GW device) required	Provided by portal
Central devices management	None / NMS (SNMP) / Portal	**Portal only**

IoT Monitoring

IoT Monitoring are very simple (single-purpose) products. Installation is easy, connect to the LAN, plug 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).

3 years subscription
NB-IoT SIM included

Alerts from the portal

NB-WLD

SD-2x1Wire

SD-2xIn

Temperature detector

Humidity detector

Door contact

Water leak detector

Customer

Delivery man
10 € / package

Local stuff
10 minutes task

Portal brings 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 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

SNMP
<XML>

- ✔ 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
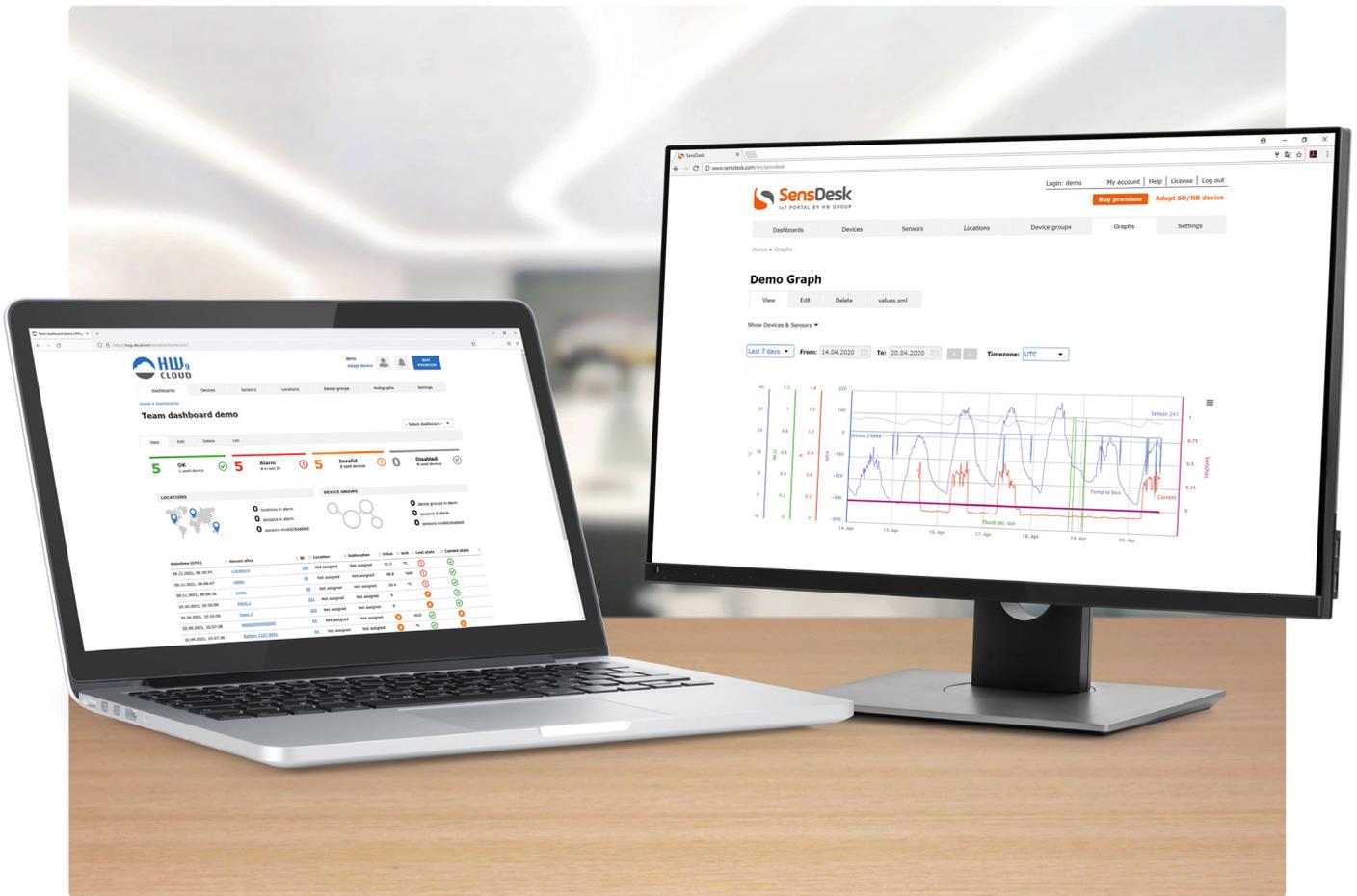
Portal: SensDesk Technology

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 3rd party systems thanks to open API.

- The **HWg-cloud.com** is a free service-oriented portal with limited functions.
- The **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 3rd 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.

SensDesk Technology

www.HWg-cloud.com

- **SaaS** (Software as a Service)
- **Default portal** for all HWg devices (latest FW required)
- 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 / .gr / .lv / .ro / …
  - HWportal.cz
  - Other (list on HWg-cloud.com)

30+ DEVICES

70+ SENSORS & DETECTORS

2G GSM · NB-IoT · LTE · LAN · WiFi

DP · %RH · A · 4-20 mA · FLOOD Spot detector · Light · VoC · Pa · CO_2 · °C · V

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.

SensDesk.com	Subscription plans on SensDesk.com		
	5D Alerts	**10D Log**	**25D Alerts & Log**
Device limit	5	10	25
Users limit	1	2	3
SMS / Voice call Alerts	40/month	75/month	100/month
Email Alerts	unlimited	unlimited	unlimited
Log DB (days)	30	365	730*
HWg Mobile	Yes	Yes	Yes
PDF reports and Multigraphs	1	2	5
Multigraphs	1	2	5
Dashboards	1	2	5
Open API (SNMP, XML)	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.
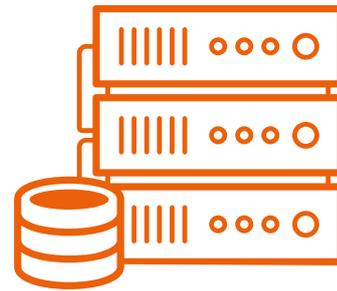
SensDesk DC license

- 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.
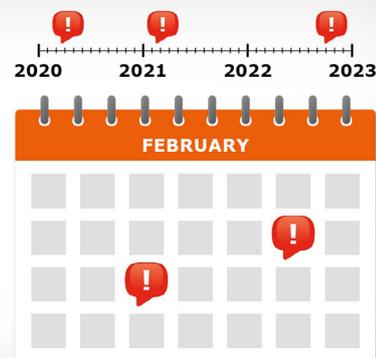
Long-term reliable alerting

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_2, etc.

• Open APIs: SNMP, XML, Modbus/TCP, MQTT, etc.

• 3rd 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_2, 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 adapter and external 1m temperature sensor.

Protocols	SNMP v1, HTTPs, HWg-PUSH, XML, NetGSM
Portal	SensDesk Technology (**optional**)

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_2, VoC, AC/DC current or voltage, and others. There are 2× 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 (**optional**)

STE2 PLUS

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**)
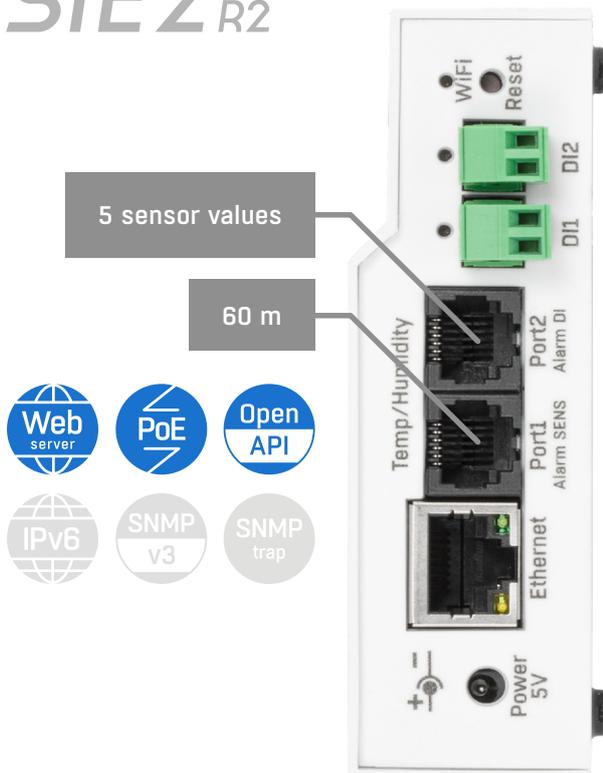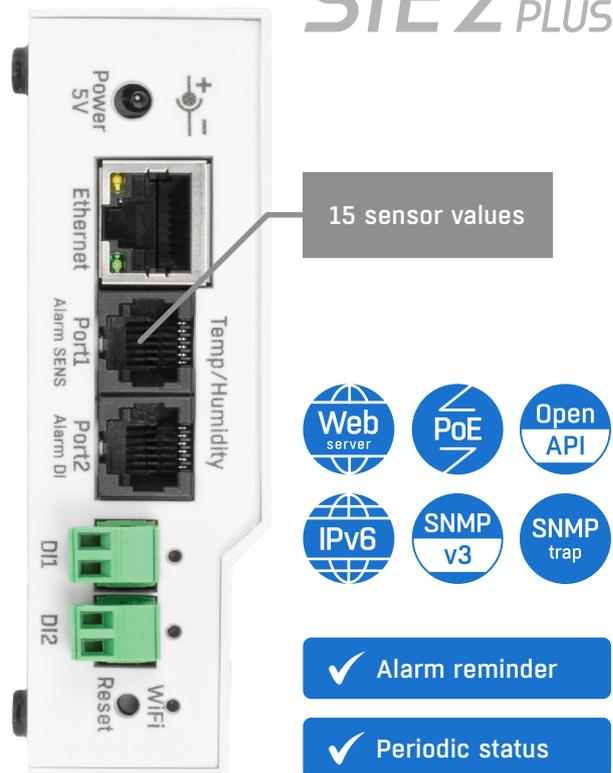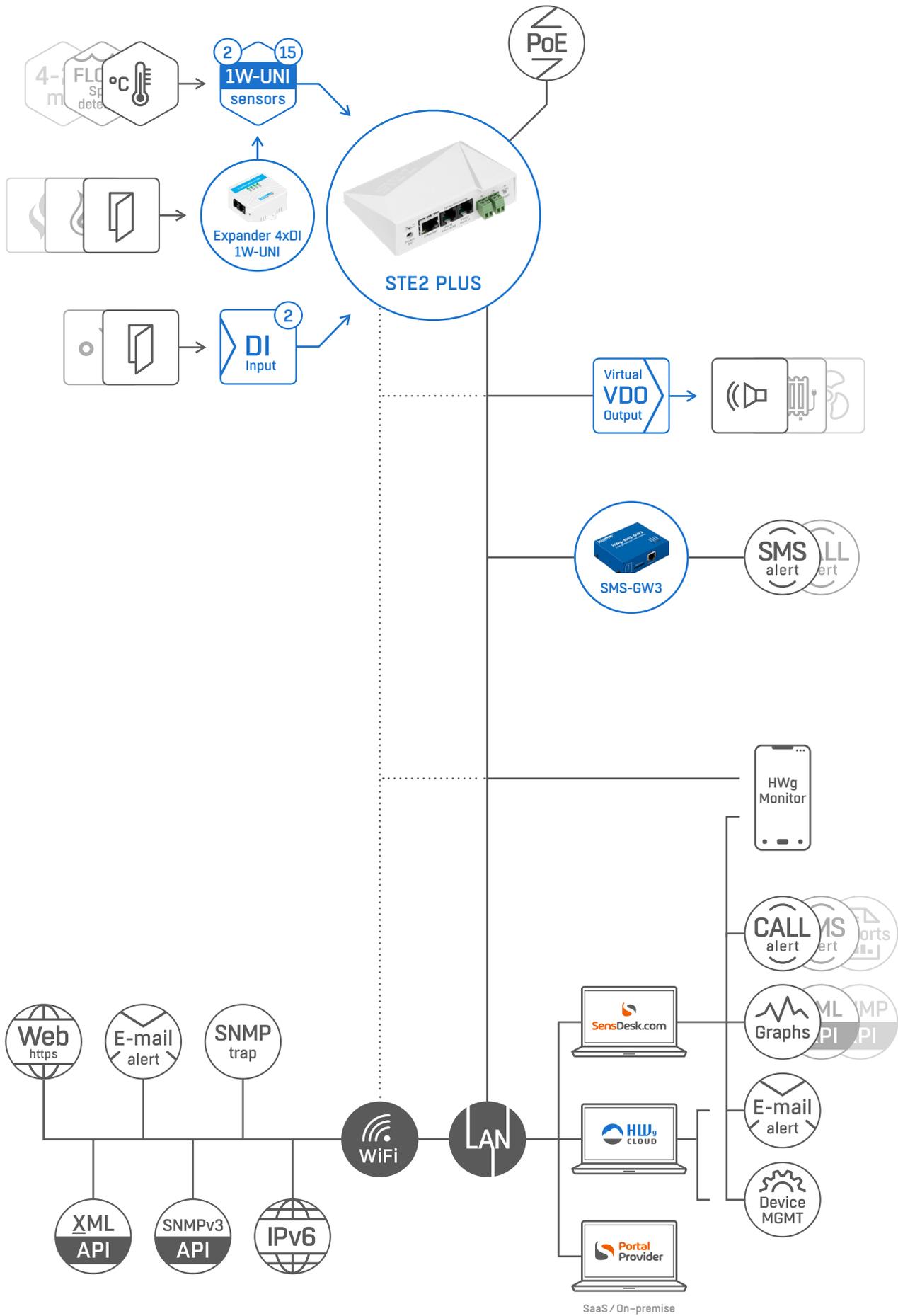
STE 2 R2

5 sensor values

60 m

STE 2 PLUS

15 sensor values

✔ 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.
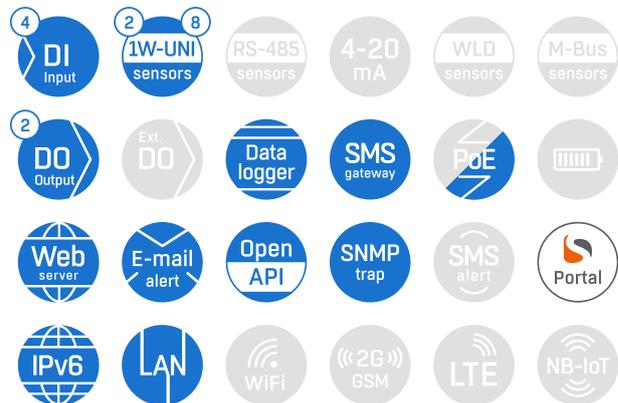
Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology (**optional**)

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.

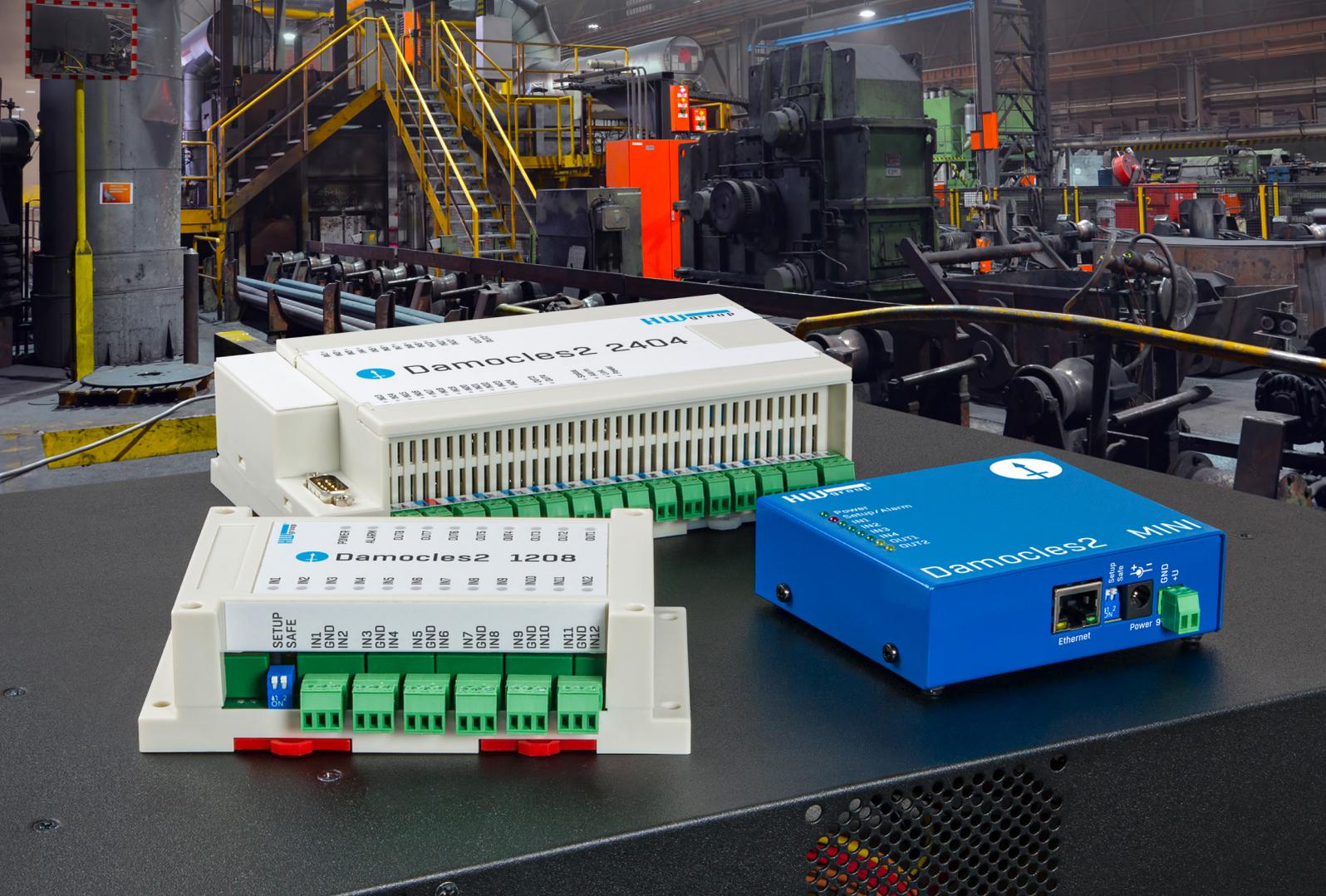| Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology (**optional**)

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 (**optional**)

Damocles2 2404

24 DI Input	1W-UNI sensors	RS-485 sensors	4-20 mA	WLD sensors	M-Bus sensors
4 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

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 9–30 V 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 (**optional**)

Damocles2 1208

Icons: 12 DI Input, 1W-UNI sensors, RS-485 sensors, 4-20 mA, WLD sensors, M-Bus sensors, 8 DO Output, Ext. DO, Data logger, SMS gateway, PoE, (battery), Web server, E-mail alert, Open API, SNMP trap, SMS alert, Portal, IPv6, LAN, WiFi, 2G GSM, LTE, NB-IoT

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 (**optional**)

Damocles2 MINI

Icons: 4 DI Input, 1W-UNI sensors, RS-485 sensors, 4-20 mA, WLD sensors, M-Bus sensors, 2 DO Output, Ext. DO, Data logger, SMS gateway, PoE, (battery), Web server, E-mail alert, Open API, SNMP trap, SMS alert, Portal, IPv6, LAN, WiFi, 2G GSM, LTE, NB-IoT

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.

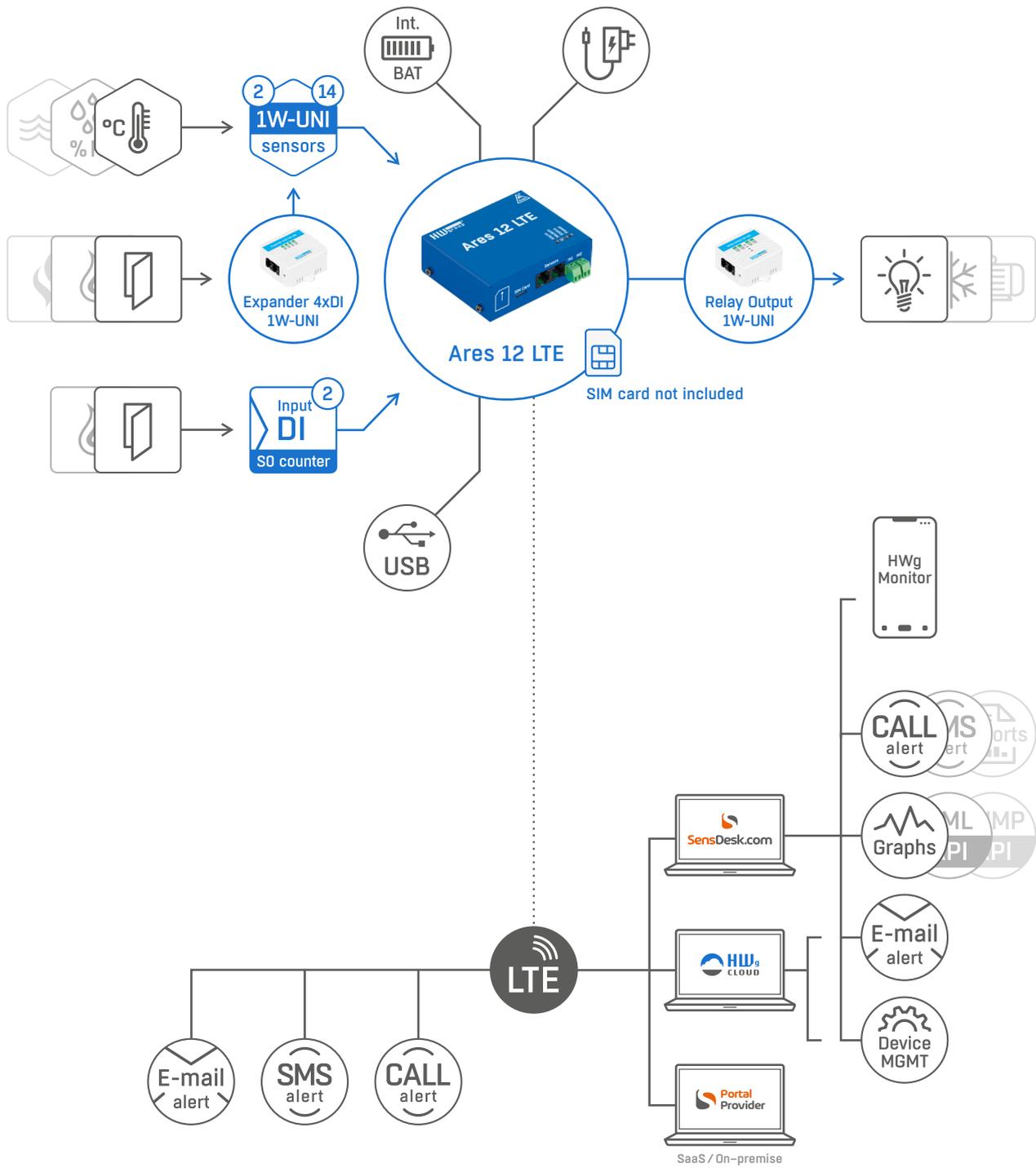| Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Portal	SensDesk Technology (**optional**)

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 battery that powers it, along with external sensors, for several hours. It is ideal for locations without LAN access.
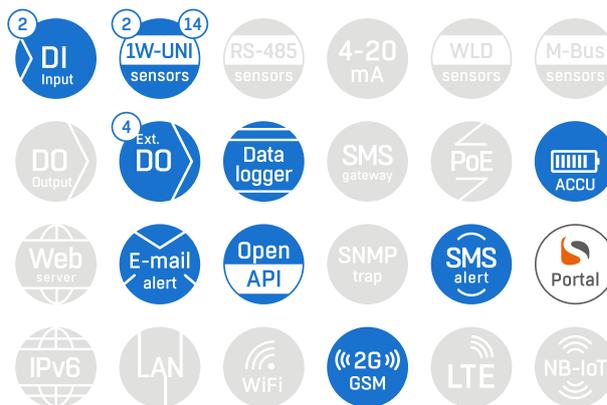
Protocols	HWg-PUSH, NetGSM, SMTP
Portal	SensDesk Technology (**optional**)

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 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 (**optional**)

Int. BAT

2 **14**
1W-UNI
sensors

Expander 4xDI
1W-UNI

Input
DI **2**
SO counter

Ares 12 LTE

Ares 12 LTE

SIM card not included

Relay Output
1W-UNI

USB

HWg
Monitor

CALL
alert

Graphs

E-mail
alert

Device
MGMT

SensDesk.com

HWg CLOUD

Portal Provider

SaaS / On-premise

LTE

E-mail
alert

SMS
alert

CALL
alert
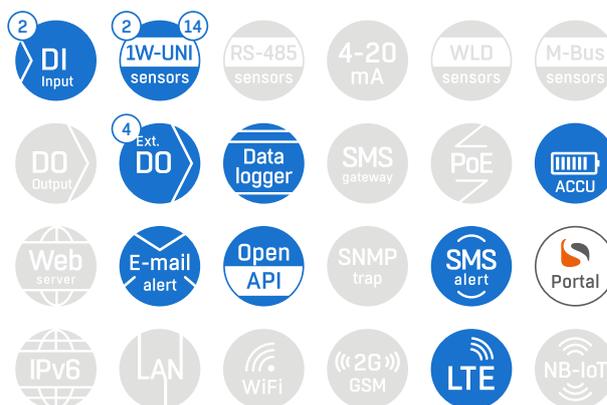
Water Leak Detection system

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
WLD (Sensing cable) Zones	**4** zones	**1** zone	**1** zone	**1** zone
Max. length of WLD sensing cable	**185 m**	**185 m**	**60 m**	**185 m**
Connectivity: NB-IoT	-	-	✔	-
Connectivity: LAN (RJ45)	✔	✔	-	-
Connectivity: WiFi	✔	✔	-	-
Interface: 1-Wire UNI (RJ11)	-	-	-	✔
Interface: Relay output (NO/NC)	-	-	-	✔
SensDesk Portal Connectivity	✔	✔ (mandatory)	✔ (mandatory)	Via external device
Web interface, SMTP	✔	Via portal	Via portal	-
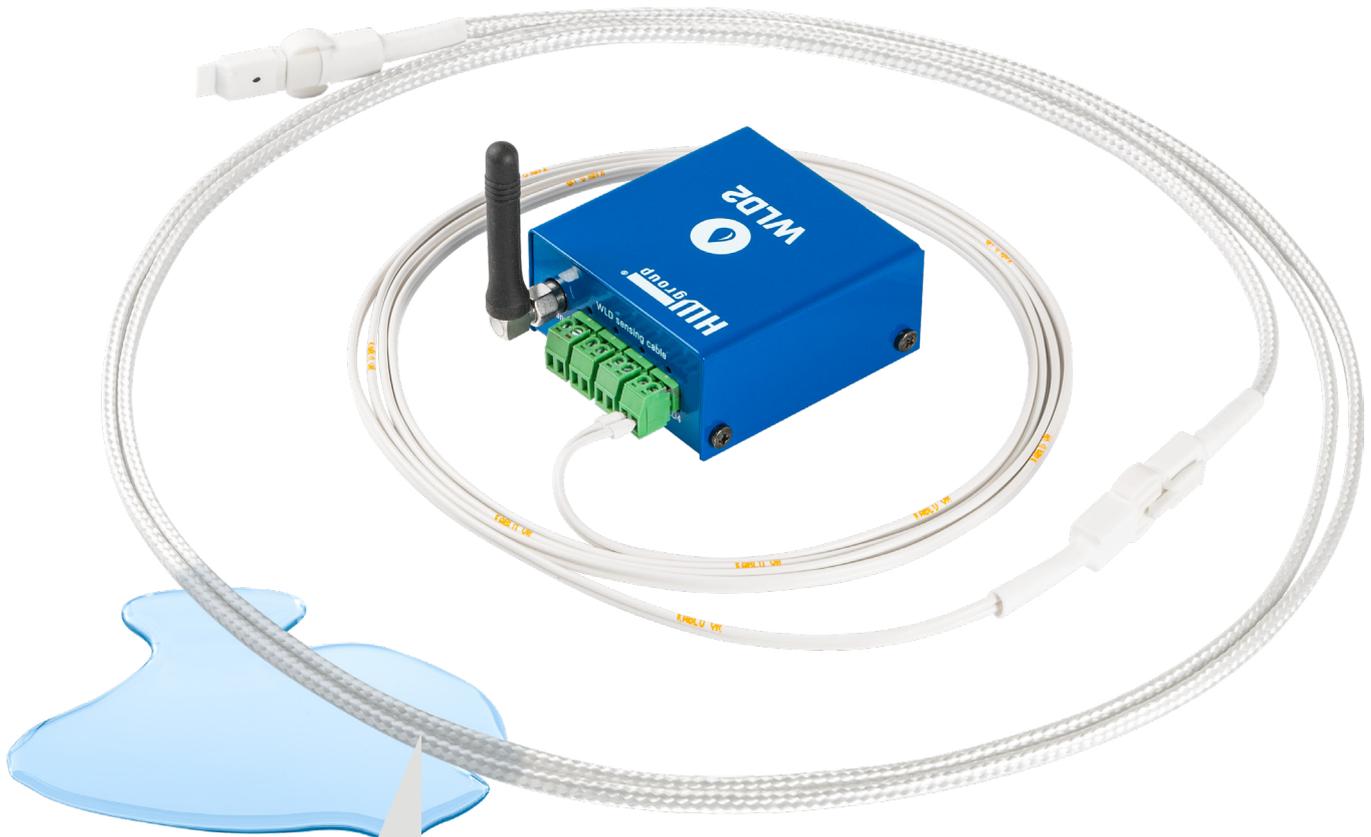
WLD sensing cable is long-term robust solution

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.

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, Poseidon2, HWg-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
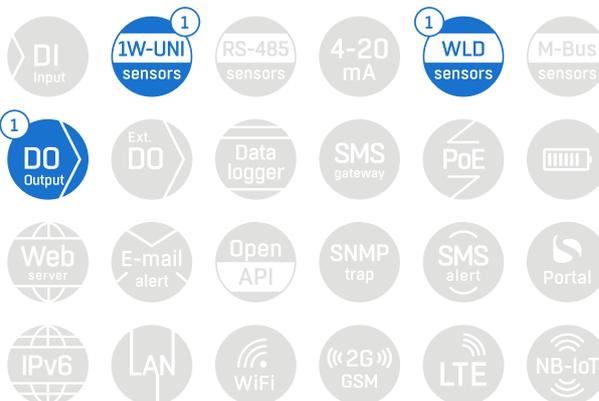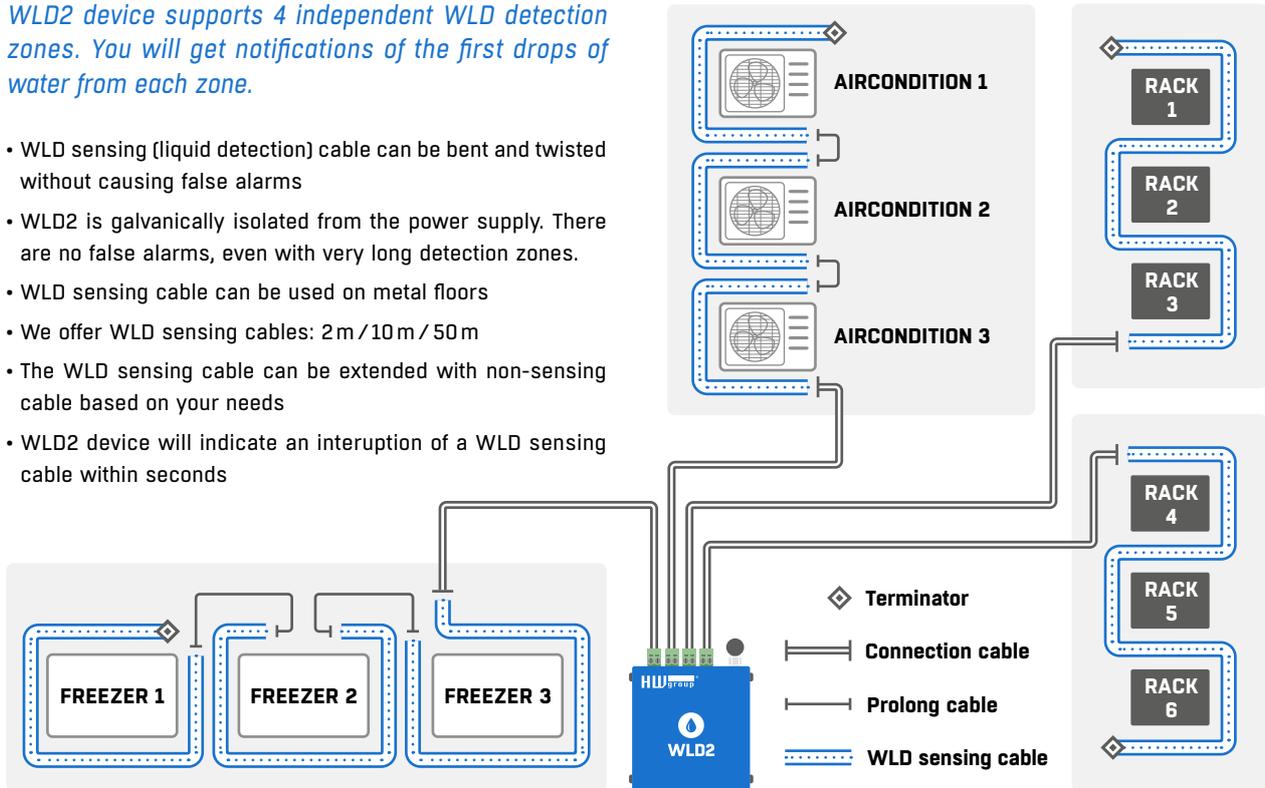
by switching of the relay NO/NC output (external power 12V is required). By providing an early detection and warning, Sensor WLD Relay 1W-UNI can prevent damages and avoid the associated costs even at places without Ethernet connectivity.
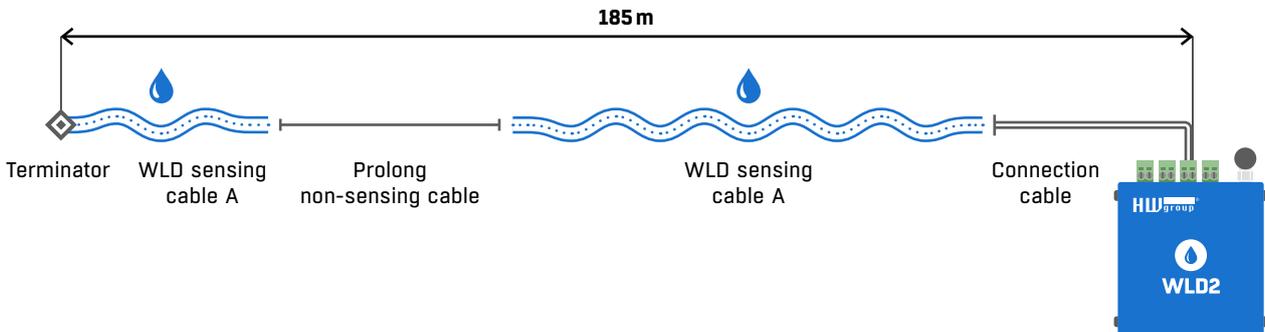
WLD sensing cable is long-term robust solution

WLD2 device supports 4 independent WLD detection zones. You will get notifications of the first drops of water from each zone.
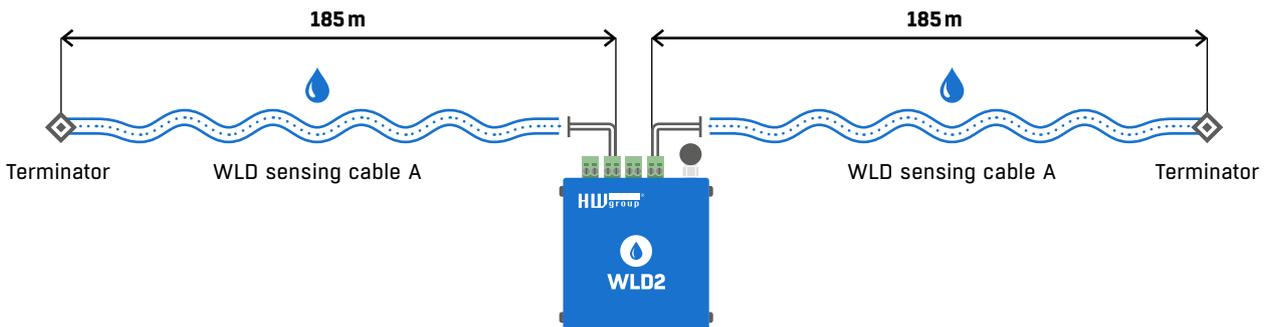
- WLD sensing (liquid detection) cable can be bent and twisted without causing false alarms
- WLD2 is galvanically isolated from the power supply. There are no false alarms, even with very long detection zones.
- WLD sensing cable can be used on metal floors
- We offer WLD sensing cables: 2 m / 10 m / 50 m
- The WLD sensing cable can be extended with non-sensing cable based on your needs
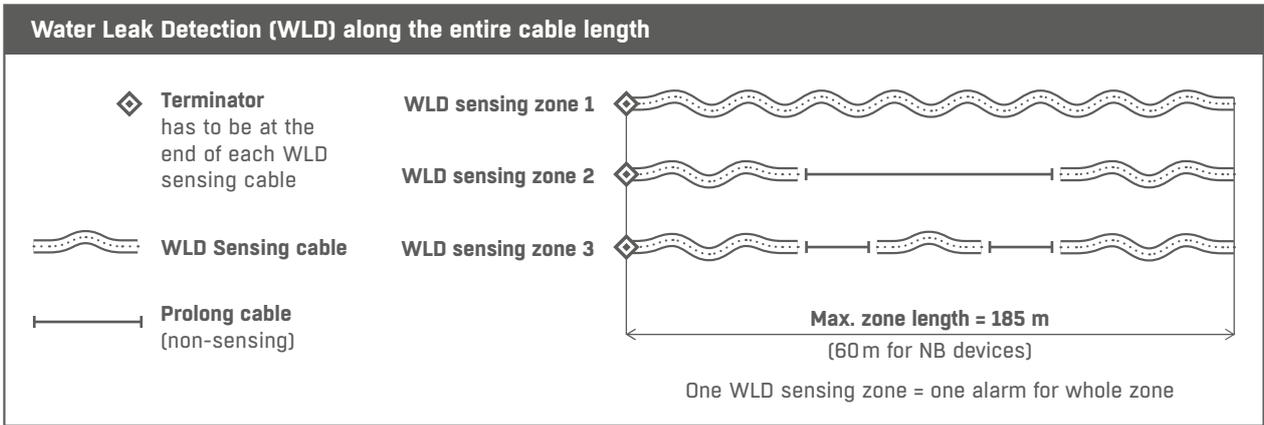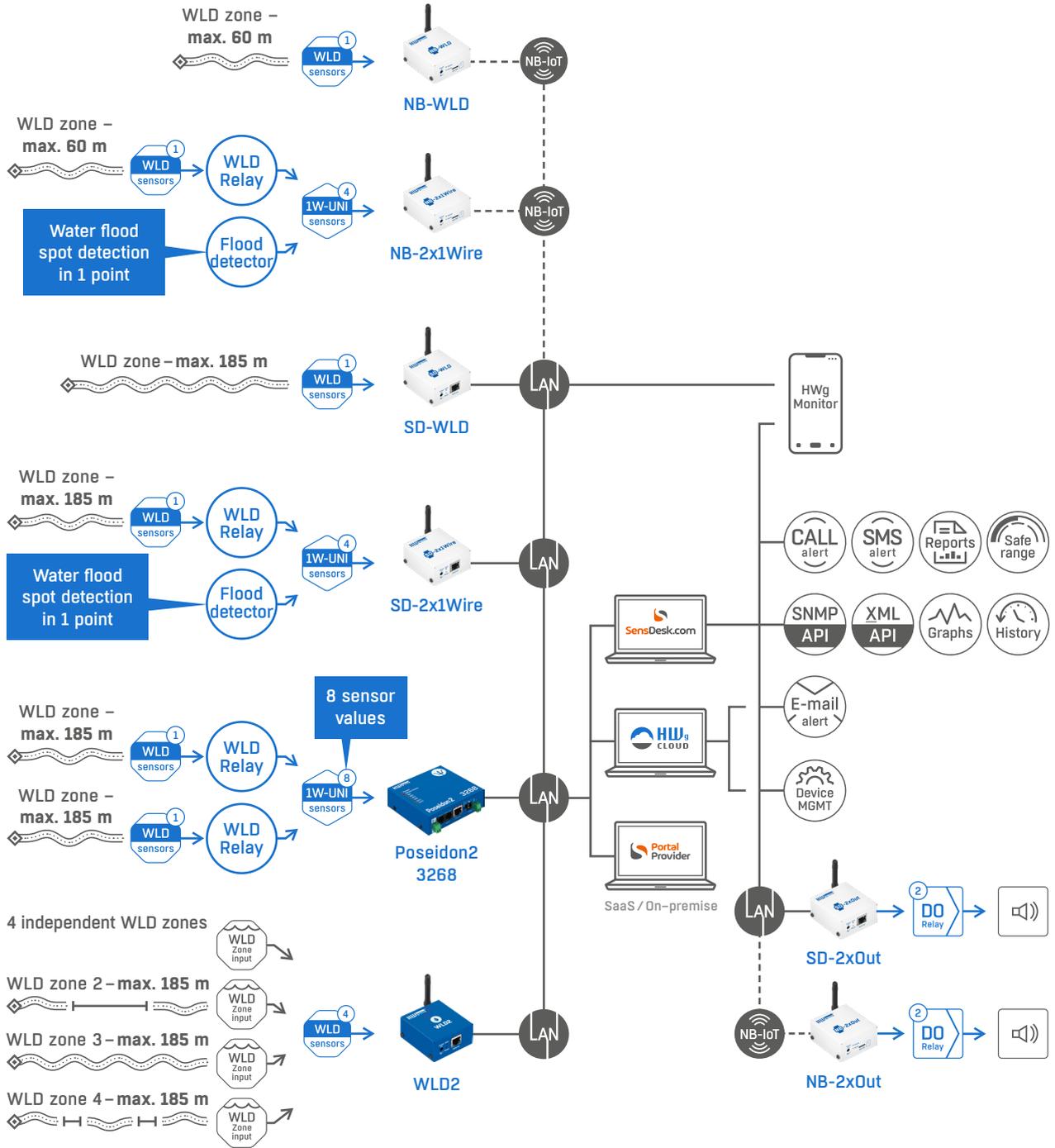- WLD2 device will indicate an interuption of a WLD sensing cable within seconds

AIRCONDITION 1

AIRCONDITION 2

AIRCONDITION 3

RACK 1

RACK 2

RACK 3

RACK 4

RACK 5

RACK 6

FREEZER 1

FREEZER 2

FREEZER 3

WLD2

◇ Terminator

Connection cable

Prolong cable

WLD sensing cable

1 Water Detection zone

185 m

Terminator | WLD sensing cable A | Prolong non-sensing cable | WLD sensing cable A | Connection cable | WLD2

2 Water Detection zones

185 m

185 m

Terminator | WLD sensing cable A

WLD2

WLD sensing cable A | Terminator

WLD zone – max. 60 m

WLD sensors 1

NB-WLD

NB-IoT

WLD zone – max. 60 m

WLD sensors 1 → WLD Relay → 1W-UNI sensors 4 → NB-2x1Wire → NB-IoT

Water flood spot detection in 1 point → Flood detector

WLD zone – **max. 185 m**

WLD sensors 1 → SD-WLD → LAN

WLD zone – **max. 185 m**

WLD sensors 1 → WLD Relay → 1W-UNI sensors 4 → SD-2x1Wire → LAN

Water flood spot detection in 1 point → Flood detector

WLD zone – **max. 185 m**

WLD sensors 1 → WLD Relay

WLD zone – **max. 185 m**

WLD sensors 1 → WLD Relay → 1W-UNI sensors 8 → Poseidon2 3268 → LAN

8 sensor values

4 independent WLD zones — WLD Zone input

WLD zone 2 – **max. 185 m** — WLD Zone input

WLD zone 3 – **max. 185 m** — WLD Zone input → WLD sensors 4 → WLD2 → LAN

WLD zone 4 – **max. 185 m** — WLD Zone input

HWg Monitor

CALL alert | SMS alert | Reports | Safe range

SensDesk.com

SNMP API | XML API | Graphs | History

HWg CLOUD

E-mail alert

Portal Provider

Device MGMT

SaaS / On–premise

LAN → SD-2xOut → DO Relay 2 → 🔊

NB-IoT → NB-2xOut → DO Relay 2 → 🔊

Water Leak Detection (WLD) along the entire cable length

◇ **Terminator** has to be at the end of each WLD sensing cable

〜 **WLD Sensing cable**

— **Prolong cable** (non-sensing)

WLD sensing zone 1

WLD sensing zone 2

WLD sensing zone 3

Max. zone length = 185 m
(60 m for NB devices)

One WLD sensing zone = one alarm for whole zone

WLD components

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

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

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

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

SD-WLD
1× 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. Can be extended to up to 100 m in total.

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 3rd party SW.

The central SMS-GW for all installed HW monitoing 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 3rd party SW.

The central SMS-GW for all installed HW monitoing 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).
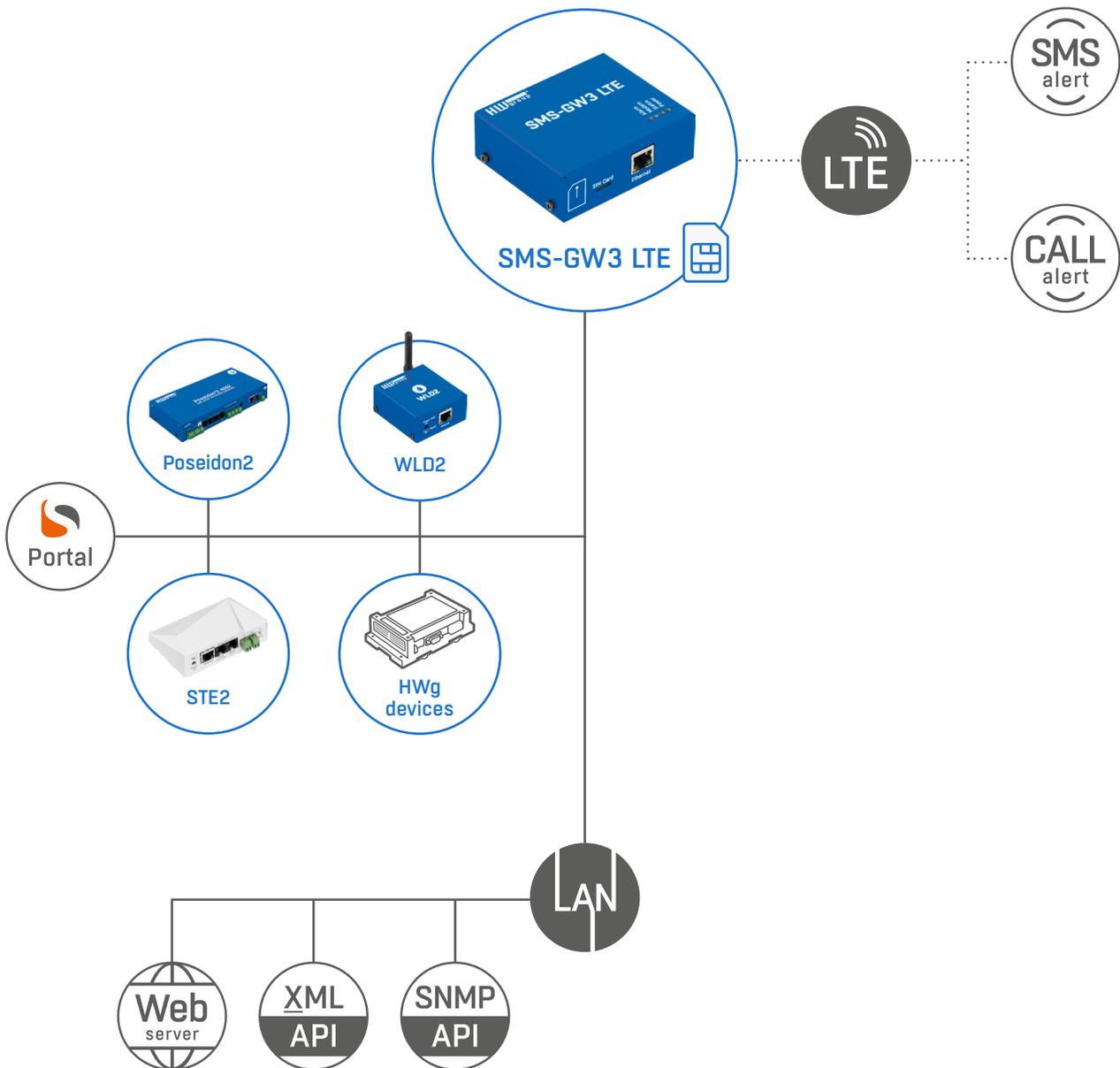
✔ One GSM / LTE gateway for all devices on local network.

✔ 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 (**optional**)

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.

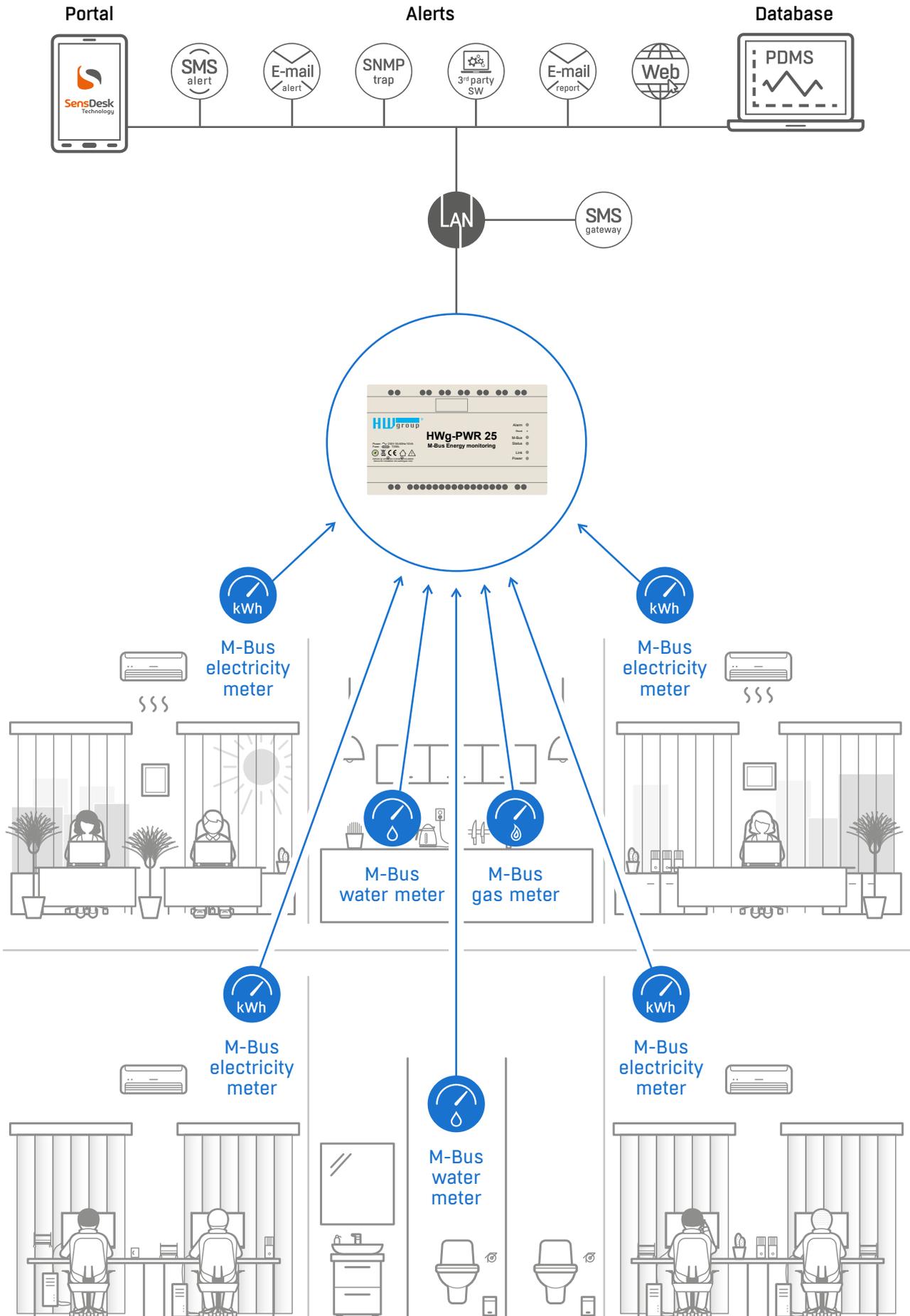| Protocols	HTTP, SNMPv1, SNMP trap, HWg-PUSH, XML, NetGSM, SMTP
Portal	SensDesk Technology (**optional**)

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 (**optional**)

Portal

Alerts

Database

SMS alert

E-mail alert

SNMP trap

3rd party SW

E-mail report

Web

PDMS

SensDesk Technology

LAN

SMS gateway

HWg-PWR 25
M-Bus Energy monitoring

kWh

M-Bus electricity meter

kWh

M-Bus electricity meter

M-Bus water meter

M-Bus gas meter

kWh

M-Bus electricity meter

M-Bus water meter

kWh

M-Bus electricity meter

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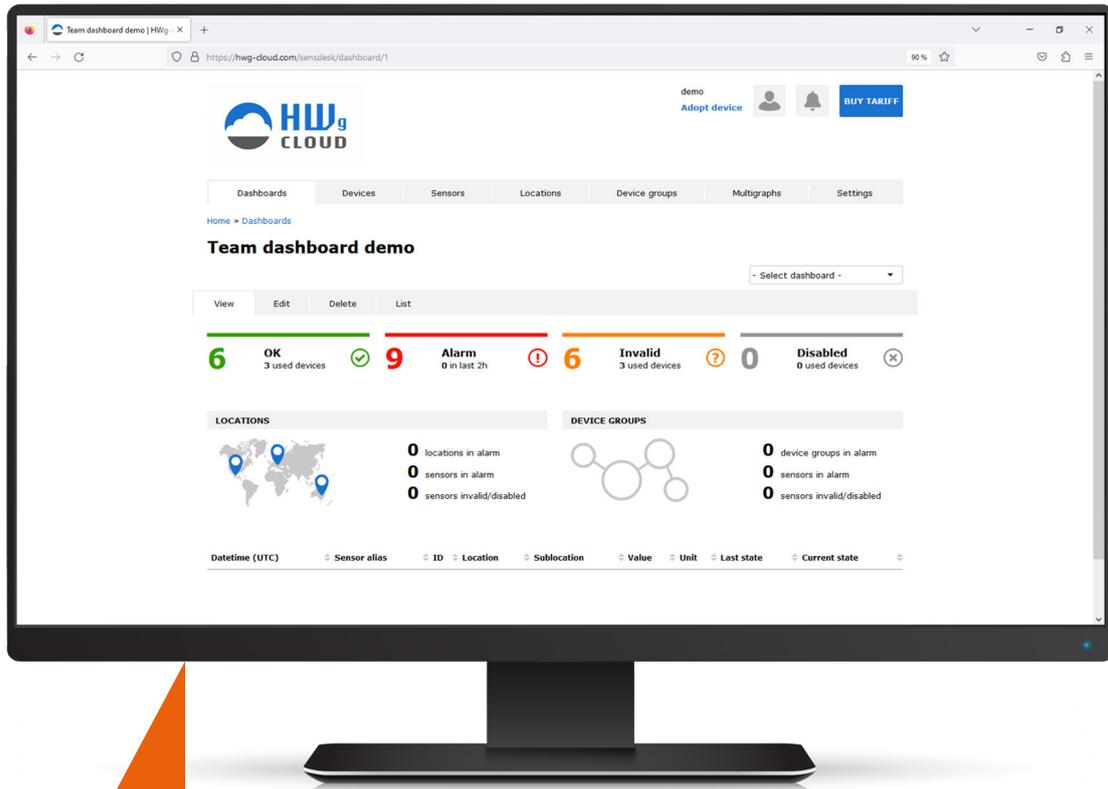
Portal is mandatory part of solution with IoT Monitoring devices (SaaS / On-premise).
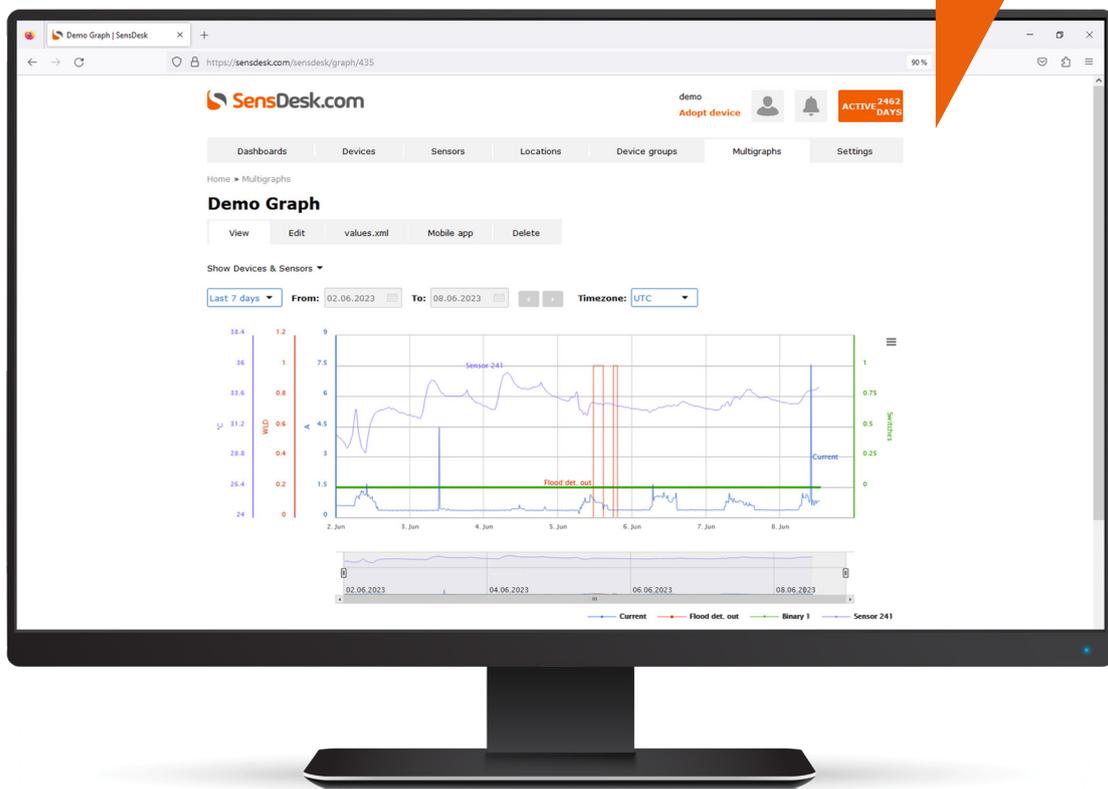
SD Devices

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 (**mandatory**)
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

The very first time installation

1) Login to your user account on the www.HWg-cloud.com (it's free portal from manufacture).

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).

°C

Light

%RH

C

2 4
1W-UNI
sensors

SD-2x1Wire

PoE

WiFi

LAN

SensDesk.com

HWg CLOUD

Portal Provider

SaaS / On-premise

HWg Monitor

CALL alert

SMS alert

Reports

Graphs

XML PI

SNMP PI

E-mail alert

Device MGMT

1-Wire

Antenna

Port1   Port2

°C   °C   °C   °C

Temp-1Wire Rack 19   Temp-1Wire Rack 19   Temp-1Wire Rack 19   Temp-1Wire
IP67 10m
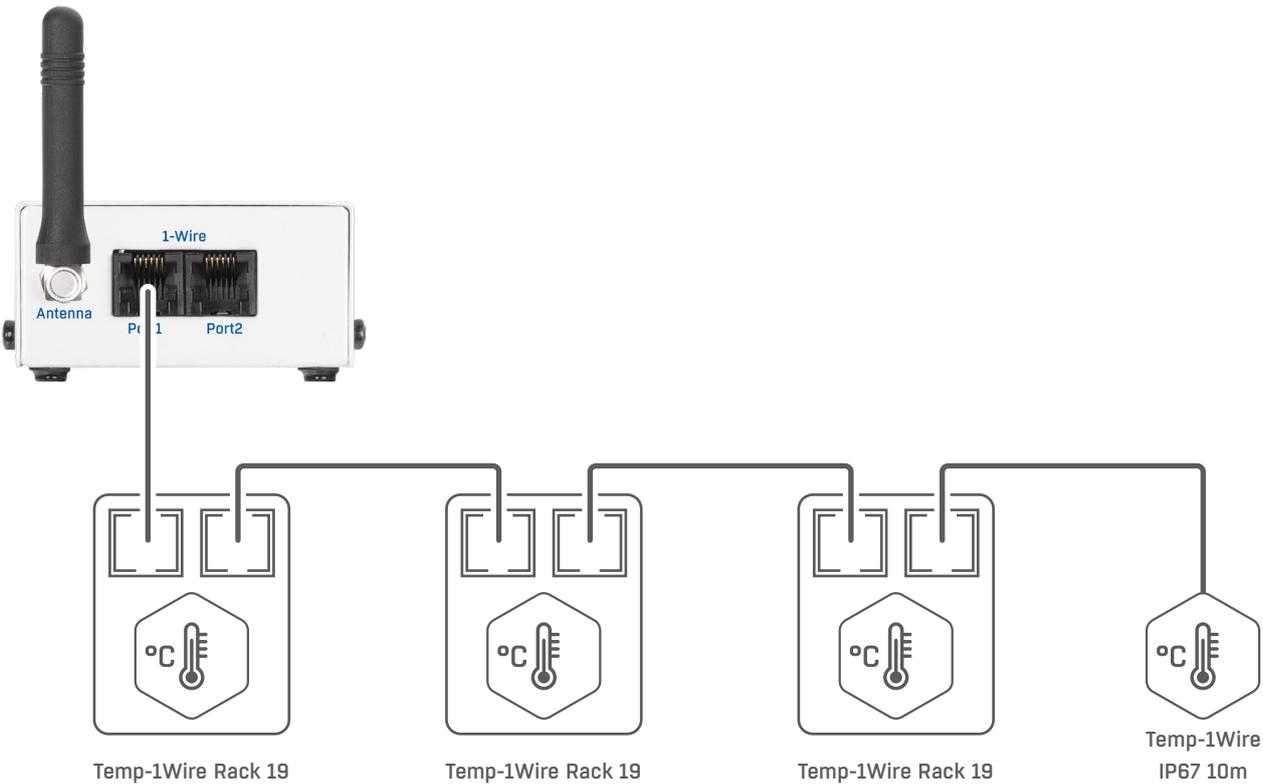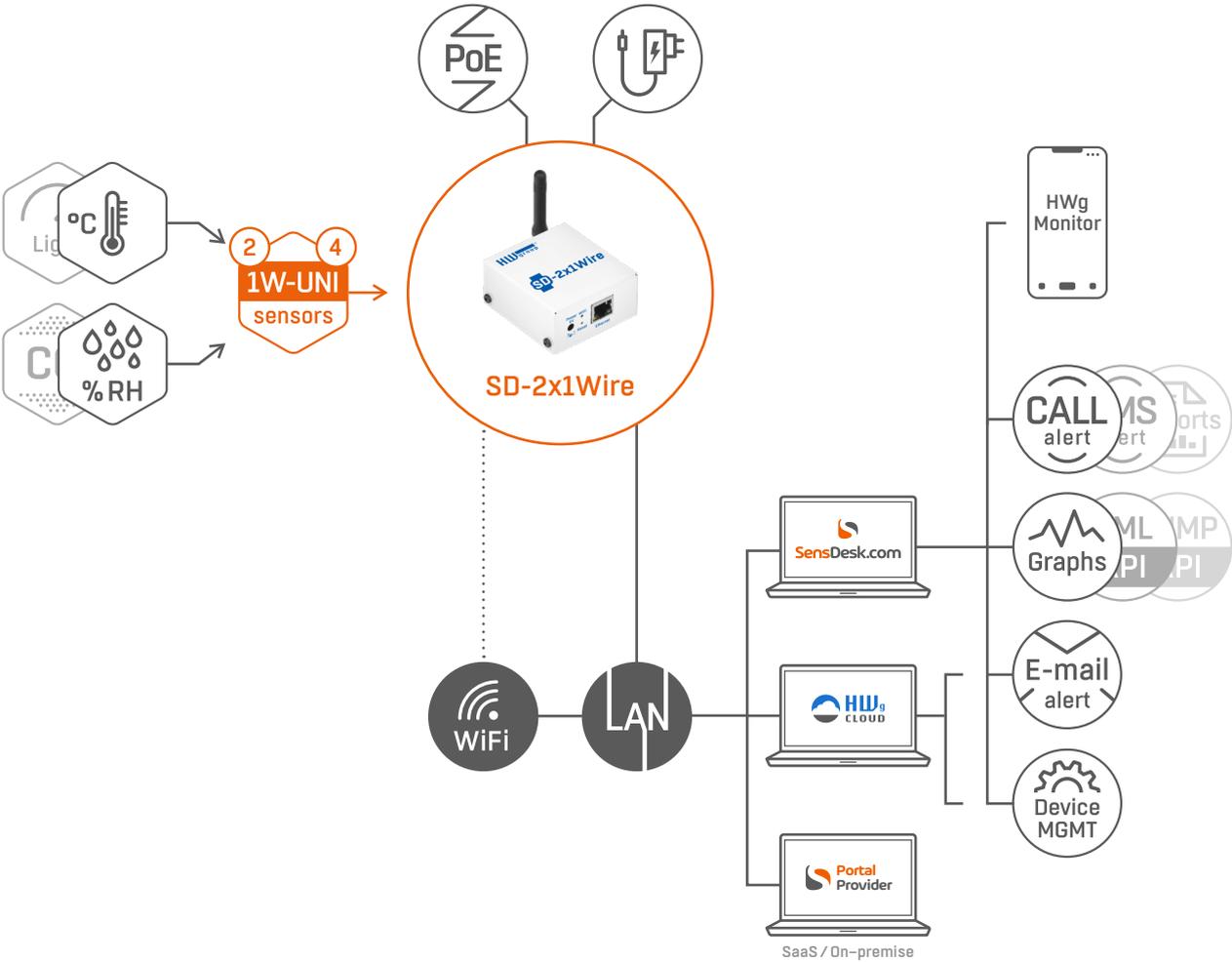
SD-2xIn

Simple Device with WiFi and Ethernet connectivity for monitoring 2× DI (Digital Input) – door opening detectors / S0 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 S0 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 (**mandatory**)
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

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 (**mandatory**)
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

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 (**mandatory**)
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

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 (**mandatory**)
Default Portal	HWg-Cloud.com
Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

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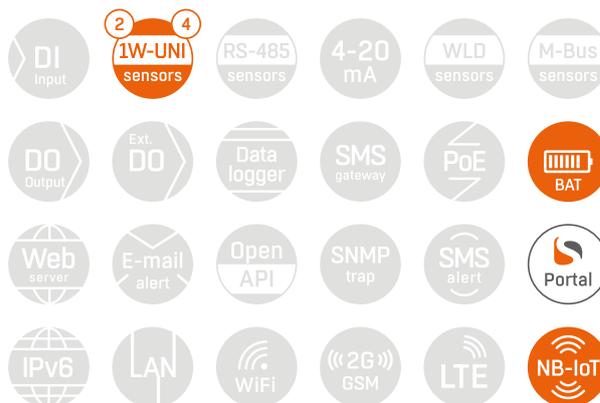
A simple device for monitoring of Temperature, Humidity and more in remote places. Narrowband IoT connectivity.

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 (**mandatory**)
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable
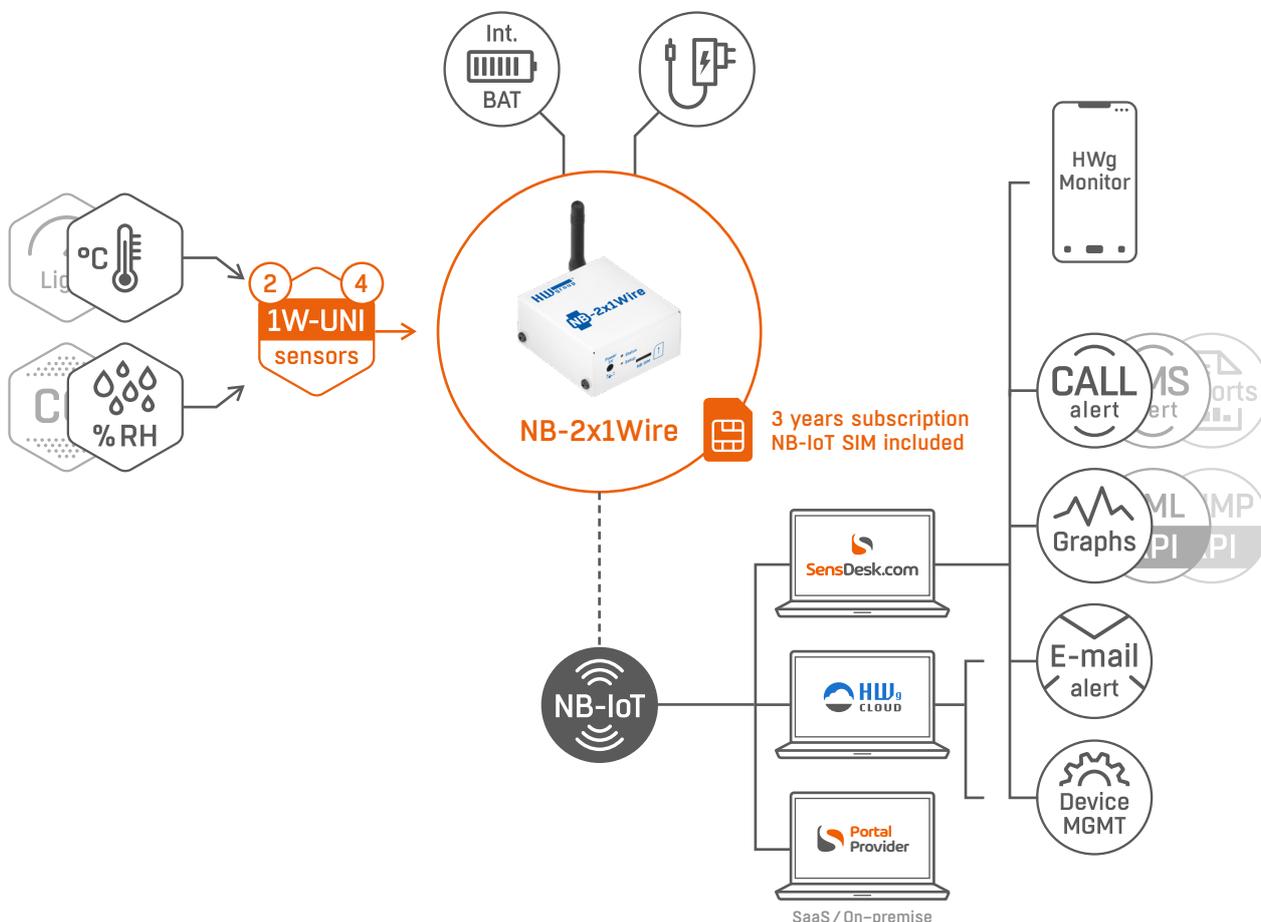
NB-2xIn

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 (**mandatory**)
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

NB-2xOut
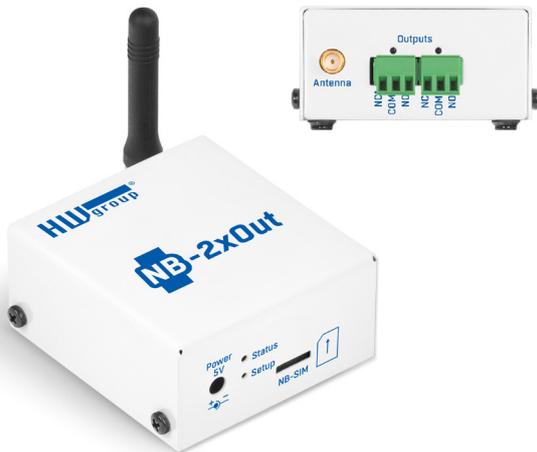
Narrowband IoT device with relay outputs, that can control remote technology manually or based on conditions.

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 (**mandatory**)
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

NB-WLD

| DI Input	1W-UNI sensors	RS-485 sensors	4-20 mA	① WLD sensors	M-Bus sensors
DO Output	Ext. DO	Data logger	SMS gateway	PoE	BAT
Web server	E-mail alert	Open API	SNMP trap	SMS alert	Portal
IPv6	LAN	WiFi	((2G)) GSM	LTE	NB-IoT
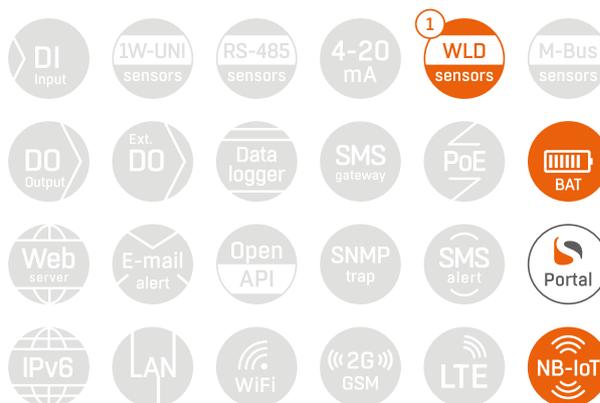
NB-WLD is a water leak detector with Narrowband IoT connectivity. It uses a very sensitive detection cable.

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 (**mandatory**)
Default Portal	HWg-Cloud.com
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

60 m

Terminator — WLD sensing cable A — Prolong non-sensing cable — WLD sensing cable A — Connection cable — NB-WLD
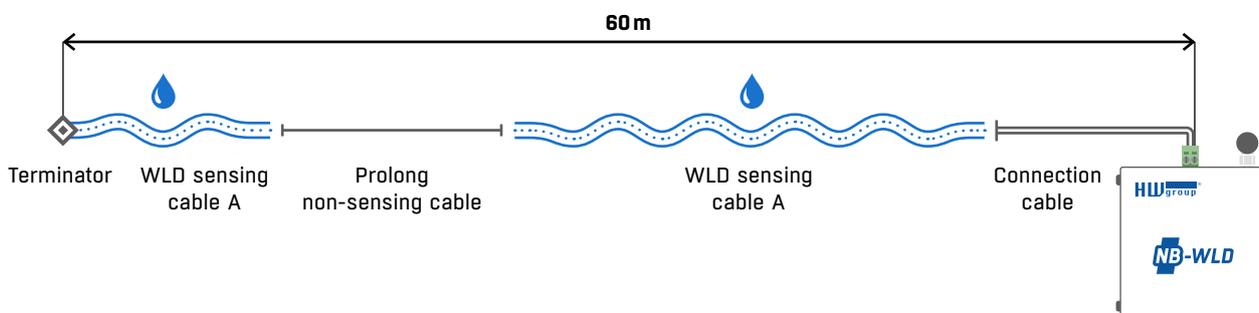
Battery inside

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.
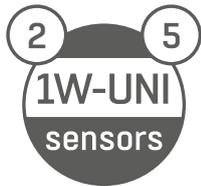
Sensors and Detectors

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

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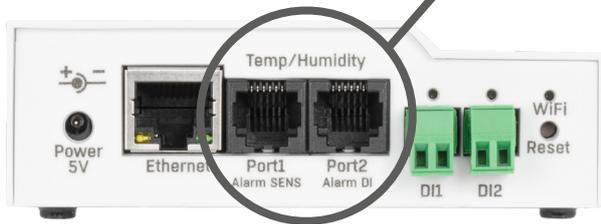
1 sensor value
in 1 physical sensor Temp-1Wire (Temperature).

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

3 sensor values
in 1 physical Sensor CO2 1W-UNI (CO_2, Temperature and Relative Humidity).

RJ11 (1W-UNI) Sensors

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

Temp-1Wire-Flat 3 m
Temperature range: -30 to 60 °C, IP67 rating

Temp-1Wire 3 m 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 1 m, 3 m, 10 m

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,
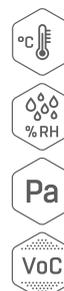humidity range: 0–100 % RH

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_2 range: 300 to 40 000 ppm

Sensor THPVoc 1W-UNI
Temperature range: -30 to +70 °C
Humidity range: 0 to 100 % RH
Atmosopheric 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 4-20 mA 1W-UNI
8-point calibration table

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

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

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

Light 1Wire-UNI
Illuminance: 0–100 %

Sensor 230 V AC 1W-UNI
Voltage range: 0–250 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: 1,3 Ah

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

WATER
Zone input

WATER
Zone input

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

230 V

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

230 V

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, IP23 rating

Temp-485-Pt100 Frost2
Probe temperature range: -190 to
150 °C, IP53 rating

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 (SO) / M-Bus output

Meter 1f DHZ 5/63-M-BUS
1× 230 V, 63 A

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

Meter 1f PRO1-Mb 45A M-Bus
Single-phase electricity meter 45A with M-Bus

Meter 1f PRO2-Mb 100A M-Bus
Single-phase electricity meter 45A with M-Bus

Meter 3f PRO380-Mb x/5A M-Bus
3 phase 380V M-Bus energy meter for direct measuring (max. load 100A). Pulses & M-Bus data output – 3×230 V / 400 V, 100 A

RJ11 (1W-UNI) Converters

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

DI
Input

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

°C

Converter 2x Pt100 1W-UNI
External temperature probe from -200 to +850 °C, 8-point calibration table

DO
Relay

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

Accessories

°C

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

°C

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

1Wire Hub Power
8× 1-Wire or 1-Wire UNI bus expander

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

Airflow detector	Power detector / switch	Smoke detector	Water leak detector	Thermometer
Motion detector	Humidity detector	Door contact detector	Ping	Camera switch
Camera (DI)				

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

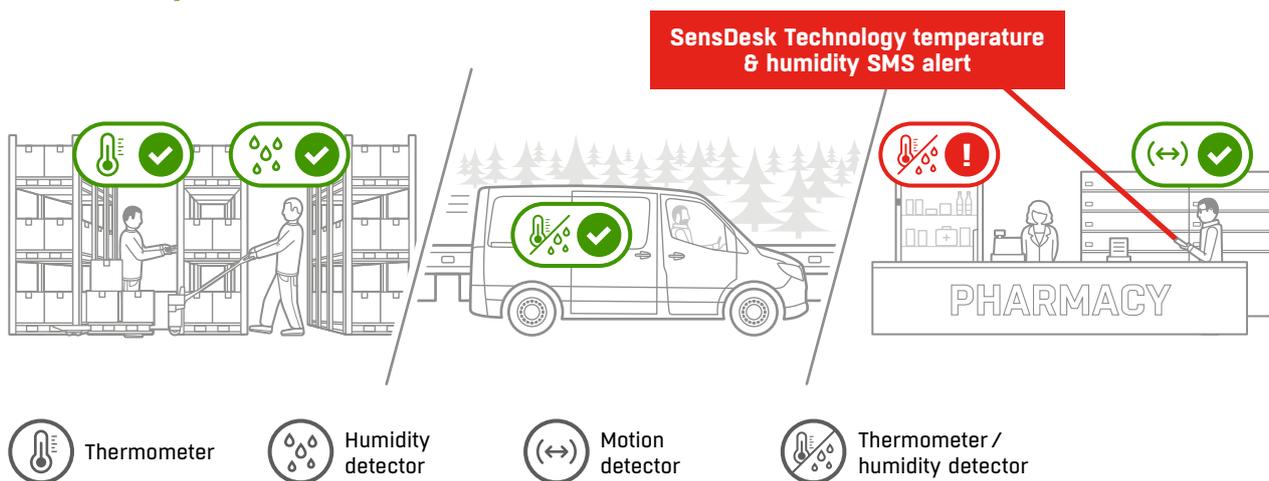# Warehouses and storage rooms

WEIGHING SCALE 20 kg

COOLING ROOM

	Scale		Thermometer		Smoke detector		Door contact detector		Thermometer / humidity detector
	Relay output		Camera (DI)						
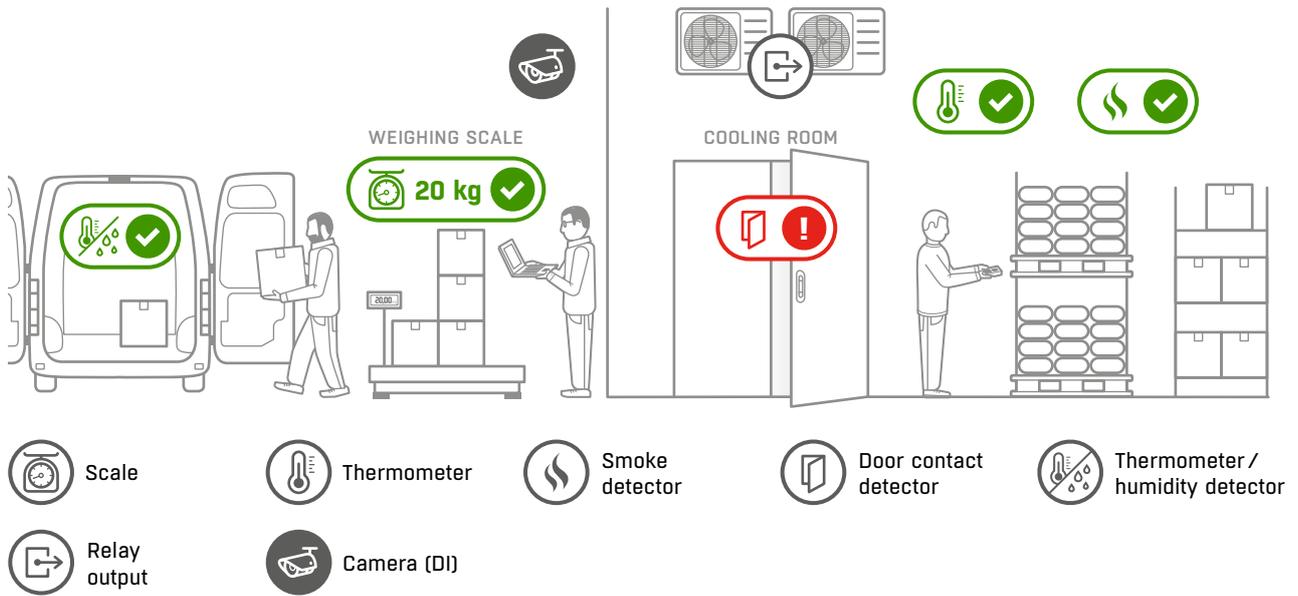
Warehouse operators need an efficient way to monitor temperature and humidity in their storage facilities and vehicles. Thanks to the SensDesk Technology monitoring portal and HW group IoT devices, your storage facilities will be safe and compliant to regulations. You can also make sure your cargo is 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

SensDesk Technology temperature & humidity SMS alert

PHARMACY

	Thermometer		Humidity detector		Motion detector		Thermometer / humidity detector

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

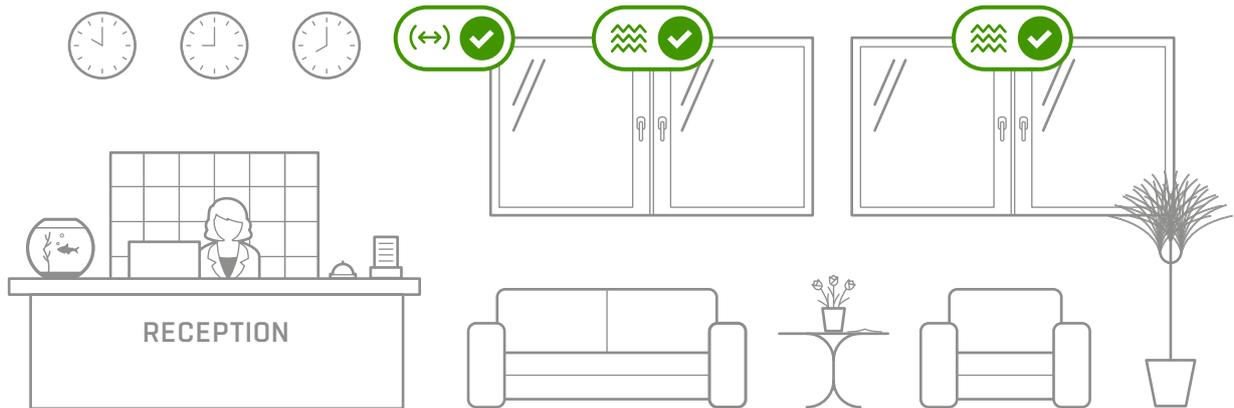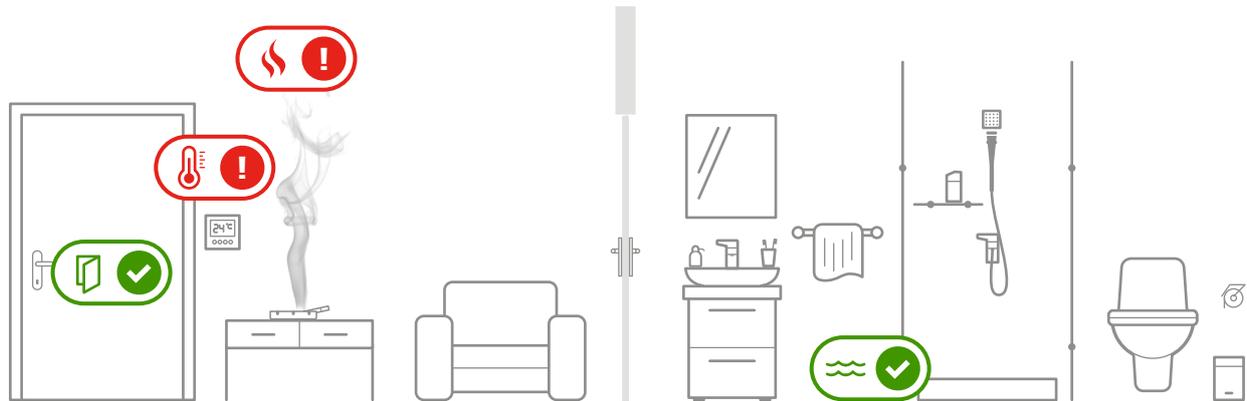		Vibration detector		Air quality detector		Smoke detector		Water leak detector		Motion detector

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

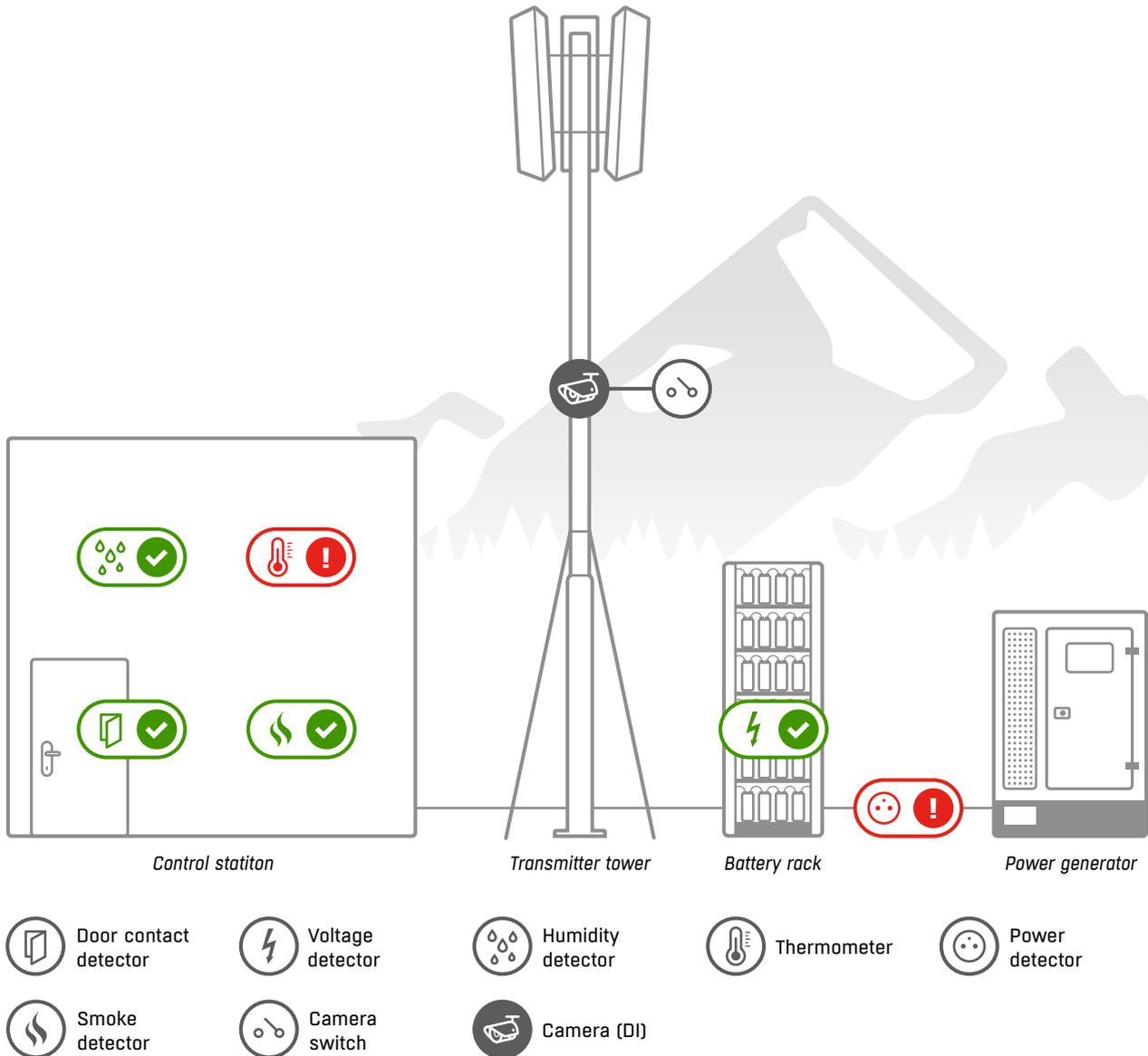|					
Vibration detector	Door contact detector	Smoke detector	Water leak detector	Motion detector	
Thermometer					

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

Control statiton   Transmitter tower   Battery rack   Power generator

Door contact detector	Voltage detector	Humidity detector	Thermometer	Power detector
Smoke detector	Camera switch	Camera (DI)		

Technology in remote locatons 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
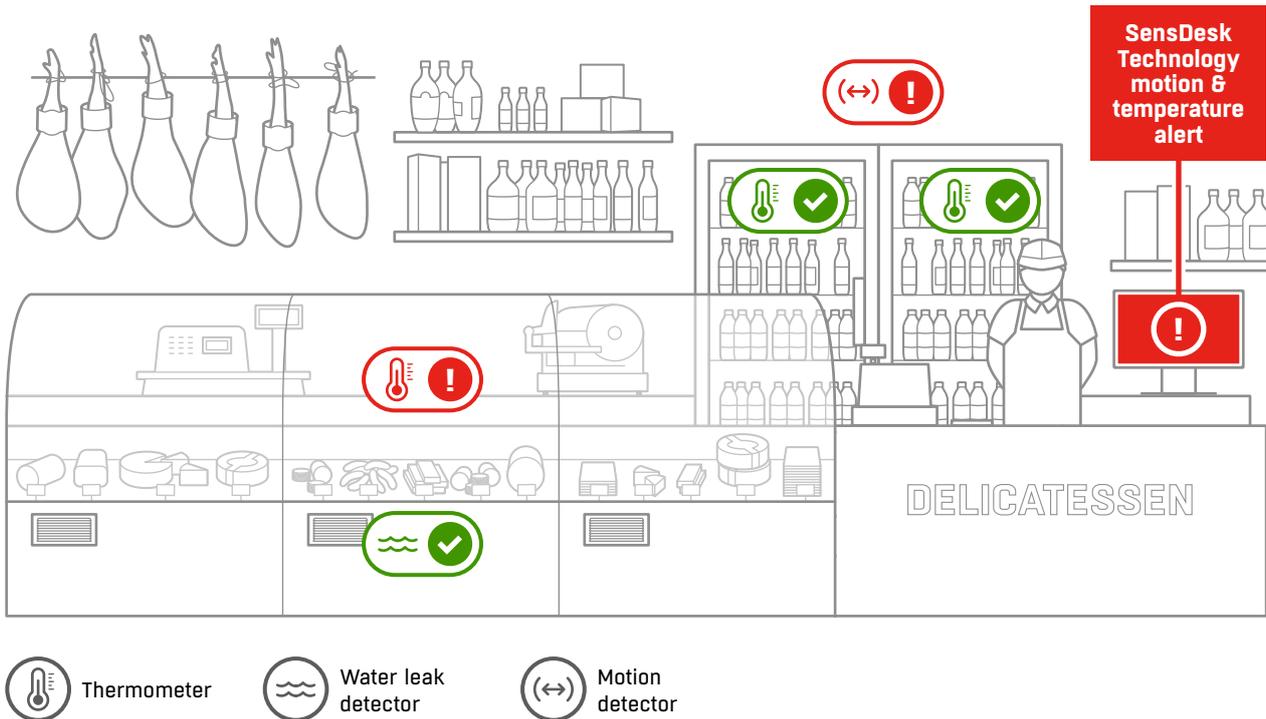✔ Several layers of alarming and users
✔ Output data to other systems

Smart cities & municipalities

⚡ Electricity meter	💧 Water meter	🔥 Gas meter	〰 Water leak detector	▤ Air quality detector
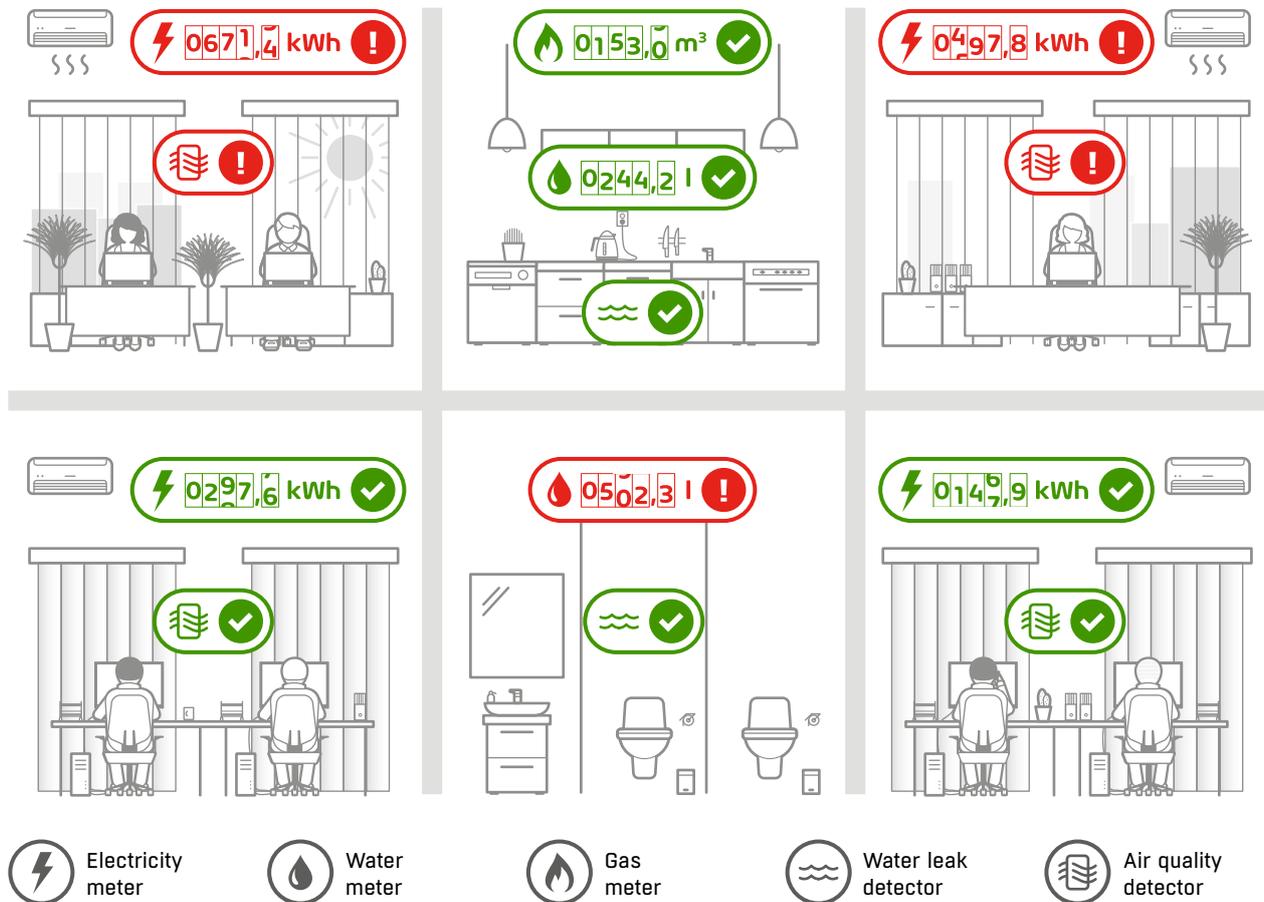
In smart cities and municipal facilities the monitoring of power consumption is important. These values are also affected by outdoor climatic conditions and weather. A common problem in these places is determining the optimal setting for air conditioner and CO_2 concentration. Water leaks must also be 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

SensDesk Technology motion & temperature alert

DELICATESSEN

Thermometer	Water leak detector	Motion detector

Storing food requires precise temperature monitoring, fast alarms and detailed reporting. Our SD devices with the Sens-Desk 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
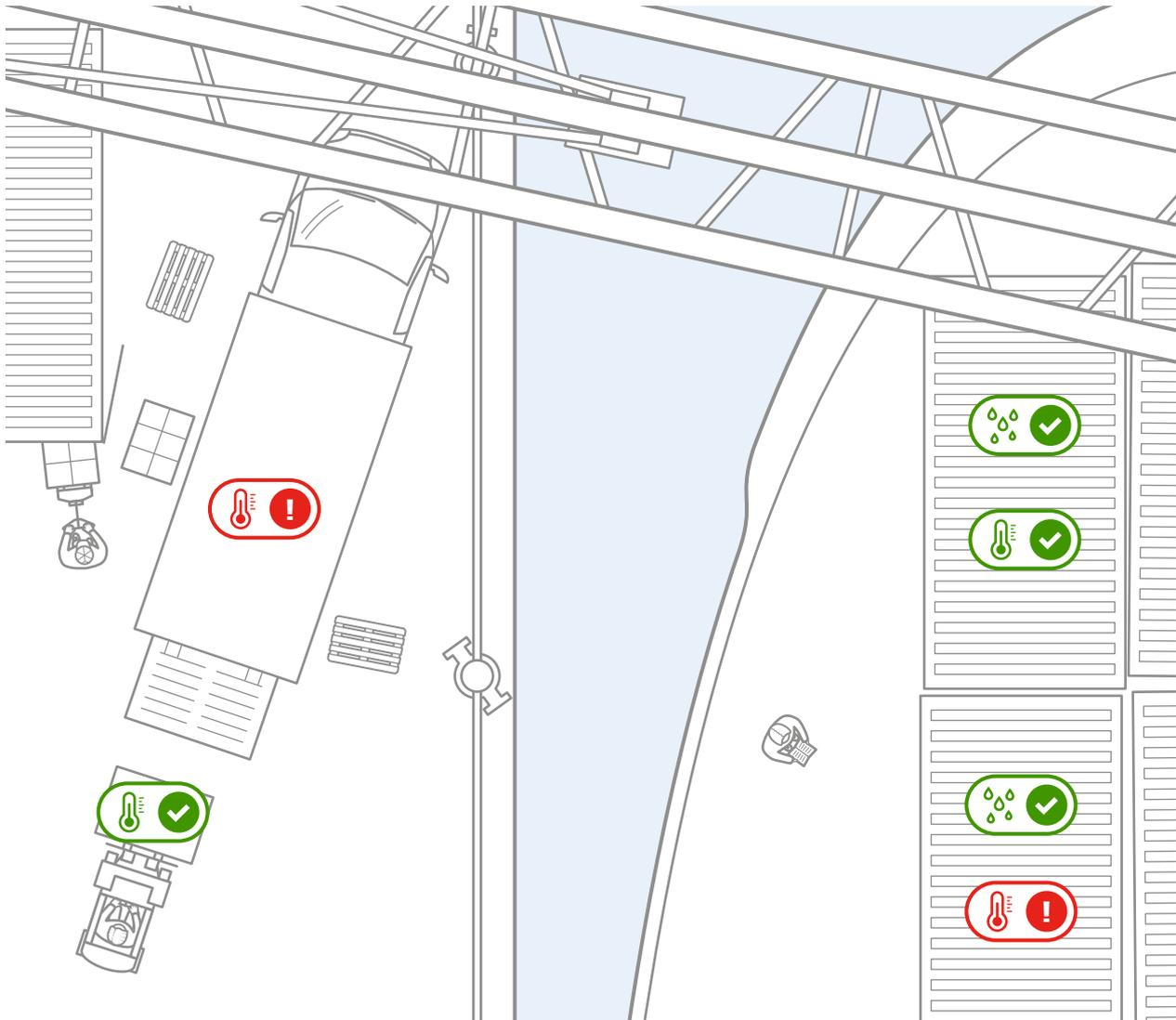
⬡ Humidity detector   🌡 Thermometer

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: RxD, TxD, 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 HW VSP3 application, up to 100 remote serial ports can be connected to a single PC.

|	
Serial port RS-232	1× full serial port (9 pin: RxD, TxD, 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
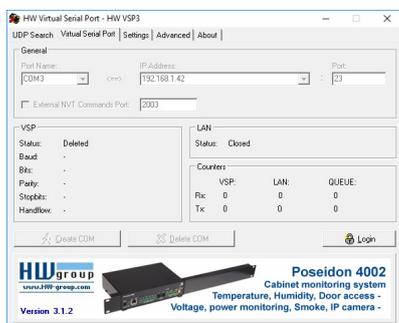
HW VSP3 – Single

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.
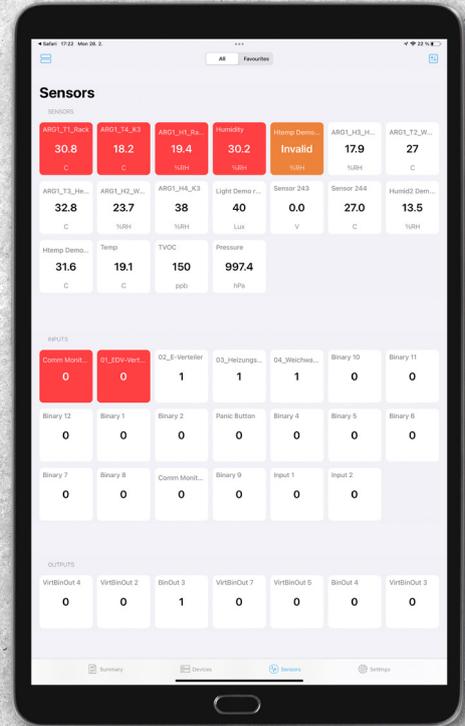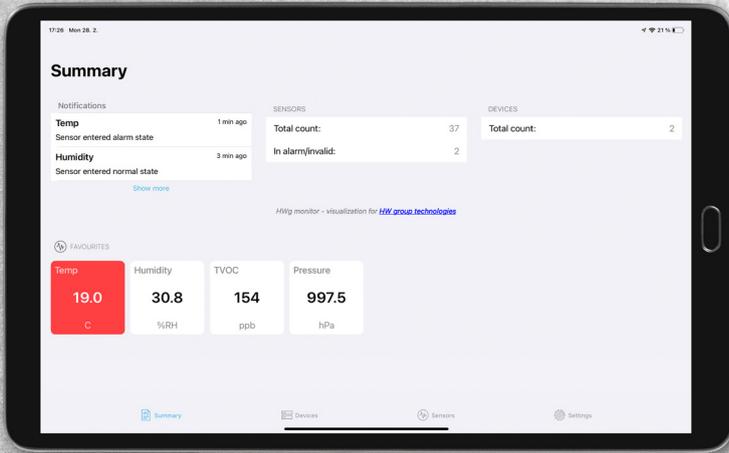
HW VSP3 – Multi

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

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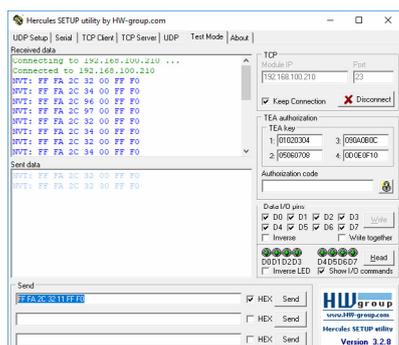
Debugging and testing tool for products with a serial port (PortBox, I/O Controller, IP Relay, PortStore).

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)
Android TV compatible	✔
Portal: **HWg-cloud.com**	✖
Portal: **SensDesk.com**	✔
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 you 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.

M-Bus

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

RS-485

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

XML

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

SNMP

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

Modbus/TCP

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

HTTPs

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

IPv6

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

MQTT

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

SMTP

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

TLS

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

GPRS

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

LTE

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

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.

netGSM

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

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.

Device	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 256 kB (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	✓	✓(R)								12	8	8	✓(R)	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
Damocles2 2404	✓	✓(R)								24	4	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
Damocles2 MINI	✓	✓(R)								4	2	8	✓(R)	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
HWg-PWR25	✓							25		8					✓		✓	✓	✓		3	1*	✓		1	✓	✓		
IP WatchDog2 Lite	✓	✓(R)								2		8			✓		✓	✓	✓		2	1*	✓		1	✓			
IP WD2 Industrial	✓	✓(R)								2		8			✓		✓	✓	✓		2	1*	✓		1	✓			
Poseidon2 3266	✓	✓(R)				8				4				✓(R)	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
Poseidon2 3268	✓	✓(R)				8				4	2	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
Poseidon2 3468	✓	✓(R)				8				4	2	8	✓	✓	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
Poseidon2 4002	✓	✓(R)				16	24			12	4	8	✓(R)	✓	✓	✓	✓	✓	✓	✓	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										✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
NB-2xIn					✓					2						✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
NB-2xOut					✓							2				✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
NB-WLD					✓				1							✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
SD-2x1Wire	✓	✓	✓			4										✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
SD-2xIn	✓	✓	✓							2						✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
SD-2xOut	✓	✓	✓									2				✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
SD-4-20mA	✓	✓	✓								1					✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			
SD-WLD	✓	✓	✓						1							✓	✓	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)	✓(SD)			

SensDesk Technology

✓ – available
✓ – available on request
✓(SD) – available through SensDesk.com and 3rd 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.
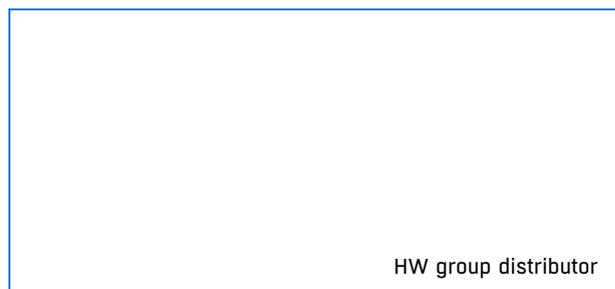
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