PRODUCT OVERVIEW
2022

IoT Monitoring	Standalone Monitoring	Access	IP Serial

![HW group logo]

HW group s.r.o. is a Czech manufacturer of IoT monitoring and remote control solutions.
Our top quality products create a full ecosystem, from sensors to monitoring software.
All our units are manufactured in the European Union and sold in over 40 countries.

What do we make?

• IoT devices and sensors
• Monitoring and control solutions
• Online portal for IoT sensors
• Monitoring software and SDK
• Access control systems
• IP serial products

What makes us different?

• Rich and modular product ecosystem
• Compatible with many SW solutions and protocols
• Free SDK and Push protocol for 3rd party integration
• 18 years of experience with monitoring devices
• Strict quality control and compliance
• Made in the EU

Typical applications

• Temperature and humidity monitoring
• Water leaks and fire alarms
• Voltage, current, DI and DO monitoring
• Energy consumption metering
• Building management
• Access control and security

References

We have helped the following companies with their monitoring or access solutions.
We would be thrilled if you were the next.

Table of Contents

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	**Buffer** data loger — Data logging	**SMS** alert — SMS notification	**SNMP** trap — SNMP trap
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
Wi-Fi	**GSM/GPRS** — GSM / GPRS	**LTE** — LTE	**NB-IoT** — Narrowband	Battery / Accumulator

Sensors

Light — Light	**V** — Voltage
°C — Temperature	**% RH** — Relative Humidity
Pa — Atmospheric pressure	**VoC** — Air quality
A — Current	**DP** — Dew point
CO2 — Carbon dioxide	**WLD** Zone input — Water leak detection

Detectors

Airflow	**W** — Energy
Gas	(↔) — Motion
230 V — Supply	Smoke
Door contact	**WATER** Spot detector — Water Spot Detection
DI Input — Digital Input	

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.

Poseidon2 / Damocles2

Humidity detector

Door contact

Temperature detector

Water leak detector

Customer

System integrator
100 € / h

IT technician
80 € / h
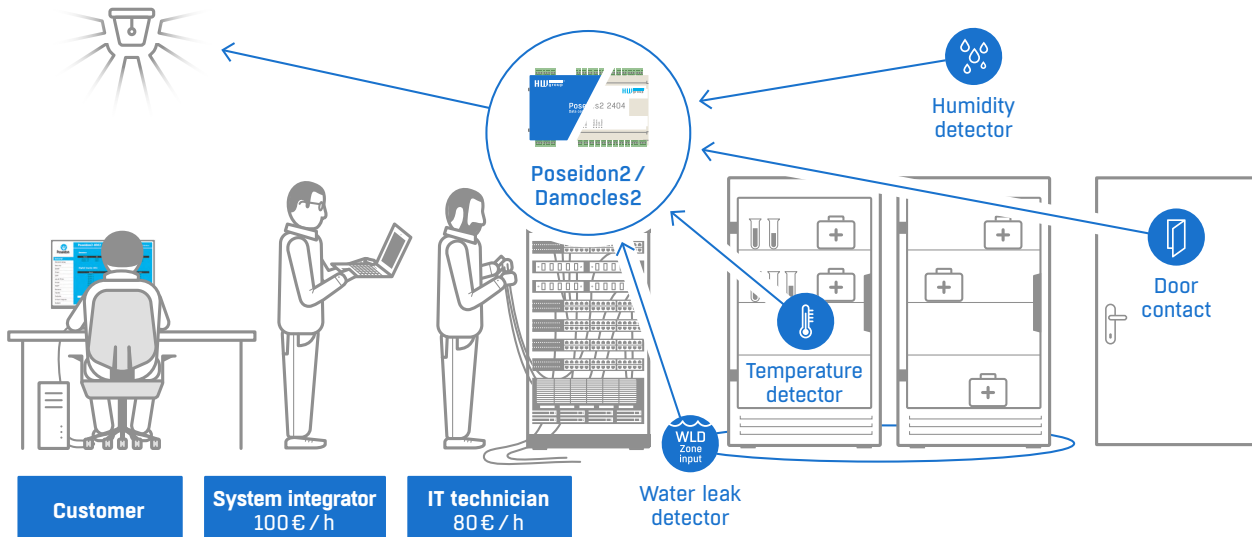
	Standalone Monitoring	IoT Monitoring
Installation on the site	Expert	Junior
Device configuration	Device's WEB interface	Portal only
Portal connectivity (any SensDesk Technology portal)	Optional	Mandatory
Default configured portal	No portal	HWg-cloud.com
Open API (SNMP, XML)	Each device (5 devices – 5 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 for free or any SensDesk from Portal Providers).
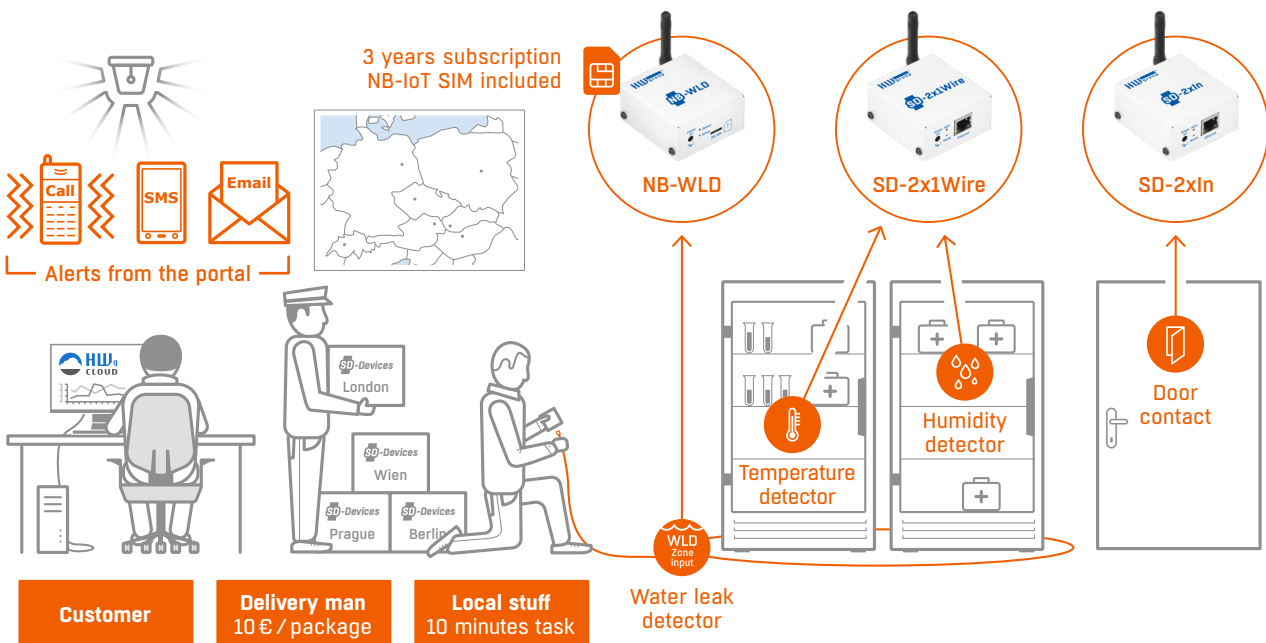
Portal brings you

- ✔ 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
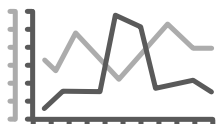
- ✔ Graphs are showing data history
- ✔ MultiGraphs contains several values in one graph
- ✔ Graphs can be included in PDF reports
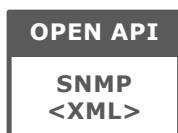
- ✔ Open API with sensor data from all sensors & Devices connected to each portal User account
- ✔ All sensor values available in SNMP v1 / v3
- ✔ All sensor values available in XML (over HTTP)
- ✔ Portal can be connected to any other monitoring system

117 INVALID
8 used devices

14 DISABLED
2 used devices

22 Locations with Alarm
2 Sensors in Alarm
28 Sensors Invalid/Disabled

GROUPS

42 Groups with Alarm
25 Sensors in Alarm
3 Sensors Invalid/Disabled

Time	Name	ID	Location	Sublocation	Value	Unit	Last Status	Actual Status
10:30:29	AC 59	29000001	Czech Republic	Ottomanova 1339, Prague	27,3	°C	!	!
10:30:28	Cooler 5	30000871	Czech Republic	Wilsonova 29, Prague	4,6	°C	✓	!
10:30:27	Server room	366985520	France	Rue des Champolains 29, Auxerre	48.2	%RH	?	✓
10:30:26	Showroom	302871441	Italy	Via Marco Claudio 778, Terni	0	none unit	✗	✓
10:30:25	Storage	652924144	Sweden	Nyborgsgatan, Arvidsjaur	2	WLD	✗	✓
10:30:27	Ice box 15	366985520	Canada	89 Ave NW, Edmonton	45.3	%RH	?	✓
10:30:29	AC 58	29000001	India	Naig Rd 29, Nágpur	24,6	°C	!	✓
10:30:26	S...om 2	302871441	Japan	7-13-5 Nishi-Shinjuku, Tokyo	0	none unit	✗	✓

SensDesk
IoT PORTAL BY HW GROUP

Power consumption 2. floor

SD devices

The SD-xxx family are 5 IoT Monitoring Simple Devices for remote monitoring of Temperature, Humidity, Voltage, Current, DI states / pulses, WLD sensing cable and other sensors. LAN / WiFi connected SD-xxx devices can also power or control external devices (Relay DO). SD-xxx devices are very simple to install, monitoring on remote location can be installed in just a few clicks and you can get your data in minutes. HWg-cloud.com portal is there pre-configured. Devices can be migrated / adopted to any SensDesk Technology based portal.

SD-2x1Wire

Simple Device for remote monitoring of external sensors (Temperature, Relative Humidity, Light, Voltage, Current, …)

SD-2x1Wire is basic IoT Monitoring device with Ethernet and WiFi connectivity. Two RJ11 ports allows connecting up to 4 sensor values in total (Temperature + Relative Humidity sensor measure 2 values). Only original sensors from HW group are supported. 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 device management. HWg Monitor mobile app can be used to display you metered values any time from anywhere. Portal can alert you by email or Voice call when sensor value is out of defined safe range.

Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)
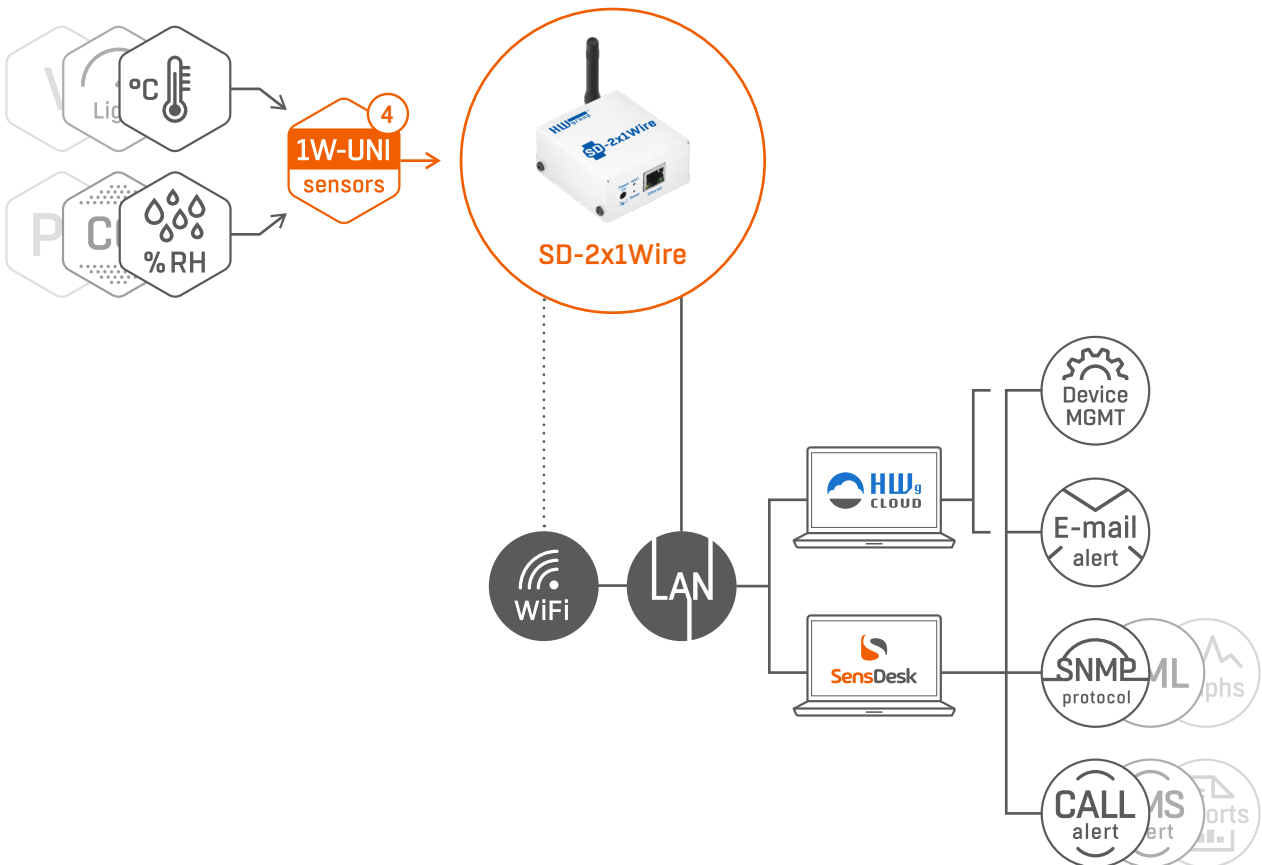
SD-2xIn

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.

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) controlled from the portal.

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.

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.

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 you metered

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

Protocols	HTTP, DHCP, SNTP, HWg-Push
Portal	SensDesk Technology (**mandatory**)

NB devices

The NB-xxx family are IoT Monitoring Simple Devices for wireless remote monitoring using NB-IoT network. Devices can monitor external sensors of Temperature, Humidity, Voltage, Current, DI states / pulses, WLD sensing cable and other sensors. NB-2xOut can also control external devices (Relay DO).

Monitoring on remote location can be installed in just a few clicks and you can get your data in minutes. The NB-IoT (NarrowBand) network connected devices are battery powered with a battery lifetime of 2 years. The SIM card with 3 years subscription is included in standard product version.

NB-xxx devices require portal (free or paid version) where you can monitor and control your entire system. HWg-cloud.com portal is there pre-configured. Devices can be migrated / Adopted to any SensDesk Technology based portal.

NB-2x1Wire

A simple device for monitoring 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 four sensors with the 1-Wire or 1-Wire UNI bus. 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.

Protocols	COAP, DTLS
Portal	SensDesk Technology (**mandatory**)
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable
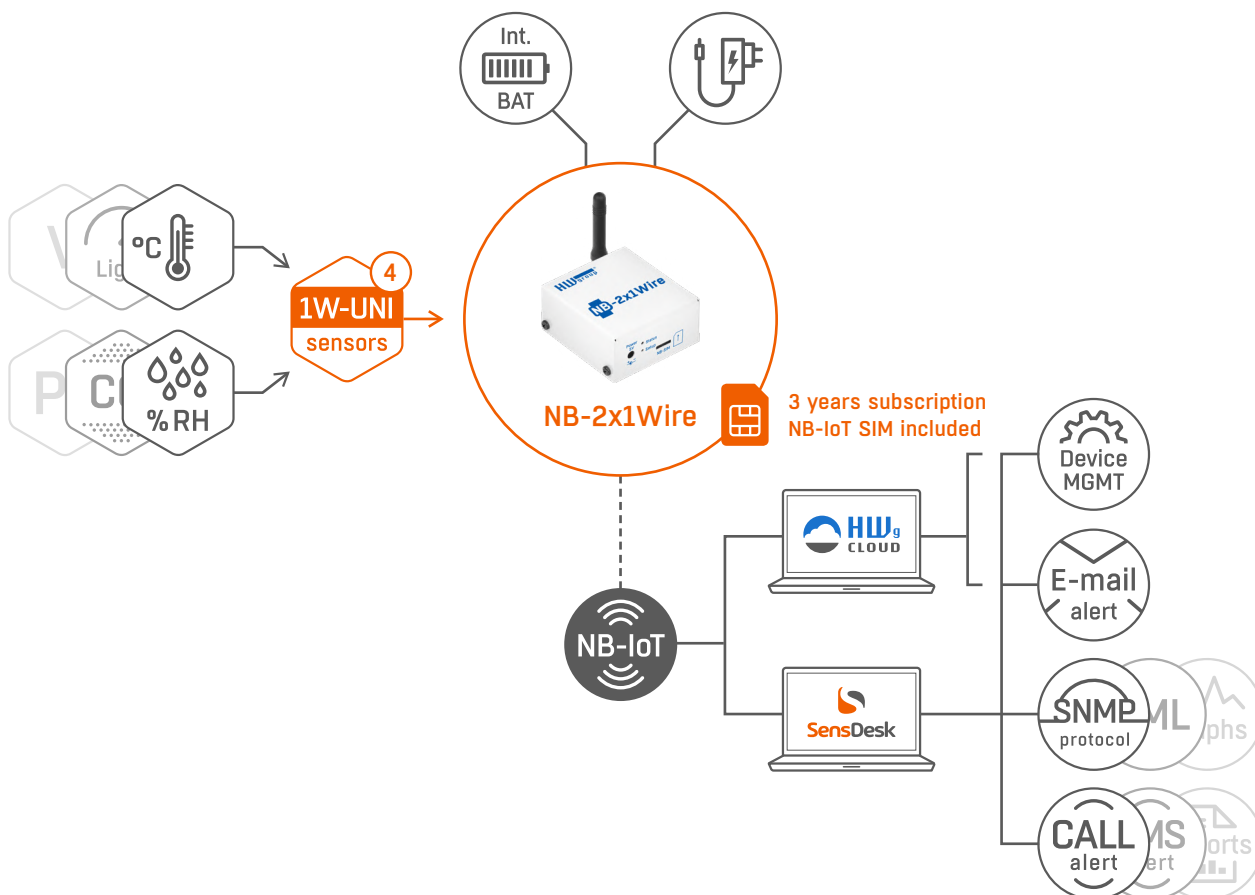
NB-2xIn

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

NB-2xIn is a device for connecting door contacts, smoke, gas and motion detectors with a dry contact output. It allows connecting 2 independent sensors. 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.

Protocols	COAP, DTLS
Portal	SensDesk Technology (**mandatory**)
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 output) 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.

Protocols	COAP, DTLS
Portal	SensDesk Technology (**mandatory**)
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 moisture-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.

Protocols	COAP, DTLS
Portal	SensDesk Technology (**mandatory**)
NB-IoT SIM card	Subscribed version: 3 years SIM included
Battery	Non-rechargeable

| Connection cable | WLD sensing cable A | Prolong non-sensing cable | Terminator |
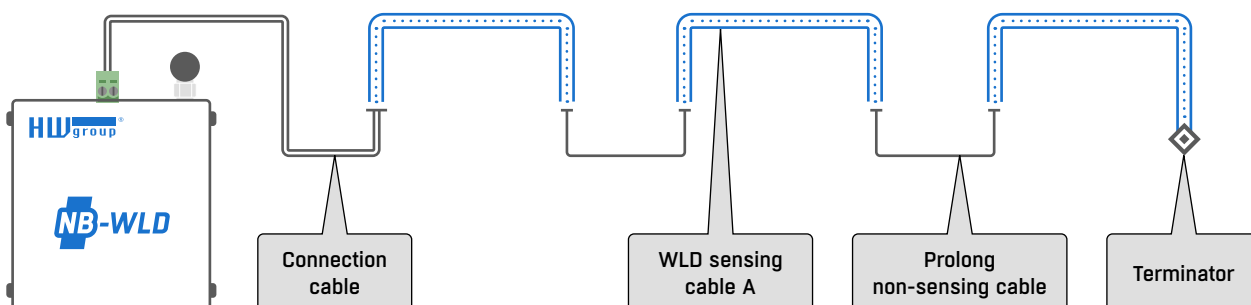
Battery inside

Disposable (non-rechargeable) battery inside. 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.
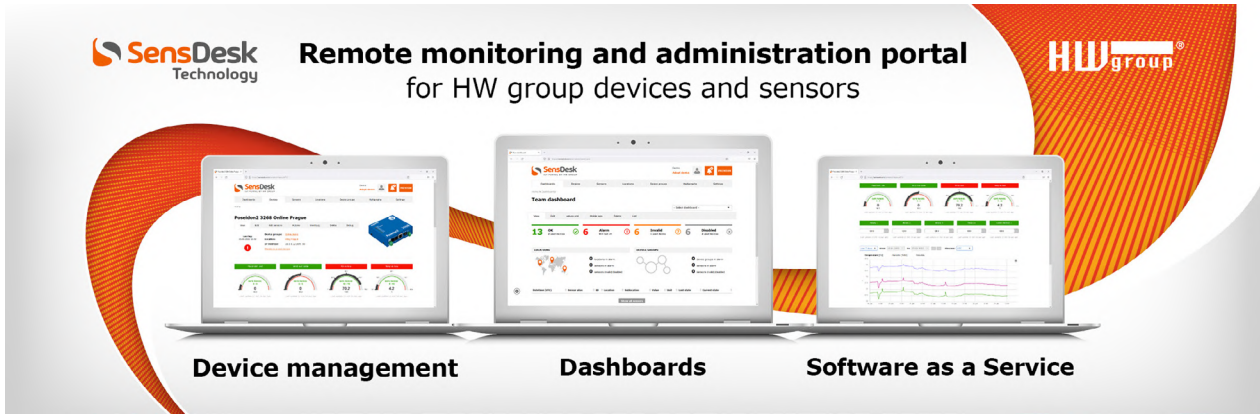
SensDesk Technology

The SensDesk Technology is a portal solution from the HW group to manage remote sensors and devices (only for HW group products).

- The portal can run online as saas service or off-line in a closed system.
- SensDesk Technology based portals offer a central overview of all the values, provides sending the alarms, reporting, outputs into the Open API, etc.
- 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).
- Devices can be **migrated** between various portals based on SensDesk Technology.

www.HWg-cloud.com	www.SensDesk.com	Portal providers
• **SaaS** (Software as a Service).	• SaaS (Software as a Service).	• SaaS (Software as a Service).
• **Default portal** for all HWg devices (latest FW required).	• **SensDesk** is technology.	• **Paid service** provided by HW group partners.
• Basic **free portal** for **20** HW group devices (all types).	• SensDesk**.com** is public example of this technology (by HWg).	• Various mix of free / paid services.
• Simple Email alerts for 2 recipients.	• It's **Paid option** for all HWg devices.	• Based on SensDesk Technology.
• 10 days history, no API, no SMS, basic graphs.	• **3 subscription plans** (5 D / 10 D / 25 D for 1 year).	• SensDesk.at / .gr / .lv / .ro / …
• Devices can be migrated to any other portals.	• Differences are also in service mix (how many SMSs, PDF, …) not device limit only.	• HWportal.cz
• Based on SensDesk Technology.	• Any **subscription plan** can be ordered with 1 year voucher.	• Other (list on HWg-cloud.com).

30+ DEVICES

70+ SENSORS & DETECTORS

HWg CLOUD

| Device MGMT | CALL alert | XML API | Reports | SNMP protocol | History |
| E-mail alert | SMS alert | Graphs | | | |

SensDesk.com

| Device MGMT | CALL alert | XML API | Reports | SNMP protocol | History |
| E-mail alert | SMS alert | Graphs | | | |

3rd party Portal

| Device MGMT | CALL alert | XML API | Reports | SNMP protocol | History |
| E-mail alert | SMS alert | Graphs | | | |
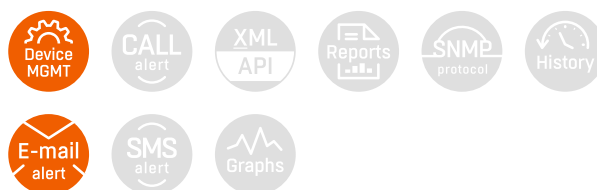
7 reasons to pay for the SensDesk.com x free HWg-cloud.com

1) SensDesk.com can alert you by **SMS or Voice call** to your mobile phone in the case of Alarm. If the time is critical, **every second counts**.

2) SensDesk.com service price is about **15 %** of the hardware costs **per year**.

3) SensDesk.com can **report you in PDF** (CSV) periodically.
Report for pharmaceutical / other production (HACCP).
Report you can print & click to the invoice for your customer.

4) More **Dashboards** and **Multigraphs** can help you to visualize quickly what's wrong.

5) 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) can be read by SNMP from the portal.

7) You can choose another pad portal, than the SensDesk.com is. There are available around 10 portals based on SensDesk Technology. Check **portal providers**.

Standalone Monitoring

Our portfolio of monitoring and control units with LAN / WiFi / GSM / LTE connectivity offers a complete solution for monitoring your site – from measuring various quantities and watching the status to monitoring energy consumption. In addition to logging and analysis of measured values, immediate actions can be taken – an alarm immediately alerts you to a value out of a specified range.

Our units support a wide range of protocols to facilitate the integration with your existing system and 3rd party software. We offer dozens of types of sensors, detectors and accessories, particularly suitable for the areas mentioned below. We also offer our software, custom-designed to meet our clients' needs. Simply select (or ask for help with selecting) suitable device, sensors and software, easily install and configure them, and let our products do the rest.

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

Data input
measured quantities, sensors, detectors, inputs / outputs

Processing
product lines, logging, analysis, alarms

M2M transfer
XML/HTTP, SMNP, e-mail, GPRS/SMS

SW apps
reports graphs, Excel, alarms
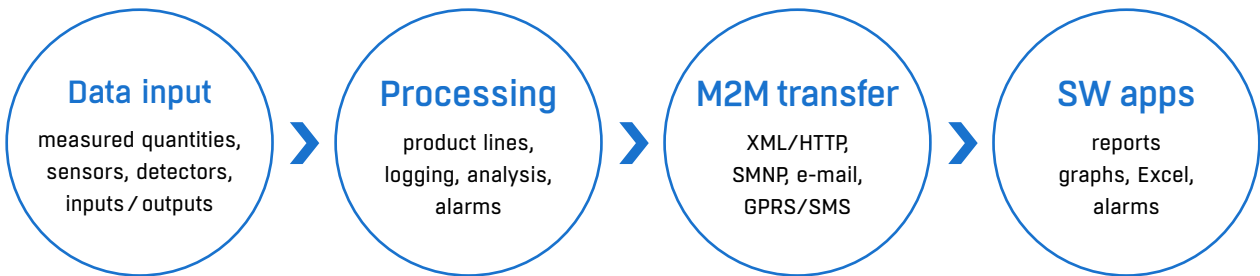
STE2 r2

WiFi and Ethernet temperature and humidity sensor with digital inputs.

STE2 r2 supports up to 5 sensors connected over 1-Wire / 1-Wire UNI and up to 2 detectors connected to digital inputs. Whenever a value is out of the specified range or a contact changes state, an e-mail notification is sent. Besides a standard 5 V adapter, STE2 r2 can be powered over the Ethernet (PoE). This is an ideal solution for temperature and humidity monitoring in sensitive environments, with the possibility to connect a wide range of supplemental detectors, such as door contacts, motion detectors, water leak detectors, smoke detectors, CO_2 and voltage sensors.

Protocols	HTTP, HTTPS, SNMPv1, HWg-PUSH, XML, NetGSM
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

Poseidon2 4002

Secure solution for remote environment monitoring and control of outputs.

Poseidon2 4002 supports up to 16 sensors connected over 1-Wire / 1-Wire UNI, up to 26 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.
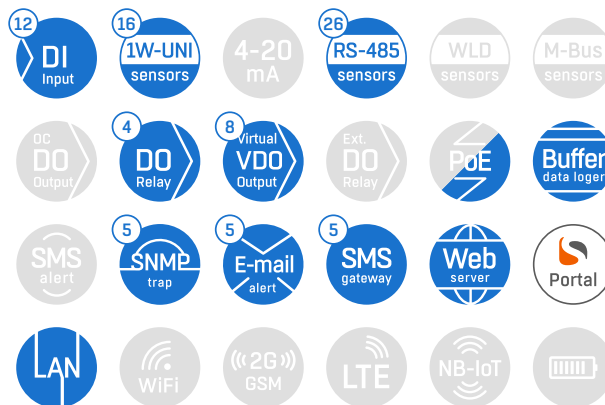
Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

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
Software	HWg-PDMS, HWg-Trigger
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
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

Poseidon2 3266

Cost-effective model for remote monitoring of sensors and detectors.

Poseidon2 3266 supports up to 8 sensors connected over 1-Wire / 1-Wire UNI and up to 4 detectors connected to digital inputs. With support for over 50 SNMP and SCADA applications, Poseidon2 devices can be integrated in a wide range of monitoring and control systems. MQTT protocol enables integration in IoT solutions.

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

Damocles2 2404

24 DI Input	1W-UNI sensors	4-20 mA	RS-485 sensors	WLD sensors	M-Bus sensors
DC DO Output	4 DO Relay	8 Virtual VDO Output	Ext. DO Relay	PoE	Buffer data loger
SMS alert	5 SNMP trap	5 E-mail alert	5 SMS gateway	Web server	Portal
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
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

Damocles2 1208
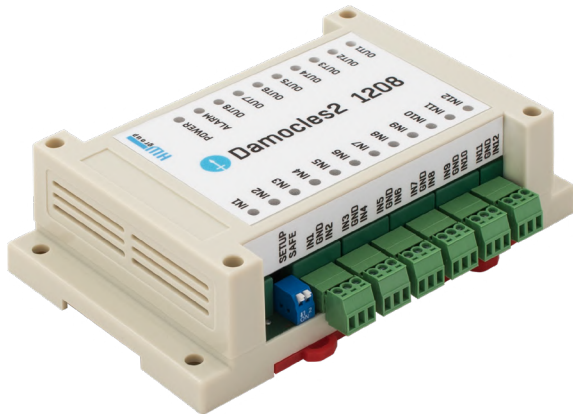
Industrial I/O with enhanced IP security and OC outputs.

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.

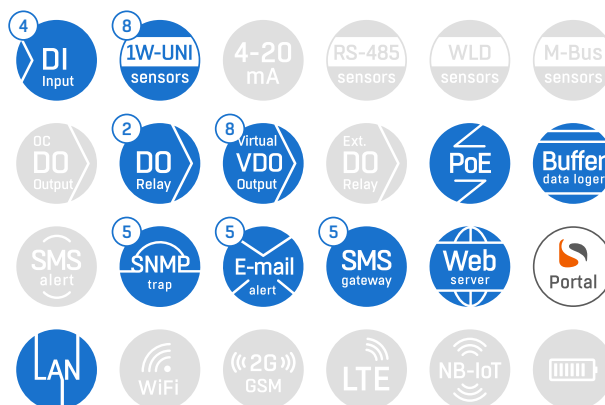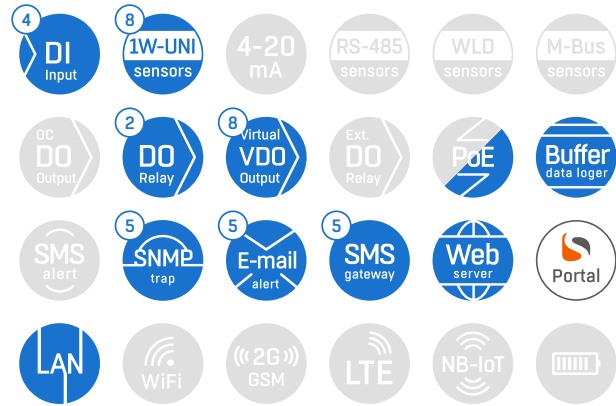| Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

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.

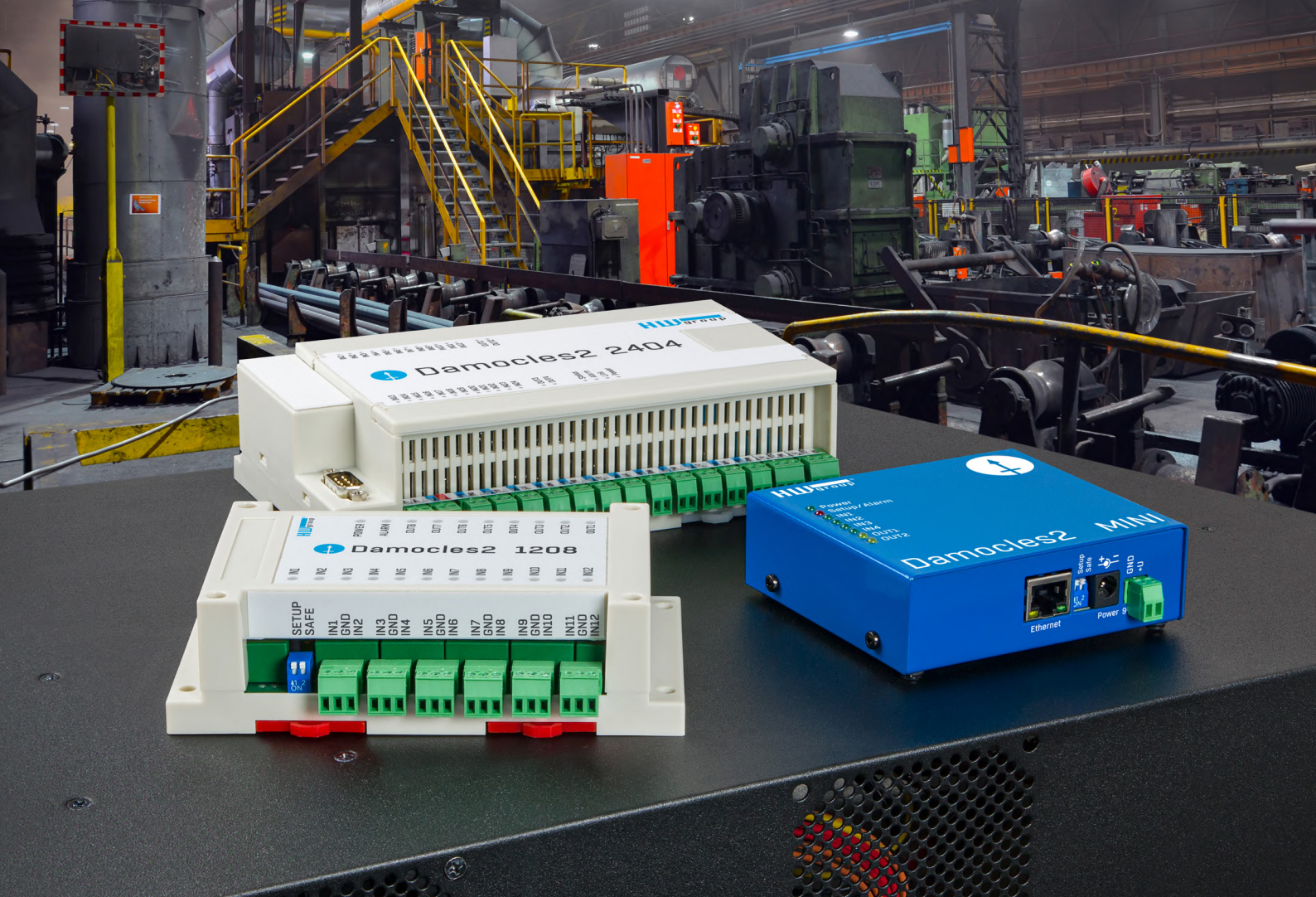| Protocols	HTTP, HTTPs, IPv6, MQTT (IoT), SMTP, SNMPv1, SNMPv3, SNMP traps, Modbus/TCP, XML, NetGSM, HWg-PUSH
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

HWg-Ares 12

Industrial measuring and monitoring device for 14 sensors with GSM communication and back-up power.

HWg-Ares 12 supports up to 14 sensors connected over 1-Wire/ 1-Wire UNI and up to 2 detectors connected to digital inputs. In order to connect meters (such as water, gas or electricity meters), physical digital inputs feature S0 pulse counters with memory. HWg-Ares 12 can be extended with a relay output expansion module connected over the 1-Wire UNI bus to allow remote control of other appliances, or to implement a "thermo-stat" function. HWg-Ares 12 is an industrial device with back-up power for remote monitoring and alerting over GSM from locations without LAN access.
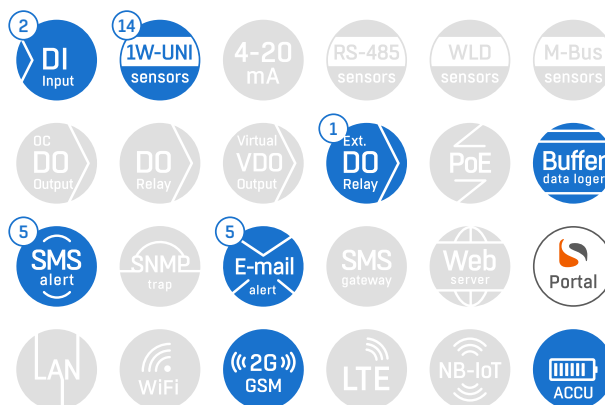
Protocols	HWg-PUSH, NetGSM, SMTP
Software	HWg-PDMS
Portal	SensDesk Technology (**optional**)

Ares 12 LTE

Industrial measuring and monitoring for 14 sensors with GSM and LTE communication and back-up power.

Ares 12 LTE supports up to 14 sensors connected over 1-Wire/ 1-Wire UNI and up to 2 detectors connected to digital inputs. In order to connect meters (such as water, gas or electricity meters), physical-digital inputs feature S0 pulse counters with memory. Ares 12 LTE can be extended with a relay output expansion module connected over the 1-Wire UNI bus to allow remote control of other appliances, or to implement a "thermostat" function. Ares 12 LTE is an industrial device with back-up power for remote monitoring and alerting over GSM from locations without LAN access.
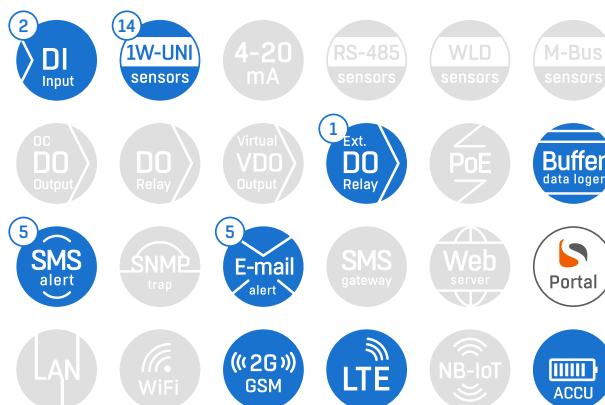
Protocols	HWg-PUSH, NetGSM, SMTP
Software	HWg-PDMS
Portal	SensDesk Technology (**optional**)

HWg-Ares 10

Cost-effective GSM thermometer with remote management and alerts sent by e-mail, text messages or by dialing a number.

HWg-Ares 10 supports up to 6 sensors connected over 1-Wire/ 1-Wire UNI and up to 2 detectors connected to digital inputs. In order to connect meters (such as water, gas or electricity meters), the digital inputs feature S0 pulse counters with memory. HWg-Ares 10 is a cost-effective GSM thermometer for remote monitoring and alerting over GSM for locations without

LAN access. During power outages or high/low temperatures this device calls your cell phone and/or immediately sends an email/SMS.

Protocols	HWg-PUSH, NetGSM, SMTP
Software	HWg-PDMS
Portal	SensDesk Technology (**optional**)

Ares 10 LTE

Economical GSM and LTE thermometer with remote management and alarm via ringing, SMS and e-mail.

Ares 10 LTE supports up to 6 sensors connected over 1-Wire/ 1-Wire UNI and up to 2 detectors connected to digital inputs. In order to connect meters (such as water, gas or electricity meters), the digital inputs feature S0 pulse counters with memory. Ares 10 LTE is a cost-effective GSM thermometer for remote monitoring and alerting over GSM for locations without LAN access. During power outages or high/low temperatures

this device calls your cell phone and/or immediately sends an email/SMS.

Protocols	HWg-PUSH, NetGSM, SMTP
Software	HWg-PDMS
Portal	SensDesk Technology (**optional**)

Water Leak Detection system

HW group offers several products that provide ideal solutions for flood and water leak detection. See the table below and discover the best solution 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
sensors
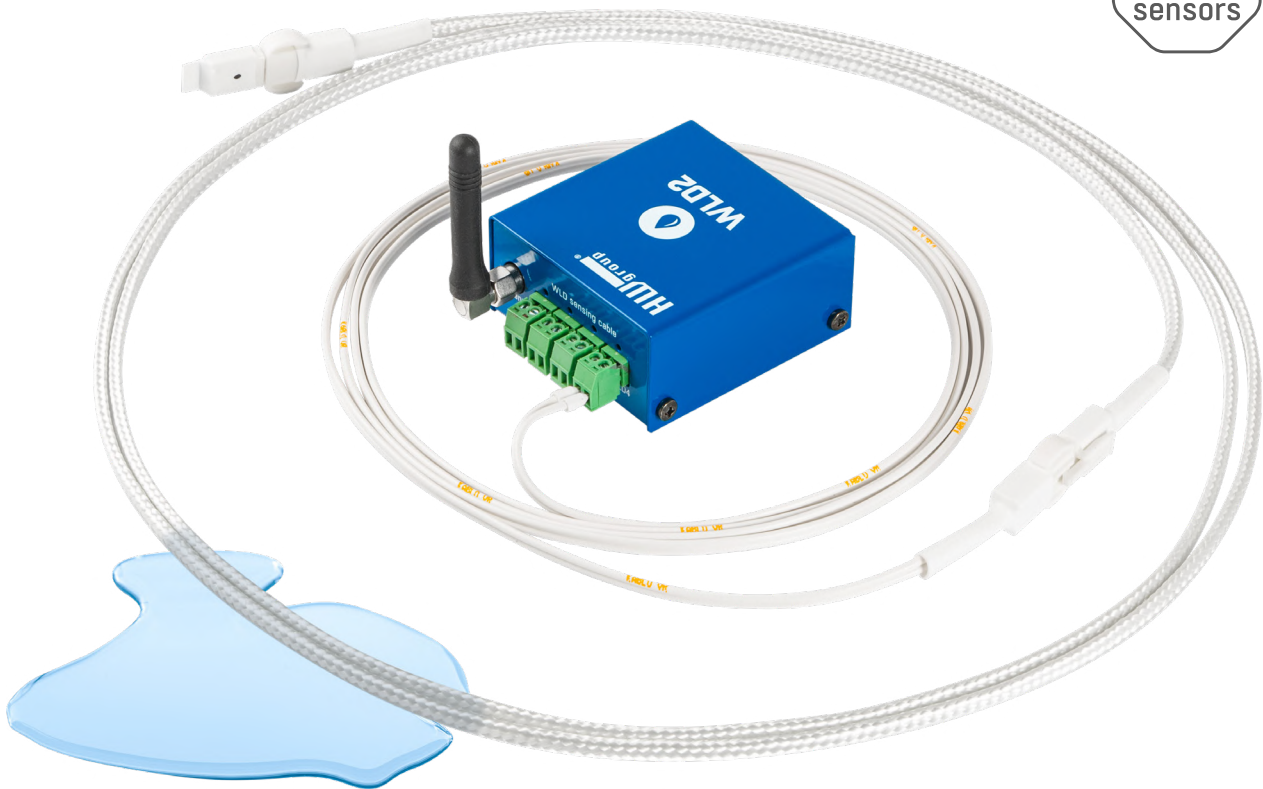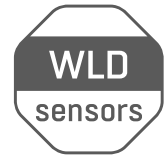
WLD2

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

OC DO Output
DO Relay
Virtual VDO Output (4)
Ext. DO Relay
PoE
Buffer data loger

SMS alert
SNMP trap (4)
E-mail alert (4)
SMS gateway (4)
Web server
Portal

LAN
WiFi
2G GSM
LTE
NB-IoT

4 zones Water Leak Detector with Ethernet / WIFI

The WLD2 detects few drops of 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
Software	HWg-PDMS, HWg-Trigger
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.

Protocols	–
Software	–
Portal	–

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 interruption and of WLD sensing cable within seconds.
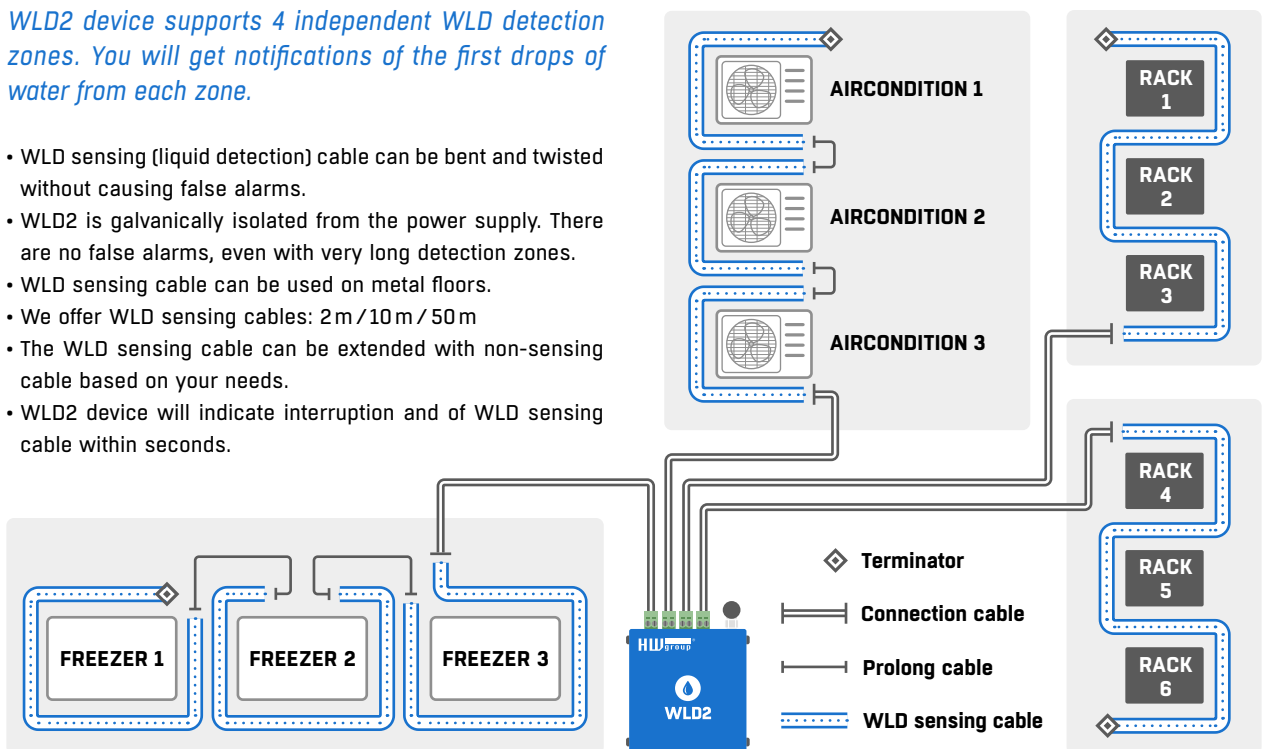
WLD sensing cable is long-term robust solution

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.

Total length max. 185 m

50 m · 10 m · 2 m · 2 m

Terminator · **WLD sensing cable A** · Prolong non-sensing cable · **WLD sensing cable A** · **Connection cable**

Sensing cable can be easily prolonged:
Each WLD sensing cable can be extended with 2-Wire non-sensing cable at any place.

WLD2
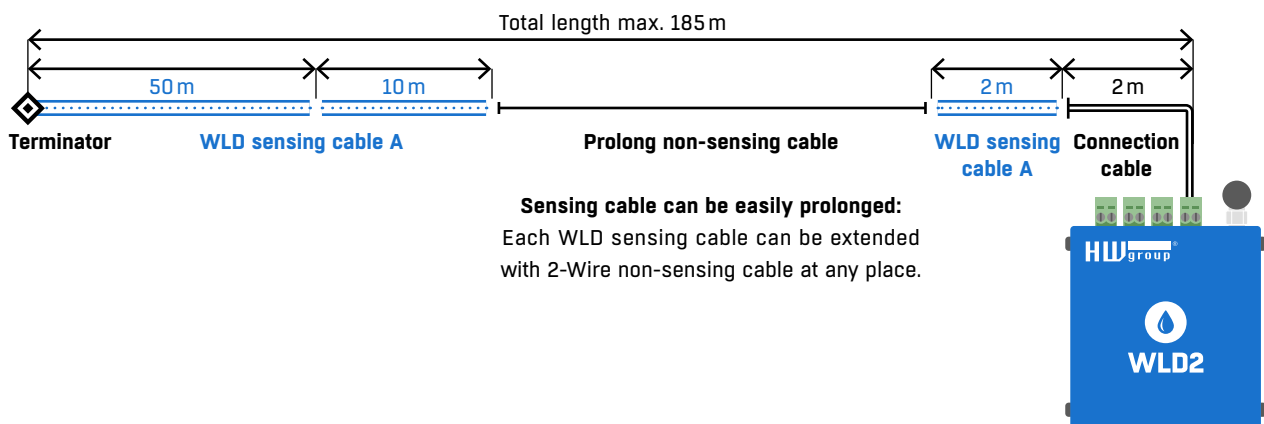
WLD sensing cable A
2 m / 10 m / 50 m

Water Leak Detection cable type A. Liquid is detected along the entire length of the WLD sensing cable.

WLD prolong cable 5 m

Prolong non-sensitive cable 5 m for WLD type A. Can be extended to up to 100 m in total.

WLD A connection cable 2 m

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

HWg-SMS-GW3
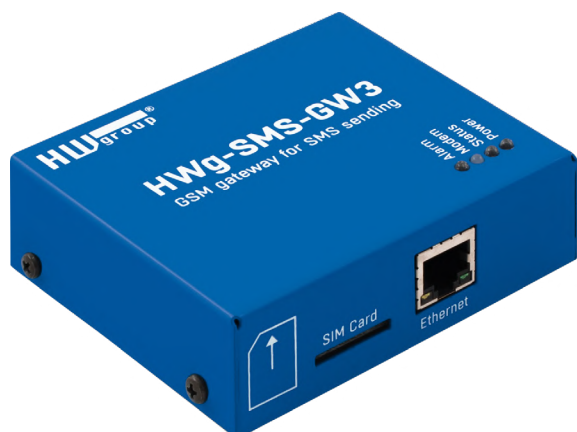
GSM gateway for sending text messages (SMS) over the Ethernet.

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 or the HWg-Trigger application. The central HWg-SMS-GW3 text message gateway significantly saves costs of external GSM modems, and the entire installation only needs one SIM card.

It sends messages from any connected device, even without an internet connection.

Protocols	SNMPv1, SNMPv3, XML, NetGSM
Software	HWg-Trigger
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.

SMS-GW3 LTE 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 or the HWg-Trigger application. The central SMS-LTE text message gateway significantly saves costs of external GSM modems, and the entire installation only needs one SIM card.

It sends messages from any connected device, even without an internet connection.

Protocols	SNMPv1, SNMPv3, XML, NetGSM
Software	HWg-Trigger
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 (SW applications) in the same LAN network can use this central gateway to send SMS alerts or dial voice call alerts.

GSM / LTE gateway can be used for sending text messages also from HWg software applications (HWg-Trigger, HWg-DCD2) and SensDesk.com online portal (if installed on public IP).
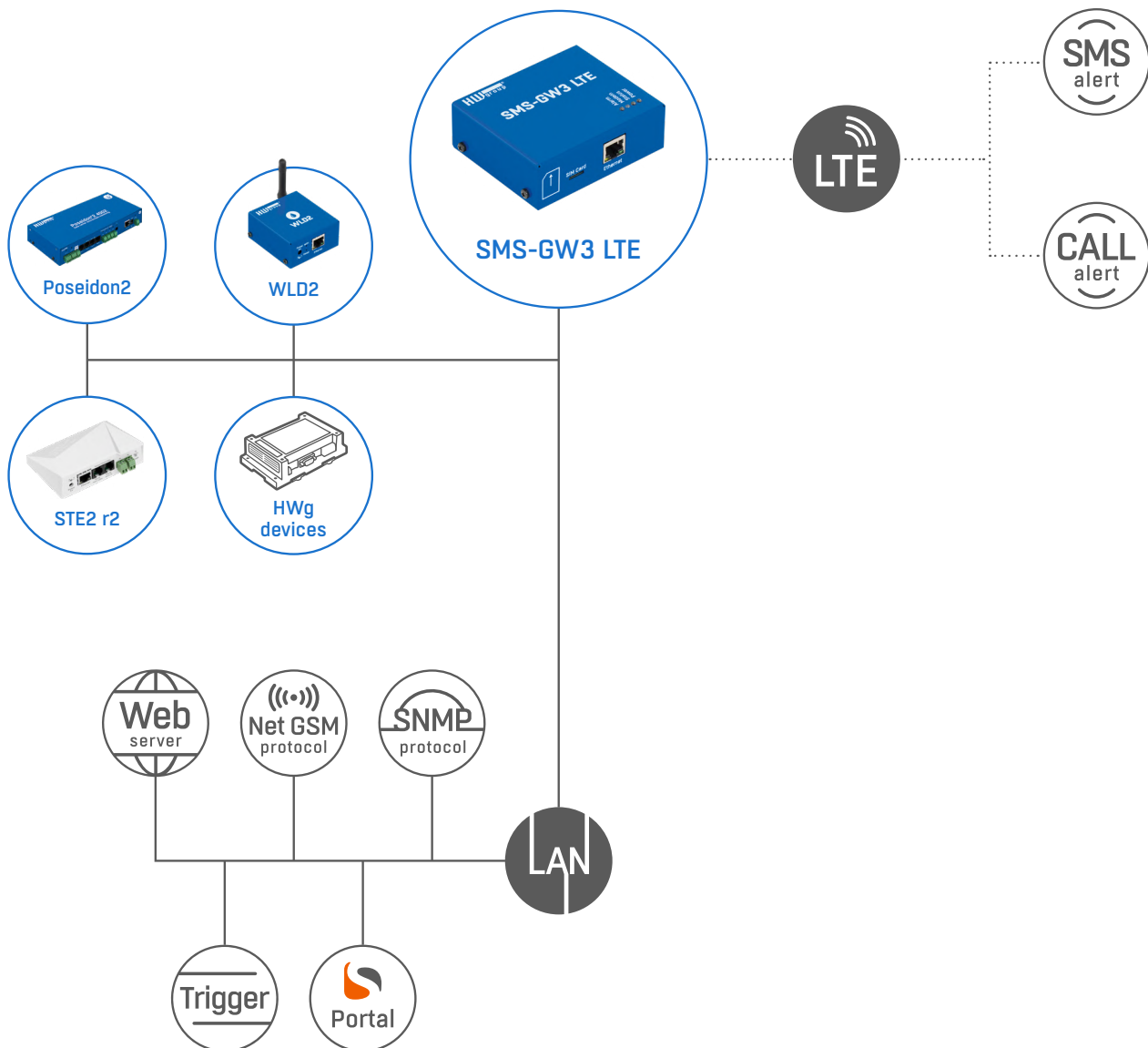
- ✔ One GSM / LTE gateway for all devices on local network
- ✔ No additional software needed in order to send text messages from the devices
- ✔ Each device can send its alarm messages to different phone numbers
  SMS recipient's phone number is configured in the sending device
- ✔ Supports a "SMS + 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
Software	HWg-PDMS, HWg-Trigger
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.
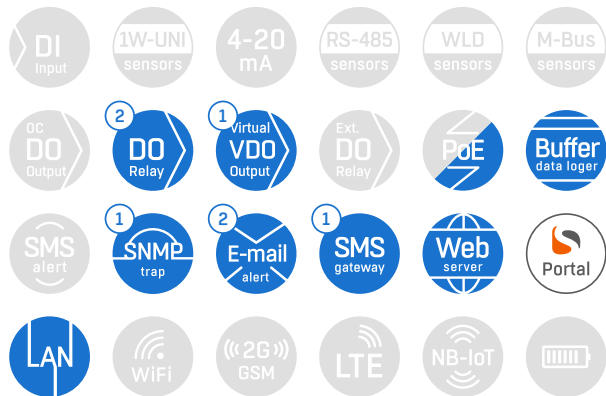
Up to 10 devices can be monitored. An email or SNMP Trap can be also sent in response to an outage. With a SMS gate-way, it can even send text message alerts thanks to when there is a problem, you will always be alerted on time.

Protocols	HTTP, SNMPv1, SNMP trap, HWg-PUSH, XML, NetGSM
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

HWg-PWR 3/12/25

Smart Ethernet device for remote 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
Software	HWg-PDMS, HWg-Trigger
Portal	SensDesk Technology (**optional**)

Portal

Alerts

Database

SMS alert

E-mail alert

SNMP trap

3rd party SW

E-mail report

Web

PDMS

LAN

SMS gateway

HWg-PWR 25
M-Bus Energy monitoring

kWh

kWh

M-Bus electricity meter

M-Bus electricity meter

M-Bus water meter

M-Bus gas meter

kWh

kWh

M-Bus electricity meter

M-Bus water meter

M-Bus electricity meter
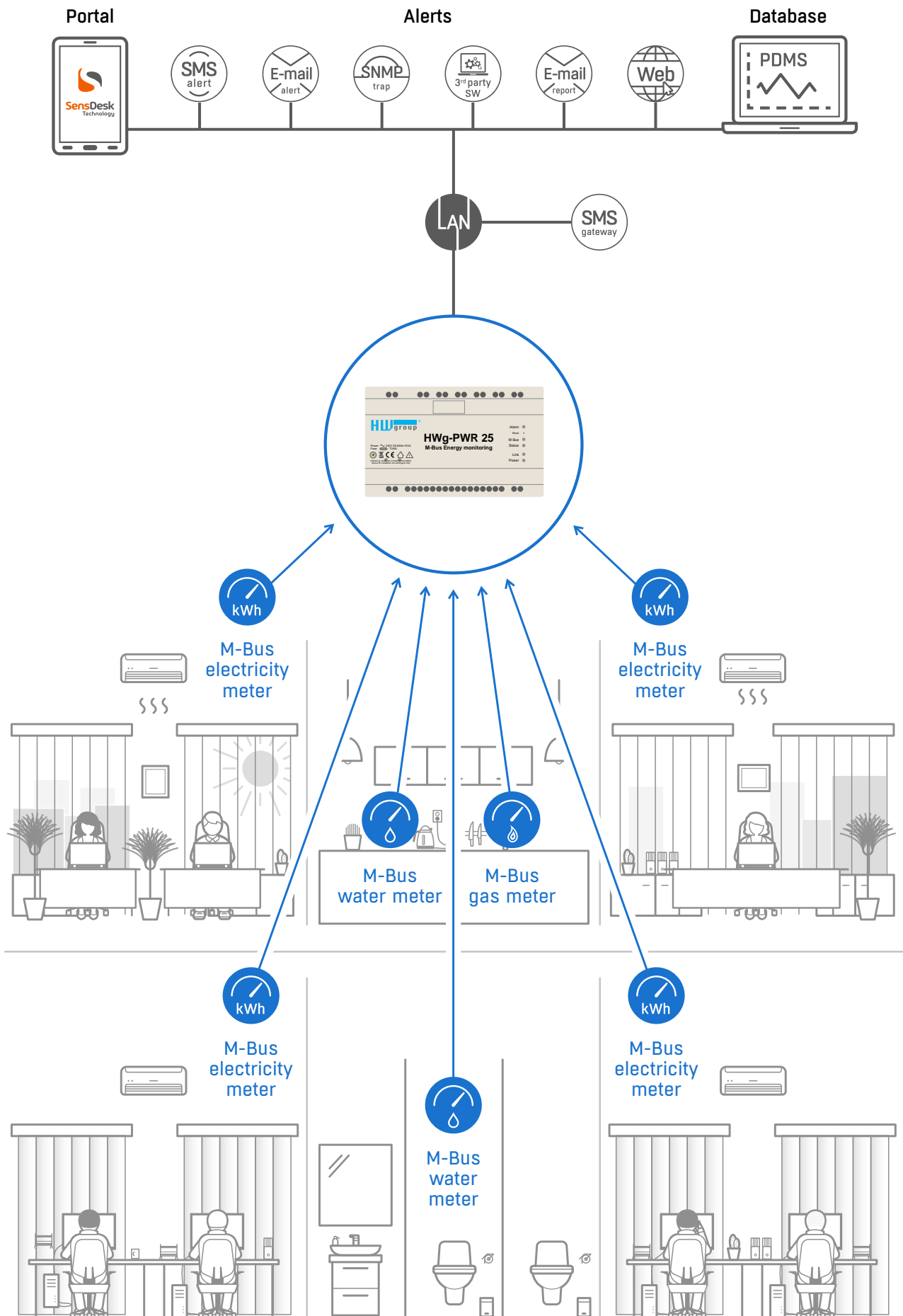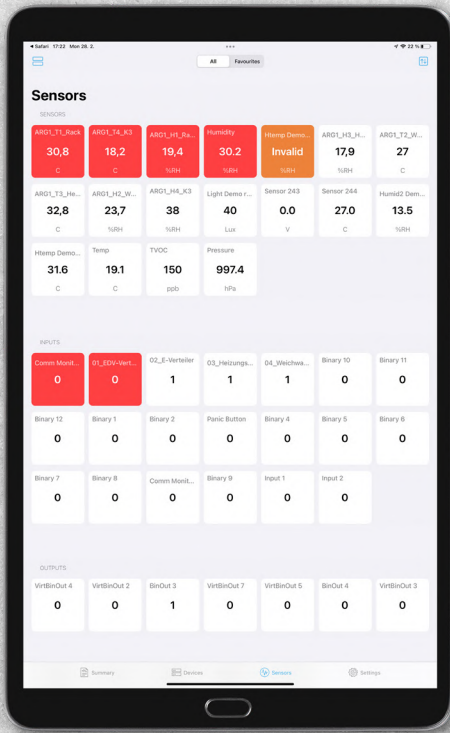
HWg Monitor on the wall
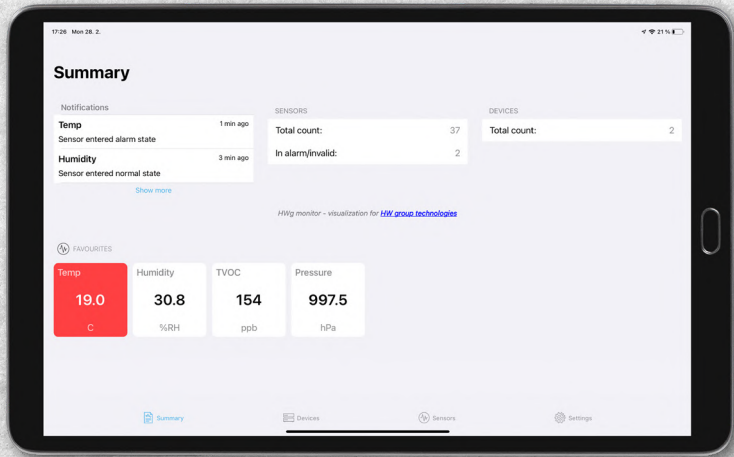
Mobile Apps

✔ **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**

	SensDesk Mobile	HWg Monitor
Platform	iOS, Android	iOS, Android
Local LAN devices	-	✔ (All HWg devices)
Android TV compatible	-	✔
Portal: **HWg-cloud.com**	✔	-
Portal: **SensDesk.com**	✔	✔
Portal: Other portals	✔	✔
Several user accounts	-	✔
Device	Mobile phone	Mobile phone / Tablet
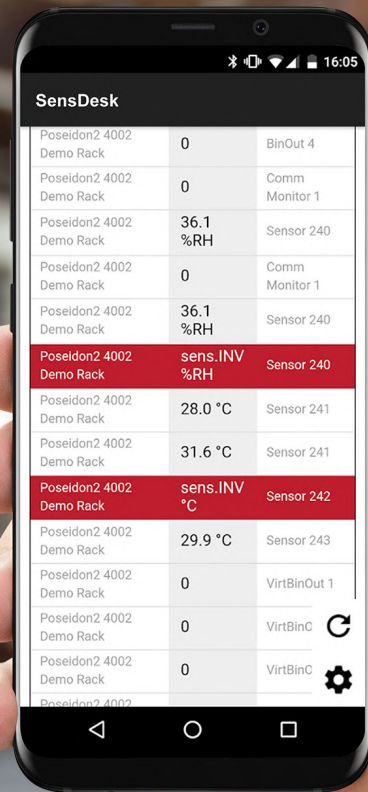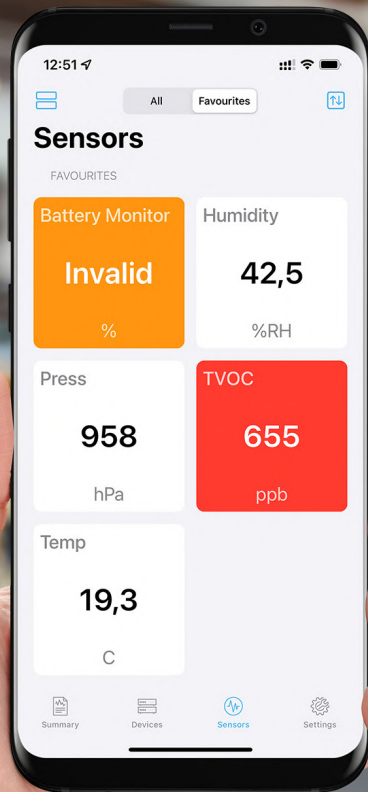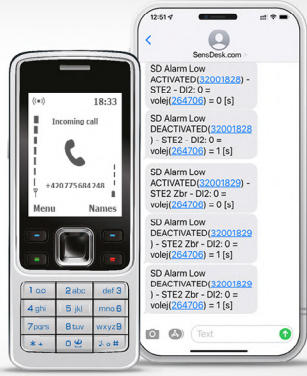
All sensors in your pocket

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**

SensDesk 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 14 – 15.

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.

Stores and retail

Thermometer · Water leak detector · Motion detector
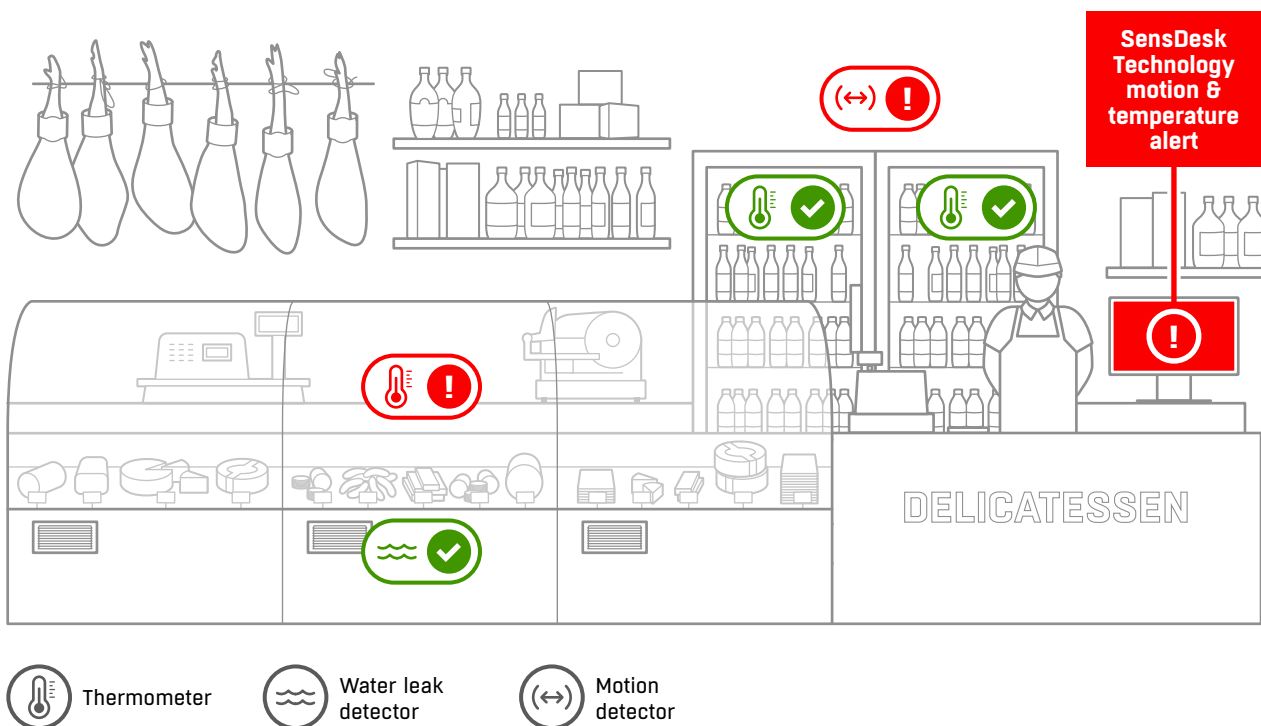
Storing food requires precise temperature monitoring, fast alarms and detailed reporting. Our SD devices with the Sens-Desk Technology portal can help you with that. SD-2x1Wire will monitor your refrigerator temperature. The SD-WLD will detect water leaks under the refrigerator. Thanks to the SD-2xIn 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

Warehouses and storage rooms

WEIGHING SCALE

20 kg

COOLING ROOM

- Scale
- Thermometer
- Smoke detector
- Door contact detector
- Thermometer / humidity detector
- Relay output
- Camera
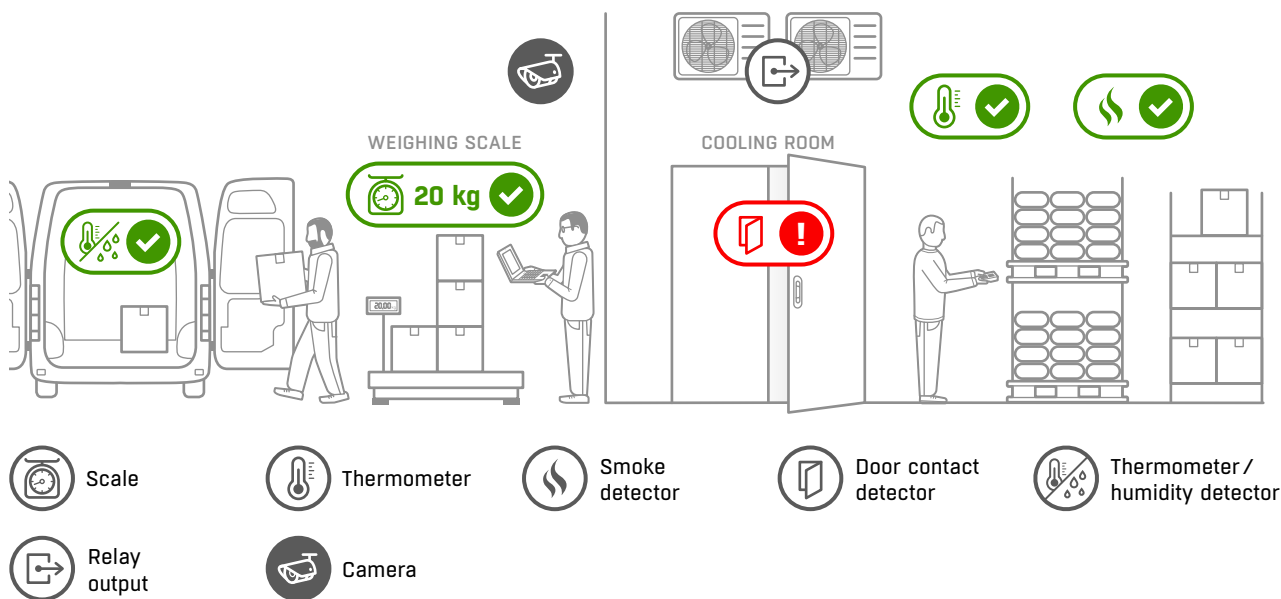
Warehouse operators need an efficient way to monitor temperature and humidity in their storage facilities and vehicles. Thanks to the SensDesk Technology monitoring portal and HW group IoT devices, your storage facilities will be safe and compliant to regulations. You can also make sure your cargo is 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
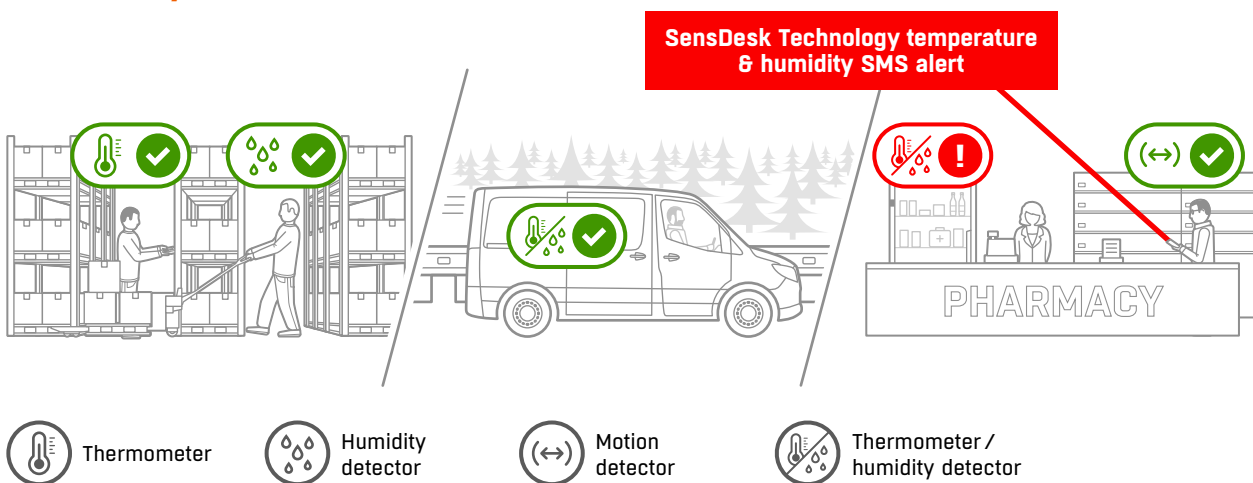
Pharmacies and medical companies are required to comply with many standards and regulations. With SensDesk Technology you can simply set the safe values of temperature, humidity and other conditions. Then you can receive alarms whenever there is a problem and the values get out of the safe range. You 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
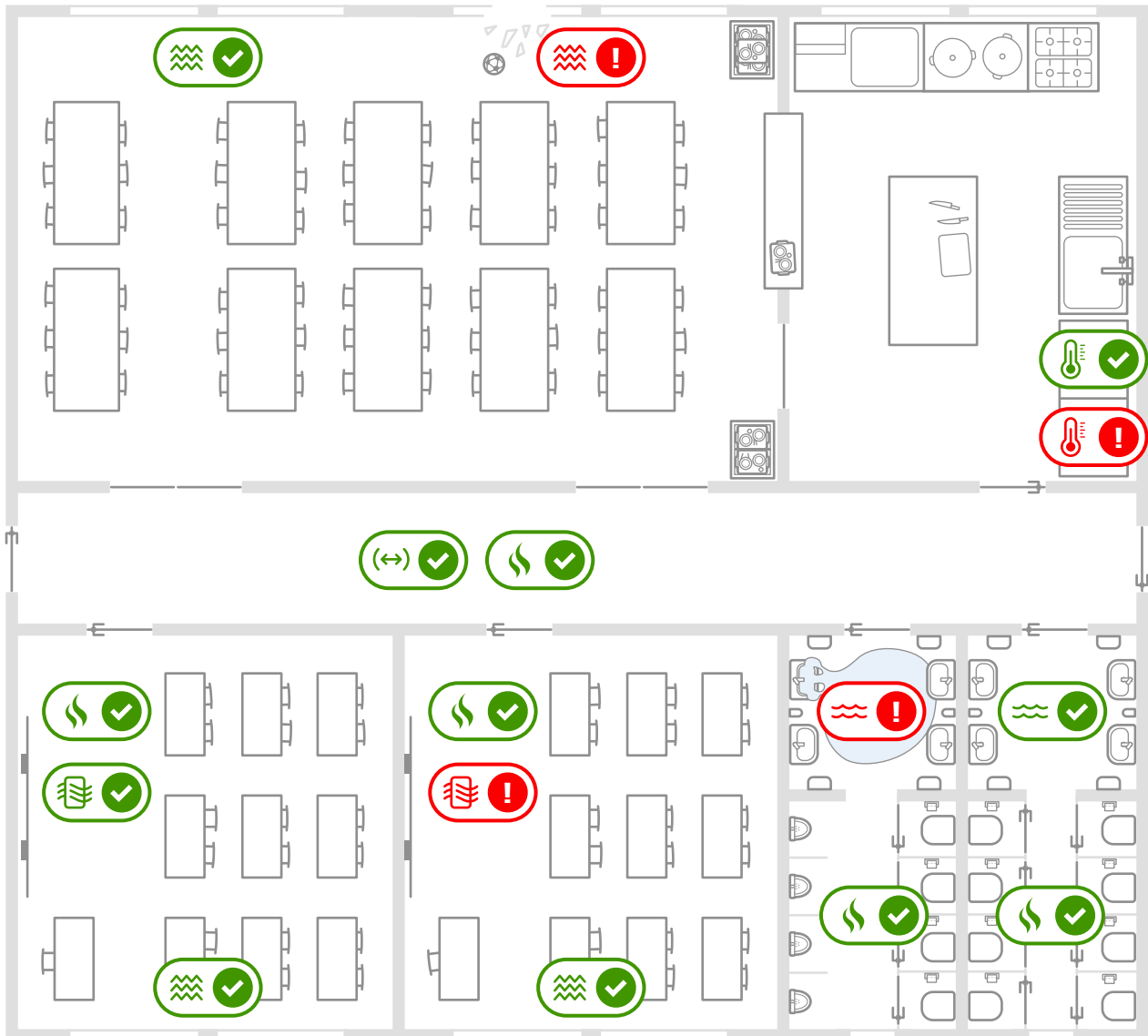
≋ Vibration detector	≣ Air quality detector	∫ Smoke detector	≈ Water leak detector	(↔) Motion detector
🌡 Thermometer				

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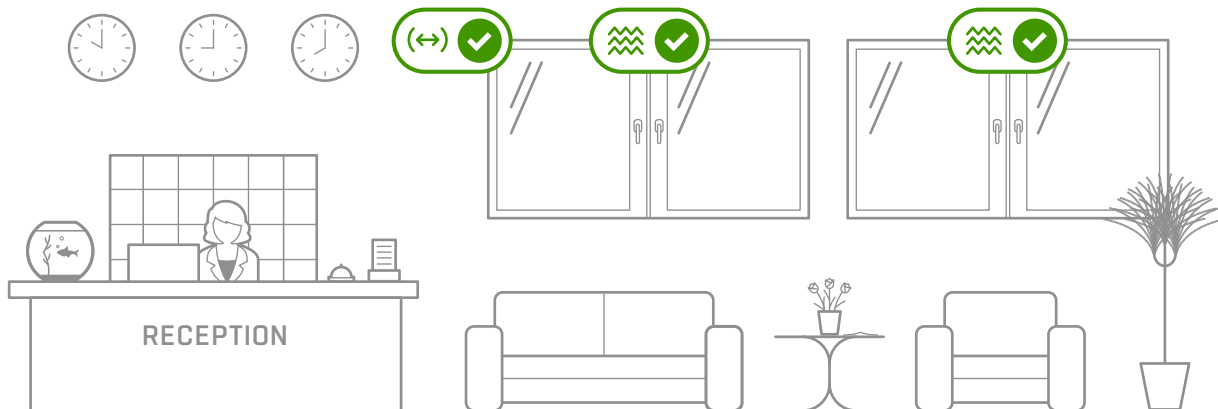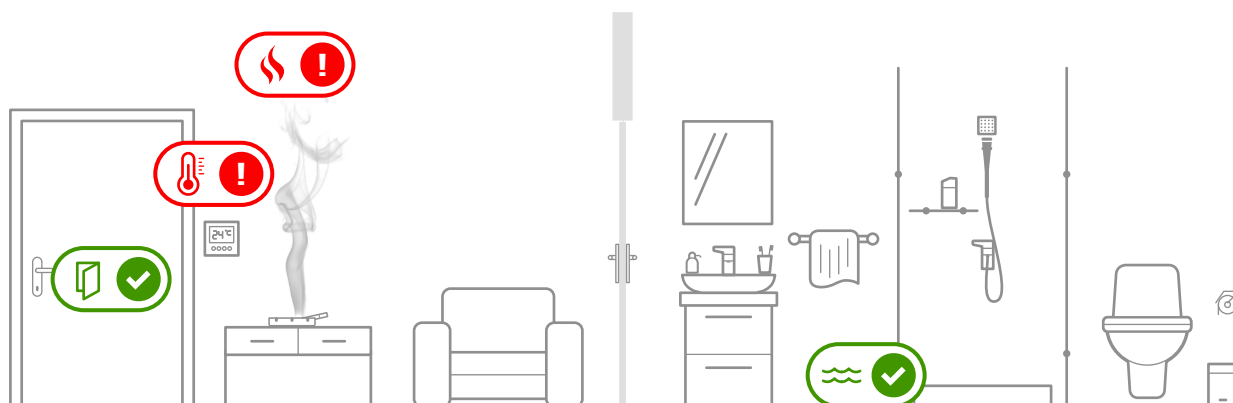
	Vibration detector		Door contact detector		Smoke detector		Water leak detector		Motion detector

 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 or activating a fire sprinkler. 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 |
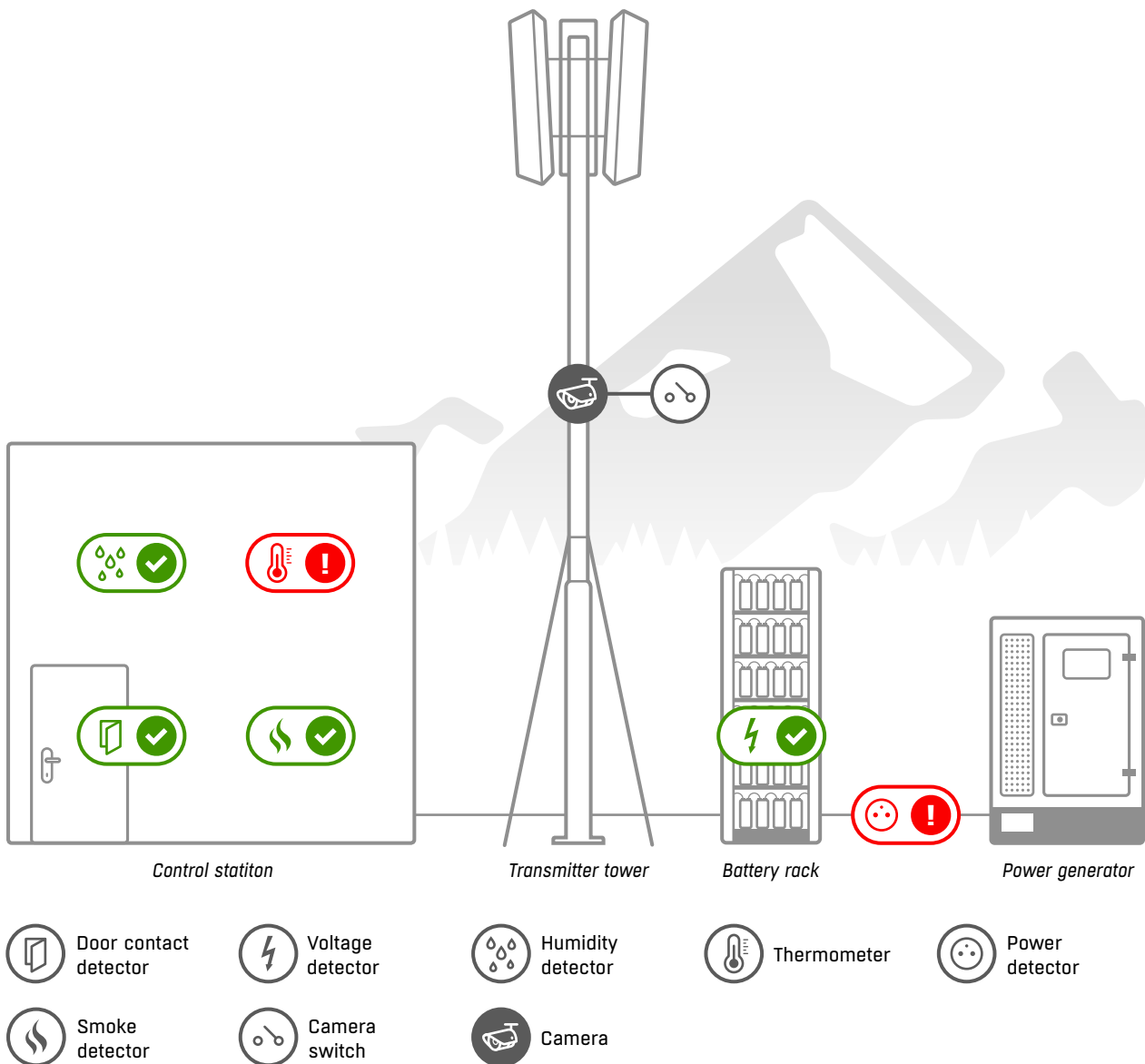
Technology in remote locations needs reliable monitoring of cooling, heating, and site conditions. SensDesk Technology portals and HW group IoT sensors can detect A/C failures, water leaks, movement, intrusion and more. SensDesk Technology offers you different user and administration levels and tools 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

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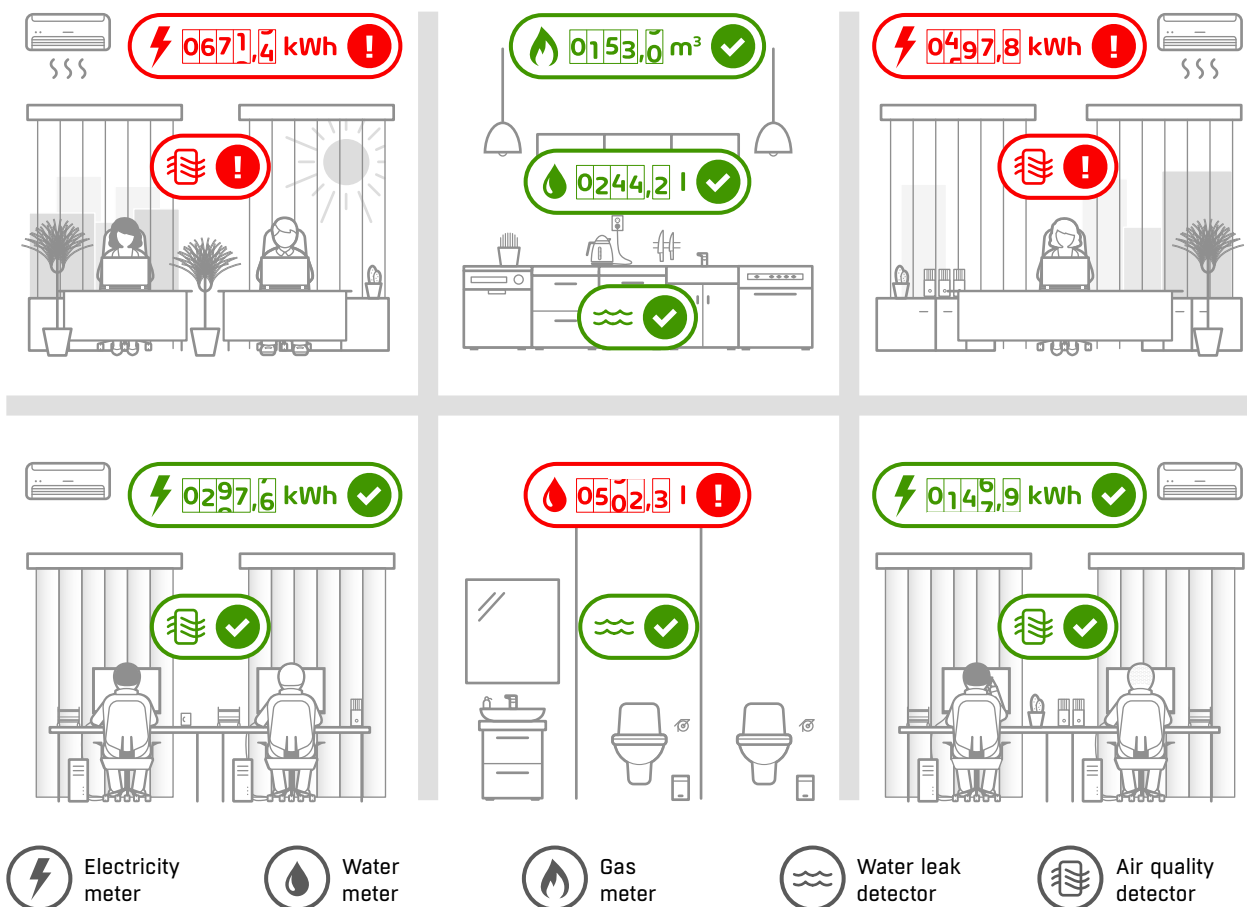
In smart cities and municipal facilities the monitoring of power consumption is important. These values are also affected by outdoor climatic conditions and weather. A common problem in these places is determining the optimal setting for air conditioner and CO_2 concentration. Water leaks must also be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

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				
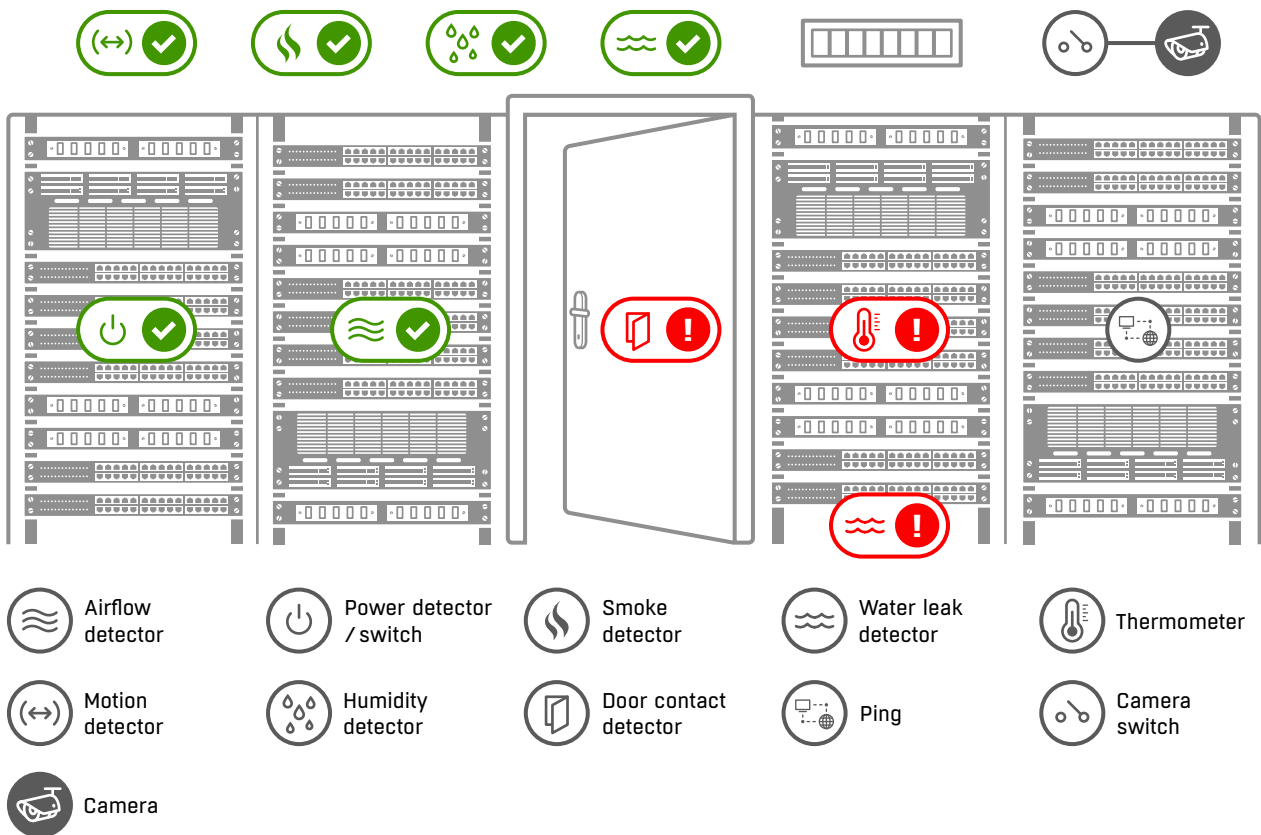
Data centers and server rooms are one of the most critical and vulnerable parts of every company. A simple overheating issue can degrade application performance for the end-users. Not to mention critical damage by heat, water leaks, or fire. We offer a simple and easy to install solution using HW group 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

Logistics & transportation
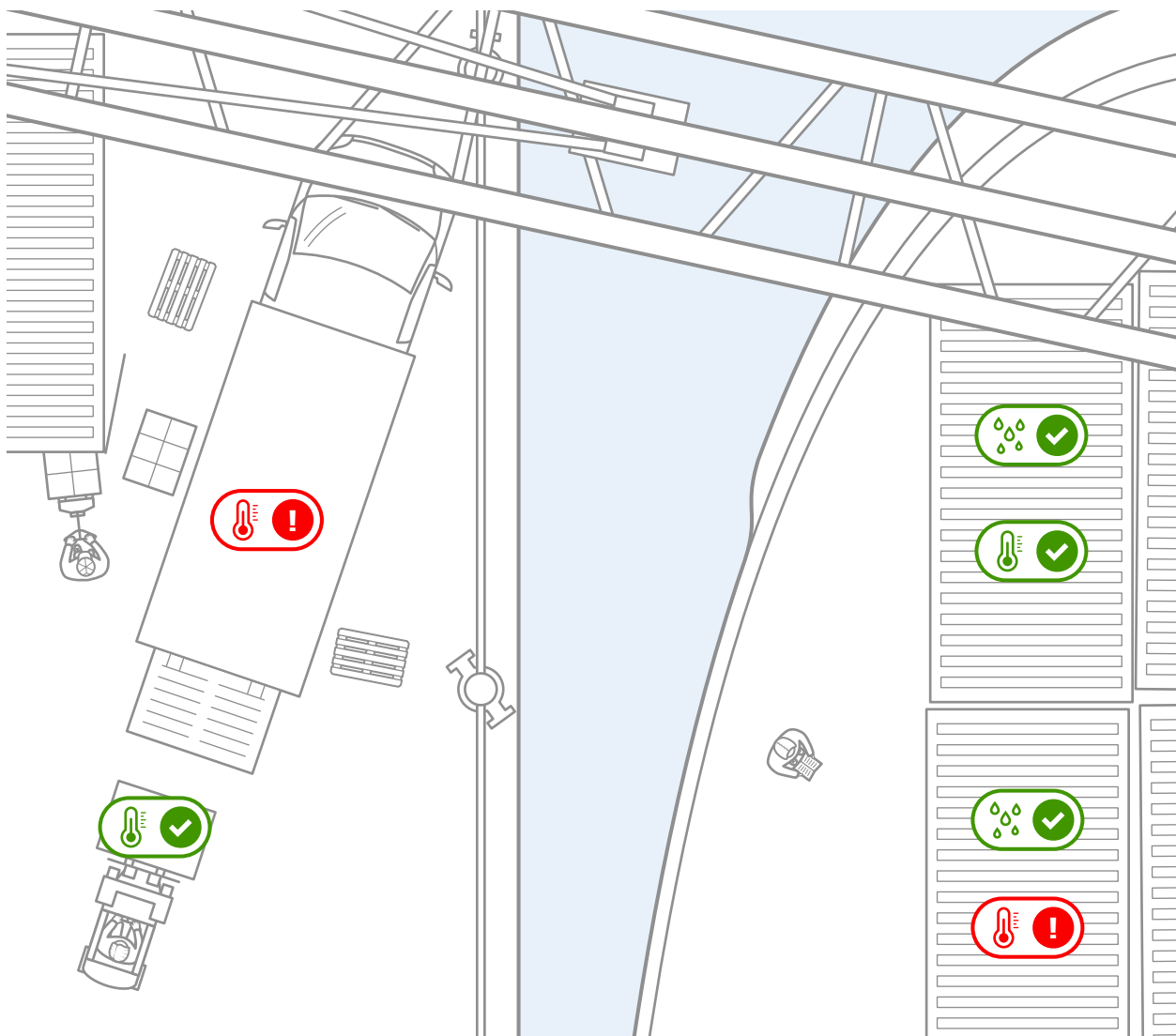
⬡ Humidity detector   🌡 Thermometer

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**

```
      mirror_mod.use_x = False
      mirror_mod.use_y = True
      mirror_mod.use_z = False
    elif _operation == "MIRROR_Z":
      mirror_mod.use_x = False
      mirror_mod.use_y = False
      mirror_mod.use_z = True

      #selection at the end -add back the deselected mirro
    mirror_ob.select= 1
    modifier_ob.select=1
    bpy.context.scene.objects.active = modifier_ob
    print("Selected" + str(modifier_ob)) # modifier ob is th
      #mirror_ob.select = 0
```

Software

HW group units are not only dependent on the portal, you can get other software too or use your own.

Our devices are not only compatible with dozens of SNMP monitorings solutions, we can also provide you with our own HWg-Push protocol documentation and you can integrate our devices into your own portal.

HWg-PDMS

Windows application for collecting data from sensors and inputs over LAN and GSM. Export of data in the background.

Data processing and analysis with export to MS Excel. Data are collected by e-mail (e.g. from GSM/GPRS devices), LAN or Portal. Periodic or manual data export. Supported values: kWh, W, A, V, °C/°F, Cos Fi, Lx, %RH.

License type:
Freeware – max. 3 sensors
HWg-PDMS 8 – (up to 8 sensors)
HWg-PDMS 20 – (up to 20 sensors)
HWg-PDMS 200 – (up to 200 sensors)
HWg-PDMS – unlimited

HWg-Trigger
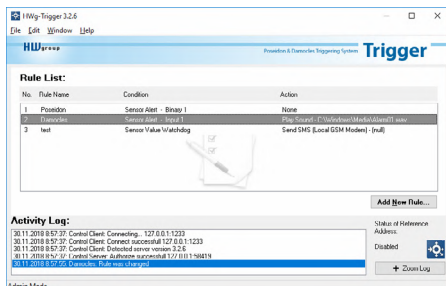
IFTT application for Windows. Values from HW group sensors can trigger different actions.

For example: Display a pop-up window, play a sound, start an application, start a service, shut down the PC. Device Watchdog function, sms alerts.

License type:
30-day trial version free of charge
Unrestricted commercial version

HWg-SDK
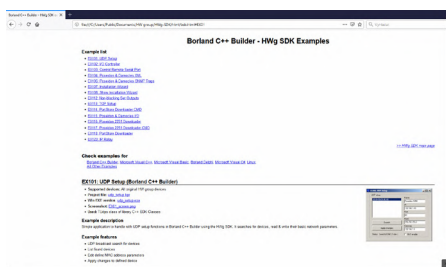
HWg-SDK is a package of programming examples and APIs for most of HW group products. Various programming languages, Unix, Windows and other programming platforms.

Supported programming languages: C++, Active X, VB, C#, .NET, Borland C++, Microsoft C++, Borland Delphi, JAVA, PHP, AJAX, and more.

Sensors and detectors

HW group offers 70+ of precise Sensors and Detectors for every application. The Sensors measure a continuous analog value, use only original accessories from the HW group (except Pt100, Pt1000 ports or 4-20mA industrial sensor Analog Inputs). Any Detector with relay output can be connected to DI (Digital Inputs) ports.

Expander 4xDI 1W-UNI

IN4
COM
IN3
COM
IN2
COM
IN1
COM

1-Wire port 1

1-Wire port 2

Power 5V

HW group®

Sensor WLD Relay 1W-UNI

NC COM NO
+12V GND
SENS SENS

HW group

Relay Output 1W-UNI

NO1
COM1
NC1
NO2
COM2
NC2
NO3
COM3
NC3
NO4
COM4
NC4

Output 1
Output 2
Output 3
Output 4

1-Wire port 1

1-Wire port 2

Power 5V

HW group®

S-Hub
600041

SPIDER
INDUSTRIAL TO IT BUS CONVERTER
600273

M-Bus

Compatibility:
HWg-PWR 3/12/25
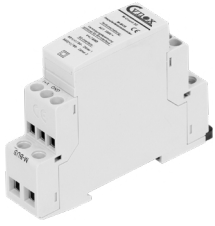
M-Bus
sensors

M-Count 2C
2× pulse input (S0) / 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

WLD

Compatibility:
WLD2, SD-WLD, NB-WLD, Sensor WLD Relay 1W-UNI

WLD
sensors

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.

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 Prolong cable 5m
Prolong non-sensitive cable 5m for WLD type A. Can be extended to up to 100 m in total.

Terminator   WLD sensing cable A – 2m   Prolong non-sensing cable   WLD sensing cable A – 5m   Connection cable   **WLD Device**
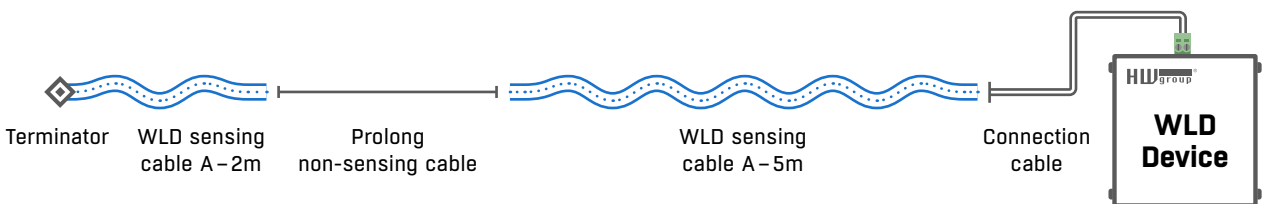
1-Wire UNI

Compatibility:
Ares, NB-2x1Wire, Poseidon2, SD-2x1Wire, STE2 r2

1W-UNI sensors

Sensor 0-20 mA 1W-UNI
8-point calibration table,
accuracy: ±2 %

Sensor 4-20 mA 1W-UNI
8-point calibration table,
accuracy: ±2 %

Light 1Wire-UNI
Illuminance: 0–100 %
accuracy: +-10 %

Sensor WLD Relay 1W-UNI
Up to 85 meters of water
detection cable

Sensor 230 V AC 1W-UNI
Voltage range: 0–250 V AC
accuracy: 5 %

Sensor 60V 1W-UNI v2
Voltage range: 0–60 V DC
accuracy: 2 %

30A Current Probe 1W-UNI 2
Current range: 0–30 A DC
accuracy: 2 %

30A DC Current Probe 1W-UNI
Current range: 0–30 A DC
accuracy: 2 %

100A DC Current Probe 1W-UNI
Current range: 0–100 A DC
accuracy: 2 %

Temp-1W-UNI Pt100 Frost
Temperature range: -190 to 150 °C,
Converter 2xPt100 1W-UNI

Temp-1W-UNI Pt100 Cable
Temperature range: -50 to 200 °C,
Converter 2xPt100 1W-UNI

Flood detector 1W-UNI 3 m
1D water detection, can be fully
submerged

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 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
CO2 range: 300 to 40 000 ppm

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

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

Converter 2x Pt100 1W-UNI
Temperature range: -200 to 850 °C,
8-point calibration table

Relay Output 1W-UNI
4× relay output, supported only by
HWg-Ares 12/14 and Ares 12 LTE

Relay Output 1W-UNI Industrial
4× relay output, supported only by
HWg-Ares 12/14 and Ares 12 LTE

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

UPS 12 V and 5 V
Status info, capacity: 1,3 Ah

UPS 12 V
Status info, capacity: 1,3 Ah

1-Wire

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

1-Wire sensors

HTemp-1Wire Outdoor 3 m
Temperature range: -30 to 85 °C,
humidity range: 0–100 % RH

HTemp-1Wire 3 m
Temperature range: -30 to 80 °C,
humidity range: 0–100 % RH

HTemp-1Wire-Box2
Temperature range: -10 to 80 °C,
humidity range: 0-100 % RH

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

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

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

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

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

Temp 1Wire Pt1000
Temperature range: -50 to 200 °C,
IP67 rating

Temp 1Wire Pt1000 Frost
Temperature range: -200 to 160 °C,
IP67 rating

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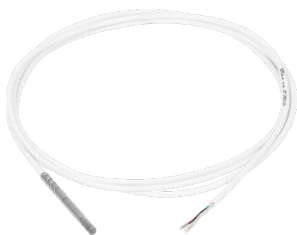
Probe Pt100 TR125 2 m
Temperature range: -190 to 150 °C,
IP67 rating

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

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
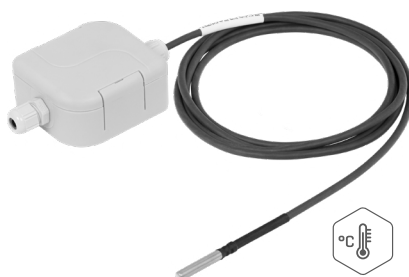
Temp-485-Pt100 Cable3
Temperature range: -10 to 70 °C,
IP23 rating

Temp-485-Pt100 Frost2
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

Detectors (DI – Digital inputs)

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

DI
Input

Door Contact MK4
3 m connection wiring

Flood Detector LD-12
Water: Spot detection

Sensor WLD Relay 1W-UNI
Up to 85 meters of water detection cable

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

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

Gas Leak Detector
2 optional reactions

Vibration Detector SS14
IP23 rating

Motion PIR Detector
Recommended installation height: 2.5 m

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

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

Access

The SH4 is an ultimate access system that works with any electromagnetic lock and any RFID reader. It will work in your datacenter as well as in your office or even your home. Whether you have one door or several hundred racks, the SH4 system provides a cost effective way to manage access to your technology.

There are many locks and RFID readers on the market. The SH4 already supports the most common models and others can be added upon request. The SH4 features a relay output that can be programmed to mark a door open in a rack row or to trigger an alarm in case of a breach.

HWg-SH4

Any RS-232/Wiegand RFiD reader and lock compatible

Main control unit for access control systems, compatible with any RS-232/Wiegand RFID reader and lock.

HWg-SH4 supports 2 independent locks (modules) and 2 RFID readers. The system can be extended over a LAN with up to 16 HWg-SH4e or HWg-SH4s units. HWg-SH4 can work online as well as offline. The HWG-DCD2 central database and control SW is included free of charge.

Protocols	HTTP, SNMPv1, SNMP traps, Modbus/TCP, XML, NetGSM
Software	HWg-DCD2, HWg-DCD2 mobile

HWg-SH4e

Expansion unit for the HW group access control system.

HWg-SH4e is an expansion to the HWg-SH4 main control unit. This unit controls 2 additional door locks. Requires a master SH4 control unit.

HWg-SH4s

Expansion unit for the HW group access control system.

HWg-SH4s is an expansion to the HWg-SH4 main control unit. This unit controls 1 additional door lock. Requires a master SH4 control unit.

Examples of 3ʳᵈ party compatible equipment

Electronic locking swinghandle with reader

The H3-EM electronic locking swinghandle can easily accommodate a variety of rack sizes and configurations with its simple, single-hole panel preparation.
• HID SE® card reader that accepts 125 kHz Prox, HID 13.56 MHz iCLASS® and MIFARE® cards
• Efficient gear motor design for low power consumption
• Fits industry standard panel preps
• Integrated sensors for lock and latch status, monitoring and alarm functions
• Biometric fingerprint option

Electronic locking swinghandle

The H3-EM electronic locking swinghandle can easily accommodate a variety of rack sizes and configurations with its simple, single-hole panel preparation.
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• Fits industry standard panel preps
• Integrated sensors for lock and latch status, monitoring and alarm functions
• Biometric fingerprint option

RFID reader

• EM4100 (125 kHz) compatible RFID reader, with keypad
• Wiegand interface
• RJ45 jack for simple installation
• IP67

RFID reader

• 125 kHz and 13.56 MHz RFID reader
• Weather resistant
• Read UID of 125 kHz EM compatible and 13.56 MHz ISO 14443A MIFARE, DESFire®, Ultralight® and FeliCa format cards

Electronic rotary latch

• Lightweight, extended housing for added security and tamper resistance
• Accommodates existing control systems
• Integrated connector and snap-on manual override bracket simplify installation

Electronic slide bolts

• Works with a variety of door-mounted mechanical latches
• Electronic signal permits electronic monitoring, remote monitoring, audit trails, alarms

HWg-DCD2
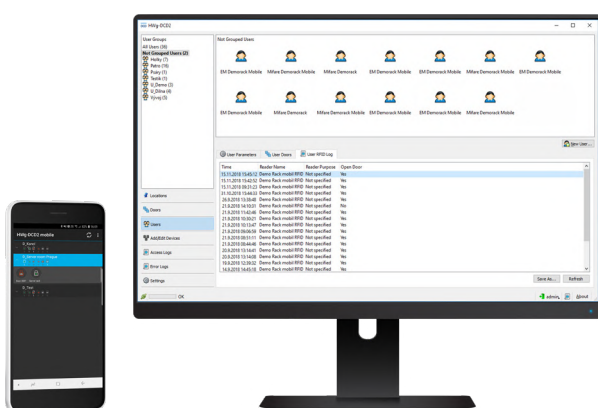
Free Windows application for access management and central database.

Allows doors to be opened remotely with a RFID chip, a SMS message, or on operator's command. Door management takes advantage of a central database with event logging, entry alerting, etc. Access permissions can be differentiated by users or sites and categorized into groups. In addition to data centers, the system is suitable for all premises where access to individual boxes, sections etc. must be controlled and authorized.

• License: the software is **FREE OF CHARGE**

Using the SH4 system for access control

The SH4 system can be used with any electromagnetic lock and any RFID reader. It is not only optimal for new projects but can also be retrofitted to existing installations. This page will show you how you can use and expand the system.
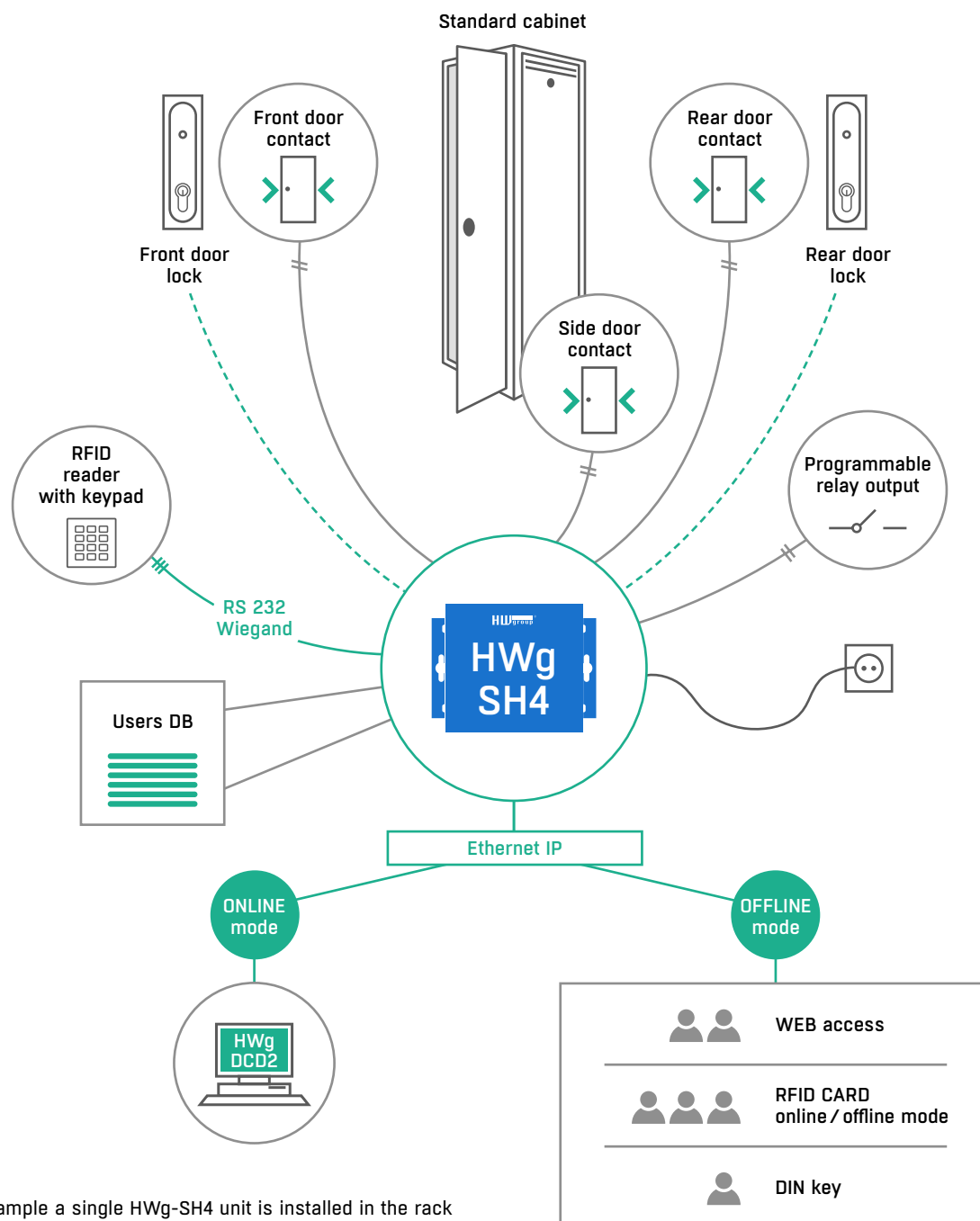
In this example a single HWg-SH4 unit is installed in the rack and the RFID reader is placed on one of the doors (or both). The device can be used in online or offline mode.

In *offline mode* the SH4 can work as a standalone device that holds an internal database of cards and users. You just need the Ethernet port to setup the unit and the device will follow the access rules without the need for LAN connection.

In *online mode* the device is connected with a server running the HWg-DCD software. This server manages all the access rules. The relevant part of the entire user database is loaded in each SH4 so that you can still access your technology even if your network connectivity fails.

Standard cabinet

Ethernet/Internet

Ethernet/Internet

Ethernet

Ethernet

Standard cabinet   Standard cabinet   Standard cabinet

Standard cabinet   Parking gate   Door
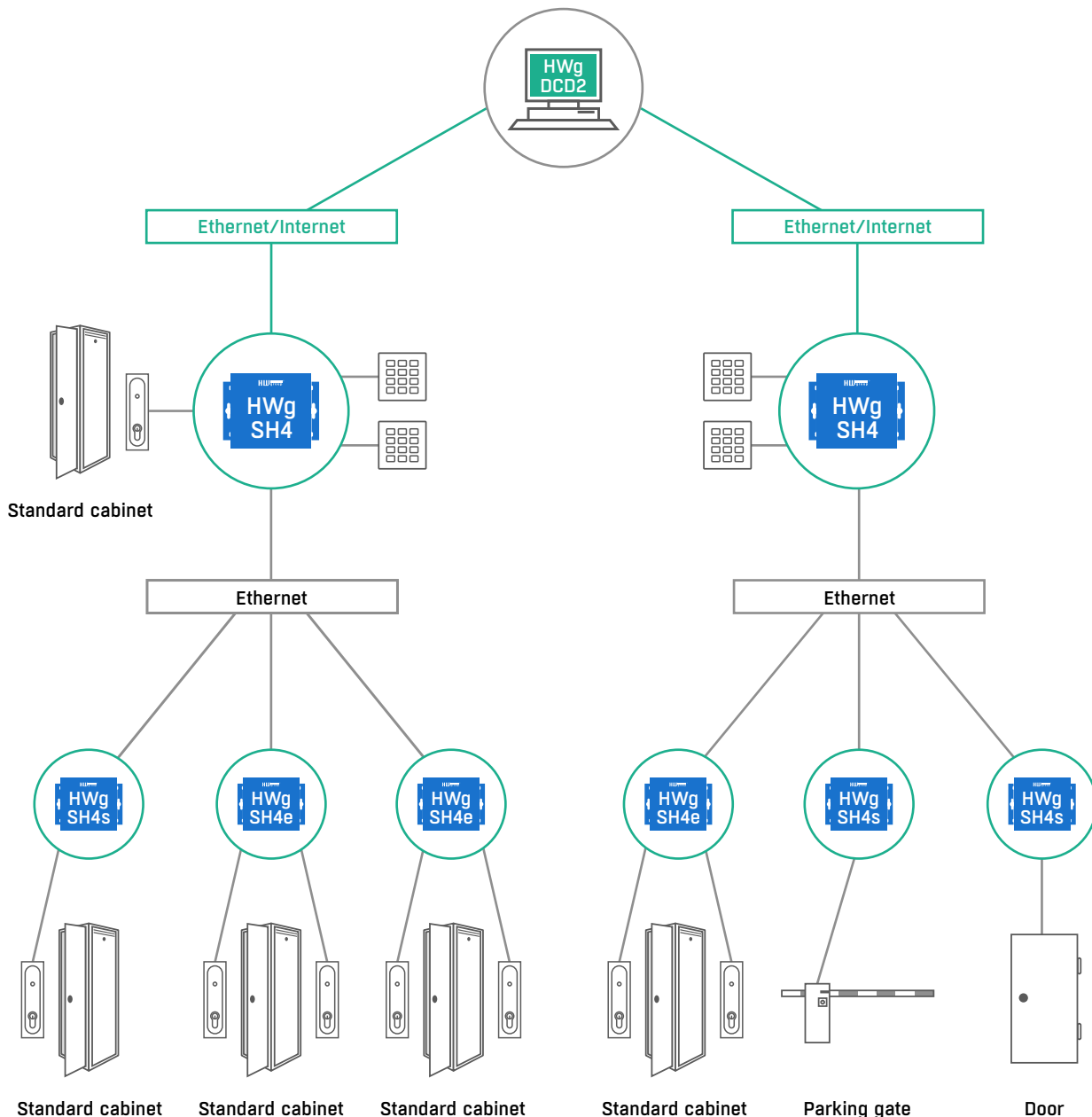
You can expand your system with the SH4e and SH4s units. These door unlockers are controlled from a supervising SH4 unit and its RFID keypad. They are connected over IP and can expand your system to unlock more points from a single RFID keypad. This significantly lowers the implementations costs. You can install a keypad RFID reader and use it to select the door, or you can setup the access rules so that each door with access right swill open automatically. With keypad 2FA is also supported.

Features:
• Easy installation and management
• Scalable from one lock to hundreds
• Complex free management SW
• Online / offline mode
• SNMP for easy integration in your monitoring system
• SMS alarming in case of an unauthorized entry attempt

Benefits
• Security and unauthorized access prevention
• Complex log history with detailed information
• Provides information about visitor location
• Access rights can be granted and revoked instantly
• Early alarming to security management
• Evidence in case of a security issue

Usage
• Datacenters and racks
• Offices and residential buildings
• Technological rooms
• Commercial spaces
• Gates and parking lots
• Schools and public spaces

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.

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 input	Relay output	Modbus / TCP	Logger	NVT	Telnet
I/O Controller 2	✔	✔	✔	✔		✔	✔
PortStore5	✔			✔	✔	✔	✔
IP Relay HWg-ER02b	✔	✔	✔	✔		✔	✔

HW VSP3 Virtual serial port
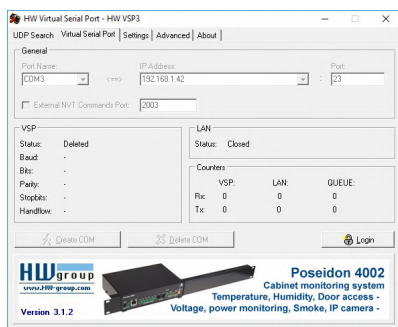
HW VSP3 – Single

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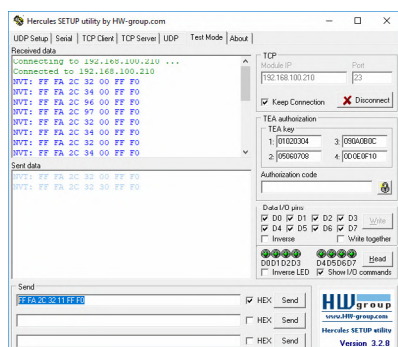
Debugging and testing tool for products with a serial port (PortBox, I/O Controller, IP Relay, PortStore).

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

Technology

1-Wire UNI

RJ11 port with 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

is an 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 for 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 (2G) 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 a 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)	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 (free service)	SensDesk (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 10 GMS / LTE				✓		6				2					✓	✓	✓	✓			5	5				✓			
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 Industrial	✓	(✓)										2	8		✓		✓	✓	✓		2	1*	✓		1	✓			
IP WatchDog2 Lite	✓	(✓)										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	26			12		4	8	(✓)	✓	✓	✓	✓	✓	✓	5	5*	✓	✓	5	✓	✓	✓	✓
SMS-GW3 GSM / LTE	✓	(✓)		✓													✓	✓	✓				✓			✓			
STE2 r2	✓	✓	✓			5				2					✓	✓	✓	✓	✓	✓	2	2*	✓			✓			
WLD2	✓	✓	✓						4				4		✓		✓	✓	✓	✓	4	4	✓		4	✓			✓

SensDesk Technology

Device	Ethernet / web interface	PoE (Power over Ethernet)	Wi-Fi	GSM / LTE	NB-IoT	RJ11 sensors (1-Wire / 1-Wire UNI)	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 (free service)	SensDesk (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
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 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.
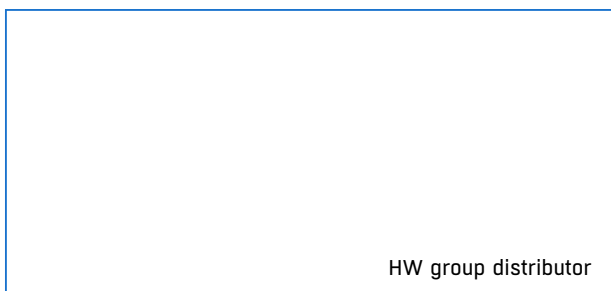
Portal provider

3rd party Portal

2003–2022

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