

## **IMPLEMENTATION EXAMPLE WITH TOPOLOGY**

The modern IT rack –  
secure, efficient and scalable



# The modern IT rack – secure, efficient and scalable

## **The requirement**

*In distributed infrastructures, server rooms or colocations, there is often an economic or organisational need to secure critical IT systems safely, efficiently and scalably in individual racks. And this without compromising on security and availability requirements.*

*First of all, controlled access to the IT rack, its documentation and the complete 24/7 monitoring of the closing and locking status of the rack doors must be established.*

*Environmental parameters should provide indications, also remotely, of possible sources of error, sabotage or imminent system failures (e.g. due to fire, leakage, etc.).*

## **The Kentix system solution**

The Kentix SmartPDU in 40 or 2 height units is used as an All-In-One complete system solution, which also takes care of the environment monitoring in addition to the power monitoring. At the same time, the SmartPDU provides the hardware interface for connecting further components such as the RA4 IP rack locking system and other sensors.

The calibrated current measurement creates transparency in IT operations and provides all important consumption parameters in order to detect abnormalities and overloads at an early stage and to improve energy efficiency. The integrated DGUV V3-compliant all-current sensitive leakage current measurement creates additional operational safety and provides information that supports the early detection of IT component failures. Optionally, all IEC C13/C19 ports can be switched and measured individually from a distance, e.g. to enable individual servers to be cold-started.

The MultiSensor built into the SmartPDU provides values for temperature, air humidity, fire gas and sabotage directly in the rack, thus creating granular transparency and security. A leakage sensor and a dirt sensor are additionally connected to the SmartPDU for monitoring leakage and dirt. Additional I/O modules accept additional digital or analogue sensors from third-party systems into the Kentix system.

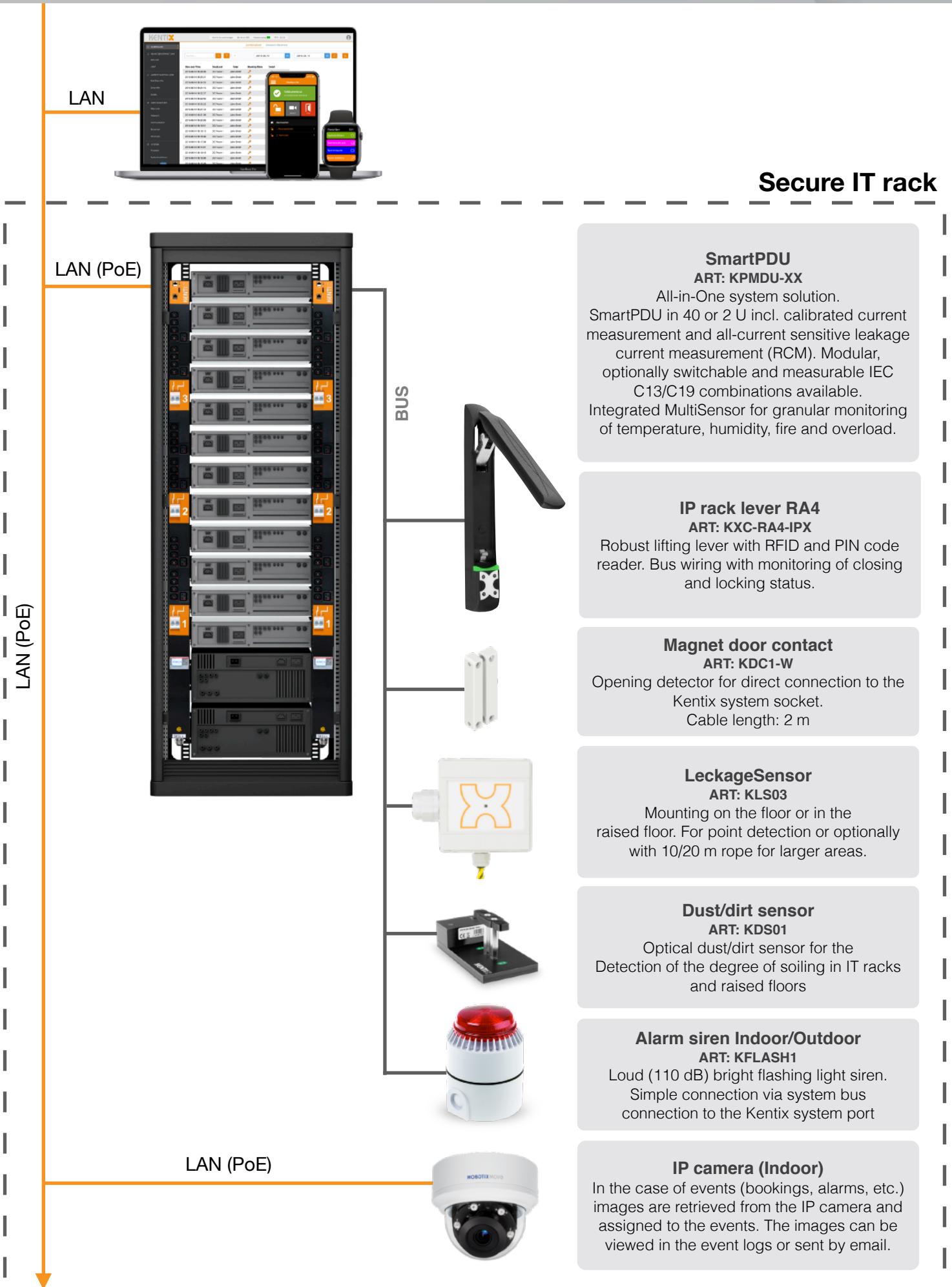
*A calibrated measurement of the power consumption including DGUV V3-compliant leakage current measurement is to provide additional transparency and safety.*

*All values are to be clearly monitored in a dashboard from any location, alarms can be sent and server switching can be carried out. Installation and operation are to be cost-efficient and simple. Open interfaces should enable easy integration into third-party systems. Free scalability, modularity and cost-effective, simple maintenance must be part of the solution concept.*

The Kentix AlarmManager serves as the control centre and takes over the complete management of all connected sensors of multiple racks and the monitoring of all determined values. If threshold values are exceeded, it sends alarms to users via SNMP, email, push message and redundantly via SMS. Alternatively, all measured values and alarms are transferred to a higher-level monitoring system.

Access control is handled by the Kentix online IP access control system at the IT rack with the RA4 IP rack locking system, which is connected directly to the SmartPDU. Locking and interlocking contacts monitor the status of the doors. Via an integrated web server application or open interfaces (LDAP, ReST-API, etc.), the system can be managed remotely from a central location in real time and authorisations can be granted or revoked. Furthermore, who, when and where access was granted is documented.

The simple, state-of-the-art and resource-saving operation is realised by the KentixOS. The KentixOS is the integrated, freely scalable and modular IoT software platform which, in addition to the web front ends, provides open interfaces for easy integration into third-party systems (ReST-API, WebHooks, SNMP, LDAP, etc.). At the same time, the KentixOS is the basis for further AI analyses and visualisations.



## Secure IT rack

### SmartPDU

ART: KPMDU-XX

All-in-One system solution. SmartPDU in 40 or 2 U incl. calibrated current measurement and all-current sensitive leakage current measurement (RCM). Modular, optionally switchable and measurable IEC C13/C19 combinations available. Integrated MultiSensor for granular monitoring of temperature, humidity, fire and overload.

### IP rack lever RA4

ART: KXC-RA4-IPX

Robust lifting lever with RFID and PIN code reader. Bus wiring with monitoring of closing and locking status.

### Magnet door contact

ART: KDC1-W

Opening detector for direct connection to the Kentix system socket. Cable length: 2 m

### LeckageSensor

ART: KLS03

Mounting on the floor or in the raised floor. For point detection or optionally with 10/20 m rope for larger areas.

### Dust/dirt sensor

ART: KDS01

Optical dust/dirt sensor for the Detection of the degree of soiling in IT racks and raised floors

### Alarm siren Indoor/Outdoor

ART: KFLASH1

Loud (110 dB) bright flashing light siren. Simple connection via system bus connection to the Kentix system port

### IP camera (Indoor)

In the case of events (bookings, alarms, etc.) images are retrieved from the IP camera and assigned to the events. The images can be viewed in the event logs or sent by email.