ARKENS CP

Multi-function High Voltage gateway and substation server

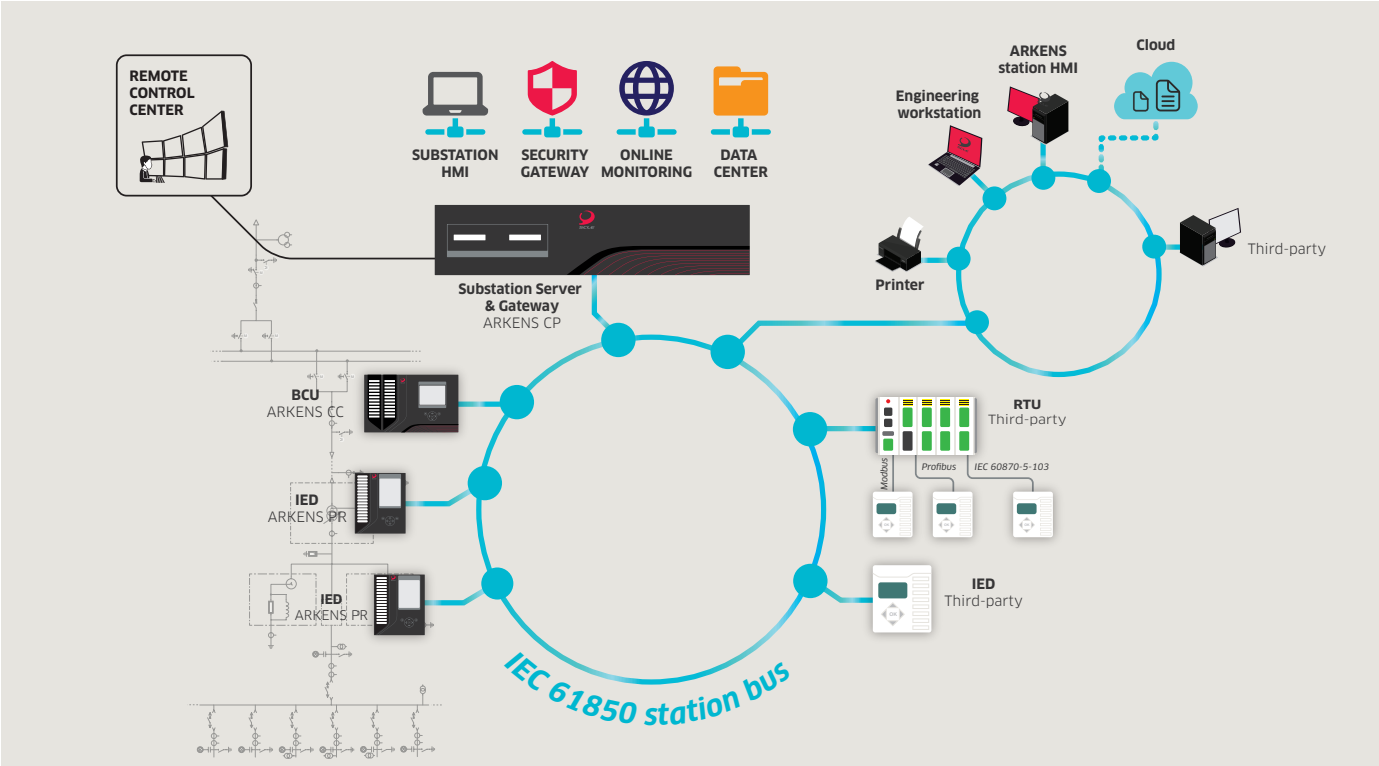
IEC 61850 & PRP compliant

ARKENS CP is a 3U 19-inch fanless computer fitted with a High-Performance Intel® Core CPU.

ARKENS CP provides the latest features and functions to meet operators' expectations, including secure data gateway, online condition monitoring, substation HMI and data center.

PRP ensures the highest availability with zero-time recovery when IEC 61850 protocol allows flexibility.

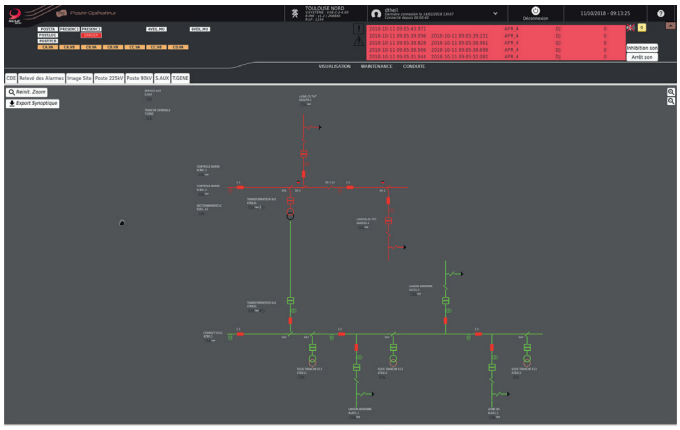
ARKENS CP integrated in your substation:

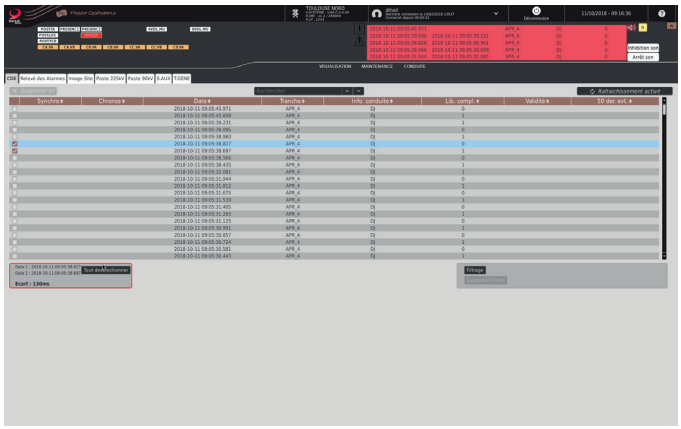


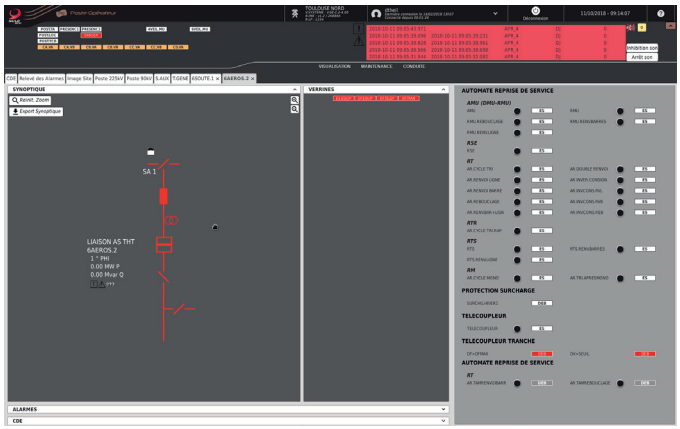
ARKENS HMI

Substation HMI

- Local and remote secured HMI web access
- Dynamic substation single-line diagram
- Real-time measurement
- Alarm and event management
- Substation automation monitoring and control
- Online condition monitoring
- Automatic COMTRADE files retrieval
- Remote access to substation IEDs
- Remote maintenance and diagnosis
- IEDs firmware update management
- Security monitoring and management (Role Based Access)

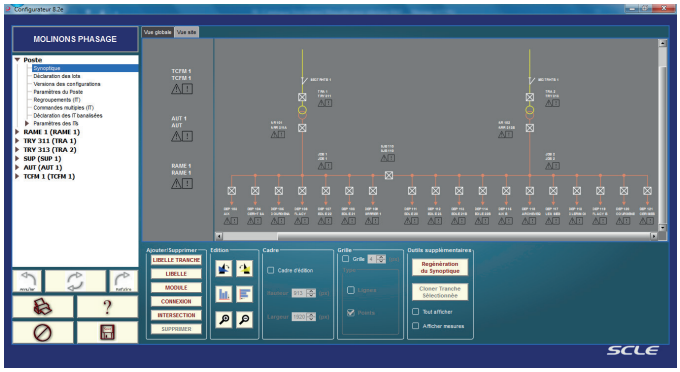


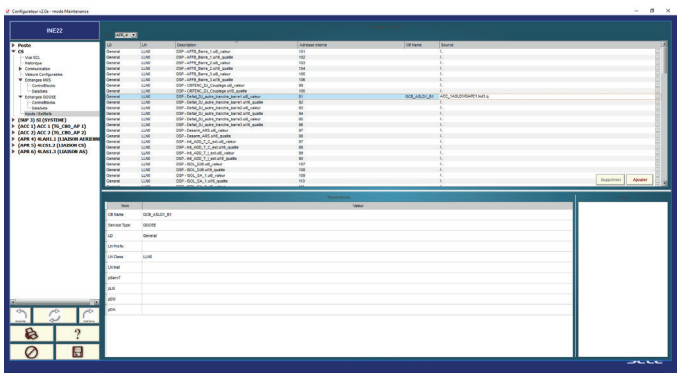




Configuration tool

- IEC-61850 compliant
- Fully automated IEC-61850 communication definition (GOOSE, MMS, SMV)
- Support XML substation description file
- 1 click single line diagram creation ; created diagram can be modified before transfer to the substation SCADA
- Modular configuration platform including SCT (system configuration tool), ICT (IED configuration tool) and IED configuration transfer tool ; flexible and effective team work
- Upward compatibility allows substation evolutions





Fanless & hardened

Long-term reliable and available

Wholly designed by SCLE SFE engineers, ARKENS CP meets high-level EMC requirements within a wide range of temperatures to ensure the best long-lasting and the highest reliability in harsh conditions.

The built-in heat sink on the top of the IP 32 rack improves robustness in dusty and confined space (filterless, fanless).

ARKENS CP supports RAID1 SSD configuration to increase data availability and storage performance.

Customizable & user-friendly

An easy-to-use front panel and a fast reading thanks to LEDs and customizable labels

1. Power ON Led
2. Warning Led
3. SSD activity
4. Errors Led
5. 2 Programmable LEDs with customizable labels
6. 2 customizable labels

Long-term sustainable performance

Powerful CPU

The CPU module integrates a powerful Intel® Celeron® or Core™ i3 CPU.(Quad Core™ i5, I7, XEON E3 CPUs available on request).

Huge memory

ARKENS CP is equipped with a 4 to 8 GB RAM (expandable up to 32 GB on request), that gives it responsiveness and outstanding performance. Its double hot-swap SSD Bay in RAID1 configuration offers a very large and safe recording capacity (64 to 256 GB expandable on request).

- SSD Flash memory / System and Application memory: 64 GB-256 GB
- RAM: 4 GB - 8 GB DDR4

Real-time accurate OS

ARKENS CP server is based on the LINUX real-time operating system, ensuring accurate information and reliable decision-making process.

Safe & versatile

Safe

The PRP function ensures the highest system availability and data integrity with zero recovery time. The computer redundancy is available on request to avoid the loss of substation critical functions.

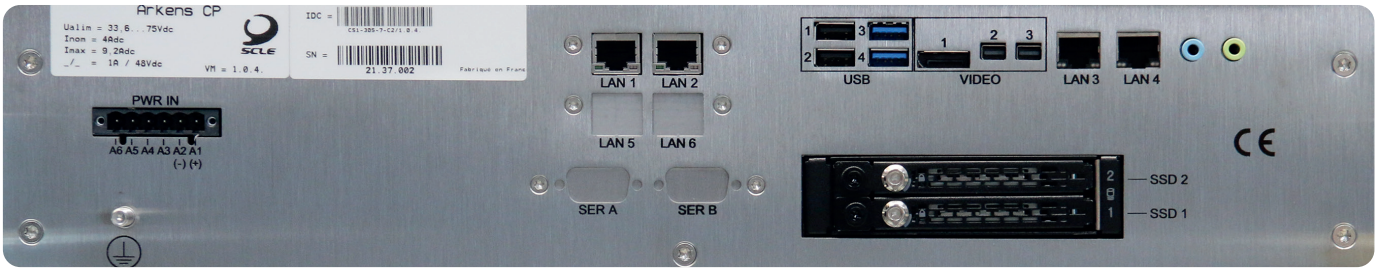
Cybersecurity: compliant with the IEC 62351 standard.

Versatile

ARKENS CP integrates the following protocols: IEC 61850 Ed2 MMS (client/server), CAN Open, Modbus, Profibus, Profinet, EtherCAT, EtherNet/IP, DeviceNet, POe, RS232/RS422/RS485, CEI 60870-5-101/104, HNZ, X25.

Communication

ARKENS CP is a real substation and industrial multi-function gateway, allowing several ports and interfaces (see pictures below and hardware configuration further).



Technical data

HARDWARE CONFIGURATION	
CPUs	Intel® Celeron™ G3900E with 4GB of DDR4 or Intel® Core™ i3-6100E with 8GB of DDR4 (Others on request: Intel® Xeon® E3-1515M, Intel® Xeon® E3-1505M, Intel® Xeon® E3-1505L, Intel® Core™ i7-6820EQ, Intel® Core™ i7-6822EQ, Intel® Core™ i5-6440EQ, Intel® Core™ i5-6442EQ. Memory expandable up to 32GB)
SSD	SATA III . 1 x 64 GB or 2 x 256 GB (RAID 1)
Power supply	48 V or 127 V versions
Basic interfaces	2 x USB 3.0, 2 x USB 2.0, 1 x Displayport, 2 x mini Displayport, 4 x GB Ethernet
Expansions (depending on the HW configuration)	GB Ethernet: up to 12, RS232 isolated: up to 10, CAN2.0: up to 2 Others on request: Modbus RTU/TCP, CANopen, Profibus, Profinet, EtherCAT, EtherNet/IP, DeviceNet

PROTOCOLS	
IEC 61850 ed2	International substation communication standard
Parallel Redundancy Protocol (PRP)	Network redundancy with zero recovery time
SNMP	Network management
NTP/SNTP	Clock synchronisation
CEI 60870-5-101	Serial transmission protocol for telecontrol tasks
CEI 60870-5-104	Ethernet transmission protocol for telecontrol tasks
FieldBus protocols	Can 2.0, Modbus RTU/TCP, CANopen, Profibus, Profinet, EtherCAT, EtherNet/IP, DeviceNet, (available on request)
TLS/SSL tunnelling	Remote connection Authentication and Encryption
SFTP	Secure File sharing
RS232 interfaces	Compatibility with legacy hardware

REAL-TIME CLOCK
Max. Error +- 20 ppm over entire temperature range with maintenance-free buffer, summer/winter time changeover, leap year correction

SUPPLY VOLTAGE	
Voltage range	Allows two power supply ranges (Option on request) : +48 VDC + 20% / -20% or +127 V +20% / -20%
Max Power consumption	40 W

STANDARDS	
EMC immunity	IEC 60255-26, IEC 61000-6-2, /-4, IEC 61000-4-2, /-3, /-4, /-5, /-6, /-8, /-11, /-16, /-17, /-18, /-29,
EMC transient emissions	CISPR 11, CISPR 22 device class A
Electrical safety	IEC 60255-5 (Electrical Relays-Part 5)
Vibration	NF EN 60068-2-6 1g, IEC 60255-21-1, /-2, /-3
Shock	IEC 60255-21-2
Earthquake	IEC 60255-21-3
Environment	NF EN 60068-2-1, /-2, /-14, /-30

MECHANICAL DATA	
Housing	L 445 mm x H 115 mm x Depth 260 mm
Mounting	19” rack, 2U (front panel) 3U (with heatsink)
Ingress protection	Front: IP 52 - Others: IP 32
Shock protection	IK 07

ENVIRONMENT	
Operating	-5°C to +45°C
Storage	-25°C to +70°C
Relative humidity	93% without condensation

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Commitment to a sustainable performance